

ABSTRACT**Abstracts**

5 Risk for psychological distress among cancer patients with a familial history of Indian Residential School attendance: Results from the 2008-10 First Nations Regional Health Survey

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Aboriginal peoples have been and continue to be subjected to multiple traumas and stressors that contribute to their greater risk for a variety of health and social problems. Among these health issues, cancer has been identified as the third leading cause of death in the First Nations population, and survival rates are lower because many are not diagnosed until it is too late. Due to the high prevalence and mortality rates of cancer, its diagnosis and treatment commonly evoke extreme psychological distress that can have significant implications for treatment and recovery. Having a greater understanding of risk factors that contribute to individual differences in psychological responses to cancer will help identify vulnerable populations and facilitate the development of culturally appropriate interventions. The present study assessed how familial Indian Residential School (IRS) attendance is linked with psychological distress among those with and without cancer in a representative sample of First Nations adults living on-reserve. Statistical analyses were carried out using data from the 2008-10 First Nations Regional Health Survey (RHS), a representative survey of 4,934 First Nations living on-reserve from across Canada (excluding Nunavut). Analyses revealed that having a parent who attended IRS put First Nations adults diagnosed with cancer at greater risk for psychological distress relative to those without this family history. These findings point to the need for culturally safe cancer care for First Nations individuals and communities that have been affected by Residential Schools and other historical trauma events.

6 Does knowledge of diagnosis really affect rates of depression in cancer patients?

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Purpose: The major objective of the present study was to investigate potential demographic and intrapersonal moderators of the relationship between knowing the cancer diagnosis and the level of depression experienced.

Methods: The present research has a transversal comparative repeated cross-sectional design (2006–2014), sampling following the proportional quota method. Research was conducted in the four major oncological institutes in Romania, obtaining a national sample of cancer patients, maintaining gender and ethnic rates, and permitting the investigation of the stability of the results from one assessment to the other.

Results: Results indicate that in the Romanian context, knowing the diagnosis is associated with a lower level of depression than not knowing the diagnosis, the results being similar in both assessments (2006–2014). Furthermore, from the explored demographic factors (gender, residence, age, and education), only age has a main effect upon depression (depression increasing with age), while education is the only factor from those analysed, which has a moderator effect. Regarding the analysed intra-individual variables, only dysfunctional attitudes, emotion-focused coping, and lack of emotional support from the family have main effects upon the level of depression (i.e., higher levels of dysfunctional attitudes, emotion-focused coping, and loneliness are associated with higher levels of depression), while neither of them has a moderator effect on the relationship between knowing the diagnosis and depression.

Conclusions: These results are important in the improvement of the doctor–patient relationship, the management of cancer-related distress, and implicitly for the course of illness.

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[Correction added on 19 December 2016, after first online publication on 14 October 2016: The following Abstracts were missed out in the initial publication and have been added to this current version: Abstract 165, 216, 220, 355, 356, 420, 426 and 503.]

7 Psychological stress in geriatric patients with urological tumours in acute treatment

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Background: Two-thirds of all cancer cases involve patients who are older than 65 years, yet diagnosis, treatment and care of cancer in this age group are poorly studied. The psychological stress of urological cancer patients resulting from cancer diagnosis correlates with treatment side effects such as loss of body integrity, sexual or bladder function. Regarding the specific psycho-oncological problems in elderly patients, data are sparse. The aim of this study was to investigate the stress situation of elderly patients with urological tumours using standardized screening questionnaires and the use of such screening questionnaires in the inpatient psychosocial treatment program.

Methods: Prospective analysis of patients (≥ 65 years) with urological tumours ($n = 162$) who underwent a surgical treatment or chemotherapy. Assessment of stress in patients using standardized screening questionnaires (NCCN Distress Thermometer and Hornheider SI) and integration with inpatient mental health care programs.

Results: The average stress level was 4.4. According to the survey, 28% of the patients (45/162) had care needs. The majority of these (48%) also communicated. 48% being in need of care of in- or out-patient psychosocial care.

Conclusions: There is a significant number of elderly urological cancer patients with increased psychological stress and a consecutive need of psychosocial care. An interdisciplinary and inter-professional collaboration is essential to treat elderly cancer patients well. The integration of the measurement of psychological distress as an evaluation of the treatment of older patients is a step forward for patients with potentially life-threatening urological diseases.

8 The psychosocial stress situation in female patients with superficial bladder carcinoma

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Background: About 7000 women get the diagnosis "bladder cancer" each year in Germany. Malignancy of the urinary bladder is in 14th position in the frequency range of cancer in women. The average age at initial diagnosis is 74 years. Recent studies show that women have a worse prognosis caused by a late diagnosis. The gold standard in the treatment of superficial bladder carcinoma is the complete transurethral resection of the tumour. The current study situation with regard to the psychosocial situation of patients with superficial bladder cancer does not include gender-specific assessments. The aim of this study therefore was to evaluate the stress situation of female bladder cancer patients by screening questionnaires.

Methods: A prospective analysis of female bladder cancer patients with superficial tumours (pTa/pT1, $n = 42$, mean age 72 years) using validated and standardized questionnaires for stress and psychosocial care needs was done (Hornheider SI and Distress Thermometer).

Results: 51% of female patients have a burden of ≥ 5 which indicated a potential clinically relevant psychological distress. The mean stress level was 4.5 (STD 2.5). There were mostly reports of emotional stress factors: anxiety and nervousness (37%), pain and sleep (32%) and sorrow (29%).

Conclusions: Compared to similar studies in men with bladder cancer, women with bladder cancer experience significantly more psychosocial stress than men. They complain mainly of emotional stressors, whereas male patients are more likely to report somatic stressors. This prospective study emphasizes the relevance of psychosocial screening and the need for psychosocial counselling and care.

9 The relevance of psychosocial care in patients with penile cancer

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Background: The penile cancer is a rare highly aggressive tumour entity. The psychological stress of patients with penis carcinoma arises from the cancer diagnosis per se and the correlating with tumour suffering side effects (loss of body integrity and sexual function). In addition, there is cancer-specific distress e.g. fear of metastasis, progress, recurrence or death. Studies on the psychosocial stress of penile carcinoma patients are rare. This study investigated the stress situation of patients with penile malignancies using screening questionnaires and integration with inpatient mental health care programs.

Methods: Prospective analysis of patients with penile carcinoma ($n = 33$) who underwent a surgical treatment or chemotherapy in the period between 06/2014 and 12/2015. Assessment of stress in patients with penile cancer using standardized screening questionnaires (Distress Thermometer (DT) and Hornheider SI (HSI)) and integration with inpatient mental health care programs.

Results: The average stress level was 4.1 (DT; STD 2,2). 42% of the patients showed an elevation care needs. All affected patients received inpatient psychosocial care. The main stressors were sorrow (44%), micturition (40%), fear (36%) and exhaustion (32%).

Conclusions: Patients with penile cancer have, due to the often mutilating surgery, increased psychological stress and consequently increased psychosocial care needs. Therefore, emotional stress should be recognized and support provided. This illustrates the importance of interdisciplinary collaboration in cancer treatment.

10

A qualitative research study to explore the patients' experience of returning home following allogeneic stem cell transplantation for haematological malignancy.

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Background/Purpose: Globally, 10 000 people a year are treated with Stem Cell Transplant (SCT) for haematological malignancy following arduous chemotherapy and radiotherapy regimens. The purpose of this research is to explore the lived experience of fifteen men and women treated with allogeneic stem cell transplant (SCT) for haematological malignancy.

Method: The study followed an interpretive phenomenological methodology using semi-structured interviews. Fifteen participants aged between 22–68 years were purposively recruited from two specialist treatment centres and were interviewed within three months to one year post SCT between April and September 2013. Data were analysed using interpretive phenomenological methodology to gain insights into their lived experience including their personal and social experience of the world following treatment.

Results: Two overarching concepts emerged from the data: The Immediacy of Illness and Existential Crisis and The Recovery Journey. The Immediacy of Illness and Existential Crisis illustrates the participant's experiences of critical events in relation to illness and the Recovery Journey exemplifies the subsequent challenges and enduring uncertainty they face including threats to their own mortality. Participants suffer major disruption to their lives physically, psychosocially and emotionally as a result of illness without a sense of when they may resume the normality of their former life.

Conclusions: Ambiguity and uncertainty characterise the illness and recovery journey for those with haematological malignancy. Whilst participants have access to specialist teams, there are opportunities for health and social care professionals to provide more support for individual's returning home after prolonged hospitalisation and in the months that follow.

11

CARDIAC REHABILITATION TO INCREASE PHYSICAL ACTIVITY AMONG CANCER PATIENTS: IS IT FEASIBLE AND ACCEPTABLE?

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Background: There is strong evidence of exercise to aid recovery from cancer and secondary prevention. Yet colorectal cancer survivors are currently not meeting the recommended physical activity levels associated with improving the chances of survival and quality of life. We evaluated whether referral of colorectal cancer patients to cardiac rehabilitation is a feasible and acceptable exercise intervention.

Methods: We conducted a pilot randomised controlled trial with embedded qualitative study supplemented with an economic evaluation. At baseline 41 post-surgical colorectal cancer patients, recruited from 3 hospital wards, were randomly assigned into two groups: an intervention group which received cardiac rehabilitation alongside cardiac patients and a no rehabilitation control group. Descriptive statistics were used to summarise trial parameters indicative of intervention feasibility and acceptability. 38 patients (colorectal cancer and cardiac) and 8 clinicians (colorectal cancer and cardiac) participated in interviews/focus groups and data were analysed thematically.

Results: Barriers to exercise for post-surgical colorectal cancer patients were protracted recoveries from surgery, on-going treatments and poor mobility. No adverse events were reported, suggesting that cardiac rehabilitation provides a safe exercise environment for cancer patients. Out of pocket expenses were small (£50). Cardiac rehabilitation increased cancer patients' confidence and motivation to exercise and offered peer support. Cardiac and cancer patients found exercising together acceptable.

Conclusions: Cardiac rehabilitation for colorectal cancer patients is feasible and acceptable, thereby challenging disease-specific rehabilitation models. We need a better understanding of the effectiveness of cardiac rehabilitation for increasing physical activity to improve survival and quality of life of cancer patients.

12

RAISING ADOLESCENT CANCER AWARENESS AND CANCER COMMUNICATION IN FAMILIES

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Introduction: People who have greater awareness of signs and symptoms that might be suggestive of cancer are more likely to seek medical help quickly. If the cancer is detected early then a person has a much better chance of living a long and healthy life. Little is known about psycho-educational interventions to improve teenage cancer awareness and cancer communication.

Methods: At baseline 2,173 12/13 year olds from 20 schools were randomly assigned into two groups: an intervention schools group which received a 50 minute psycho-educational presentation to raise cancer awareness and a control schools group. Multiple linear regression models were used to examine differences in the number of cancer warning signs recognised by teenagers and cancer communication in intervention schools compared to control schools.

Results: There was a statistically significant difference in the number of cancer warning signs recognised by teenagers in intervention schools compared to teenagers in control schools at 2-week follow-up (β 0.689, $p < 0.001$, CI 0.351–1.028) and 6-month follow-up (β 0.471, $p = 0.012$, CI 0.103–0.838). Teenagers in intervention schools were two and a half times more likely to discuss cancer at 2-week follow-up compared to teenagers in control schools (β 0.992 $p = 0.014$, CI 0.260–1.725, OR 2.698, 1.297–5.613).

Conclusions: School-based psycho-educational interventions are easy to deliver, require little resource and improve teenage cancer awareness and cancer communication. We need more research to find out if the intervention is able to shift health behaviours such as self-examination and cancer screening among parents/grandparents.

13

The Case for Breast Cancer Awareness for Young Women

Mrs Lorna Larsen

Team Shan Breast Cancer Awareness for Young Women (Team Shan), Woodstock, Canada

Background: Team Shan Breast Cancer Awareness for Young Women (Team Shan) has been raising breast cancer awareness on college and university campuses in Canada since 2017. Addressing late diagnosis, Team Shan has developed a comprehensive public awareness model

to help close the gap in breast cancer awareness and increase early detection of breast cancer in young women.

Methods: Regular systematic reviews have been undertaken to access the need for young women to be aware of their breast cancer risk and an awareness campaign model developed to reach this population at risk.

The Team Shan model has been evaluated using pre and post campaign questionnaires with young women on post-secondary school campuses.

Results: Responses have reported on the effectiveness of health promotion strategies, breast cancer risk and knowledge levels, campaign take home messages, self-care action taken and information sharing. Feedback from young women diagnosed with breast cancer post campaigns has also been received.

Conclusions: To improve early detection rates, this target population must be aware of the signs and symptoms of breast cancer in order to self detect this disease. Breast cancer can be effectively treated if detected early and an effective health education campaign can help reduce the number of deaths due to breast cancer.

Young women need information and awareness about their risk of breast cancer. Knowledge of symptoms and self-help strategies provide young women with the opportunity for self detection and earlier medical diagnosis. The multi-faceted approach undertaken by Team Shan addresses these needs.

14

'Animated Shan'...a social media strategy to reach young women with their breast cancer risk and breast health information

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Team Shan Breast Cancer Awareness for Young Women (Team Shan), Woodstock, Canada

Background: The Team Shan Breast Cancer Awareness for Young Women (Team Shan) is a Canadian charity dedicated to reaching young women with their breast cancer risk and breast health information. Named after Shanna (Shan) Larsen, Team Shan has incorporated Shan's personal breast cancer story into an effective breast cancer awareness model. Young women have responded and asked for 'more'!!

Methods: Systematic reviews have been undertaken to access the breast cancer messaging needs for young women. A comprehensive social marketing model was developed to reach this population at risk. Social media has been a vital component of the model and the development of 'animated Shan,' a toon character, has helped make a difference in transferring knowledge to young women. 'Animated Shan' has been utilized in the development of social media infographics to reach the target population.

The Team Shan campaign model has been evaluated using pre and post campaign questionnaires with young women on post secondary school campuses across Canada.

Results: Shan's Story has consistently resonated with young women. Campaign evaluations have concluded that the "use of a specific

person (Shanna) and her story appealed to the target group and made a difference in communicating the message to young women.”

Preliminary social media analytics show promising results for the use of ‘animated Shan.’

Conclusions: Team Shan breast cancer awareness activities are facilitated in Shan’s memory. Shan’s dream was to teach. Through ‘animated Shan,’ Shan’s spirit continues to teach and make a difference for young women following in her footsteps.

15 The effect of singing on mood, stress, cortisol, cytokine and neuropeptide activity in cancer patients and carers: who benefits most?

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Background: A previous study (Fancourt et al., *ecancer*, in press) showed that group singing could improve mood and stress, decrease stress hormones and increase immune activity in cancer carers, bereaved carers and patients. This paper will involve novel analyses of these data to explore the question of who benefits most from singing.

Methods: At baseline, 193 participants completed validated psychological scales assessing mental health, and before and after 1 hour of group singing, visual analogue mood scales, stress scales and saliva samples testing for cortisol, beta-endorphin, oxytocin and ten cytokines were taken.

Results: Improvements in stress, mood and increases in 7/10 cytokines were found across patients, carers and bereaved. However, patients, unlike carers and bereaved, did not have significant increases in sTNFr1 and both patients and carers had blunted increases in MCP1 and IL17. Psychobiological responses occurred regardless of how many rehearsals participants had previously attended. However, participants who had attended more singing sessions historically had wellbeing levels 20% higher than new participants and differences in baseline levels of cytokines IL4 and IL17. Psychological effects were less strong for older participants.

Conclusions: Overall, these data suggest that singing continues to have short-term psychobiological effects for people affected by cancer with evidence that responses are not attenuated by repetitive exposure. Data also suggest that long-term involvement can lead to changes in immune activity. Nevertheless, there are nuances in effects dependent on age, sex and status as a carer or patient that could guide the design of future studies and interventions.

16 Stories That Heal: Using Digital Storytelling as a Psychosocial Intervention in Paediatric and Adolescent/Young Adult Cancer Care

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Background: The more sophisticated the science of childhood cancer becomes, the more obvious it is that curing the disease is only half the challenge. While much attention has been given to cure, more attention is needed in areas of care, as there can be as many psychosocial effects of therapy as there are physical effects. Digital storytelling is a medium through which children and adolescents/young adults can thoughtfully, purposefully, and impactfully tell their stories.

Methods: This was a qualitative study, employing a sophisticated method of research well documented under the umbrella of phenomenological studies: hermeneutics. Hermeneutic inquiry is described as the practice and theory of interpretation and understanding in human contexts.

Results: Fifteen participants created digital stories about their experiences with cancer, and participated in a semi-structured interview within two weeks of completion. Eleven interdisciplinary healthcare providers participated in a focus group wherein they watched the digital stories and discussed utility, transferability, impact, and other potential implications of this medium.

Conclusions Digital storytelling was shown to have the potential to mitigate suffering, and is an effective tool for the healthcare team as a way of providing insight and understanding into patients’ and families’ unique experiences with childhood cancer. It is a helpful tool to use to understand the challenges facing cancer patients, families, and oncology teams, and a way to work with patients and survivors who may typically not be inclined to participate in traditional approaches to psychosocial health.

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Prostate-cancer related concerns of men in the first year after localised prostate cancer diagnosis and decisions to seek help

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Background/Purpose: More men are now surviving prostate cancer; however, they are living with high and persistent symptom burdens often unaddressed in follow-up care. Although supportive care needs of prostate cancer survivors have been explored, patterns of men's help seeking to address unmet needs are poorly described. This study identifies sources of support utilised by men with localised prostate cancer in the first year after diagnosis and examines contributors to help seeking for men with unmet needs.

Methods: Cross-sectional survey of 331 patients from a population-based sample who were 12 months post-diagnosis ($M = 9.6$, $SD = 1.9$) was conducted. Support accessed, unmet supportive care needs, domain-specific quality of life and psychological distress were assessed.

Results: Overall, 82% of men reported unmet supportive care needs. Top five needs were sexuality (58%); prostate cancer-specific (57%); psychological (47%); physical and daily living (41%); and health system and information (31%). Professional support was most often sought from doctors (51%). Across most domains men who were older ($p's \leq 0.03$), less well educated ($p's \leq 0.04$), and more depressed ($p's \leq 0.05$) were less likely to seek help for unmet needs. Greater sexual help seeking was related to better sexual function ($p = 0.03$), higher education ($p \leq 0.03$) and less depression ($p = 0.05$).

Conclusions: Unmet supportive care needs are highly prevalent after localised prostate cancer diagnosis with older age, lower education, and higher depression apparent barriers to help seeking. Interventions that link across medicine, nursing and community-based peer support may be an accessible approach to meeting these needs.

18

Mindfulness-based cognitive therapy for men with advanced prostate cancer: A randomised controlled trial

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Background: Advanced prostate cancer may be associated with substantial psychological distress but there is little data about effective interventions. A multi-state two-armed randomised controlled trial was conducted to determine the effectiveness of a tele-based mindfulness-based cognitive therapy (MBCT) intervention for men with advanced prostate cancer.

Methods: Participants were recruited through clinicians in the Australian and New Zealand Urogenital and Prostate Cancer Trials Group and from major treatment centres located in Queensland, New South Wales, Western Australia, Victoria, South Australia, and Tasmania. A total of 190 eligible men consented to participate in the trial and were randomly assigned to the tele-based MBCT intervention ($n = 94$) or a patient education group ($n = 95$). Self-administered questionnaires were sent to participants at four time points: baseline and at three, six, and nine months after recruitment and intervention commencement. Primary trial outcomes are psychological distress and cancer-specific distress. Secondary trial outcomes are health-related quality of life and benefit finding. Potential mediators of successful intervention outcomes include engagement with mindfulness and adherence to practice.

Results: At baseline, 39% of participants reported high psychological distress although only 10% were under current psychological care. Preliminary analyses of baseline data indicate that adjustment outcomes were associated with the following facets of mindfulness: non-judging of inner experience, acting with awareness, and non-reactivity to inner experience. Trial outcome data are currently being analysed and results will be presented.

Conclusions: Trial outcomes will be discussed with regard to models of psychological care and the feasibility of MBCT interventions for men with prostate cancer.

19 Psychological predictors of the perceived need for psychosocial care in Romanian cancer patients

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Background/Purpose: Oncology psychosocial screening and care are not yet well established in Romania, and a firm request by the patient is often mandatory in order to receive non-compulsory psychology services. Socio-cultural factors shaped both openness and access to psychosocial care such that improved uptake of services, and intervention targeting can be attained only by understanding patients' need and desire for help.

Methods: A mixed sample of 250 adult cancer patients from the Bucharest Institute of Oncology completed a screening questionnaire battery consisting of Emotion Thermometers (ET), NHP, FACT-G, SCNS-SF34, and HADS, along with 14 questions regarding demographics and one regarding the present need for professional psychological care (counselling/psychotherapy). 76% of respondents were women, but neither age ($t(97.65) = 1.04, p = .30$), nor the declared need for psychological care ($\chi^2(1) = 1.08, p = .30$) differed significantly by gender. 35.6% (30% of men, 37.36% of women) reported their need for professional help.

Results: Both bidirectional selections using AIC/BIC and purposeful model selection pointed towards the same multiple logistic regression models. Distress (OR = 1.18, $p < .001$, 95% CI 1.05-1.34), anxiety (OR = 1.14, $p < .001$, 95% CI 1.05-1.24), unmet sexuality related supportive needs (OR = 1.16, $p < .001$, 95% CI 1.04-1.29), and work and financial disruptions attributable to disease (OR = 1.44, $p < .0001$, 95% CI 1.19-1.75) were the covariates selected for the final model, all of which predict a higher perceived need for psychological care.

Conclusions: Predicting the perceived need for psychological care can better aid patient group targeting, intervention delivery, and encourages a well-informed combined screening process for both distress and desire to receive professional help.

23 Caregiving in the face of aversive cancer side effects: The difference compassion can make in caring for older people

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Background: Cancer treatment begins in medical settings—but friends and family provide longer term healthcare. Caregivers often deal with unpleasant tasks like toileting and changing soiled dressings. This experimental study investigated whether compassion might ameliorate disgust-generated withdrawal of caregiving in scenarios where

younger/same/older age family and friends required help with aversive tasks related to cancer treatment.

Methods: 80 participants (Mean = 27 years) attended a laboratory session in which they were randomized to either compassion or control conditions before rating scenarios where friends or family of differing ages had cancer and required help with aversive care tasks. Participants then viewed a confederate participant undertaking unpleasant caregiving tasks and were given an opportunity to behaviourally demonstrate compassion by exchanging places.

Results: One way ANOVAs showed state compassion was successfully induced. While there were no group differences in willingness to care for younger or similarly aged family/friends, participants were less willing to help older friends than older family. Compassion ameliorated this effect on some tasks; participants in the compassion condition were more willing to help older friends with toileting ($F(1,76) = 3.95, p = .050$), change a bandage ($F(1,76) = 2.81, p = .098$), and replace a catheter ($F(1,76) = 5.35, p = .023$). Additionally, participants who reported 'disgust' while observing the confederate were less likely to trade places (Wald = 8.26, $df = 1, p = .004$).

Conclusions: Our findings are the first to suggest that compassion might sometimes ameliorate disgust-generated withdrawal of caregiving for older persons. Given the reliance of healthcare systems on informal care networks, this study may have important implications for how cancer care of older people is supported.

24 Young People's Experience of Cancer in Ireland

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Objectives: There is little consolidated information around the experience of young people who both currently have cancer and those who experience the long-term effects of childhood cancer here in Ireland. This research aims to provide rich data to inform practitioners, policy-makers as well as young people who have experienced cancer.

Methods: An online survey was developed by a team within a Radiation Oncology Hospital. Over 300 responses were collected online between January and May of 2015. Frequencies were collected to provide general and accessible statistics. A chi-square tests of independence were performed to examine the relation between young people diagnosed under the age of 18 and those diagnosed over 18 years of age to determine if unique needs exist, and if so, in what ways.

Results: Chi-square tests of independence indicate a significant difference between young people and adults in support for the preservation of fertility and the impact of cancer treatment on sexual activity and libido. Significant associations were found in questions of relational themes. Also, no statistically significant association regarding the provision of psychosocial support with both groups reporting being offered said services about half of the time.

Conclusions: The findings suggest that young adults may need further support in preserving their fertility, managing the impact of diagnosis

and treatment on their sexual activity and libido, developing their sense of identity integrating their cancer experience and harnessing their potential for post traumatic growth. It also finds psychosocial support to be lacking in accessibility across age groups.

25 Narrative Medicine: A Practical Application for Using Writing as a Clinical Intervention with Cancer Patients, Caregivers and the Clinicians that Care for Them.

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Narrative medicine is a term coined by Dr. Rita Charon at the Columbia University Medical Center in response to what she identified as a growing need for doctors and medical students to learn to incorporate in their practice the skills necessary to “read” and be moved by their patients’ illness narratives. These skills were akin to those that are developed by studying/analysing literature. It was found that those students and doctors who participated in learning these skills reported responding to patients’ stories with greater compassion and empathy. The authors felt a need to go one step further: to hear the patients’ and caregivers’ voices in a similar forum and to help them to learn to “read” their own suffering. In response, a narrative writing workshop open to cancer patients, caregivers and staff was initiated in 2006 at this hospital. Writing about the experience of illness, patients discover the story of survival, move it from “talk” to the visible page where they recover, revise and control the meaning of what has happened to them. Combining staff, patients and their caregivers together in an ongoing workshop, better communication and understanding is fostered between all those involved in the struggle with chronic illness, creating a community based on trust and shared experience.

We propose to present our experience facilitating this group for over 10 years. The literature/poetry/prose/memoir that is used to stimulate discussion will be discussed along with the writing prompts that are used in the subsequent writing exercises assigned within each session.

26 Guideline for Supportive Care in Oncology Orientation criteria: Who, when and why referring to psychologist/psychiatrist

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Background: Health care professionals working in oncology have learned to work with psycho-oncology department. Nevertheless, they are not always familiar with which mental health professional they should refer to. Surveys tend to demonstrate that clinical criteria alert which would guide the orientation towards the adequate mental health professional either psychologists or psychiatrists are missing.

Method: A collaboration between the Francophone Association of Supportive Care in Cancer (AFSOS) and the French Society of Psycho-Oncology (SFPO), through the supervision and logistical framework of Regional Cancer Networks, was created in order to develop interregional workgroups, gather and pool specific guidelines for oncologic teams. Practical clinical guidelines for assessing orientation criteria for improving referral of cancer patients with psychological distress and/or psychiatric disorders to psychologist or psychiatrist working in psycho-oncology were elaborated. This guideline was created through a methodology based on literature review and summary, identification of existing tools (HADS, Po-Bado), several phone meetings of the workgroup to elaborate content, seek consensus and create an algorithm.

Results: These guidelines were presented, discussed and adjusted when necessary in workshops during supportive care guidelines validated during J2R plenary meeting in Nantes (FRANCE) in December 2015. Results are summarized in a practical algorithm.

Conclusions This guideline has been established in order to optimize referral’s adequacy of cancer patient with psychological distress or psychiatric disorders to mental health care professionals. Practical recommendations for referral management following alert criteria have been highlighted and will be made available through the AFSOS (www.afsos.fr) and the SFPO (www.sfpo.fr) website.

27 Psychometric properties of a new tool for the assessment of Emotional Distress of Caregivers of advanced cancer patients/end of life: The scale DCED

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Purpose: To determine the psychometric properties and the clinical utility of the new tool Detection of Caregivers Emotional Distress (DCED) of advanced cancer patients attending in a Palliative Care Unit (PCU). DCED have two parts: the first contains three questions addressed to the caregiver: two related to mood state and coping perception and another that records the main concerns; the second part consists of an observation of external signs of emotional distress made by the health professional.

Methods: 102 caregivers of advanced cancer patients admitted to PCU participated in this study. The caregivers responded DCED and the following tools: Reduced Zarit Scale (RZS), Emotional Thermometer (ET), and Anxiety (A) and Depression (D) by analogue visual scale.

Results: Mean age of caregivers of patients were of 61.3 (SD 12.9). It was noted that 60.1% had moderate to severe emotional distress. The cut-off point for DCED evaluated by means of Receiver-Operating Curve (ROC) suggested that the best ROC curve is a value ≥ 10.5 , with a specificity between 75% and 97% and a sensitivity between 68% and 83.3%. It was found positive and significant statistically intraclass correlations with ET, RZS, A and D. The internal consistency measured by alpha of Cronbach was .76.

Conclusions: The DCED present a good psychometric properties, is a useful and easy tool to use for the screening of emotional distress of caregivers. Our results justify the systematic use of DCED as a screening instrument in the clinical praxis and it allows deriving a specific professional if necessary.

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Physical symptom distress and psychological distress in Hong Kong Chinese breast cancer survivors: the role of illness perception

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Background/Purpose: Leventhal's common-sense model proposes symptom experience triggers individuals' illness perception affecting illness adaptation. We tested if illness perception mediated the relationship between physical symptom distress and psychological distress.

Methods: Following breast cancer treatment 372/383 Hong Kong women completed baseline Illness perception (IPQ) and physical symptom distress (MSAS) measures. Anxiety and depression (HADS) were also assessed at baseline and one-year follow-up. Bias-corrected bootstrap confidence intervals were used to determine any indirect effects of illness perception on the physical symptom distress-psychological distress relationship.

Results: After adjusting for individual difference and baseline psychological distress, baseline physical symptom distress significantly predicted one-year anxiety ($B = 1.15$, $P < 0.05$) and depression ($B = 0.86$, $P < 0.05$). Three domains in illness perception, perceived seriousness,

perceived illness duration, and symptom identity mediated baseline physical symptom distress and one-year post-baseline anxiety. The mediation effect accounted for 24.2%, 6.3% and 18.5% of total association, respectively. Perceived seriousness also mediated the relationship between baseline physical symptom distress and one-year post-baseline depression. Mediation explained 27.7% of total effect.

Conclusions: Physical symptom distress associated with negative illness perception, in turn increasing psychological distress. Women with greater physical symptom distress perceived illness as longer lasting, more serious, and perceived symptoms to reflect cancer. Negative illness beliefs led to greater psychological distress during cancer survivorship.

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Development of the Evidence-based Practice Learning Program for Oncology Nurses in Japan: A Pilot Study

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Background/Purpose: Japanese nurses at centre hospitals for cancer care had inadequate knowledge of evidence-based practice (EBP). As only few EBP leaning programs for oncology nurses are available in Japan, we planned to develop such a program to be used at centre hospitals for cancer care. This report focused on the program conducted in our program development process.

Methods: The participants were a convenience sample of Japanese nurses who work at centre hospitals for cancer care. The program was composed of five steps: 1) Overview of EBP, 2) Identify an EBP issues in cancer nursing care and search for evidence, 3) Find evidence of cancer care and plan to use the evidence into nursing practice, 4) Implement the plan, and 5) Evaluate outcomes and report findings. Data were collected by two questionnaires: 1) the Self Evaluation Scale on Research Utilization Competency for Clinical Nurses and 2) a Satisfaction Survey of the EBP Learning Program. This study was approved by the primary author's Institutional Review Board.

Results: Participants were six nurses providing care for cancer patients and families for years. They demonstrated their satisfaction of the programs as "some" or "strongly." Then, we confirmed that the program was effective to learn EBP.

Conclusions This pilot study finds an effective EBP learning program that enable nurses to provide higher quality cancer care. Further projects need to evaluate and develop an effective EBP learning program in Japan.

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Psychological aspects of meaning-centered group psychotherapy: Spanish experience.

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Background: A cancer diagnosis can be a disease with curative or palliative intent, but it is a treatable disease. Depression has been associated with reduced survival, probably related to the reduction of self care and compliance with treatment against cancer. Patients with a diagnosis of advanced cancer (stage III and IV) have a higher degree of complexity in relation to the control of physical and psychological symptoms. In order to improve adaptation to advanced disease, William Breitbart developed Meaning-Centered Group Psychotherapy (MCGP), which has demonstrated its effectiveness in different groups of patients with advanced cancer.

Purpose: To identify emerging and constructed themes arising in applying Meaning-Centered Group Psychotherapy (MCGP) in patients with advanced cancer.

Methods: a mixed qualitative-quantitative analysis has been done based on transcription of 22 advanced cancer patients distributed in three groups who received MCGP.

Results: We have found six emerging themes in addition to the regular topics (n = 20) raised by the MCGP. Furthermore, in 65% of the subjects the comparison of emerging issues between groups has not showed statistically significant differences.

Conclusions: The implementation of the MCGP not only arise themes proposed by Breitbart's model, but other themes emerge that patients consider also important. Taking in mind these results, we propose to explore these emerging themes in the development of MCGP in Spanish or in Latin American cancer patients, where the sociocultural aspects could play an important role in the construction of personal meaning.

Keywords: group therapy, cancer, meaning, psychotherapy.

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Impact of preferred treatment decision making role on distress and quality of life.

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Background: Increase in patient participation in decision making has led to a shift toward a collaborative approach to treatment communication. However, little is known about patient's preferred role in the treatment decision making (TDM) process and the impact of the discrepancy between preferred and actual TDM role. **Methods:** Participants completed questionnaires assessing distress, quality of life

(QOL), and TDM preference as part of a larger study of cancer patients in a non-profit hospital system. **Results:** Participants (N = 94) were an average age of 57 (range = 26–80), predominately Caucasian (81.9%) and female (69%). The highest proportion of participants was diagnosed with breast (23%), prostate (18%), and ovarian (13%) cancers. Thirty-three percent of patients reported a wish to be active in the TDM process, 60% preferred a shared role with their physician, and 7% a passive role. When asked perceived actual role during their last TD, 28% reported an active role, 49% shared, and 23% passive. There were no significant differences on distress or QOL scores between those whose preference matched their actual TDM role and those that didn't. **Conclusions:** Despite no significant findings between TDM role and measures of emotional well-being, more participants reported a shared or passive role than desired during their last TD. This may impact other aspects of care and survivorship, such as satisfaction, decisional regret, or future treatment decisions. Future research should investigate the relationship between TDM role and other aspects of the cancer experience.

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DEVELOPMENT AND VALIDATION OF THE DAILY FATIGUE CANCER SCALE (DFCS): Single-Item Questions for Clinical Practice

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Purpose: The Cancer-Related Fatigue (CRF) is a subjective symptom of fatigue that is the most present and disabling symptom of cancer disease. For helping caregivers in the understanding of the fatigue symptom, we develop the Daily Fatigue Cancer Scale (DFCS). The aim of our study was to develop and evaluate the psychometric properties of a visual analogue scale for assessing daily CRF.

Methods: Firstly, we conducted interviews with caregivers, patients and scientists (N = 30) for generate items and choosing scale presentation. Secondly, we administered the final scale on a sample of 104 hospitalized patients for a cancer surgery. Patients also answered two standardized questionnaires, the Multidimensional Fatigue Inventory (MFI) to compare if our scale is valid and measure the fatigue symptom, and the Center for Epidemiologic Studies-Depression scale (CES-D) to be sure that our scale estimate psychological fatigue but not depressive symptomatology.

Results: Correlations provide a good construct validity of our scale with $r = .886(p > .01)$ between our physical fatigue item and the physical fatigue dimension in the MFI, and confirm that we measure less depression symptoms than psychological fatigue ($r = .768$ for mental dimension of the MFI versus $r = .678$ for the CES-D). Receiver Operating Curve (ROC) curves shows good sensibility and specificity ($>.80$).

Area Under Curve (AUC) allows a threshold for discriminate tired patients and give only 3% chance of being wrong in the diagnostic.

Conclusions The Daily Fatigue Cancer Scale is a good tool to identify exhausted patients and to improve their care.

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How to prevent fatigue in metastatic colorectal cancer patients undergoing chemotherapy? Fatigue trajectories and psychosocial factors

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Background: The colorectal cancer (CCR) is the 2nd most frequent cancer in women, the 3rd in men and the second cause of death by cancer in France. Cancer-Related Fatigue (CRF) is a hopeless, persistent and subjective feeling of fatigue in connection with treatments, but there is a significant link between psychosocial factors and severe fatigue in cancer patients.

Objective: To identify fatigue trajectories in metastatic CCR patients undergoing chemotherapy. Our study will also aim in identifying the psychosocial determiners that may have an impact on fatigue evolution: emotional distress, control, coping and social support. 3 trajectories will reflect the different evolution of fatigue. We believe that a poor psychological adjustment to the disease, may contribute to an increase of fatigue over time.

Method: This study is a prospective multicentric trial including 300 patients with a follow-up of 6 months. Patients will be asked to fill in the following questionnaires: The Daily Fatigue Scale in Cancer, the Multidimensional Fatigue Inventory, the Hospital Anxiety and Depression Scale, the Cancer Locus of Control Scale, the Ways of Coping Checklist, and the Social Support Questionnaire. The fatigue trajectories will be revealed thanks to mixed models and latent class analyses.

Conclusions The interest of studying trajectories of fatigue in cancer is to determine typical trajectories and to be able to explain these variations by psychological determiners. To study this symptom, focusing on pattern evolution, is an original approach in health research. The optimal way to deal with fatigue is to understand this complex symptom.

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Suicidal Thoughts in Cancer Patients Predict Increasing Anxiety and Depression Scores

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Background/Purpose: Someone with suicidal ideation is assumed to be depressed but not necessarily anxious. The current study was designed to evaluate the extent to which suicidal thoughts predict overall anxiety and/or depression scores.

Methods: All adult patients seen in the MDACC outpatient psychiatry clinic (June 2014–Jan 2016) who provided informed consent were included (N = 1,096). Assessment tools included the PHQ-9 to measure depression and the GAD-7 to measure anxiety. Suicidality was assessed as a categorical variable using question 9 (PHQ-9). Data reflect percentages or Mean \pm S.D.

Results: In this cohort, patients were predominantly female (67%), White (76%), and ~54 years of age. The majority of patients (79%) endorsed “not at all” to PHQ question 9: “Over the last 2 weeks, how often have you experienced thoughts that you would be better off dead or hurting yourself in some way”. Compared to those who specified “not at all” (9.6 \pm 5.2), patients who endorsed suicidal thoughts (several days, more than half the days, nearly every day) had increasingly higher levels of depression (15.2 \pm 4.6, 16.9 \pm 4.7, 21.6 \pm 4.0, respectively; F3, 1092 = 114.5, p < .0001). Similarly, as compared to those who specified “not at all” (8.5 \pm 6.0), patients who endorsed suicidal thoughts had increasingly higher levels of anxiety (12.1 \pm 5.5, 14.2 \pm 4.9, 16.5 \pm 4.3, respectively; F3, 1091 = 45.9, p < .0001).

Conclusions: The data indicate that ~20% of all patients seen at the MDACC Psychiatric Oncology Clinic endorse some level of suicidal thoughts and that these individuals exhibit significantly greater levels of depression AND anxiety as a function of increasing levels of suicidality.

Funding: The Hackett Family

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Cognitive compensatory processes of older, clinically-fit patients with hematologic malignancies undergoing chemotherapy: a prospective, case-control study

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Purpose: This study was designed to investigate the cognitive compensatory processes of older, clinically-fit patients with hematologic malignancies undergoing chemotherapy.

Methods: We assessed 89 consecutive patients (age ≥ 65 years) without severe cognitive impairment and 89 age-, sex-, and education level-matched healthy controls. Cognitive compensatory processes were investigated by (1) comparing cognitive performance of patients and healthy controls in novel (first exposure to cognitive tasks) and non-novel (second exposure to the same cognitive tasks) contexts, and (2) assessing psychological factors that may facilitate or inhibit cognitive performance, such as motivation, psychological distress, and perceived cognitive performance. We assessed cognitive performance with the Trail-Making, Digit Span, and RL/RI-16 tests, psychological distress with the Hospital Anxiety and Depression Scale, and perceived cognitive performance with the FACT-Cog questionnaire. A global composite cognitive score was calculated based on Trail Making, Digit Span and RL/RI-16 tests scores.

Results: In novel and non-novel contexts, average cognitive performances of healthy controls was higher than those of patients (both $p < 0.001$) and was associated with motivation ($\beta = 0.410$ and 0.430 , respectively). Cognitive performance of patients was not associated with investigated psychological factors in the novel context, but was associated with motivation ($\beta = 0.291$) and psychological distress ($\beta = -0.297$) in the non-novel context.

Conclusions: Older, clinically-fit patients with hematologic malignancies undergoing chemotherapy demonstrated lower cognitive compensatory processes compared to healthy controls. Reducing distress and increasing motivation may improve cognitive compensatory processes of patients in non-novel contexts.

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Perceived Impact of Participation in a One-Time Expressive Arts Workshop

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Background: This study examines the use of art to express the experience of the oncology journey of survivors and family members. Art can 'bridge the gap between the conscious and unconscious, often providing a depth of clarity, understanding and empathy otherwise difficult to achieve through words alone' (Shannon. ACM 2013; 88-959). The creation of art facilitates exploration of the internal emotional environment, self-awareness, emotional conflict and helps us to express unspoken and unconscious fears and concerns about the illness.

Method: This mixed methods study of 28 adult participants used the Emotional Thermometer, analysis of the art work, and participant interviews to assess the perceived impact of participation in the one-time expressive arts workshop.

Results: Statistical significance was found between pre and post workshop participation in three aspects of the Emotional Thermometer: distress ($p = 0.007$), anxiety ($p = 0.003$), and depression ($p = 0.005$). Analysis of artwork was done using the Silver Drawing Test and Drawing a Story which provides access to emotions and attitudes. Responses, on a 5-point rating scale, were scored by five investigators. Phenomenological analysis of the interviews identified four themes; environment (tranquil place to be), connection (good fellowship), emotions (roller coaster of feelings) and discoveries (you don't realize it's raining until you touch the tent).

Conclusions: Non-art therapist staff members conducted this one-time program with male and female survivors plus family members. This is a feasible strategy for both genders and can be successful in bringing patient care to the next level.

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The role of psycho-oncology in cancer prevention

Dr Richard Fielding^{1*} | Dr Phyllis Butow^{2*} | Dr Monika Janda^{3*} | Dr Kevin Stein^{4*} | Dr Zeev Rosberger^{5*}

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New improved genetic and classical diagnostic methods and treatments lead to diminished, boundaries between cancer risk factors,

diagnosis, and prevention of first and subsequent cancers. In 2015, the publication "The missing piece: cancer prevention within psycho-oncology" raised awareness about prevention issues in the psycho-oncology community. Topics debated include whether psycho-oncologists should: mainly aim to prevent psychological problems or also lifestyle improvements; collaborate with public health specialists; focus on the most common preventable cancers only; further revise the expanded model given latest advances in genetic research; lobby for larger systems changes to keep people healthy rather than treat the sick; lobby for remuneration models for preventive services. In this symposium, Zeev Rosberger will give an "update on the expanded model of cancer prevention research in psycho-oncology since the 2015 publication". Presentations will elaborate on practical applications: Richard Fielding "Evidence and need for residual symptoms prevention"; Kevin Stein "Application of health behavior change theory in health promotion and secondary cancer prevention in cancer survivors"; Phyllis Butow "Can psycho-oncology assist women who have to make difficult decisions including uptake of contralateral mastectomy and selective estrogen receptor modulators"; Monika Janda "Endometrial cancer patients lifestyle changes after cancer, and uptake of weight loss interventions depending on anxiety and depression". The symposium shows that there is considerable activity by psycho-oncology clinicians and researchers in the field of cancer prevention. Further discussion is required to take advantage of the synergies between public health and psycho-oncology, and how to steer the preventive psycho-oncology agenda.

Supporting Abstract 1:

How do women decide about preventive treatments? Contralateral prophylactic mastectomy after early stage breast cancer & selective oestrogen receptor modulators in women at high risk

Authors:

Phyllis Butow^{1,2,3}, Kelly Phillips^{3,4,5}, David Porter^{3,6,7}, Brittany Agar^{1,2}, Angelique Ralph^{1,2}, Stephanie Tessen^{1,2}, Imogen Richards^{1,2}, Kathy Tucker⁸, Lesley Andrews⁸.

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Purpose: Women at high risk of breast cancer, or diagnosed with early stage breast cancer (BC), consider options to prevent future cancers or cancer relapse. Two separate studies investigated the utility of protection motivation theory and the theory of planned behaviour in explaining women's hypothetical decision-making.

Methods: 107 women at increased risk of BC and 400 women previously treated for BC, completed a questionnaire exploring hypothetical intentions to take selective oestrogen receptor modulators (SERMS) or undergo contralateral prophylactic mastectomy (CPM), respectively. Demographic and disease variables, and theoretical constructs, were included as predictors.

Results: Women who believed SERMS or CPM would effectively lower their risk, and would not have many downsides, perceived greater

social pressure to have SERMS or CPM, anticipated regret (if they developed BC having rejected SERMS or CPM), tended to avoid uncertainty, felt they could cope with SERMS or CPM, and felt they were at greater risk of BC - were more likely to declare an hypothetical intention to undergo SERMS or CPM. Overall the models explained 16–44% of the variances in intention. Women self-reported that risk reduction and desire for breast symmetry (CPM only) motivated a positive decision, while desire to avoid side effects or post-operative risks, low perceived risk, choosing another method of risk reduction and avoiding financial costs motivated a negative decision.

Conclusions: Women weigh up both positive and negative aspects of preventive therapy before making decisions. Clinicians should explore women's understanding and perceptions when assisting women to reach decisions.

Supporting Abstract 2:

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women's understanding and perceptions when assisting women to reach decisions.

Endometrial cancer patients' lifestyle changes after cancer, and uptake of weight loss interventions depending on anxiety and depression
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Supporting Abstract 3:

Background: Endometrial cancer is the most common gynaecological malignancy in women, often strongly associated with obesity and lack of physical activity. Little is known about women's interest in lifestyle interventions after treatment.

Methods: The Teacup study enrolled 122 women 1–4 years after treatment. Participants completed self-administered questionnaires including the Hospital Anxiety and Depression Scale (8-points cut-off for likely anxiety or depression), and interest in counselling or lifestyle interventions. We used baseline survey data and Chi-Square χ^2 Tests compared women with high or low anxiety/depression.

Results: At a median of 2-years post-surgery, patients were on average 65 years (39–87), 51% living with a partner, 52% retired. Overall, 25% of women reported elevated anxiety, and 8% elevated depression levels. While women did not differ by anxiety or depression status in their interest in weight loss (43%), eating more healthily (47%), or physical activity (36%), women with elevated anxiety (63%) were more likely to be interested to learn how to manage stress compared to women with low anxiety (32%; $\chi^2 = 5.7$; $p = 0.02$). No woman with anxiety planned to return to work or study compared to 20% of other women ($\chi^2 = 4.4$; $p = 0.04$). The preferred format of lifestyle information was by mail (56%), SMS (37%) or telephone (31%), few were interested in group discussions (15%).

Conclusions: About 50% of the women were interested in lifestyle programs, and wanted to receive information by mail. Anxiety elevated the need for stress management programs, and diminished women's desire to return to work or study.

Supporting Abstract 4

Translation, Dissemination, and Implementation of Prevention Programs for Cancer Survivors: What We Know and Where We Need to Go

Kevin Stein, Ph.D. Vice President, Behavioural Research Centre, American Cancer Society

Due to treatment toxicities, cancer survivors are increased risk for a number of health conditions (e.g. late effects) compared to age/gender matched peers in the general population. A large body of evidence has demonstrated that healthy lifestyle behaviours (diet and physical activity) cannot only ameliorate symptoms of some conditions, but may also play an integral role in the prevention of others, as well as improve overall physical and emotional health. As such, investigators have developed interventions aimed at improving cancer survivors' lifestyle behaviours. Such interventions have proven to be safe, effective, and acceptable to survivors. However, most interventions have been conducted in controlled clinical settings, with few having been implemented in community-based settings. Furthermore, restrictions in terms of types of interventions, characteristics of study participants, and other methodological limitations have hindered the generalizability of research findings and uptake of interventions at the community

level. Issues of reimbursement and lack of clinical guidelines for post-treatment cancer survivorship care have also limited accessibility of such programs. Using examples (with data) from research studies, this presentation will address current challenges to moving evidence-based interventions into the community setting. The presentation will focus on the challenges to health behaviour change among cancer survivors, including moving lifestyle interventions from clinical settings to the public health setting (e.g. translational research), studying how best to implement such intervention programs in the community (e.g. dissemination and implementation science), exploring novel methodologies and use of e-health technologies, and investigating issues around the maintenance of behaviour change.

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The effectiveness of adventure-based training in reducing fatigue and enhancing quality of life among childhood cancer survivors

Dr Ho Cheung William Li* | Dr Oi Kwan Joyce Chung

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Background/Objective: Insufficient participation in physical activity remains a common problem in survivors of childhood cancer. This study aimed to test the effectiveness of an adventure-based training program in reducing fatigue, improving physical activity levels and promoting quality of life among Hong Kong Chinese children cancer survivors.

Methods: A randomized controlled trial was conducted in a paediatric outpatient clinic of an acute hospital and the Children's Cancer Foundation. A total of 323 childhood cancer survivors were recruited. Subjects in the experimental group received a four-day adventure-based training programme. Subjects in the control group received the same amount of time and attention as the experimental group but not in such a way as to have any specific effect on the outcome measures. All subjects were assessed for the fatigue, muscle strength, physical activity levels and quality of life at baseline, 6 and 12 months after the start of intervention.

Results: Subjects in the experimental group reported significantly lower levels of fatigue ($p = 0.02$), but higher levels of physical activity ($p < 0.001$), muscle strength ($p = 0.02$) and quality of life ($p = 0.05$) than those in the control group at 6 and 12 months. Also, statistically significant differences were found in fatigue, physical activity levels, muscle strength and quality of life among subjects in the experimental group from baseline to 12 months.

Conclusions The adventure-based training programme was found to be effective in reducing fatigue, promoting regular physical activity and enhancing quality of life among childhood cancer survivors.

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Does mode of detection of breast cancer affect subsequent psychological adjustment?

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Background: The number of women with screen-detected breast cancer is increasing, but it is not clear if these women experience the same levels of distress as women with symptomatic breast cancer. The current study compared stress and distress in women with screen-detected or symptomatic breast cancer at diagnosis and 12 post-diagnosis.

Methods: Ninety-two women with screen-detected breast cancer and 129 women with symptomatic breast cancer completed measures of perceived stress, anxiety, and depression at diagnosis and 12 months post-diagnosis. Women also completed a measure of cancer-related stress at 12 months post-diagnosis.

Results: Both groups reported similar levels of perceived stress, anxiety, and depression at diagnosis. A third of women in both groups reported clinical levels of anxiety at diagnosis, which decreased at 12 months post-diagnosis. There were no differences in depression. Analyses revealed that at 12 months post-diagnosis, the symptomatic group reported a reduction in anxiety but the screen-detected group reported no significant change over time. The screen-detected group reported significantly higher anxiety and cancer-related stress at 12 months than the symptomatic group.

Conclusions: Screen-detected women report similar distress at diagnosis, but may be more at risk for greater distress requiring further psychological support one year after diagnosis. Future interventions which focus on preparation for screening may help to reduce ongoing levels of anxiety and cancer-related stress for this group.

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Cancer Treatment Decisions among Latinos: A Qualitative Study Examining Influences and Choices

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Background: A high rate of cancer exists among Latinos, who are the fastest-growing ethnic group in the United-States. Factors that contribute to the treatment decisions of Latinos diagnosed with cancer must be studied. This study identified the types of treatment decisions among Latinos with cancer and examined the factors that influence these decisions.

Methods: A qualitative exploratory study using semi-structured interviews of 60 Latinos diagnosed with cancer was conducted. Closed-ended responses were analysed using percentages and frequency distributions, while open-ended responses were subjected to thematic analysis. Interviews were conducted in Spanish and translated into English. Sixty Latino men and women residing in Central Florida who were diagnosed with cancer within the past five years were interviewed in the participants' homes, community, churches and support groups.

Results: Surgery was the most commonly chosen treatment among the participants because it was perceived as providing the highest chance of prolonging life. Only 57% of the participants were provided with treatment options. Despite the lack of options provided, 65% of the participants would recommend the treatment they received to others.

Conclusions: Latinos' are inclined to prefer a modest, paternalistic patient physician relationship when making treatment decisions. Therefore, the provision of culturally appropriate information is valuable along with the inclusion of family and friends. This study underscores the need for health providers to present all the available treatment options to ensure compliance with treatment and to enhance cancer treatment outcomes. Further research is needed with specific and stage of cancers.

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Warrior's One in Three explores the cultural pessimism, societal responsibility and individual apprehension that cancer evokes. It investigates the suppression that surrounds cancer by opening a discourse on the illness.

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Warrior's One in Three: This exhibition and presentation focuses on the human rights of those with cancer diagnosis and their right not to be defined by the illness. The ultimate aim is to fracture fears and taboos that surround sickness, therefore leading to the creation a healthier environment for everyone. Where diagnosis, prognosis and timeframe become disregarded and the individual is appreciated for all that they are.

It has been substantially documented that cancer will touch one in three of us yet oncology departments, cancer respite and hospice services co-exist alongside everyday life and only sought out when needed. Warrior's One in Three utilises contemporary art and culture to create public spaces of discussion around serious and terminal illness, bringing together people of all ages and from all walks of life, including those who have no previous experience of the arts or illness. These communal platforms addressed, communicated and discussed the cultural pessimism, societal responsibility and individual apprehension that cancer and treatment evokes. Society is very well intentioned but it is only with collective discourse and conversation that concerns and worry, a lot of which have been inherited can be liberated.

The word warrior stands in direct opposition to the word victim. It is imperative that contemporary art and culture empowers, enables and

warrants people to cast away the traditional thinking around the world of the sick. Creating a new vision of insightfulness, sensitivity and inclusivity, where social isolation, loneliness and redundancy become a thing of the past.

51 Emotions and mental disorders in patients with cancer – On the need to distinguish between adaptive and maladaptive responses

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Purpose: We provide a conceptual analysis of psychological distress in patients with cancer, emphasizing the need to distinguish between adaptive and maladaptive responses.

Methods: We review literature on emotions, mental disorders, and their relationship. This is a selective review of authoritative literature.

Results: (i) Emotions alert us to important changes in the environment, such as the diagnosis and treatment of cancer; they motivate and prepare us to deal with these changes. Emotional experiences are generally adaptive, even if they are unpleasant. Mental disorders, however, reflect a dysfunction in the processes underlying mental functioning. A mental disorder constitutes a barrier to successful adaptation. Emotions should not be equated to mental disorders, although emotions and mental disorders are strongly related.

(ii) Identification of patients suffering from psychological distress currently relies on a cut off score on a continuous measure of psychological distress. Instead, we suggest that the field would need to identify indicators of the distinction between adaptive and maladaptive emotional responses. We derive several candidate indicators from literature.

Conclusions: The understanding of psychological distress in patients with cancer may benefit significantly from the distinction between emotions and mental disorders. Developing valid indicators of the distinction between adaptive and maladaptive emotional responses is an urgent research priority.

52 The evidence base for psychosocial interventions in oncology – the way forward

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Saclay University, Villejuif, France; ⁶The Netherlands Cancer Institute, Amsterdam, Netherlands

Psychosocial interventions in oncology need a strong evidence base in order to provide optimal care for patients. In recent years, we have seen a rapid development of psychosocial interventions. The time has come to evaluate where we are and where we are going. There is a need to identify strengths and weaknesses in the evidence base, and to define priorities for future research.

This symposium will evaluate the evidence for various psychosocial interventions in oncology, and will identify future research priorities. Internationally recognized experts will assess the current state of science in their respective fields, pointing out areas where important progress has been made, as well as areas that need to be strengthened. Both theoretical and methodological issues will be reviewed. Professor Prins (Netherlands) will address self-management and e-health for cancer survivors. Dr. Jassim (Bahrain) will focus on psychological interventions to assist breast cancer patients in dealing with diagnosis and treatment. Dr. Bourke (UK) will review exercise prescriptions for men with prostate cancer. Dr. Boinon (France) will present on social support for patients with cancer.

Professor Aaronson (Netherlands) will facilitate a discussion about priorities in future research on psychosocial interventions in oncology. We welcome active participation by the audience in this discussion.

Supporting Abstract 1:

Judith B Prins and Sanne W van den Berg
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Department of Medical Psychology
Self-management and e-health for cancer survivors, the BREATH study as a starting point

Background: The growing population of cancer survivors challenges psychosocial oncology researchers to develop easily-accessible and cost-effective psychological interventions. E-health seems a good way to support self-management, defined as the ability to monitor one's condition and to effect cognitive, behavioural and emotional responses necessary to maintain a satisfactory quality of life.

Methods: We revisit the BREATH study – a multicenter randomized clinical trial evaluating a generic, unguided CBT-based self-management website to reduce negative and increase positive adjustment in breast cancer survivors. We identify theoretical and methodological issues which need to be addressed in order to further develop self-management and e-health for cancer survivors.

Results: The trial showed that BREATH plus care as usual (CAU) was superior to CAU alone in reducing distress, but not empowerment. The clinical effect was most prominent in subjects with low-distress. Low and high users did not differ on distress. Issues for further consideration include: how to conceptualize and measure positive adjustment; for which cancer survivors can e-health self-management interventions be supportive; whether website usage has a mediating effect in self-management; and the added value of a blended approach combining e-health with a face-to-face intervention.

Conclusions: This in-depth reflection will contribute to the further development of self-management and e-health in cancer survivors.

Reference

Van den Berg SW, Gielissen MFM, van der Graaf WTA, Custers J, Ottevanger PB, Prins JB. BREATH: Web-based Self-Management for Psychological Adjustment after Primary Breast Cancer - Results of a Multicenter Randomized Controlled Trial. *Journal of Clinical Oncology* 2015, Sep 1; 33 (25):2763-71.

Supporting Abstract 2:

Jassim G. A.

Royal College of Surgeons in Ireland - Bahrain (RCSI Bahrain)

Psychological interventions in women with breast cancer

Background and Purpose: Four major categories of psychological interventions to assist breast cancer patients in dealing with diagnosis and treatment have been described most frequently in the literature. These are educational techniques, behavioural training, individual psychotherapy, and group interventions. We evaluate the evidence for these interventions and provide suggestions on future research priorities.

Method: Based on our Cochrane systematic review (2015) and further reading of the literature, we identify strengths and limitations of the current literature on psychological interventions breast cancer patients.

Results: Cognitive behavioural therapy has consistently been shown to produce favourable effects on psychological outcomes. However, the evidence for survival improvement and immune responses is still lacking. Interventions currently focus on depression and anxiety; few interventions address cognitive impairment, employment, quality of life and relationships. Interventions are heterogeneous and there is no clinically proven cut-off point for the duration of the intervention. A wide variety of outcome measures have been used. Systematic reporting on potential adverse events is lacking. Trials are primarily conducted among Caucasians, in developed countries and focus almost exclusively on the early phase of survivorship. The methodological quality of the evidence is often limited.

Conclusions Although the amount of research is substantial, there is considerable room for improvement. Meticulous definitions and descriptions of the psychological interventions and use of standardised outcome measurements are fundamental to improvement. Future research must target patients presenting with clinically important levels of anxiety and depression. The internal validity of studies needs to be improved. Potential adverse effects should be reported.

Supporting Abstract 3:

Bourke L (1,2), Greasley R (1), Turner R (3), Sutton E (4), Rosario DJ (2,3) *

1. Sheffield Hallam University, Sheffield UK
2. Sheffield Teaching Hospitals, Sheffield UK
3. University of Sheffield, Sheffield UK
4. University of Bristol, Bristol UK

*On behalf of the NIHR STAMINA investigators.

Exercise prescriptions for men with prostate cancer

Background: Exercise interventions for men with prostate cancer are supported by a recent systematic review and meta-analysis of randomised controlled trials (RCTs). However, there is reason to believe that very little patient benefit is experienced in clinical practice.

Method: We provide a mixed-method overview of recent research on exercise interventions for men with prostate cancer. We identify obstacles to implementation in clinical practice and identify future research priorities.

Results: There is good evidence from high quality RCTs that exercise interventions are beneficial in the short term. Important outcomes such as cancer specific quality of life, cancer-specific fatigue as well as physical function are improved to a moderate extent. It is also important to note that serious adverse effects are rare. There is real uncertainty about how exercise prescription and delivery fits into routine cancer services in terms of roles and responsibilities, staff training needs and financing of resources. Part of this issue is that there is currently no cost effectiveness data to evaluate, and limited information is available on long-term outcomes. Survivors with multiple complex comorbidities often feel distressed about exercise participation and there is very little mechanism to offer them support currently.

Conclusions: Multi-centre clinical trials that evaluate interventions that are embedded in clinical service from the outset are now required. Exercise needs to be tailored to the presence of complex comorbidities. Generation of cost effectiveness data is essential. The maintenance of clinically relevant improvements in clinically relevant outcomes needs to be assessed over longer follow-up.

Supporting Abstract 4:

Diane Boinon (1,2), Sarah Dauchy (1,2), Suzette Delalogue (1,2), Serge Sultan (3,4)

1. Gustave Roussy, Paris-Saclay University, F-94805, Villejuif France
2. Paris Sud University, Paris-Saclay University, F-94270, Le Kremlin-Bicêtre France
3. University of Montreal, Qc, Canada
4. Sainte-Justine University Hospital Center Research, Montreal, Qc, Canada

How can we develop a clinically effective intervention on social support for patients with cancer?

Background: Social support has been found to be an essential factor contributing to psychological adjustment in patients with cancer. However, in order to better design clinical interventions, there is a need to improve our understanding of how social support contributes to psychological adjustment.

Purpose: To explore (i) the nature of support behaviours and (ii) their specific effects on psychological adjustment to breast cancer.

Methods: 102 breast cancer patients responded to self-report questionnaires (social support, psychological adjustment) after surgery (T1) and after the adjuvant treatment (T2). A semi-structured interview was conducted at T2 with 21 patients of the total sample.

Results: Negative support (withdrawing, exclusive focus on disease, and dramatization) at T1 explained an increase in cancer-related intrusive thoughts at T2. This link was fully mediated by patient' illness representations with a more cyclical timeline perception, i.e. more unpredictability in their condition. On the other hand, instrumental and distractive support was found to reduce depressive symptoms. Qualitative data showed that empathic attitudes, optimism and concrete help were perceived as the most helpful support behaviours. Occasionally, an unsupportive behaviour was found to have a positive effect.

Conclusions: This study provides insight into the nature of support behaviours and their specific effects. Interventions could focus on social support within the dynamic of the relationship by helping patients and caregivers to identify, specify and discuss these behaviours and their effects along the cancer trajectory.

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Evaluation of the use, appreciation, and adherence to a personalized module referral system of a web-based self-management intervention for early cancer survivors

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Background/Purpose: The fully automated computer tailored web-based 'Kanker Nazorg Wijzer' (Cancer Aftercare Guide, KNW) supports recovery of early cancer survivors. The KNW includes self-management training modules that target return-to-work, fatigue, mood, relationships, physical activity, diet, and smoking cessation. The personalized module referral advice (MRef) aims to guide participants to relevant modules. Present study evaluates the adherence to the MRef, examines the module-use and its predictors, and the KNW-appreciation and its predictors.

Methods: Participants were survivors with various cancer types, recruited from 21 Dutch hospitals, allocated to the intervention condition of a randomized controlled trial. Data from online self-report questionnaires and logging data were analyzed. Chi square tests were applied to assess MRef adherence and regression analyses to identify predictors of module-use, and predictors of KNW-appreciation.

Results: From the respondents (N = 231; 79.2% female; age M 55.6, SD 11.5), almost all were referred to at least one module and the large majority followed this advice. The odds of visiting relevant modules were higher if MRef advised module-use. Module-use was significantly predicted by higher numbers of MRef and intensive cancer treatment. Overall appreciation was positive and not associated with any demographic, cancer-related, and intervention-specific factors.

Conclusions: The KNW is a well-visited web based cancer aftercare intervention, was highly appreciated by a varied group of early survivors, and fits well with their wide-ranging needs. The MRef seems a key-component in referring respondents to personal relevant modules.

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The AMC Online: Responding to the needs of adolescents adjusting to maternal cancer

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Background: Adolescence can be a stressful as physical, cognitive, psychosocial changes happen (Cicognani, 2011). Parental cancer can be an additionally stressful experience for adolescents (Visser et al., 2004; Huizinga et al., 2005).

Programmes for children and families that experience cancer exist, but none were exclusively targeted at adolescents. Adolescents need tailored support at this time (Dehlin & Reg, 2009).

Method: The programme was designed based on qualitative interviews and previous interventions. It consists of 8 one hour sessions including stress, social support, cancer, seeking help and coping skills.

A pilot study was done and the final version was completed by 14 participants (14–20 years). Adolescents completed consent forms and a pre and post intervention surveys evaluating perceived stress, coping, attachment, perceived social support attachment, life satisfaction, affect and session feedback.

Results: Results indicate that there was a statistically significant difference in anxiety scores $\chi^2(2, n = 14) = 13.15, p < 0.01$. There were no other significant changes in other variables over time.

Conclusions: Adolescents expressed wanting more knowledge about cancer. They learnt about themselves and others by completing the sessions and wanted to have information about emotions that other adolescents in similar situations experience. They identified coping skills and social supports that they were not aware of; asked for help and talked about their experience with others.

The program had the advantage of being available any day and time. This pilot work is very limited given the small number of participants (N = 14) that completed all sessions.

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Effects of P2P, a Theory of Planned Behaviour-based program against tobacco realised by a cohort of students in vocational schools

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In France, the issue of youth smoking remains a major challenge for public health. If the peer influence can encourage tobacco use, we observe that the peer education has therefore a beneficial potential to change smoking behaviour of adolescents. Moreover, it was demonstrated that Theory of Planned Behaviour (TPB) has yielded the best prediction of intentions and behaviour in several health domains. In P2P program, voluntary students in professional high schools conceived and performed their own intervention, based on the TPB (with help of trained educators), to reduce their schoolmates smoking. The main objective of this study is to measure the 1 year impact of the P2P program on a highly exposed young population composed by students from professional schools.

A cluster randomized control trial design is used with 7 schools in an intervention group and 8 in the control one. Socio-demographic, tobacco status, and elements of the TPB are measured with self-questionnaire before and after the intervention. Complementary, measures of carbon monoxide were made.

At T0, among 1572 respondents (Mage = 16.7, girl = 35%), 30% smoked daily, 11% occasionally and 57% are non-smokers. At the second evaluation (N = 1332), they were respectively 31%, 13% and 56%. At T0, they were 821 (Mage = 16.8, girl = 34.6%) in control group and

751 (Male = 16.7, girl = 35.3%) in intervention group. Results revealed a significant decrease of daily smokers in intervention group (-2.2%) and an increase of daily smokers in control group (+2%).

These results showed the potential benefit for participants in this experiment to reduce their likelihood of smoking.

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Metacognitive Awareness in Cancer Setting (MACS): Theoretical Foundations and Preliminary Results of an Open Trial.

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Background: The experience of cancer patients is difficult to be framed up through standard psychodiagnostic criteria. The most of the studies report a constellation of depressive, anxious, and post-traumatic symptoms. Therefore, transdiagnostic approaches such as Mindfulness-Based Cognitive-Behavioural Therapy (MBCT) and Metacognitive Therapy (MCT) are receiving great attention. On the one hand, MBCT is very effective in dealing with the chronic stress experienced by patients. On the other hand, MCT offers a very easy-to-apply approach in assessing personal beliefs behind the stress itself. From a functional contextualism viewpoint, the experience of the patients can be understood as a set of relational frames and contexts that defines a personal theory of the world and of cancer itself.

Methods: In the last few years, we developed a model (MACS) that includes two types of interventions (i.e. individual and group therapy) and four approaches: (I) a metacognitive assessment about beliefs; (II) an educational training about stress and cancer; (III) a narrative exposure technique about the illness story; (IV) a mindfulness training through standard exercises. We're pilot-testing (open trial with pre- and post-treatment assessment) the individual (n = 69) and the group (n = 47) therapy on a sample of breast cancer women.

Results: Results showed that depressive, anxious and post-traumatic symptoms reduced significantly ($p < .001$). No differences were found in Quality of Life.

Conclusions: MACS has shown promising results. The theoretical model seems to depict the coping and adjustment mechanisms in facing with cancer. Further studies are needed to confirm these findings and use of this in clinical practice.

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The Androgen Deprivation Therapy Educational Program: A Canadian True NTH Initiative

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Background: Androgen deprivation therapy (ADT) is commonly used to treat prostate cancer, but has many adverse effects that can directly impair patients' quality of life and indirectly that of their intimate partners. In five Canadian cities, we offer a program on how patients and their partners can stay physically and emotionally healthy, and co-supportive when the patient is on ADT.

Method: Patients, recently prescribed ADT and their partners, attend a 1.5 hour class and receive the book *Androgen Deprivation Therapy: An essential guide for men with prostate cancer and their partners* (Wassersug Walker & Robinson, 2014). Attendees learn strategies for managing ADT side effects and use goal-setting exercises to make beneficial lifestyle adjustments to help manage ADT side effects. To evaluate the effectiveness of the educational program, participants complete questionnaires before attending the class and again 2-3 months later. The questionnaires assess: 1) ADT side effect frequency and bother, 2) self-efficacy in side effect management, 3) physical activity and 4) relationship adjustment.

Results: As of March 2016, 273 patients and 178 partners have attended the program in Halifax, Toronto, Victoria, Vancouver, and Calgary. 96 participants consented to participate in the evaluation of the ADT Educational Program. Participant feedback has been overwhelmingly positive.

Conclusions: The ADT Educational Program is becoming usual-care at these centres. It remains to be seen how effective the program is in limiting the bother from ADT side effects and helping couples maintain strong relationships. An online version of the program will soon be available.

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Screening for Sexual Health Concerns of Gynaecological Cancer Patients Seen in Routine Follow-up Visits

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Objective: Sexual well being is a component of quality of life for all cancer patients, in particular for gynaecological cancer patients, with over half typically reporting disrupted sexual function or sexual concerns. Satisfaction with sexual health information is typically poor, and demand for more support is increasing. The Alberta Screening

for Distress (SFD) program provides an opportunity for patients to indicate that they have sexuality/intimacy concerns to their health care provider.

Methods: Information from 12 months of gynaecological cancer follow-up clinics was examined. 577 patient's medical files were reviewed. The prevalence of sexual health concerns endorsed on the SFD form and healthcare providers' follow-up on these concerns were examined.

Results: In contrast to the high rates in the literature, only 6.1% of these patients indicated sexual health concerns on their SFD form. Of those, only 34% were subsequently given advice from their healthcare provider.

Conclusions: The disparity between reported sexual health concerns on the SFD, and the high rates of sexuality concerns in the gynaecology literature, suggest that the use of the SFD as a screening measure for sexuality concerns is insufficient. Furthermore, for those patients who do identify concerns on their SFD form, health care provider follow-up is inadequate. Improving both the ability of the SFD to capture the sexual health concerns of gynaecological cancer patients, as well as the ability of healthcare providers to address these concerns has the potential to greatly improve the quality of care for our local gynaecological cancer patients.

63 Early maladaptive patterns and attachment in regards of age and experienced illness in patients with breast tumours

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Background/Purpose: Numerous studies have shown the importance of attachment in coping with cancer-related stress. However, studies applying questionnaires indicate no difference in the distribution of attachment patterns between normative samples and cancer patients. Filling the gap in the literature, our study explores the complex relation between the components of attachment, the individual experiences of illness and psychosocial outcomes in the context of age-related characteristics regarding women with breast cancer.

Methods: Two age groups (born before and after 1970) of 38 women participated in this study. Different dimensions of attachment patterns were measured by the ASQ, H-PBI and ECR-R questionnaires and the projective Bird's Nest Drawing. Maladaptive patterns and clinical symptoms were explored by Young's Scheme, the SCID-II and the SCL-90-R questionnaires. In-depth interviews were applied to explore women's subjective experiences regarding their illness.

Results: Both age groups indicated an elevated level of stress. The ratio of attachment types was similar to those of the normative samples and did not correlate with the level of clinical symptoms. However, age-related patterns of connections between insecure attachment dimensions and regressive relationship patterns predicted

different levels of subclinical symptoms in both age groups. Regressive relationship patterns correlated with more adverse psychological adaptation. Analysis of the in-depth interviews revealed individual characteristics of subjective experience.

Conclusions: The complex analysis of the connections between maladaptive relationship patterns and attachment dimensions in different age-groups may contribute to plan more effective interventions for women coping with breast cancer-related stress.

Keywords: Maladaptive patterns, attachment, breast cancer, age, experience of illness,

64 Reality or Myth? – From inter professional education in Psycho-Oncology to best-practice in prostate cancer care.

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To empower health professionals in supporting cancer patients an inter-professional postgraduate course of Psycho-Oncology at a Swiss university, was implemented. From 2002 to 2016, 129 health care professionals participated at the course and give contributions in optimizing the situation of cancer patients in Switzerland.

In 2014, an Advanced Practice Nurse (APN) took part at the inter-professional Psycho-Oncology course. She used her new knowledge to implement an innovative counselling support program for patients with prostate cancer (PC) and their partners. The aim is to offer person-centered care according to their individual needs from diagnosis to palliation.

The development of the APN role, from implementation to final evaluation, is based on the PEPPA framework, project management and qualitative evaluation research.

297 APN consultations with patients and 38 with partner occurred until 2015. 5.5% of the patients with PC/RP used psycho-oncological support by a Psycho-Oncologist and 94.5 % of patients were supported by the APN. Main topics are incontinence, erectile dysfunction, sexuality, couple communication, distress, fear and uncertainty. The APN promotes inter-professional co-operation within quality circles and intervention for promoting counselling competencies.

Qualitative results show patients' and partners' perspective on PC/RP within the Swiss health care system during their "prostate cancer journey". Patients/partners recommend the APN counselling support program, to people who feel burdened, and patients who experience side effects. Partner experience the APN as a "door opener", who helps to find further support.

Finally, it therefore offers an opportunity to work actively as an inter-professional team towards patient-centered care.

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Cancer and heart attack survivors' expectations of employment status: results from the English Longitudinal Study of Ageing

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Background/Purpose: In this study, the effect of health- and work-related factors, and the expectation of being at work on future employment status in cancer survivors was explored. To assess the degree to which these factors specifically concern cancer survivors, a comparison with heart attack survivors was made.

Methods: Data from the English Longitudinal Study of Ageing were used. Cancer and heart attack survivors of working age were included and followed up for two years. Baseline characteristics of both survivor groups were described and compared regarding employment status. Regression analyses were performed, and the interaction between independent variables and diagnose group was assessed.

Results: In cancer survivors, participating in moderate or vigorous sport activities, fair general health and being at work at baseline were associated with employment status at two-year follow-up. In heart attack survivors, female gender, high expectation of being at work and being at work at baseline predicted employment status. The influence of gender, depressive symptoms, job satisfaction and the expectation of being at work was found to differ significantly between cancer and heart attack survivors.

Conclusions: Employment status at baseline turned out to be the most relevant factor to consider in cancer survivors when predicting their future work status. In heart attack survivors, expectation of being at work should not be disregarded though, when developing interventions to support their return to work. Given the similarity in influencing factors in both survivor groups, it is feasible that return to work is not entirely a diagnose-related process.

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Cancer survivors' perspectives and experiences regarding behavioural determinants of return to work and continuation of work

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Background/Purpose: Interventions aiming at disease-, treatment-, and/or work-related factors to support return to work (RTW) in cancer

survivors hardly showed positive effects so far. Behavioural determinants might additionally have to be considered in the development of interventions for sustained employability in cancer survivors. This study aimed to explore cancer survivors' perspectives and experiences regarding behavioural determinants of RTW and continuation of work.

Methods: In this qualitative study, semi-structured telephone interviews were held with breast, colorectal, and head and neck cancer survivors (N = 28). All participants were recruited at the Antoni van Leeuwenhoek Hospital, were of working age, one to two years after diagnosis, and employed at time of diagnosis. Thematic content analysis was performed using Atlas.ti.

Results: Work turned out to be a meaningful aspect of cancer survivors' life, and most participants reported a positive attitude towards their job. Social support to RTW or to continue working was mainly received from family and friends, but pressure to RTW from the occupational physician was also experienced. Changes in expectations regarding work ability from negative to positive during the treatment process were observed. Generally, however, being occupationally active was considered to be the social norm. Those who applied active coping mechanisms felt equipped to deal with difficulties regarding work.

Conclusions: Based on the findings of the current study, behavioural determinants should be taken into account in future research. However, the causal relationship between behavioural determinants and RTW or continuation of work in cancer survivors still has to be determined.

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Maladaptive Coping during Primary Treatment for Non-Metastatic Breast Cancer Predicts Depressive Symptoms during Survivorship: The Role of Pain Interference

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Background: Women treated for non-metastatic breast cancer (BCa) endorse persistent pain 6–12 months post-diagnosis. Many women believe their pain is beyond their control. Maladaptive coping to deal with BCa pain is common and may significantly impact daily functioning. We assessed maladaptive coping and pain interference after BCa treatment as predictors of long-term depressive symptoms. **Methods:** Stages 0–III BCa patients (N = 240) were recruited 2–12 weeks post-surgery. At study entry and 12 month follow-up, women completed the Brief Pain Inventory (BPI) and Brief COPE. Maladaptive coping was indexed by a sum of the denial, drug use, venting, and behavioural

disengagement subscales of the Brief COPE. At 5-year follow-up women completed the Center for Epidemiologic Studies-Depression Scale (CES-D). Linear regressions, controlling for age, ethnicity, stage, days since surgery, treatment received (chemotherapy and/or radiation), and baseline depression, related 12-month maladaptive coping and pain interference with depressive symptoms at 5 years. **Results:** Greater maladaptive coping was related to greater pain interference at 12 months ($\beta = .198$, $t(175) = 2.650$, $p < .01$). Controlling for baseline depression, greater maladaptive coping and pain interference at 12 months both predicted greater 5-year depressive symptoms ($\beta = .217$, $t(103) = 2.263$, $p < .05$; $\beta = .338$, $t(101) = 3.459$, $p < .01$). Sobel's test revealed that greater maladaptive coping related to greater 5-year depression indirectly through pain interference, $p = .036$. **Conclusions:** Pain interference after BCa treatment may mediate the relationship between maladaptive coping and depressive symptoms well into survivorship. Psychosocial interventions for BCa patients should focus on improving maladaptive coping, particularly for women with elevated pain interference, as this may play a role in depressive symptoms during survivorship.

70 The impact of caregivers' depression on their physical health

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Background/Purpose: The majority of family caregiver research focuses on the impact of providing care on caregivers' emotional health. There is a paucity of research describing how caregivers' emotional health affects their physical health. The purpose of this study was to determine the impact of caregivers' depressive symptoms on their physical symptoms in caregivers of persons with a primary malignant brain tumour (PMBT).

Methods: A total of 147 family caregivers were queried regarding their physical symptoms at the patient's diagnosis, 4, 8, and 12 months later. Thirty-one physical symptoms were categorized as present/absent and then by how many days they were present over the past month. Generalized estimating equations and linear mixed models determined the impact of depressive symptoms (Center for Epidemiologic Studies-Depression) on the presence and length of caregivers' physical symptoms controlling for age and gender.

Results: Caregivers with higher levels of depressive symptoms were more likely to have a headache (OR = 1.07; 95% CI = 1.03–1.11), upset stomach (OR = 1.07; 95% CI = 1.02–1.12), diarrhea (OR = 1.11; 95% CI = 1.06–1.17), heartburn ($p = .03$), rapid/pounding heart (OR = 1.09; 95% CI = 1.03–1.16), nausea (OR = 1.09; 95% CI = 1.003–1.17), and total number of symptoms (OR = 1.08; 95% CI = 1.02–1.12). In addition, caregivers with higher levels of depressive symptoms had more days with a headache ($p < .01$), cough ($p < .01$), upset stomach

($p = .03$), diarrhea ($p < .02$), and more days with a higher number of total symptoms ($p < .01$).

Conclusions: Caregivers' depressive symptoms had a significant impact on both whether physical symptoms were present and how long they lasted. Interventions to decrease caregivers' depressive symptoms should be implemented to improve caregiver health and potentially improve the care they deliver.

71 Growing Access and Improving Quality of Cancer Peer Mentoring

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Background: Although many groups offer to connect cancer survivors to peer mentors, there is a lack of volunteer peer-mentors of specific diagnoses and treatment type. Survivors value the opportunity to speak with another survivor about aspects of their treatment, coping mechanisms, resources and other experiences as a cancer patient.

Methods: Leaders from non-profit peer mentoring groups and other NCI designated cancer center came together, using our collective databases and knowledge to increase the database of available peer mentors. This coalition led efforts to collaborate programs offering peer support. To bridge the gap in services to cancer patients, and help support seekers connect with the most similar peer mentor to their situation, regardless of where they received treatment.

Results: Volunteer Management in Cancer Care is one coalition with two collaboration groups, which share best practices amongst their groups and at symposiums. The Directors of Volunteer Services Group assists new program directors wanting to start their own peer-mentoring program. The Peer-Mentoring Programs Group offers support to survivors wanting to connect with a peer-mentor by matching individuals regardless of where the support seeker was treated. This allows support seekers with rare diagnoses, unique treatment protocols, and international patients to find support.

Conclusions: The increased ability to access assistance from many peer-mentoring entities has increased volunteer peer mentors and support seekers diversity by age, language, ethnicity, gender, diagnosis, procedure and any combination thereof. The number of groups involved in the coalition continues to grow, because of the support of the coalition.

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A systematic review on the factors associated with positive experiences in carers of someone with cancer

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Background: Informal carers are people who undertake care work for kin or friends on an unpaid basis. The increasingly important role that carers play in society and the need to provide personalised support services is recognised within international health and social care policy. Despite this recognition, literature that specifically focuses on the role of the carer within the cancer field remains sparse. There is even less literature associated with the positive outcomes of caring. The aim of this review was to identify the factors associated with positive experiences in non-professional carers of someone with a cancer diagnosis.

Method: A systematic search of the following electronic databases was undertaken: Cochrane Library, CINAHL, PsycINFO, SocINDEX and Medline. Literature was searched using terms relating to cancer, caring and positive experiences. Additional records were identified through a manual search of relevant reference lists. Two raters were involved in data extraction, quality appraisal, coding, synthesis, and analysis. Evolutionary concept analysis was used as a guiding framework in order to focus on attributes associated with positive experiences.

Results: Fifty-two articles were included in this review. Analysis identified four overarching attributes: 'gender', 'personal resources', 'finding meaning' and 'social context'.

Conclusion: Despite the challenges associated with caring this combination of internal and external factors enabled some carers to report positive experiences related to caring. This knowledge may be clinically helpful when designing supportive interventions.

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Waiting time for cancer treatment and mental health among patients with esophageal and gastric cancers

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Background: Little is known about the impact of waiting time for treatment on mental health of patients with esophageal/gastric cancer.

Methods: Based on the National Quality Register for Esophageal and Gastric Cancers, we followed 7,080 patients with esophageal/gastric cancer diagnosed during 2006–2012 in Sweden until 2012. Waiting time for treatment was defined as the interval between diagnosis and treatment decision, and was classified into quartiles (≤ 8 , 9–17, 18–29, 30–60 days). Mental disorders were identified by diagnosis through hospital visit or prescription of psychiatric medications. For patients without any mental disorder before treatment, the association between waiting time and subsequent mental disorders was assessed by hazard ratios (HRs) derived from Cox model. For patients with pre-existing mental disorder, we compared the frequency of psychiatric care by different waiting times.

Results: Among 4120 patients without pre-existing mental disorder, lower risk of mental disorder was noted for the 2nd (HR 0.88; 95% CI 0.75–1.04), 3rd (HR 0.79; 0.67–0.93) and 4th (HR 0.70; 0.59–0.82) quartiles of waiting time, compared to the lowest quartile. Among 2179 patients with pre-existing mental disorder, longer waiting time was associated with more frequent hospital visit for mental disorders during the first year after treatment (increased by 31% per waiting group, $p = 0.001$). No such pattern was seen beyond one year.

Conclusions: Among patients without mental disorder history, longer waiting time for treatment might not harm their mental health. However, among patients with pre-existing mental disorders, longer waiting time could lead to increased mental health care needs, primarily during the first year after treatment.

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Coping among older cancer survivors: Bridging individual, familial and cultural perspectives

Inbar Levkovich¹ | Iraida V. Carrion³ | Youngmee Kim² | Hadass Goldblatt¹ | Miri Cohen^{1*}

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Chair: Miri Cohen Discussant: Lodovico Balducci

Although older adults are the largest group of cancer survivors, the existing knowledge on the effects of coping with cancer in older age is still scarce. The Symposium will present novel studies on the experience of cancer and its effects on older cancer patients, in comparison to younger patients, in different cultural settings. It will combine presentations based on qualitative and quantitative methods that will highlight different perspectives on how older patients experience and cope with cancer.

Youngmee Kim, Charles S. Carver, and Hannah-Rose Mitchell will share current knowledge on the effects of age and the perceived stress of cancer on neuroendocrine biomarkers with regard to patients and their families.

Inbar Levkovich and Miri Cohen will present data on distress and fatigue in young and older breast cancer survivors, and the distinctive age effects of perceived stress and the coping strategies of emotional control and search for meaning on symptoms' severity.

Irraida Carrion and Frances R. Nedjat-Haiem will present qualitative data on the cancer journey and survivorship of older Latino men and how they manage the transition, given role changes and adjustments. Based on qualitative data, Hadass Goldblatt and Faisal Azaiza will discuss emotional expression patterns in older and younger breast cancer survivors in the context of a traditional society, undergoing a process of change toward Westernization.

The significance of these issues and their integration into practice will be discussed by Lodovico Balducci.

Supporting Abstract 1:

Effects of Age and Differential Perception of Cancer-related Stress on Biomarkers among Colorectal Cancer Patients and Their Caregivers
Youngmee Kim, Charles S. Carver, and Hannah-Rose Mitchell
University of Miami

This study aimed to extend current knowledge on effects of age and perceived stress from having cancer in the family regarding one's physical health. It investigated age effects, and differentiated effects of the perceived stress of cancer for oneself from that for the family on neuroendocrine biomarkers, and tested dyadic effects of stress on biomarkers.

A subsample of patients recently diagnosed with colorectal cancer and their family caregivers was examined ($n = 60$ dyads). Self-reported age and perception of the stress the cancer imposed on oneself (CaSt_S) and on the family members (CaSt_F) were primary predictors. Both stress (Alpha-Amylase: AA) and anti-stress (dehydroepiandrosterone-sulfate: DHEA-S) biomarkers from saliva samples (collected at wake-up and bedtime) served as the primary outcomes. Gender was a covariate.

Actor-Partner Interdependence Modeling in SEM framework revealed that females had lower awakening DHEA-S ($\beta_s = -.28, -.32$). Controlling for these effects, among caregivers older age related to greater awakening AA and lower DHEA-S ($\beta = .28, -.41$). Patients' CaSt_S related to elevated awakening AA ($\beta = .36$); patients' CaSt_F related to larger decrease in AA of their caregivers from wake-up to bedtime ($\beta = -.35$); finally, caregivers' CaSt_F related to larger decrease in DHEA-S of their patients ($\beta = -.30$), $ps < .03$.

Findings suggest that the stress evoked by the cancer diagnosis in the family is substantial, readily manifested in biomarkers that are typically related to chronic stress. Findings also highlight the need for further investigation of the roles of age and cancer-related stress in long-term health outcomes of both patients and family members.

Supporting Abstract 2:

Young and older breast cancer survivors: Coping Processes and Symptoms Cluster of Depression, Fatigue and Cognitive Difficulties
Inbar Levkovich and Miri Cohen

Department of Gerontology and the School of Social Work, University of Haifa

Aims: 1. To assess the symptoms cluster of distress, fatigue, and cognitive difficulties in young and older women recovering from breast cancer. 2. To assess the mediating role of perceived stress and the coping strategies of emotional control and search for meaning in the association between age and symptoms cluster severity.

Methods: A total of 170 breast cancer survivors, aged 24–82, diagnosed with local tumours, who received chemotherapy and were 1–12 months post-chemotherapy. Participants filled out the Fatigue

Symptom Inventory, brief Symptom Inventory, cognitive difficulties scale, cognitive appraisal inventory, and the Courtauld Emotional Control Scale. Structural equation modelling was used to assess the study model.

Results: The older breast cancer survivors reported lower levels of symptoms cluster and lower perceived stress and they used more emotional control strategies compared to the younger breast cancer survivors, while the younger survivors were more engaged in the search for meaning. A total of 49% of the symptoms cluster was explained by the study variables. Perceived stress and emotional control strategies, but not search for meaning, mediated the effect of age on symptoms cluster severity.

Conclusions: The study shows that there are differences between younger and older cancer survivors regarding the symptoms cluster: This highlights the different effects of emotional control and search for meaning on psychological and physical symptoms, as well as their distinctive use by older and younger women. We recommend that fatigue and cognitive difficulties should be routinely screened for, in addition to screening for distress.

Sponsored by the Israel Cancer Association and The Israel Science Foundation (ISF).

Supporting Abstract 3:

The Transition from Provider to Patient: Bridging the Gap for Latino Men with Cancer:

Iraida V. Carrion and Frances R. Nedjat-Haiem
School of Social Work, University of South Florida

Background: An increased Latino population in the USA creates an urgency to provide effective psychosocial cancer care. We explored the cancer journey and survivorship of Latino men from Cuba, Mexico, Colombia and Venezuela looking at how they managed the transition given role changes and adjustments.

Methods: Using criterion sampling, we conducted semi-structured interviews (60–90 minutes) with 15 Latino men diagnosed with cancer. Interviews were conducted in Spanish, audio taped, transcribed, and translated into English. Data were analyzed using a constant comparison method to identify emerging themes.

Results: Median age was 55.4 years, 94% had prostate cancer, and 6% colorectal/lung cancers. Findings support that Latino men seek to find meaning in surviving a cancer diagnosis, the unexpected role change within their family, employment options, and their ability to manage treatment adherence. Despite the historical impact of marginalization, older Latinos living in the USA manifest resilience and coping despite the increased risk of cancer among the growing Latino population.

Conclusion: It is essential for Latino men to maintain their expected gender roles in the family, even during a health crisis. They willingly accepted support from family members and friends, yet they experienced a role change, which was particularly difficult when they were no longer able to work and perform the functions that they were accustomed to fulfilling. The impact of a cancer diagnosis and the subsequent treatment directly impacts their ability to work, earn an income and provide for their family. Despite the complex circumstances of Latino men they demonstrated determination and resilience.

Acknowledgement of Funding

Sponsored by the Division of Population Sciences, H. Lee Moffitt Cancer Center and Research Institute, Tampa, Florida, Center for Equal Health at the University of South Florida, and the National Institute of Health (NIH). Grant Number: 1 P20 MD003375-01

Supporting Abstract 4:

"I always pray – but sometimes I feel the fear:" Expression of Emotions Related to the Experience of Cancer in Younger and Older Arab Breast Cancer Survivors

Hadass Goldblatt, Faisal Azaiza and Miri Cohen Department of Nursing and School of Social Work, University of Haifa

Background: Current literature has suggested that experiencing and expressing negative emotions is often reduced in older adults. Yet patterns of emotional expression patterns in older and younger breast cancer survivors have barely been examined.

Purpose: This study aimed to explore types, intensity, and ways of expression of negative and positive emotions related to the breast cancer experience by younger and older Arab breast cancer survivors.

Methods: Participants were 20 younger (aged 32–50) and 20 older (aged 51–75) Muslim and Christian Arab breast cancer survivors (stages I–III), currently free of disease. Data were gathered through in-depth semi-structured interviews. Mixed methods analyses were conducted, including: (1) frequency analysis of participants' emotional expressions; (2) content analysis of emotional expressions, extracted from the interviews and categorized according to negative and positive emotions.

Results: Three main emotional expression modalities were revealed: (1) Succinct versus comprehensive accounts; (2) expression of emotions versus avoidance of emotions; (3) patterns of expression of positive emotions and a sense of personal growth. The Younger women provided more vivid and detailed accounts about their illness experiences than the older women. Older women's accounts were succinct, action-focused, and included more emotion-avoiding expressions than younger women.

Conclusions: The study results support previous findings indicating that experiencing and expressing emotions is less prevalent in older adults. Understanding these processes of life of cancer survivors, the relationships between emotional expression, emotional experience, and their effects cancer survivors' quality of life, specifically of those from traditional communities, is necessary for developing effective psycho-social interventions.

Sponsored by the Israel Cancer Association

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Behaviour therapy: An Effective Alternative to Anaesthesia for Children undergoing Radiation therapy

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Susheela Sridhar | G. Kilara

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Background: Children undergoing RT are often subjected to anaesthesia to minimize their distress and improve treatment compliance. In our

setting, two parents refused RT with anaesthesia for their children: One for fear of toxicity and the other was concerned about child's inability to deal with hunger (fasting pre and post anaesthesia).

We explored behavioural techniques to replace anaesthesia for these patients. The two video based case illustrations highlight some of the challenges and demonstrate the efficacy of behaviour therapy in facilitating RT without anaesthesia.

Method: The role of Psycho-oncologist in facilitating RT without anaesthesia is illustrated through two case studies: Child-1: Aged 2.6 Years, Diagnosis: Desmoplastic Medulloblastoma (WHO grade IV- Cerebellar origin), Post-surgery, standard RT and Chemotherapy regimen was planned. Child-2: Aged 5 years, Diagnosis: Anaplastic Ependymoma (Left Temporo-Parietal & Occipital Lobe) WHO Grade III. Post-surgery, standard RT regimen was planned.

Psychological Assessment involved clinical interview, behavioural observation, Visual Analogue Scale of Distress and Ped- Quality of life (QOL).

The children were subjected to multi-modal behaviour therapy program (Systematic desensitization, play therapy, storytelling, music etc.) of 8 daily sessions, 3 hours each. Parental counselling and family therapy sessions were also conducted (4 sessions, 2 hours/session).

Results: The video based illustrations depict successful completion of RT without anaesthesia. Parental report and behavioural observation revealed decreased distress levels and improved QOL.

Conclusion: Behaviour therapy can be an effective alternative to anaesthesia for children undergoing Radiation therapy. The technique has become a game changer in our approach to Radiation treatment for children.

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Study protocol: A randomized controlled trial of internet-based cognitive behavioural therapy for treatment-induced menopausal symptoms in breast cancer survivors

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Background/Purpose: Menopausal symptoms are common and may be particularly severe in younger women who undergo treatment-induced menopause. Medications to reduce menopausal symptoms are either contra-indicated or have bothersome side-effects. Previous studies have demonstrated that cognitive behavioural therapy (CBT) is effective in alleviating menopausal symptoms in women with breast cancer. However, compliance with face-to-face CBT programs can be problematic. The current study is evaluating the efficacy and cost-effectiveness of an internet-based CBT program (with or without therapist guidance) in alleviating or reducing the severity of menopausal symptoms.

Methods: In a multicentre, randomized controlled trial we are evaluating the efficacy of two internet-based CBT programs in reducing menopausal symptoms, and particularly hot flush/night sweats in breast

cancer survivors who have experienced a treatment-induced menopause. Secondary outcomes include sleep sexual functioning, quality, psychological distress and health-related quality of life. We will recruit 265 women into the study. Women will be randomized to either a therapist guided or a self-management version of the 6 week internet-based CBT program, or to a usual care, waiting list control group. Self-administered questionnaires are completed at baseline (T0), and at 10 weeks (T1) and 24 weeks (T2) post randomization.

Results: This is a design paper. The trial is ongoing.

Conclusions: Internet-based CBT is a potentially useful treatment for reducing menopausal complaints in breast cancer survivors. This study will provide evidence of the efficacy and cost effectiveness of such an internet-based CBT program.

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Doctors' and nurses' barriers communicating with seriously ill patients about their dependent children – a qualitative study

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Background/Purpose: Research shows how health professionals (HP) caring for adults facing a severe and life-threatening illness struggle with emotional problems related to children in these families. Our research documents that HP do not systematically identify this type of families. In addition, we have observed, that children having a parent with cancer are at a significantly higher risk for depression in their adult life compared to the background population. Therefore, we investigated barriers regarding HP's identification and communication with seriously ill patients about their dependent children (CSIP).

Methods: To identify the complexity of HP's barriers addressing CSIP, we conducted a qualitative study including 49 semi-structured, in-depth interviews (N = 19 doctors and N = 30 nurses) and 27 days of participant observations within hematology, gynaecological cancer and neurointensive care. The analysis of the empirical data followed general criteria for qualitative analysis with open coding and thematic approach to the material.

Results: We observed that HP encountered five barriers for identifying and addressing CSIP: 1) system barriers 2) emotional barriers 3) knowledge barriers 4) profession barriers and 5) barriers concerning patient's comorbidity and socio-economic situation. We found that the

electronic medical record systems did not support the identification of CSIP, which thereby contributed to maintaining all other barriers.

Conclusions: Based on these data one may consider to introduce templates for information about children in medical record systems and manualising procedures for the usage of this information. Furthermore, future training programs targeting HP may consider how to implement procedures, including how to address all barriers.

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Professional reintegration after a diagnosis of cancer: A study of factors influencing return to work

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Background: A lot of cancer patients face after following their treatment the complex challenge of reintegrating themselves professionally. Both research and practice highlights the need for interventions that facilitate professional reintegration. The aim of this study is a quantitative analysis of factors associated with (returning to) work after a cancer diagnosis, in order to set out guidelines for further interventions.

Methods: This multicentre questionnaire study enrolled 104 cancer patients (Mage = 48.41). The survey package comprised a WIS, SSLI, COPSOQ, HADS, GSE and MFI.

Of these, the predictive value was examined on whether or not the work to be 8 to 10 months after diagnosis.

Results: The imported model shows a significant predictive value to whether or not at work 8 to 10 months after diagnosis. Patients who were still under consideration, as well as patients who have a less positive attitude to work, fatigue, less anxiety, and reported more positive social interactions, less likely to be working.

Conclusion: The finding that more positive social interactions are perceived negatively related to return to work, might be related to a high level of protection of social interactions. In addition, the higher level of anxiety in working patients may be related to experience difficulties in returning to work and the associated tensions, which entail the resumption of multiple social roles. The results suggest that interventions concerning return to work best take into account both physical and psychosocial factors. The results contributed to the development of a hospital-wide health care program.

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A bio-behavioural model for the conduct of the mechanistic study of art therapy

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Background: This presentation introduces the salutary effects of art therapy with individuals coping with cancer. The goal of this presentation is to articulate how reorganization, growth and reintegration of the self can emerge from mind and body processes activated by art therapy. The four core therapeutic processes discussed will include: 1) the triangular relationship context 2) Self-engagement 3) Conscious self-expression; and 4) Reflection and perspective taking.

Methods: Case examples will demonstrate the components of our model and demonstrate how the model can be utilized for the mechanistic study of art based interventions in psycho-oncology. For heuristic purposes, we describe three groups of mechanisms activated in the art therapy process: a) Mind mechanisms, which include overlapping emotional and cognitive processes; b) Body mechanisms, which include bottom up and top down physiological processes; and c) Self mechanisms, which emerge from the mind and body together, during the foundational engagements of art therapy.

Results: There are specific measurable processes that occur during art therapy and are of particular benefit for women coping with breast cancer because they transcend verbal expression and communication and promote the movement of emotional content from implicit to explicit arenas.

Conclusions: There is vast clinical knowledge on the benefit of art therapy for oncology patients; however, there is a lack of mechanistic studies that explain how this benefit occurs. We here propose model to guide the conduct of such mechanistic studies.

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Development and implementation of group programs for patients and their families as an integral part of cancer care.

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Background: Information gathering and peer support play a major role in coping mechanisms of patients and their families. With the use of information afternoons, we give group-related information, advice, training and guidance. This is also a meeting where peer support and exchange of experiences are possible. Family members and relatives can gather more information and gain insight into the care, treatment forms and supporting activities.

Methods: The information afternoons are organized per academic year, with a bimonthly frequency. Both medical and psychosocial

themes are offered. Afterwards, an evaluation questionnaire was completed.

Results: During the period 2012–2015, we have reached 553 participants, of which 311 patients and 190 relatives of patients (mostly partners and children). The great majority of participants are women and are between 51 and 60 years. There were also 52 caregivers who joined. This was an unexpected added value.

Conclusions: The supply of information afternoons works very inviting for patients and/or relatives. We note that medical themes appeal to more participants. We have found that this offer is important and is a good entry to fellow sufferers. The participants also indicate that this contact is very important for both patients and their relatives.

These afternoons encourage and motivate patients and/or relatives in establishing contact with fellow sufferers where they continue to learn from each other. This enhances the communication of the patient with his environment.

Besides the existing individual psychosocial support offering group-based psychosocial support is also valuable.

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The state of medical care for young-elderly cancer patients in regional City A-A focus on medical facility type, commuting distance to hospitals, and communications

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Purpose: This study is limited to certain regional cities, and is particular in that it takes into account regional characteristics, transportation networks, and car ownership rates for elucidating the state of medical care.

Methods: Study design is the field survey study. Study population are 445 people 60 to 75 years of age diagnosed with cancer and living in City A in the Hokuriku region. Data were retrieved from the National Health Insurance database (described below) of City A. SPSS Statistics 22 was used for the statistical analyses.

Results: The mean age was 68.8 ± 3.81 years. The most frequent cancer types in young-elderly cancer patients in City A was approximately similar with I prefecture. Additionally, cancer core hospitals were decidedly the most common medical facility type, with 63% of patients receiving care there, while 23% received care at general hospitals and 16% at clinics.

Among those receiving cancer treatment, 316 patients (71%) received care at medical institutions within their secondary healthcare service area.

Discussion: City A is a regional city with a cancer core hospital within its secondary healthcare service area, and is thus in a sense is a blessed region. Even so, issues with means of transportation became visible when focusing on the commuting distance to hospitals and communications. It is thought that due to an increasing number of elderly cancer

patients, ensuring a means of commuting to hospitals in regional cities is an important issue for sustaining their ability to receive medical care.

86 Which do you choose, longer survival but longer hospitalization or shorter survival but longer stay at home? : A study of Japanese patients

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Background: Patients' decisions about treatments of incurable diseases have been reported to be influenced by their physicians' specialties and opinions. However, the determinants of the choice between chemotherapy and best supportive care (BSC) in Japanese patients, and the survival outcome are unknown, especially in relation to patients' ECOG performance status.

Methods: The present study retrospectively evaluated patients with incurable diseases who attended the Miyagi Cancer Center, Japan. At the first consultation, the patients received explanations about the risks and benefits of chemotherapy and BSC. The study enrolled 132 patients, of whom 55 had gastric cancer; 39, colon cancer; 17, esophageal cancer; 6, unknown primary cancer; and 15, miscellaneous malignant tumours.

Results: The patients' mean age was 67.5 years, and no significant differences were found between the diseases. Of the patients with good and those with poor performance status (ECOG PS; 0/1/2 and 3/4), 83% and 50% preferred chemotherapy, respectively. Those with good PS who preferred BSC were significantly older than those who preferred chemotherapy. The 50% survival time was unknown, 142 days, 184 days, and 42 days for the good PS/chemotherapy, good PS/BSC, poor PS/chemotherapy, and poor PS/BSC groups, respectively. The survival curve for the good PS/BSC group was almost the same as that for the good PS/chemotherapy group during the first 3 months. The scatter plots revealed that the poor PS/chemotherapy group had longer survival but longer hospitalization.

Conclusions: Physicians need to explain to patients that the choice between chemotherapy and BSC affects the relative length of hospitalization.

87 Love is the Root: Applying Meaning-Centered Psychotherapy to an Elder Patient with Cancer at Bedside

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Background: Mr. N, an 86-year-old man who was diagnosed with malignant neoplasm of unspecified site, stage IV, with spinal metastasis in March 2015, believed he could accept the coming death peacefully.

However, the unbearable pain pushed him to ask for physician-assisted death.

Method: The psychotherapist of the hospice team provided 11 sessions of individual psychotherapy at bedside based on meaning-centered psychotherapy (MCP) which consists of 7 sessions.

Results: Mr. N still got distressed by his pain at first. However, it worked to apply session 3 to 5 of MCP cyclically on recalling the impressive memories of his life. These memories gave best back to "Who Mr. N is (session 2 of MCP)". The whole family focused on the pain not so often and had energy to do what they would like to do (session 5 of MCP), including the family reunion at bedside: he and his two daughters got along with his ex-wife again who left them 50 years ago. Gradually, the meaning of pain and life emerged (session 1 of MCP) with the name of LOVE. Since the meaning was confirmed clearly, he and his daughters knew how beautiful his life was (session 6 of MCP) and what the legacy and the future would be (session 7 of MCP).

Conclusion: According to Mr. N and his family, we could see the cyclic development character of MCP. It is worthy to keep on studying the characters of MCP in order to use it flexibly at bedside.

88 Effects of a Psychoeducation Intervention on Improving Outcomes of Patients with Colorectal Cancer: A Pilot Randomised Controlled Trial

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Background/Purpose: Colorectal cancer patients' quality of life is affected due to the physical, psychological and social challenges. Psychoeducation interventions might enhance self-efficacy to improve outcomes in patients with colorectal cancer. The purpose of this study was to test the effect of a theory-driven psychoeducation intervention on outcomes of patients with colorectal cancer in Singapore.

Methods: This is a two-group, pre-and post-tests pilot randomised controlled trial conducted at colorectal ward in a tertiary hospital in a multi-cultural society. Patients aged between 21 to 80 years before surgery were recruited and randomly assigned to either intervention or usual care group with 20 in each group. The intervention group received a psychoeducation intervention over a six-week period (pre-surgery patient education session, educational booklets and two follow-up telephone calls). Primary outcome was measured by General Self-Efficacy Scale. Other measures were EORTC QLQ-C30, EORTC QLQ-CR29, HADS and Self-Regulation Scale. All patients were assessed at four time points: pre-surgery, immediately after intervention, 1 month and 3 months post-intervention. Intention-to-treat analysis was performed.

Results: 40 patients were recruited between December 1, 2014 and June 30, 2015. Significant ($P < .01$) improvements were found in self-efficacy within-groups across the four time points for the intervention group but did not differ between groups. The intervention group had significant improvement in global quality of life, self-regulation and reduction in anxiety. Qualitative findings demonstrated that patients fully supported conducting psychoeducation intervention.

Conclusion: Results indicate that it is effective and acceptable to conduct a psychoeducation intervention for the newly diagnosed colorectal cancer patients in Singapore.

91 Therapeutic use of photos in peer groups to help psychological healing after treatment for cancer.

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Purpose: The purpose is to help participants work through their feelings and explore themes that are central to their experiences throughout their cancer journey and after treatment.

Method: The group is for people who have completed their cancer treatment. The group of six meet 8 times during a time span of 4 months. The time between the sessions differ from one to four weeks depending on the theme in progress. The themes of the sessions include working through the whole journey from diagnosis to the time after treatment, thoughts and feelings throughout, coping and empowerment and facing the future. Group members are given assignments to do and to bring back to group sessions for sharing. All assignments include the use of photos.

Results: Those who have participated in the groups have found them very useful and therapeutic on their journey to psychological healing. The photos have played a big role in helping process experiences, give new meanings to past events and find hidden strength from within. Looking at one's cancer experience through photos and sharing with others what one has found, has helped start a healing process and the participants have found themselves empowered. Peer support in the groups has been of great importance.

Conclusion: The power of photos and photography lies in their ability to reveal insights that are too abstract, emotional or complex to be experienced only with words. Working through and sharing feelings and experiences is made more powerful through the use of photos.

92 Thinking in Action, Re-thinking Life: Philosophical Dialogues with Cancer Survivors using the Socratic Method

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Purpose: The experience of cancer and its concomitant experience of existential chaos and moral distress raise fundamental questions about hopes, values, perceptions and decisions that go to the core subject matter of philosophy. This presentation is based on my study that seeks to conceptualize a vision for a novel regard on psycho-social cancer rehabilitation and to explore how philosophizing can be beneficial and restorative in the re-orientation in life after cancer treatment.

Methods: An intervention using Socratic dialogue groups (SDG) was carried out with 17 survivors at the Center for Cancer and Health in Copenhagen. A SDG follows a specific dialogical procedure that connects the empirical and concrete with the philosophical and abstract. It is based on Socratic midwifery. The survivors were divided into three groups. With a philosophical background and as a certified Socratic facilitator, I conducted all the SDGs as well as being the researcher of the project. Participating observation and interviews were used.

Results: The study resulted in three common features among the participating cancer survivors. Firstly, the philosophical dialogues contributed to moving the individual from the role of patient to the sense of being a person again; secondly, the dialogues fostered a broader perspective on disease and life; and thirdly, they punctured the sense of solitude among survivors.

Conclusions: The study supports supplementing traditional psychosocial healthcare services with a novel approach to the dramatic questions triggered by the life-changing event of cancer and further development of philosophically based practices.

93 Effectiveness of a return to work program for cancer survivors with job loss: results of a randomized controlled trial

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Background/Purpose: In the US and Europe, 40–50% of all persons diagnosed with cancer are of working age. Up to 53% of cancer survivors (CSs) experiences job loss during or after treatment. To support

CSs with job loss in the Netherlands, a tailored return to work (RTW) program was developed and offered. The objective of this study was to assess the effectiveness of the RTW program on sustainable RTW in CSs with job loss.

Methods: This study employed a two-armed randomized controlled design with one year follow-up. The primary outcome measure was time until sustainable RTW. Descriptive analyses, Kaplan–Meier curves and Cox regression analyses were conducted.

Results: Participants (N = 171) had a mean age of 48.4 years (SD 8.6). The majority was female (69%), had the Dutch nationality (95%) and was a breast cancer survivor (40%). Adjusted for age, gender, level of education, and shift work in a previous job, the intervention group had a slight improvement in time to sustainable RTW compared to the control group (Hazard Ratio 1.09). However, compared to usual care, this effect was not statistically significant (95% CI 0.59–2.00; p-value 0.778).

Conclusions: Considering that the number of CSs with job loss is increasing, it is essential to identify methods of work that support for these survivors. As there is still inconclusive evidence with regard to the effectiveness of current RTW programs for CSs, it is important to gain more knowledge on suitable implementation strategies for these programs.

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Prevalence of chronic diseases and symptom burden five and ten years after cancer – correlations with cancer and treatment specific factors

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Background/Purpose: This project addressed cancer survivorship issues and analysed the frequency of chronic diseases and physical symptom burden five and ten years after cancer.

Methods and Sample: We recruited a sample of 1002 long-term cancer survivors (53% male, mean age = 68 years, 26% prostate cancer, and 22% breast cancer) who had been diagnosed with cancer 5 (66%) or 10 (34%) years ago using a cross-sectional register-based design. Chronic diseases and physical symptom burden were measured using validated self-report questionnaires (e.g. EORTC QLQ-C30).

Results: The majority of cancer survivors were treated with radiotherapy (58%), chemotherapy (36%), and hormonal therapy (19%). Survivors reported on average 5 comorbidities, 24% had 7 or more comorbidities. The most common comorbidities were hypertension (66%), joint related diseases with abrasion (64%), chronic back pain (53%), and polyneuropathy (45%). Women ($p < 0.001$) and survivors treated with radiotherapy had a significant higher number of comorbidities ($p = 0.021$). We found significant associations between cancer treatments in the past (radio-, chemo, hormonal therapy) and the prevalence of specific comorbidities such as polyneuropathy, osteoporosis, and chronic back pain. With regard to physical symptom burden survivors suffered mostly from fatigue, insomnia, and pain.

Again women and patients who received cancer treatments showed significantly higher symptom burden particularly fatigue, pain, insomnia, and dyspnoea ($p < 0.05$).

Conclusion: Our findings indicate the need for survivorship programs including cancer rehabilitation addressing long-term or late effects of cancer treatments.

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Effectiveness of the psychosocial intervention to ease suffering of persons with advanced illness

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The main thesis ‘object is to demonstrate that specific psychosocial interventions ease suffering and discomfort of end-of-life and palliative care patients, particularly those with high levels of pain or emotional distress.

The evolution of psychological and spiritual parameters of 8333 patients has been analysed in a quasi-experimental, prospective, multi-centred, one group and pre-test/post-test study.

Patients were visited by 137 professionals of 29 psychosocial care teams. We have analysed the evolution of mood, anxiety, emotional distress, meaning, peace and forgiveness and suffering referred by the patient in the visits with the psychosocial team and the global assessment made by the professionals.

Results and Conclusions: Results show that psychosocial interventions have a positive effect to decrease the psychological and spiritual parameters evaluated. Psychosocial interventions are, thus, effective for care provision towards persons with advanced illnesses. Such interventions prove to be more effective for those patients with high levels of pain and suffering, which confirms there is a group of patients with a major complexity who require intervention from experts in psychosocial issues, as most scientific societies claim.

The level of suffering in this group of patients is higher at the basal visit than patients without complexity criteria and, after successive psychosocial interventions, such level decreases up to almost reach the same level of non-complex patients.

Finally, it is relevant to take care of the global needs of the person, which includes psychosocial and social aspects and incorporate the emotional and spiritual needs of patients.

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Dance/movement therapy in oncology setting

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Objective: Cancer treatments can create experiences of body image disturbances for woman (Bredin, 1999; Burt, 1995; Carver et al., 1998; Defrank et al., 2007). Medical DMT can help patients cope with pain and ease depression by increasing vitality and a healthier body image (Dibbel-Hope, 2000; Goodill, 2005; Mannheim & Weis, 2006; Serlin, 2000, 2010, in press; Goldov, 2011). This paper describes the first attempts to implement of DMT program in an oncology setting in Istanbul. The aims were to support cancer patients in terms of their desire to live, rebuild new self-image and regain self-esteem.

Program: Based on the literature and suggestions of our supervisors: Dr. Leventhal and Dr. Serlin, a semi-structured 10-session-supportive DMT group program was designed. Each was composed of warm up, theme, relief, closure and sharing. The themes were determined by the participants, and the KinAesthetic Imagining process helped amplifying the images and discovering

Results: This program can be a 16-week-one or we can invite the same participants to a second-10-week-program. Even though some participants hesitated in the first session for a very new and unfamiliar way of therapy, all participants wanted to pursue in the end. All of them reported that they felt better during the sessions, with more desire to live after sessions, regardless of their mood when they entered into the session. And these results lasted for two to three days.

Conclusion: According to the participants' feedback, DMT is a very effective supportive therapy technique for cancer patient living in Istanbul. Further research is needed.

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Development of a new tool for the assessment of the psychosocial needs of end-of-life patients

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Background: Providing palliative care to end-of-life patients (EoLP) requires knowing which aspects of psychosocial nature can contribute to the patients' well-being.

Aims: To develop an instrument (Psychosocial Needs Evaluation; PNE) to assess and monitor the psychosocial needs of EoLP taken care by PC teams.

Methods: 1) bibliographical review; 2) build-up of the experts panel; 3) discussion and agreement on the most relevant dimensions in psychosocial care; 4) description of key indicators and consensus on the questions for each dimension, 5) exhaustive revision of the tool by external professional experts in palliative care and 6) revision of the tool by expert patients.

Results: The PNE includes 18 questions distributed in 5 dimensions: emotional, coping, communication/relationships, spirituality and well-being. 30 professional experts in PC included comments on the questions, the way they were formulated, the answer options, the dimensions evaluated at each question and improvement proposals. They all qualified the tool as being excellent. They suggested to reduce the number of questions and to change the answer format to a Likert scale. Additionally, 20 expert patients revised the tool. They considered the questions to be very clearly or clearly understandable and suggested some changes. They also appreciated their participation in the study and considered very important being asked about these issues.

Conclusions/Discussion: The PNE tool allows assessing EoLP patients' needs systematically and holistically. That the scale improves the understanding of the psychosocial needs of EoLP, and provides a more comprehensive palliative care approach, specific, individualized and effective.

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Xomphalus|The Patricia Project: An exploration of and engagement with the materiality of end of life process through the lens of visual art

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Background/Purpose: The presentation explores the possibility of meaning-making through visual art practice in end-of-life process.

Methods: My presentation describes the experience of working as a visual artist over a one year period with Patricia, a young woman terminally ill with cancer. During our work together, Patricia created a series of self-portraits, and I created a body of work in response to that.

The theoretical context for this work arises out of previous research in the psychoanalytic work of Julia Kristeva. I examined an area of her work concerned with language as embodied experience, including the exploration of embodied narratives associated with states of being where our identity is threatened such as is the case in life threatening illness and end-of-life process.

Results: The creative collaborative relationship provided the context and framework within which Patricia could engage with the subjective reality of her life in the greatly altered circumstances of her illness and impending death

Conclusions: Through a process of narrative formation Patricia was able to create her own story, her version and account of her experience of terminal illness. Through involvement with the materials and

processes of art making, she was able to participate in a recreation and reimagining of herself, which allowing her to transform – however temporarily – her sense of self as meaningful. In this way, Patricia got to create a model-of-self beyond the medical model that could co-exist with and enhance the medical version of her story.

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A deadly combination: Depression, addiction and suicide in the presence of cancer

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Background: Risk of suicide is significantly elevated in cancer patients, especially when there is a poor prognosis to the disease. Among cancer patients, suicide has been associated with severe levels of depression, tendencies for hopelessness, and persistent thoughts about death. The present study examined possible differences among people who died either by suicide or from natural causes after being diagnosed with cancer.

Methods: Psychological autopsies were performed whereby family members were interviewed about the mental health of their recently deceased loved one. Among a larger sample, 22 people had died after they had been diagnosed with some form of cancer: 12 died from natural causes, and 10 died by suicide.

Results: Both groups were similar in age, race, gender, and marital status. As compared to the natural death group, adults who died by suicide were more likely to be diagnosed with a depressive diagnosis, often a recurrent episode. In contrast, adults who died by natural causes were more likely to be struggling with alcohol abuse and drug abuse. Finally, both groups had family members who were quite supportive of their health care needs, but the suicidal group seemed to be lacking many supportive friends. Because of the small sample sizes, many of these group differences were limited to non-significant trends.

Conclusions: Patients with cancer may resort to suicide when they are struggling with depression, especially recurrent depression. However, in many ways, adults who die by suicide and those who die from natural causes are likely to experience similar struggles.

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Is the psychosocial intervention more effective when patients with advanced illnesses have a high level of suffering at the basal visit?

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Background/Purpose: To demonstrate that specific psychosocial interventions ease suffering and discomfort of end-of-life and palliative care patients, particularly those with high levels of pain or emotional distress.

Methods: The evolution of psychological and spiritual parameters of 8333 patients was analysed in a quasi-experimental, prospective, multi-centred, one group and pre-test/post-test study.

Patients were visited by 137 professionals of 29 psychosocial care teams. We analysed the evolution of mood, anxiety, emotional distress, meaning, peace and forgiveness and suffering referred by the patient in the visits with the psychosocial team and the global assessment made by the professionals.

The evolution of these parameters was analysed in regards to the complexity shown by the patient at the basal visit. Complex patients presented high levels of anxiety, unease and low mood; they considered their spiritual beliefs were not helpful in their situation and their perception of time passing was slow.

Results: Psychosocial interventions have a positive effect for the parameters evaluated. Such interventions prove to be more effective for those patients with high levels of pain and suffering. The level of suffering for complex patients is higher at the basal visit than for patients without complexity criteria and, after successive psychosocial interventions, such level decreases up to almost reaching the same level of non-complex patients.

Conclusions: It is relevant to take care of the global needs of the person, which includes psychosocial and social aspects and incorporate the emotional and spiritual needs of patients, particularly for patients with a major complexity who require expert intervention.

103 Fear of Cancer Recurrence among Non-Caucasian, Multi-Ethnic Survivors of Adult Cancers: A Secondary Analysis

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Background: Fear of Cancer Recurrence (FCR) is a top concern for cancer survivors. Predictors and mediators of FCR are important to study in order to identify and refer those at-risk for clinically-significant FCR into appropriate interventions. However, the majority of empirical literature has focused on Caucasian or largely Caucasian samples, resulting in the under-representation of other ethnic groups.

Methods: In a large (n = 1,002) cross-sectional study examining the prevalence, predictors and mediators of FCR among a heterogeneous group of cancer survivors, non-Caucasian survivors were found to have a statistically significant higher mean FCR score. This secondary analysis (n = 229) was conducted to examine the magnitude, predictors and mediators of FCR among this non-Caucasian multi-ethnic subgroup.

Results: The mean age of the sample was 57.5 years and most were female (88.2%). The mean time since diagnosis was 8.3 years (range 1–26 years) and most were diagnosed with breast cancer (73.4%). Nearly 95% percent of the sample had levels of FCR that was clinically-significant. No significant differences in FCR scores were found by ethnic group. Structural equation modelling was used to examine demographic, clinical and psychosocial predictors and mediators of FCR.

Conclusions: This study illustrates the magnitude of clinically-significant FCR that persists among non-Caucasian long-term survivors, highlighting the importance of resources to cope with FCR. Furthermore, the identification of FCR predictors and mediators may suggest 'risk factors' for higher FCR and have utility for culturally sensitive intervention development.

106 The role of attachment in supportive care interactions between patients with cancer and their family caregivers and the burden of giving and receiving care.

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Background/Purpose: Families play a pivotal role in supporting one another when a family member has cancer. Research indicates that

supportive care interactions between patients and their family caregivers can have a positive effect on their physical health and well-being. However, not all care interactions are supportive, desired, or forthcoming. Few studies have examined how patient and caregiver characteristics intersect to determine the care given and received. The aim was to use an attachment theory perspective to examine the dyadic effects of patient-caregiver attachment orientations on supportive care interactions and the burden of giving and receiving care.

Methods: The sample comprised 103 adults receiving outpatient cancer care and their caregivers. Participants completed measures of attachment orientation (Experiences in Close Relationships Modified scale; ECR-M16), supportive care interactions (Shared Care Inventory; SCI-R), caregiver burden (Caregiver Reaction Assessment; CRA), and patients' perception of being a burden to others (Self-Perceived Burden Scale; SPBS). **Results:** The Actor-Partner Interdependence Model was used to analyse patient and caregiver ECR-M16 scores on SCI-R taking into account interdependence between the two. Attachment orientations characterized as avoidant and anxious were negatively associated with supportive care interactions ($p \leq .05$). Further, scores on the ECR-M16 anxiety sub-scale were positively correlated with caregiver burden ($r = 0.38$, $p \leq 0.01$), and patients' perception of being a burden ($r = 0.25$, $p \leq 0.01$). **Conclusions:** The findings add to an understanding of supportive care interactions and how individual characteristics of members of the caregiving relationship influence the exchange of support and the perception of care given and received.

107 International Developments in the Study of Hastened Death

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Understanding, measuring and responding to a terminally ill patient's desire for hastened death/wish to hasten death is growing concern across the globe. This symposium brings together researchers from the U.S., Spain and Germany to review recent developments in research regarding desire for hastened death. The symposium begins with a review of a recent consensus statement, based on input from researchers and clinicians around the world, defining the essential elements of the wish to hasten death (WTHD). The second paper will review research tools aimed at measuring WTHD (or desire for hastened death, DHD, as it is typically called in North America). A third paper will describe the application of item-response theory (IRT) analyses to develop an abbreviated version of the Schedule of Attitudes towards Hastened Death (SAHD), the most widely used instrument for measuring WTHD/DHD. Finally, researchers from Germany will discuss a treatment approach specifically targeting terminally ill patients who express WTHD/DHD.

Supporting Abstract 1:

Background: The wish to hasten death (WTHD) or desire for hastened death experienced by some patients with advanced illness is a complex phenomenon which up to now has had no standardised definition. This lack of a common conceptualization hinders understanding and cooperation between clinicians and researchers. Our aim was to develop an internationally agreed operational definition of the WTHD.

Methods: Subsequent to a literature review, a modified nominal group process and an international, three-round Delphi study was carried out. The nominal group produced a preliminary definition that then underwent a Delphi process in which 24 experts from 19 institutions from Europe, Canada and the USA participated. Delphi responses and comments were analysed using a pre-established strategy.

Findings: All of the proposed statements reached over 79% agreement. Key components of the final definition include the WTHD as a reaction to suffering, the idea that this wish is not always expressed spontaneously and the need to differentiate between the WTHD and accepting impending death or a wish to die naturally, but preferably soon.

The final proposed definition was: The WTHD is a reaction to suffering, in the context of a life-threatening condition, from which the patient can see no way out other than accelerating his or her death. This wish may be expressed spontaneously or after being asked about it, but it must be distinguished from the acceptance of impending death or from a wish to die naturally, although preferably soon. The WTHD may arise in response to one or more factors, including physical symptoms (either present or foreseen), psychological distress (e.g. depression, hopelessness, fears, etc.), existential suffering (e.g. loss of meaning in life), or social aspects (e.g. feeling that one is a burden).

Supporting Abstract 2:

Introduction: The phenomenon of a wish to hasten death (WTHD) among patients with advanced disease is attracting increasing attention from researchers and clinicians. Adequate assessment could facilitate its early detection and the development of interventions to help patients cope with the circumstances in which the WTHD arises.

Objectives: To identify and analyse the characteristics of the instruments that, to date, have been used to assess the WTHD in adult patients with advanced disease.

Methods: A systematic review of the literature was conducted in accordance with PRISMA guidelines. A search strategy was designed and applied to the CINAHL, PsycINFO, Pubmed and Web of Science databases. The COnsensus-based Standards for selection of health status Measurement INstruments (COSMIN) checklist was used to analyse the methodology of the selected articles and the psychometric properties of the identified instruments.

Results: A total of 50 articles were included in the review, and seven different assessment instruments were identified. Only two of these instruments were used in more than one study: the Desire for Death Rating Scale (DDRS) (with its two modifications) and, especially, the Schedule of Attitudes toward Hastened Death (SAHD). These were also the only two instruments to have had their psychometric properties analysed. The DDRS, originally published in English and also available in Portuguese, has been used in eight studies. The SAHD, originally published in English and also available in Greek, Korean, Spanish, German and Chinese, has been used in 32 studies. The characteristics and reported psychometric properties of all the instruments were analysed using the COSMIN checklist, examining content

validity, internal consistency, criterion validity, construct validity, reproducibility, responsiveness, floor and ceiling effects, and interpretability.

Conclusions: Further research is needed to better understand the optimal methods of assessing WTHD.

Supporting Abstract 3:

Background/Purpose: Desire for hastened death (DHD) represents a wish to die sooner than might occur by natural disease progression. Efficient and accurate assessment of DHD is vital to clinicians providing care to terminally ill patients. The Schedule of Attitudes toward Hastened Death (SAHD) is a commonly used 20-item self-report measure of DHD. The goal of this study was to use methods grounded in item response theory (IRT) to analyse the psychometric properties of the SAHD and identify an abbreviated version of the scale.

Method: Data were drawn from four studies of psychological distress at the end of life. Participants were 1076 patients diagnosed with either advanced cancer or AIDS. The sample was divided into two subsamples for development and validation of the shortened form. Exploratory and confirmatory factor analyses were used to evaluate dimensionality. IRT was used to estimate item parameters.

Results: A six-item version of the SAHD (SAHD-A) was identified through examination of item parameter estimations. The SAHD-A demonstrated good reliability and adequate convergent validity. ROC analyses indicated cut-scores to identify patients with high levels of DHD.

Conclusions: The SAHD-A can be used to accurately and efficiently assess DHD. The SAHD-A can be more easily integrated into research studies and clinical assessments of DHD to improve quality of care provided to seriously ill patients.

Supporting Abstract 4:

Background/Purpose: Although health professionals (HP) in palliative care (PC) are regularly confronted with desires to die (DD), there is considerable uncertainty how to deal with them. This study aims to identify the needs for content and structure of a training programme.

Methods: Focus groups (FG) comprising HPs in specialised and general PC (physicians, general practitioners, nurses, psychologists and others) were conducted. FG were transcribed and analysed qualitatively. Literature was searched for relevant curricula and trainings concerning DD.

Results: So far, there is no training on DD in palliative patients. Four FG with HPs from specialised PC and three with HPs from general PC were held. Participants requested information on the type, detection of and reasons for DD as well as on possible interventions. Moreover, they requested information on the assessment and the legal situation. Reflecting one's own attitude towards death and DD, the accompanying emotions and ways of coping with stress were seen as essential. The training programme should consider that HPs are often under time pressure and that there sometimes is no culture for dealing with DD in a sensitive manner at the workplace.

Conclusions: HPs express a clear need for improving competences in coping with DD. In order to learn how to effectively and confidently cope with DD, developing, carrying out and evaluating a training programme would be helpful. Of particular importance for improving competences, in addition to current knowledge concerning DD and the legal situation, is the reflection of one's own behaviour, attitudes and emotions.

110 Positive consequences of childhood cancer: parent-child connections

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Surviving treatment of malignancies in childhood is associated with positive as well as negative consequences. Parent-child relationships play a substantial role in overall adaptation of childhood cancer survivors (CCS) and may model positive reactions to trauma in children. This study is a part of the Quality of Life Longitudinal Study in Paediatric Oncology Patients project and aims to analyse parent-child connections in perceiving positive consequences of childhood cancer.

Benefit finding (BF) in 92 CCS (47 girls, age 12–25) was assessed by survivors themselves and by 78 of their parents. Parents also completed measure of their own posttraumatic growth (PTG). The study analyses sex, age and late effects related differences in BF in CCS as well as connections of parent and child BF and PTG. Analyses were conducted using Student's *T*-test and Pearson's correlations.

BF in CCS was significantly higher in older age group (age 18–25, $t = 2.096$; $p < 0.05$). Sex and late effects related differences were not significant. Finding how much is one loved by his/her family was the most frequently reported benefit regardless of sex or age. BF in CCS perceived by survivors was correlated to BF in CCS perceived by parents ($r = 0.229$; $p < 0.05$) but not to PTG in parents. BF in CCS perceived by parents was further correlated to PTG in parents ($r = 0.412$; $p < 0.001$).

Self-reported BF in CCS is not connected to PTG in their parents. Parents' perception of BF in their child is more strongly connected to their own PTG than to self-reported BF in their child.

111 Evaluation of volunteer hospitality centres for cancer patients: Offering psychosocial support while waiting to see the oncologist

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Background: Being at a hospital can be a stressful time for cancer patients and their caregivers; their health concerns and the stress of waiting for appointments and/or test results can be particularly anxiety prone for both the caregivers and the patients.

Methods: A group of patients suggested the hospital open hospitality centres which are free to all visitors. They are staffed entirely by cancer survivor volunteers. The survivor volunteers are trained in a

motivational interview style to offer help, understanding, support and hope. Patients can come for a coffee, a snack and talk with other survivors who understand what they are going through in terms of a cancer journey.

Results: The hospitality centre at MD Anderson has expanded to two locations and has over 115,000 visitors annually. A blanket warmer has been installed to make sure the patients can rest comfortably with a pillow and blanket if they so choose. Visitors to the centres may come in for the free coffee but end up returning because they appreciate the connections with other survivors and the kind, relaxing environment. Surveys measured a 100% patient satisfaction rate that their stay was comfortable, and that the volunteers were helpful and receptive.

Conclusions: Centres staffed by cancer survivors to serve cancer survivors are a welcome support for patients, caregivers and their families. They provide a welcoming and caring retreat for the visitors. Visitors are not only connected to someone who has been where they are but also learn about other resources and services.

112 Race and Ethnicity Influence Magnitude of Psychiatry Symptoms in Cancer Patients

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Objective: The current study evaluated the impact of race/ethnicity on magnitude of psychiatric symptoms in cancer patients.

Methods: Adult patients seen in the MDACC outpatient psychiatry oncology clinic who provided informed consent were included ($N = 1,068$). Assessment tools included the ESAS, PHQ-9, GAD-7, and NCCN Distress Thermometer (DT). Data were analysed using chi-square or analysis of variance and presented as percentages or mean \pm S.D.

Results: This study included patients who were self-identified as Black (10%), Hispanic (14%), or White (76%). ESAS sleep problems were more common in Blacks and Hispanics as compared with Whites (5.8 ± 3.0 , 5.8 ± 2.9 , 5.2 ± 2.9 , respectively; F_2 , $1063 = 5.1$, $p = .006$). Also, PHQ-9 (12.0 ± 5.7 , 11.7 ± 5.7 , 10.7 ± 5.8 ; F_2 , $1061 = 3.9$, $p = .03$) and GAD-7 scores (10.6 ± 5.4 , 10.4 ± 6.1 , 9.2 ± 5.8 ; F_2 , $1061 = 4.7$, $p = .009$) were higher in Blacks and Hispanics as compared with Whites. Importantly, Blacks and Hispanics as compared with Whites were more likely to report insurance/financial problems (47%, 48%, 36%; $\chi^2 = 10.8$, $p = .005$), transportation problems (21%, 18%, 12%; $\chi^2 = 7.8$, $p = .01$), and family health issues (45%, 40%, 34%; $\chi^2 = 6.7$, $p = .03$).

Conclusion: The current data replicate and extend our previous findings, revealing that Black and Hispanic cancer patients exhibit significantly higher levels of depression and anxiety, and significantly greater sleep problems. The data indicate that insurance/financial issues, transportation problems, and family health issues may contribute to these outcomes.

Clinical Implications: Clinicians must take into account that Blacks and Hispanics cancer patients have more burden of psychiatric symptoms as compared with Whites.

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An Evaluation of a Walking-based Complementary Therapy Model in enhancing Physical Fitness, Quality of Life, and Positivity among Chinese cancer patients

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Background/Purpose: Walking As Therapy (WAT) is a biopsychosocial intervention based on evidence in physical fitness, neuroscience, and positive psychology, and designed for both general and clinical populations in a community setting. The goal of WAT is to enable cancer patients to improve health-related physical fitness, enhance psychological well-being, and facilitate positive meaning construction of the cancer experience. The aim of this study was to evaluate the contribution of WAT to physical fitness, Quality of Life (QoL) and positivity among Chinese cancer patients.

Methods: The sample consisted of 28 Chinese cancer patients recruited in four batches over a year from a community cancer support centre. Participants completed eight 2-hour long weekly walking programme sessions. Outcome measurements included BMI, blood pressure, 1-mile test, and SF-36. Data were collected pre and post programme and analysed using descriptive and inferential statistics, and content analysis of qualitative data.

Results: A comparison of pre and post programme findings indicated reduced time to complete 1-mile test ($M = -1.27$, $SD = 1.01$), and increase in both physical health QoL ($M = 4.53$, $SD = 8.36$) and mental health QoL ($M = 3.45$, $SD = 10.23$). Content analysis demonstrated positive changes in biopsychosocial domains and self-identity. Change agents included both thematic Cantopop lyrics and facilitator's factors.

Conclusions: Although limited in sample size the findings indicate preliminary support for WAT as intervention to improve the well-being of Chinese cancer patients and potentially foster the development of a new identity to bolster individuals' sense of control over physical functioning, thereby reducing the negative impact of the cancer experience.

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An evaluation of web-based support for children and families impacted by parental cancer.

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The University Of Western Australia, Crawley, Australia

Background/Purpose: A parent's cancer has a significant impact on their children and the parent themselves. Significantly, there is a lack of consensus about how to best support families impacted by parental cancer, and large service gaps exist. As laypersons may likely engage

with support services through internet browsing, it is important to understand the content and availability of support discoverable through targeted web searches. This paper sought to evaluate support services offered to parental cancer families from the perspective of their websites.

Methods: A grey-literature integrative review was conducted on service websites. Process evaluation was used to evaluate administrative, organisational, and operational components of 26 services. A thematic analysis was undertaken on the findings.

Results: The majority of services that offered face-to-face support were developed by persons impacted by cancer (patients, parents, and offspring). Services offered online were created by health organisations and universities. Across several services, programs appeared to be delivered by volunteers, support staff, and program facilitators, rather than registered health professionals or those with professional qualifications.

Conclusions: Support service websites can be a valuable reference point for individuals seeking help, but ambiguity around staff qualifications, programs, or evidence-base may hinder engagement. Notably, services that were arguably more intensive through the provision of face-to-face support were most likely created by those who had been directly affected by cancer. Conversely, services founded by persons with assumable expertise (health organisation and university staff) were limited to online support. Such findings highlight a possibility in consumer and provider priorities.

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Using art therapy to strengthen attachment between Chinese cancer patients and their children during the treatment stage of the disease

Ms. Nga Chee Chan

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Background: Cancer treatment causes unexpected separation between a parent and their child, as well as being very traumatic for a child seeing their parent weak and anxious with repeated hospital admissions. This paper examines the experiences of intensive art therapy for a cancer patient and her 8 year-old child during the treatment stage. Therapy commenced as individual sessions, changing to parallel sessions when the cancer situation became more erratic. The process and images for both parent and child are considered.

Method: Therapy consisted of 24 sessions with the child, 12 sessions with the cancer patient and 6 joint parent-child sessions. All sessions were recorded. Observations of therapeutic sessions and individual interviews with both parent and child were conducted. Clinical case notes and interviews with the case worker were also recorded.

Results: Qualitative analysis demonstrated both parent and child showing important changes in terms of expressing emotions in a safe way. Both were less anxious about treatment or being separated from each other. Attachment issues between parent and child adjusted during therapy. The sessions before and after surgery and between

hospital visits were described as important to them going through the process.

Conclusion: Art therapy provides a safe space for cancer patients and their children to process unspeakable feelings. The created artwork provides a transitional object for them to hold on to during separation in the treatment stage. The art therapist built a secure and safe therapeutic relationship with them to tackle anxiety and distress caused by cancer and unexpected separation.

118 Efficacy of a mindfulness shorted version program to reduce distress in cancer patients

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Background/Purpose: Mindfulness reduces emotional distress and improves quality of life (QLQ) in cancer patients. However, a high number of sessions and daily practice are required, and some patients have difficulties to follow these schedules. Shorter programs are needed to increase compliance.

Objective: To test whether a mindfulness practice schedule of 10 minutes/day (10M) for 8 weeks provides the same results than a 30 minutes/day program (30 M) for 10 weeks in reducing anxiety and depression and improving QLQ in cancer outpatients.

Methods: Patients of the IOV (Hospital Terrassa-HT y Hospital Taulí de Sabadell-PT) who participated voluntarily and signed the informed consent were included. HT patients practiced the 30 M schedule, and PT patients practiced the 10 M schedule. Anxiety, Depression and QLQ with STAI, BDI and QLQC-30 were assessed before intervention and at the sixth week of the program.

Results: Forty-five patients applied the 30 M schedule, and 49 patients applied the 10 M schedule. Decreases in pre-post scores reaching statistical significance were observed for both groups in anxiety (STAI) and depression (BDI). QLQ scores in 10 M group, improved statistically in twelve dimensions: Physical, Role, Emotional, Cognitive, Social, Global, Fatigue, Nausea, Pain, Dyspnea, Insomnia, and Financial. QLQ scores in the 30 M group improved statistically only in three dimensions: Emotional, Insomnia, and Financial.

Conclusions: After six weeks of a 10-minute daily practice of mindfulness, cancer outpatients improve quality of life and reduce anxiety and depression. Thus, this 10 M reduced program of mindfulness should be recommended since it can be applied easily in cancer outpatients.

119 The Relationship between Physical Activity Levels and Quality of Life among Hong Kong Chinese Cancer Patients: A Descriptive Study

Ms. Ka Wai Katherine Lam^{*} | Dr. Ho Cheung William Li

The University Of Hong Kong, Hong Kong, Hong Kong

Background/Purpose: Numerous evidence associates physical activity with tremendous health benefits for young cancer patients. Nevertheless, it remains unclear about the situation in Hong Kong. Hence, the purpose of this study was to assess and compare the current physical activity levels of young Hong Kong Chinese cancer patients with their pre-morbid situations and healthy counterparts.

Methods: A cross-sectional study was conducted among 76 young cancer patients (9- to 18-year-olds) and 148 healthy counterparts of similar age. They were asked to fill in a set of questionnaires.

Results: Around 23% of the young cancer patients considered themselves as having no physical activity at all. Besides, they remain at lower stages of change for exercise (at the pre-contemplation or contemplation stages) than that reported in their pre-morbid condition or their healthy counterparts. Particularly, more than 90% of them were in the pre-contemplation and contemplation stage of Transtheoretical Model, indicating that they did not exercise or seldom do so. Furthermore, a high positive correlation was found between self-efficacy and physical activity among the cancer patients. The results of the hierarchical multiple regression analysis revealed that physical activity is an important indicator of quality of life among young cancer patients.

Conclusions: This study highlighted the importance and urge to design and evaluate appropriate strategies to promote physical activity among the young cancer patients through enhancing self-efficacy, consequently, improving their quality of life during treatment.

120 Understanding the needs of blood cancer patients, and how we can meet their needs

Ms. Lauren Taylor

Bloodwise, London, United Kingdom

Blood cancers are the fifth most common cancer and third most common cause of cancer death. Over 38,000 patients are expected to be diagnosed each year with a blood cancer. Behind these numbers are patients and families facing blood cancer, each with their own needs. Our Patient Need (PN) programme aims to understand their needs and experiences.

We conducted an online survey with 1,725 people personally affected by blood cancer, complemented by undertaking 19 focus groups and 7 in-depth patient interviews.

Our research showed:

- There's a low awareness of blood cancer and the organisations that are here to help – the diversity of organisation can cause confusion rather than clarity.

- Patients and their families feel that there's a lack of provision – either caused by an actual gap in service provision or by a lack of awareness about what's available.

- There's an increased need for peer-to-peer support

- Patients would like to have one place to go for information about blood cancer and the support available: they often say they feel isolated, unrepresented and unsupported.

Patients and health professionals are telling us that they need one place to go to understand what provision is available and receive support to access the services most relevant to them. As a result of this, we have developed a digital hub that aggregates all blood cancer information into one place and signposts users to local services, hospitals, support groups, community networks and online information from across the UK.

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Understanding greatest areas of patient need throughout the blood cancer journey

Ms. Lauren Taylor

Bloodwise, London, United Kingdom

Blood cancers are the fifth most common cancer and third most common cause of cancer death. Over 38,000 patients are expected to be diagnosed each year with a blood cancer. Behind these numbers are patients and families facing blood cancer, each with their own needs. Our Patient Need (PN) programme aims to understand their needs and experiences.

We conducted an online survey with 1,725 people personally affected by blood cancer, complemented by undertaking 19 focus groups and 7 in-depth patient interviews.

The survey highlighted that a high proportion of blood cancer patients had a need for psychological/emotional support. When asked to spontaneously identify their greatest need across the patient pathway – the need for psychological and emotional need was highest with nearly 30% of patients mentioning this as a need. When prompted, around 80% of patients surveyed, mentioned a need for psychological/emotional support at every stage of the patient journey. Patients have highlighted this as an area they feel is also lacking professional provision and support they can access; in fact 44% of blood cancer patients surveyed, who received assistance for this need, did so through family and friends. This need for psychological/emotional support was also mentioned in every focus group and in-depth interview conducted.

The results highlighted by the survey have shown that psychological support is a clear need and affects blood cancer patient experience. The next phase of PPN will look at existing provision available and how to raise awareness of these services in the blood cancer population.

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An international perspective on the results of randomised controlled trials of psychological interventions for Fear of Cancer Recurrence

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Fear of cancer recurrence (FCR) is described as the “Sword of Damocles” that hangs over patients for the rest of their lives. FCR is one of the most commonly reported unmet needs for help amongst survivors. On average, half of all survivors experience moderate to high FCR, and 7% report highly elevated or severe FCR. Considerable progress has been made in the theoretical conceptualisation, assessment and understanding of determinants of FCR, and new psychological treatments for FCR have more recently been developed. An IPOS Special Interest Group, called FORWARDS, was formed in 2015 to stimulate FCR research and promote international collaboration. This FORWARDS-hosted symposium aims to provide an overview of results from a range of recent randomised controlled trials (RCTs) for FCR-specific psychological interventions. It showcases the current diversity of treatment approaches, delivery formats and intended populations. The first presentation reports results from an RCT of a “blended care” intervention (SWORD) combining face-to-face CBT with an eHealth website amongst 88 Dutch cancer survivors. The second presentation describes the results of an RCT of a psycho-educational intervention amongst 164 Australians with a history of primary melanoma. The third presentation reports data from a pilot-RCT of a cognitive bias modification (CBM) intervention amongst 97 American breast cancer survivors. The final presentation reports RCT results of a face-to-face psychological intervention (Conquer Fear) amongst 222 Australian cancer survivors. Attendees at this symposium will gain a greater understanding of FCR and learn about emerging evidence-based treatments for FCR.

Supporting Abstract 1:

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Background/Purpose: Clinical fear of cancer recurrence (FCR) is a common and debilitating problem amongst cancer survivors. This study evaluates whether blended therapy can reduce FCR severity in breast, prostate and colorectal cancer survivors with high FCR.

Methods: In this randomized controlled trial, 88 eligible cancer survivors with high FCR (Cancer Worry Scale (CWS) score ≥ 14) were randomly allocated to either blended therapy (SWORD-intervention) or

usual care. Eight sessions of cognitive behaviour therapy (CBT) were delivered as blended care, combining face-to-face contact with e-health activities. Questionnaires were completed at baseline, 3 (post-treatment), 9 and 15 month follow-up. Primary outcome was FCR severity (CWS); secondary outcomes were quality-of-life (EORTC-QLQ-C30) and life satisfaction (SWL-scale).

Results: Thirty-six breast (41%), 30 prostate (34%) and 22 colorectal (25%) cancer survivors were randomized to usual care ($n = 43$) or the SWORD-intervention ($n = 45$). Mean age of the sample was 58.9 years (SD 10.7), with a mean time since diagnosis of 2.6 years (SD 1.4). Mean FCR severity at baseline was 19.5 (SD 3.9). No differences in demographic or clinical characteristics were found between the two conditions at baseline. Results of treatment efficacy (baseline and post-treatment) will be presented.

Conclusions: If the intervention proves to be effective, it will be an important first step towards providing cancer survivors access to an evidence-based treatment to help manage high FCR.

Supporting Abstract 2:

Dieng M¹, Butow PN², Costa DSJ^{2,3}, Morton RL⁴, Menzies S^{5,6}, Mireskandari S⁷, Tesson S², Mann GJ^{8,9}, Cust AE^{1,8}, Kasparian NA¹⁰
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*Cust AE and Kasparian NA contributed equally to this work and share senior authorship on this paper.

Background/Purpose: People with a history of melanoma commonly report fears of cancer recurrence (FCR), yet psychological support is not routinely offered as part of care. The Melanoma Care Study examined the efficacy of a psycho-educational intervention to reduce FCR and improve psychological adjustment in this patient group, compared with usual care.

Methods: The intervention comprised a newly-developed psycho-educational resource and three telephone-based psychology sessions over a 1-month period, timed in relation to full dermatological appointments. Participants were randomly assigned to the intervention ($n = 80$) or usual care ($n = 84$). Assessments were completed at baseline, and 1 and 6 months after dermatological appointments. Linear mixed

models were used to examine differences between intervention and control groups for FCR and other secondary outcomes.

Results: At 6 months, the intervention group reported lower FCR severity, triggers and distress scores. For the intervention versus control groups respectively, FCR severity decreased by 1.94-points compared with 0.75-points (95% CI: $-3.1, -0.7$; $p = 0.002$), FCR triggers decreased by 2.6-points compared with 0.8 points (95% CI: $-3.3, -0.7$; $p = 0.003$) and FCR distress decreased by 1.3-points compared with 0.8 points (95% CI: $-1.3, -0.1$; $p = 0.03$). The decrease in FCR severity (but not triggers or distress) remained statistically significant after adjusting for baseline covariates ($p = 0.04$). The intervention group reported a 1.16-point decrease in stress compared with a 0.48-point increase in the control group ($p = 0.03$), and demonstrated improved melanoma-related knowledge compared with controls ($p = 0.0004$).

Conclusion: This newly-developed, evidence-based, psycho-educational intervention was effective in reducing FCR and stress, and increasing melanoma-related knowledge in people at high risk of developing another melanoma.

Supporting Abstract 3:

A Pilot Randomized Controlled Trial of Cognitive Bias Modification to reduce Fear of Breast Cancer Recurrence

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Background/Purpose: The most common, persistent concern among breast cancer survivors is the fear that their disease will return. This pilot study examined the feasibility, acceptability, and preliminary efficacy of a home-delivered, computer-based Cognitive Bias Modification (CBM) intervention, Attention and Interpretation Modification for Fear of Breast Cancer Recurrence (AIM-FBCR), which targets fear of cancer recurrence (FCR).

Methods: American breast cancer survivors ($n = 97$) were randomized to receive eight sessions of one of two versions of AIM-FBCR or a placebo control program. Self-report measures of FCR (Concerns About Recurrence Scale; CARS) and distress tolerance (Distress Tolerance Scale; DTS) were administered pre-intervention, post-intervention, and 3 months post-intervention. Generalized estimating equations were used to analyse treatment effects.

Results: High retention rates post-intervention (80%) and at follow-up (77%) suggested study feasibility and acceptability of AIM-FBCR. Improvements in FCR health worries were found in those who received AIM-FBCR as compared with the control arm, with a significant time by treatment interaction observed for the CARS Health Worries subscale in an unadjusted model ($\beta = -0.29, p = .007$). Specifically, there were significant improvements from pre-intervention to follow-up ($\beta = -0.56, p = .01$; within-group Hedges' $g = 0.85$).

Improvements in the DTS Absorption subscale were also found (beta = 0.23, $p = .03$).

Conclusions: This pilot study suggests the promise of AIM-FBCR in improving FCR in breast cancer survivors, with continued reductions in health worries and in the extent to which their attention was absorbed by distressing emotions in the months after completing the intervention. Future studies should attempt to replicate these findings in a larger, more diverse sample.

Supporting Abstract 4:

A randomised controlled trial (RCT) of a psychological intervention (Conquer Fear) to reduce clinical levels of fear of cancer recurrence in breast, colorectal and melanoma cancer survivors

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Background/Purpose: Up to 70% of cancer survivors report clinically significant fear of cancer recurrence (FCR), which is associated with psychological distress, impaired quality of life and increased healthcare usage. This parallel RCT evaluated the impact of a theoretically based therapist-delivered psychological intervention (Conquer Fear), on FCR in cancer survivors with clinical FCR.

Methods: Eligible participants were disease-free early-stage breast, colorectal or melanoma cancer survivors, 2 months to 5 years post-treatment, who scored above the clinical cut-off (≥ 13) on the FCR inventory severity subscale. The intervention comprised 5 sessions incorporating attention training, detached mindfulness, metacognitive therapy, values clarification and psycho-education. Participants were randomised to the intervention ($n = 121$) or a relaxation training control ($n = 101$). Follow-up assessments occurred immediately, 3 and 6 months post-treatment. Differences between intervention and control participants on self-reported outcomes including FCR (primary outcome) and cancer-specific distress were examined using linear mixed models. A hypothesized difference of 14.5 points in FCR was considered clinically significant.

Results: Intervention and control participants did not differ on baseline FCR, demographic or disease characteristics. Complete immediate post-treatment data is expected in May 2016. Immediate post-treatment FCR was lower for intervention participants ($M = 65.1$, $SD = 22.1$) than controls ($M = 80.2$, $SD = 24.1$; range 0–176). Cancer-specific distress was also lower for intervention participants ($M = 16.4$, $SD = 13.9$) than controls ($M = 23.1$, $SD = 15.8$; range 0–88). Results of fully controlled analyses will be presented.

Conclusions: If effective, this intervention will provide a theoretically grounded intervention to reduce FCR and its associated psychological morbidity and functional impairment.

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Development of a lung cancer awareness intervention targeted at socioeconomically deprived communities.

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Background: Lung cancer incidence is highest, and survival is poorest in socioeconomically deprived groups. There is a need for interventions targeted at people in deprived communities to encourage earlier lung cancer symptom presentation to enable access to better treatments and improved survival outcomes.

Methods: The Behaviour Change Wheel was used to guide intervention development. A systematic review, 30 qualitative interviews with people living in deprived communities and six focus groups with people who live or work in deprived communities were conducted to gain insights into the barriers to cancer symptom presentation. Findings were thematically mapped onto the part of the Behaviour Change Wheel containing the COM-B model (Capability, Opportunity and Motivation-Behaviour) and Theoretical Domains Framework. The intervention functions matrix, behaviour change taxonomy and mode of delivery matrix elements of the Behaviour Change Wheel were used to identify intervention content and type.

Results: The relevant mode of delivery identified was a face-to-face group educational intervention, delivered by a trained, trusted member of the community. Intervention content includes: information about lung cancer symptoms, the benefits of early diagnosis, action planning in the event of symptom experience, strategies to aid communication of symptoms during a consultation, and information on how to spot symptoms in other people in the community and what advice should be given.

Conclusions: A community based educational intervention has been developed to increase lung cancer symptom knowledge and enable timely symptom presentation by utilising strong social networks in the community, and will be tested for its acceptability to potential users.

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Understanding the needs of blood cancer patients on a period of watch and wait

Ms. Lauren Taylor

Bloodwise, London, United Kingdom

Blood cancers are the fifth most common cancer and third most common cause of cancer death. Over 38,000 patients are expected to be diagnosed each year with a blood cancer, and nearly 15% of these

patients will be put on a treatment of Watch and Wait. These patients are given a diagnosis of cancer but may never need treatment. As part of our Patient Need work – we spoke to this group of patients to identify what their experiences were of being on this type of treatment.

We undertook three focus groups, two clinician and two patient in-depth interviews, and desk based research. This was complemented with an online survey of 1,725 people personally affected by blood cancer to understand the needs and experiences of patients on a period of watch and wait.

Results showed that amongst other needs – patients on watch and wait had a great need for emotional and psychological support. Patients on this type of treatment often describe their life as an emotional rollercoaster and compare it to coping with bereavement. At the beginning, patients have indicated a strong need for emotional and psychological support. This tapers off as patients begin to deal with life on watch and wait but anxiety levels are elevated towards appointment times.

As a result of this research, we hope to build a digital space available for anyone on or affected by watch and wait, and develop a suite of services to help patients deal with anxiety before appointments.

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Medical and emotional issues of transition in paediatric oncology: what do paediatricians say about them?

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Background/Purpose: This qualitative study, addressed to paediatricians, aims to better understand the specific medical and emotional issues about transition in paediatric oncology. Time of the transition to medical care in adulthood occurs often late. The separation between the young patient, treated for childhood cancer, and "his" or "her" paediatrician is rarely simple.

Methods: Eighteen semi-structured interviews with French paediatricians from paediatric oncology wards have been conducted, then transcribed and analysed anonymously.

A traditional thematic analysis has been completed by the use of the Edicode instrument, which analyses the shaping of subjective experiences across the organization of the speech. This methodological choice proceeds from theoretical models of Attachment and Narrativity, particularly relevant here.

Results: Eleven women and seven men participated. Interviews generally lasted from 30 to 60 minutes.

Many issues seem to influence the transition process like the paediatricians' representations of the disease and its after-effects on the body, the altered perceptions of temporality after the shared experience of life-threatening illness, and finally, the difficulties faced by paediatricians to describe the relationship that binds them to these young people and to plan the separation.

Conclusions: The transition forces doctor and patient into measuring together the "cost" of the cure, especially through the late effects of cancer treatments. Certain ideals at work within the paediatric

vocation are also highlighted at that time. Finally, disappearances related to the deaths of children and adolescents must be also considered as they influence, for the paediatricians, the separations linked to the transition towards the adult medicine.

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Information requirements of young women with breast cancer; developing a decision aid around genetic testing – the YoDA BRCA Study

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Background: Inherited genetic mutations are more common in younger women diagnosed with breast cancer. Genetic testing around the time of diagnosis is becoming more common and increasingly used to inform treatment decisions. Information to support decision making around genetic testing is often unavailable outside of specialist genetics services. The purpose of this research was to explore young women's information and decision-making needs to inform development of a web-based decision aid (DA).

Methods: Participants were ≤50 years, ≤18 months of diagnosis and recruited from two NHS hospitals. Purposive sampling ensured inclusion of women with a range of characteristics relating to genetic testing. Semi-structured interviews and focus groups were employed. Verbatim transcripts were interrogated using framework analysis.

Results: 38 women participated in an interview and/or one of two focus groups; 16/38 women had undergone genetic testing (N = 3 BRCA positive results). The following themes were important for decision-making regarding genetic testing: personal attitudes/values regarding genetic testing; knowledge of reasons to have/not have testing, test processes and implications of testing for themselves and family members. Design themes included: preference for 'jargon-free' information; a summary of each main content area; consideration of level of information preferences; warnings prior to accessing sensitive information and avoiding terms such as 'faulty' gene'.

Conclusions: The findings will be used to develop a prototype DA to be refined in think-aloud interviews. The final DA will endeavour to support decision making regarding whether or not to have genetic testing and future research will include testing the DA in a randomised controlled trial.

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The Process of Accepting Breast Cancer among Chinese Women: A Grounded Theory Study

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Purpose: To describe the process by which Chinese women accept living with breast cancer.

Methods: Individual interviews were conducted with 18 Chinese women who completed breast cancer treatment. Data were collected from September 2014 to January 2015 at a large tertiary teaching hospital in Beijing, China. In this grounded theory study, data were analysed using constant comparative and coding analysis methods.

Results: Acceptance of breast cancer by women with the disease was found to increase with the treatment stage and included five stages: non-acceptance, passive acceptance, willingness to accept, behavioural acceptance, and transcendence of acceptance. The core category: cognitive reconstruction involved the process by which breast cancer patients replaced stereotypes regarding breast cancer and the changes brought about by the disease with new positive attitudes.

Conclusions: The women for the most part progressed from one stage of acceptance to the next as their treatment stage changed, although some women experienced some stages with back and forth way: the women mostly did not accept having breast cancer during the diagnosis period; passively accepted having the illness in the treatment period; and began to actively accept it after starting rehabilitation. Moreover, the women tended to show a willingness to accept the disease in the early stage of rehabilitation, a behavioural acceptance in the middle and even late periods of rehabilitation, and transcendence of acceptance during the latter parts of the rehabilitation or after rehabilitation was completed.

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CanWalk: A randomised feasibility trial of a walking intervention for people with recurrent or metastatic cancer

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Background: Walking is an inexpensive and accessible activity; however, evidence is lacking regarding its impact on quality of life and symptom severity in people with advanced cancer. CanWalk aimed

to assess the feasibility and acceptability of a randomised controlled trial (RCT) of a community-based walking intervention to enhance quality of life (QoL) in people with recurrent/metastatic cancer.

Methods: A mixed-methods design comprising an exploratory two-centre RCT, with nested qualitative interviews, to assess feasibility and acceptability. Participants were randomised 1:1 between intervention and usual care. The intervention comprised Macmillan's 'Move More' booklet, a short motivational interview with a recommendation to walk for 30 minutes on alternate days and attend a volunteer-led group walk weekly. Patient reported outcome measures (PROMS) assessing QoL, activity, fatigue, mood and self-efficacy were completed at baseline and 6, 12 and 24 weeks.

Results: 42/110 eligible participants were recruited, most had breast, prostate, gynaecological or haematological cancers. Recruitment was lower than anticipated (n = 60), the most commonly reported reason being unable to commit to walking groups (n = 19). Randomisation procedures worked well with groups evenly matched for age, gender and activity. By week 24, there was a 45% attrition rate of whom 21% were too unwell or died. Most PROMs whilst acceptable were not sensitive to change and did not capture key benefits.

Conclusion: The intervention was acceptable, well tolerated and the study design was judged acceptable and feasible. Consequently, an effectiveness RCT is warranted, with some modifications to the intervention to include greater tailoring and more appropriate PROMs selected.

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Sleep problems in patients with acute myeloid leukaemia

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Background: Treatment for acute myeloid leukaemia (AML) leads to substantial symptom burden; trouble sleeping is one of the most common and distressing symptoms. We examined the impact of sleep disturbance in AML patients. **Methods:** We surveyed 338 leukaemia patients attending the outpatient oncology clinic. Patients reported on sleep quality, quantity, and characteristics. For identified sleep problems, patients reported on duration, interference, and treatments. **Results:** Over a quarter of patients rated their sleep quality as poor (27.8%), were dissatisfied with their sleep (26.1%), and were distressed by it (26.5%). Almost half (47%) reported getting less than 7 hours of sleep per night, with 24% endorsing less than 6 hours. 40.8% had trouble falling asleep, with 13.6% meeting the criteria for sleep onset insomnia. 55% had trouble staying asleep, with 26.5% meeting criteria for insomnia. 47.8% reported their sleep problems interfered with functioning; 15.2% reported functioning was moderate or severely impaired. Only 5% reported their sleep problems lasted less than a month; 30.3% had it a year or more. Despite the extent of these problems, only 10.3% discussed it with their oncology team. An additional 5.9% discussed it with their PCP. In terms of treatment, 28.5% had

taken a prescription sleep aid, 10% had taken an OTC sleep aid, and 9.5% had tried an herbal remedy. **Conclusions:** Sleep is a significant problem for many AML patients. About half of the patients surveyed reported sleep problems most nights or every night. However, they generally did not discuss these problems with their healthcare providers.

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Predicting Death Among Late Stage Cancer Patients Following Initiation of Oral Oncolytic Agents

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Background/Purpose: Oral oncolytic agents (OA's) are prescribed for late stage cancer patients, many of whom are approaching the end of life. Treatment guidelines concerning time to death deserve careful evaluation. Using the data from a 12-week symptom management trial, with patients enrolled following a new OA script, those who died were compared with those surviving 12 weeks.

Methods: 260 patients accrued from 5 Comprehensive Cancer Centers and prescribed one of 42 OA's were randomized to standard care, or to 8 weeks of daily adherence calls and weekly prompts to use a symptom toolkit. Medication prescription was obtained from medical records, start date was reported by patients, death was reported by family, medical record, or obituary.

Results: Of 260 patients, 171 completed 12 weeks, 89 did not. Twenty-six died within 12 weeks of initiation of the oral agent. Of the 26, 10 dropped out prior to baseline interview, 16 completed baseline interview. Comparing 171 patients completing the trial with 16 who did not, no differences were found on age (means 61 and 62), sex (54% and 63% male) or symptom severity at intake. Liver (N = 4) and pancreatic (N = 4) cancers accounted for half who died. Those who died had significantly: higher CES-D depression ($p = .04$), worse physical function (39.8 versus 45.4, $p < .01$), lower scores on effective action dimension of cognitive function (43.8 versus 51.8, $p = .04$).

Conclusions: Initiating OA treatments for late stage patients with depression, impaired physical and cognitive function deserves evaluation.

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The psychological, behavioural and health sequelae of stress after a diagnosis of cancer

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Background: Stress has been linked to increased inflammation and mortality in the cancer patients, but this has not been examined in the palliative care setting with regard to symptom burden and risk for mortality.

Methods: Advanced cancer patients were administered a battery of questionnaires that included the Perceived Stress Scale (PSS)-14, Center for Epidemiological Studies-Depression scale, Brief Pain Inventory, Functional Assessment of Cancer Therapy-Fatigue, and the Pittsburgh Sleep Quality Index. Serum cytokines including IFN, IL-1 alpha, IL-1 beta, TNFalpha, and IL-2. Analyses included Chi-square, ANOVA, Spearman's Rho, Kaplan Meier and Cox regression survival analyses.

Results: Of the 490 patients, the mean age was 62 (SD = 11.2); the majority were male (65.8%) and Caucasian (90.4%). High levels of perceived stress at diagnosis were associated with higher levels of depressive symptoms [$F(2,465) = 13.49$, $p < 0.001$]; pain in the past week [$F(2,415) = 11.03$, $p < 0.001$]; sleep quality [Chi-square = 41.737, $p < 0.001$]; daytime dysfunction [Chi-square = 16.673, $p = 0.011$]; sleep disturbances [Chi-square = 13.723, $p = 0.033$]; and use of tobacco [Chi-square = 7.853, $p = 0.020$]. Perceived stress was also associated with higher serum levels of IFN gamma [$\rho = -0.188$, $p = 0.001$]; IL-10 [$\rho = -0.191$, $p < 0.001$]; IL-1alpha [$\rho = -0.192$, $p = 0.001$]; IL-1 beta [$\rho = -0.222$, $p < 0.001$]; and IL-2 [$\rho = -0.219$, $p < 0.001$]. After adjusting for demographic (age, gender), disease specific factors (diagnosis, tumour sizes, cirrhosis, vascular invasion), and depression; perceived stress predicted poorer survival ($p = 0.031$). Interleukin-1 beta and IL-2 mediated the link between stress and survival.

Conclusions: Greater dissemination of effective interventions to reduce stress in cancer patients is warranted to reduce the morbidity and mortality related to stress after diagnosis with cancer.

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Tumour necrosis factor and the damage-associated molecular pattern molecule HMGB1 as potential mediators of depression and survival

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Background: The aim of this study was to understand the link between cancer-related symptoms and potential biological mediators of survival.

Methods: A total of 118 patients with cancer were administered a battery of questionnaires that assessed depression, sleep, pain, and fatigue at baseline, 4 and 8 months. Serum levels of Interleukin (IL)-1-alpha, IL-1 beta, IL-2, Tumour Necrosis Factor (TNF) alpha, IL-10, IN-gamma, and high mobility group box 1 (HMGB1) were also assessed

at the same time points. Dynamic Bayesian Network (DNB) inference and structural equation modelling (SEM) was employed to test links between symptoms and biomarkers over time.

Results: Of the 118 patients, 50% were male, Mean age = 62 years, and 92% were Caucasian. Twenty seven percent of patients reported depressive symptoms in the clinical range; 33% reported inadequate sleep. In the context of adequate sleep, clinical levels of depressive symptoms were associated with serum levels of HMGB1 which in turn was associated with fatigue and TNFalpha. For patients with clinical levels of depressive symptoms and inadequate sleep, the DNBs were characterized by chronic levels of fatigue, which predicted serum levels of TNFalpha and HMGB1. Using SEM, contemporaneous paths revealed that higher levels of depressive symptoms were associated with higher serum levels of TNFalpha from baseline to 8 months ($SC = 0.19-0.51$; $p < 0.01$) and cross-lag path coefficients for depression, and HMGB1 were significant from 4 to 8 months ($Beta = 0.35$, $p = 0.01$).

Conclusion: Chronic depressive symptoms were associated with fatigue, HMGB1, and TNFalpha which are key biological mediators of tumour growth and development of metastases.

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Fertility preservation in young female cancer patients: psychological impact and introduction of a decision-aid intervention

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Introduction: Young female cancer patients have not only to deal with a cancer diagnosis but also with a possible loss of their fertility as a consequence of the cancer treatment. The present study concerned fertility preservation (FP) for women who have experienced cancer during their reproductive lifespan. The objectives were to get a deeper insight in the significance that fertility has for these patients, their attitude towards FP, their decisional conflict and specific needs when considering whether to opt for FP and the helpfulness they attributed to various sources of support.

Methods: A quantitative (online survey) was combined with a qualitative (focus groups) approach targeting at current and former young cancer patients.

Results: The significance of fertility was high amongst participants and their attitude towards FP was mainly positive. Religious and ethical reservations were considerable in the decision-making process. As helpful instruments, checklists and standardized decision-aids were mentioned.

Conclusion: Qualitative data support the findings from the online survey that female cancer patients wish for more comprehensive and standardized support. Therefore, an ongoing follow-up project is currently developing and evaluating a standardized decision-aid tool for young female cancer patients, where preliminary data will be presented at the congress.

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Ten-year overview of Psycho-Oncology service activity in Cork University Hospital Ireland

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Background: Cork University Hospital (CUH) is one of the eight regional cancer centre of excellence in Ireland. The aim of this study was to provide an overview of the clinical service activity of the psycho-oncology service over a ten-year period.

Methods: Data was collected from consecutive referrals to the psycho-oncology Liaison service in CUH from 2006 to 2015. The following data were collected: demographics, referral details, assessment outcomes and intervention.

Results: The total number of assessments over 10 years was 2102. 60% ($n = 1257$) were female and 40% ($n = 845$) were male. The mean age was 56 years ($SD = 13.5$). The highest number of referrals was from medical oncology (32%, $n = 673$) followed by radiation oncology (23%, $n = 474$) and haematology (17%, $n = 350$). The most common reasons for referral were low mood (27%, $n = 574$), anxiety (24%, $n = 515$) and difficulties of coping (20%, $n = 413$). The most common cancer diagnoses were breast (23%, $n = 486$), haematological (21%, $n = 445$), and lung and thoracic (13%, $n = 280$). Following assessment, 63% ($n = 1326$) were found to have a significant mental health issue. The most common psychiatric diagnoses were adjustment disorders (31%, $n = 413$), mood disorders (19%, $n = 247$), and steroid-induced mental disorders (13%, $n = 166$). 39% ($n = 817$) received brief psychotherapeutic input and 21% ($n = 447$) were started on psychotropic medication. 39% ($n = 172$) of these were commenced on antipsychotic, 36% ($n = 158$) on antidepressants and 11% ($n = 52$) on hypnotics. 50% ($n = 1045$) received follow-up after initial assessment.

Conclusions: Mental health morbidity in patients with active cancer is considerable, and there is a clear need for Psycho-oncology services to be available

141 Sexual and Gender Minorities Cancer Screening and Health Behaviours

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Background: Sexual and gender minorities (SGM) are underserved having greater risk for adverse cancer outcomes, due to behavioural risk factors such as higher rates of smoking and lower uptake of cancer screening. The purpose of this study was to survey the Florida SGM community and a national sample of oncology providers (OP) to identify knowledge, attitudes and behaviours relating to cancer prevention and control.

Methods: A survey assessing knowledge of SGM health/cancer risks, experiences, and preferences for disclosure was distributed online through a civil rights organization, and in person at SGM events. OP were identified through AMA database and a 33 item web survey assessed knowledge of SGM health/cancer risks and practice behaviours.

Results: 994 SGM individuals complete the survey. The majority identified as Gay or Lesbian (82%). 25% reported discrimination when seeking healthcare; 60% reported rarely receiving education on cancer risk/screening; 50% of eligibles reported never discussing HPV vaccine. 33% prefer to disclose SGM status to a nurse; 33% prefer written form; 33% prefer not to disclose. To date 253 OP have completed survey (survey is open). 58% incorrectly answered knowledge questions about risk. 68% report being comfortable treating SGM patients; 72% desire more training in SGM cultural competency. 37% actively inquire about SGM status, and 30% report not needing to know.

Conclusions: Results suggest need for improved education to SGM including creating multiple opportunities for disclosure. Providers also desire education on how to improve care offered to SGM and may benefit from understanding the importance of encouraging disclosure.

142 Recognition of demoralization: a life-saving diagnosis to make in cancer care

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Background: Demoralization is a state of lowered morale and poor coping that can arise with the existential challenges of cancer and its treatment, and causes clinically significant distress or impairment in social, occupational or other important areas of functioning. The poor coping and low morale can be associated with hopelessness, helplessness or feeling stuck about being able to change the situation, meaninglessness or pointlessness, purposelessness, reduced dignity or self-worth as a person, doubts about the value of continued life, desire for hastened death or suicidal thoughts or plans. Thus, demoralization can be associated with significant suffering, making its recognition and treatment a vital clinical goal.

Methods: Four distinct observational studies of demoralization from varied countries will examine its recognition, relationships and clinical implications.

Results: These studies will 1) examine its prevalence in a cancer compared with a matched community sample (n = 2016); 2) explore its relationship with dignity and spiritual wellbeing (n = 164); 3) assess its impact on mental disorders and suicidal thinking (n = 430); and 4) examine its measurement to discern how demoralization differentiates functional status, symptom burden and level of clinical depression (n = 211).

Conclusions: Symposium attendees will better understand the nature of demoralization as found in cancer care, appreciate potential diagnostic criteria, learn about risk factors and comorbidities, and gain insight into how it can be treated in the clinical setting.

Discussant: Dr John M. de Figueiredo

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[Supporting Abstract 1:](#)

Demoralization in cancer patients and a population-based comparison sample

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Background and Purpose: Severe physical illness such as cancer can lead to demoralization, a syndrome that has been described as a combination of distress and a self-perceived incapacity to deal effectively with a specific stressful situation. We aimed to compare demoralization between cancer patients and the general population, hypothesizing higher levels of demoralization in cancer patients.

Methods: We analysed a subsample of 1008 cancer patients with mixed tumour entities (mean age 58 years, 51% women, and 29% breast cancer) from an epidemiological cross-sectional study in Germany. We obtained age and gender matched comparison group data from 1008 individuals from a representative survey of the general population in Germany. All study participants completed the validated German version of the Demoralization scale.

Results: Cancer patients showed significantly higher levels of demoralization compared with the general population for the total scale score

($p < 0.001$; $\eta^2 = .032$) and for all dimensions of demoralization: loss of meaning and purpose ($p < 0.001$; $\eta^2 = .011$), dysphoria ($p < 0.001$; $\eta^2 = .024$), disheartenment ($p < 0.001$; $\eta^2 = .059$), helplessness ($p < 0.001$; $\eta^2 = .066$), and sense of failure ($p = 0.009$; $\eta^2 = .004$) (MANOVA). Effect sizes were overall small and moderate only for helplessness and sense of failure.

Conclusion: As hypothesized, cancer patients are significantly more demoralized compared with the general population. Given the large sample sizes in both groups, however, mean differences are small for the majority of dimensions. More research is needed about factors other than cancer such as age-related distress that might contribute to demoralization in the general population as well.

Supporting Abstract 2:

Demoralization and dignity in Italian patients with cancer

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Background/Aim: Demoralization, as a continuum state from discouragement to despair has been repeatedly examined in cancer setting. The aim of the study was to explore the inter-relationship between demoralization dimensions and dignity among cancer patients.

Methods: A series of patients with cancer ($n = 164$) were submitted to a series of psychosocial instruments. Each patient was submitted to the DCPR interview – demoralization module, the Demoralization scale (DS), the Patient Dignity Inventory (PDI), the FACIT spiritual well-being questionnaire, as well as the Prime MD Patient Health Questionnaire (PHQ-9) to assess depression.

Results: Loss of meaning and purpose ($\alpha = 0.893$), disheartenment ($\alpha = 0.864$), dysphoria ($\alpha = 0.653$) and sense of failure ($\alpha = 0.739$) were found as part of the construct of demoralization. Dignity was associated with all the dimensions of demoralization, as well as to spirituality and depression. DS Disheartenment ($B = .163$; $p \leq .01$) and DS Helplessness ($B = .170$; $p \leq .05$) significantly predicted a DCPR diagnoses of demoralization, while loss of dignity was a predictor of demoralization and poor spiritual well-being.

Conclusions: Demoralization, in turn, represented a significant condition that a specific scale (DS scale) was able to define in all its variables (Loss of Meaning; Dysphoria; Disheartenment; Helplessness; Sense of Failure), more than a semi-structured interview (DCPR demoralization). Also Loss of Dignity was a significant predictor for development of demoralization, and it was positively related with depression.

Supporting Abstract 3:

The association between mental disorders and demoralization in cancer

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Background/Purpose: Knowledge is limited on the relationship between mental disorders and demoralization, a distinct syndrome of disheartenment, helplessness and loss of meaning. We investigated the association between mood, anxiety and adjustment

disorders, subthreshold symptoms and demoralization in a mixed cancer sample.

Methods: We used an ICD-10 based structured diagnostic interview to assess the prevalence of mental disorders in a study representative for tumour entities and treatment settings in Germany. A subsample of $n = 430$ patients (51% female, 25% advanced cancer) completed the Demoralization Scale (DS) and Patient Health Questionnaire-9 (PHQ-9). We conducted regression analyses controlling for demographic and medical factors to determine the predictive impact of mental disorders on demoralization and PHQ depression.

Results: Diagnosis of a mental disorder predicted a significantly higher level of demoralization, with small to moderate effects (mood disorders: $d = 0.51$, $p < .001$; anxiety disorders: $d = 0.38$, $p < .001$). In comparison, effects were significantly lower on PHQ depression (mood disorders: $d = 0.31$, $p < .001$, $pDS\text{-}PHQ = .025$; anxiety disorders: $d = 0.17$, $p = .036$, $pDS\text{-}PHQ = .017$). Adjustment disorder was associated with demoralization ($d = 0.29$, $p = .005$) and depression ($d = 0.19$, $p = .033$, $pDS\text{-}PHQ = .189$). Suicidal symptoms were significantly closer related to demoralization ($d = 0.37$, $p < .001$) than to depression ($d = 0.13$, $p = .104$, $pDS\text{-}PHQ = .009$), likewise in absence of a mental disorder ($d = 0.24$ vs. $d = 0.05$, $pDS\text{-}PHQ = .040$).

Conclusions: Results are consistent with understanding demoralization as a dimensional phenomenon that captures clinically relevant symptoms of existential distress beyond the diagnosis of mental disorders. Our data indicate that demoralization is especially useful in identifying patients with suicidal thoughts or a desire for hastened death in absence of a mental disorder.

Supporting Abstract 4:

The Demoralization Scale-II: an improved measure of demoralization
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Background: Demoralization is the state of lowered morale, reduced optimism and poor coping, which develops as a result of advanced illness and becomes associated with loss of hope, meaning and purpose in life. A recent systematic review of demoralization identified 10 studies (2295 subjects) in which the Demoralization Scale (DS) (Kissane et al, 2004) was used to reveal the prevalence of clinically significant demoralization in 13%–18% of participants. Variations in factor structure pointed to some limitations in the original DS, whose refinement and revalidation was planned for in this study.

Methods: A cohort of 211 patients receiving palliative care completed a revised DS with other measures of symptom burden, quality of life, depression, and attitudes toward the end-of-life. Factor analysis and Rasch modelling provided information about dimensionality, suitability of response format, item-fit, -bias, and -difficulty; reliability and validity of the resultant subscales were explored.

Results: The refined DS-II was comprised 16 items; the 2 subscales, each of 8 items, were named “meaning and purpose” (Cronbach's alpha 0.84) and “distress and coping ability” (Cronbach's alpha 0.82). IRT required a 3-point response format. Concurrent and divergent validity

was strong. The DS-II differentiated patients with different Karnofsky function scores, levels of symptom burden and depression were not found at moderate levels of demoralization.

Conclusions: This improved measure of demoralization will assist in ongoing studies of the recognition and treatment of clinically meaningful states of demoralization.

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Efficacy and cost-utility of stepped care targeting psychological distress in head and neck and lung cancer patients

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Purpose: This study aimed to evaluate the efficacy and cost-utility of stepped care (SC) targeting psychological distress in head and neck cancer (HNC) and lung cancer (LC) patients.

Methods: Patients with untreated distress (HADS-D > 7 or HADS-A > 7) were randomized to SC (n = 75) or care-as-usual (CAU) (n = 81). SC consisted of watchful waiting (step 1), guided self-help (step 2), problem-solving therapy (step 3), and psychotherapy and/or psychotropic medication (step 4). Linear mixed models, effect sizes (ES) and recovery rates, using HADS as primary outcome and EORTC QLQ-C30, QLQ-H&N35/QLQ-LC13 and IN-PATSAT32 as secondary outcomes, were used to assess efficacy. The cost-utility of SC from a societal perspective was investigated by comparing mean cumulative costs (measured using TIC-P, PRODISQ and the hospital information system) and quality-adjusted life years (QALYs) (measured using EQ-5D).

Results: The course of psychological distress was better after SC compared with CAU (HADS-total, p = .005; HADS-A, p = .046; HADS-D, p = .007). The SC group scored better post-treatment (HADS-total, ES = .56; HADS-A, ES = .38; HADS-D, ES = .64) and at 9 months follow-up (HADS-total, ES = .42 and HADS-A, ES = .40). Within SC, 28% recovered after step 1, 34% after step 2, 9% after step 3, and 17% after step 4. The effect of SC was stronger for patients with a psychiatric disorder compared with patients without such a disorder (HADS-total, p = .001; HADS-A, p = .003; HADS-D, p = .041). Mean cumulative costs were €4,041 [95% confidence interval (CI): €-8,218-€-291] lower and mean QALYs were 115 [95%CI: 006-224] higher in the SC compared with the CAU group.

Conclusions: SC is (cost-) effective among patients with untreated psychological distress.

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Identifying cut-off scores for the EORTC QLQ-C30 and EORTC QLQ-H&N35 representing unmet supportive care needs in head and neck cancer patients

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Background: The European Organization for Research and Treatment of Cancer (EORTC) generic (QLQ-C30) and head and neck cancer (HNC)-specific (QLQ-H&N35) module measuring health-related quality of life are increasingly being used for individual patient management. For use of these measures in clinical practice, guidance on interpretation of individual patient's scores is helpful. This study investigates cut-off scores for the EORTC QLQ-C30 and QLQ-H&N35 to identify HNC patients who may require clinical attention.

Methods: Ninety-six HNC patients completed the EORTC QLQ-C30, QLQ-H&N35 and questions on supportive care needs (SCNS-SF34 and SCNS-HNC). For all EORTC domains with the ability to discriminate between patients with and without unmet needs (AUC ≥ .70), the accuracy (e.g. sensitivity and specificity) of potential cut-off scores were calculated.

Results: For EORTC QLQ-C30 domains physical functioning, role functioning, emotional functioning and social functioning, a cut-off of 90 had sensitivity ≥ .80 and specificity ≥ .67. For EORTC QLQ-H&N35 domains on swallowing, sexuality and sticky saliva, cut-offs of 5 or 10 had sensitivity ≥ .85 and specificity ≥ .62. Borderline candidate cut-off scores of 80 were found on global quality of life and of 5-30 on fatigue, oral pain, speech and social eating with sensitivity ≥ .70 and specificity ≥ .60 or sensitivity ≥ .80 and specificity ≥ .50.

Conclusions: This study provides cut-off scores on the EORTC QLQ-C30 and QLQ-H&N35 that are valuable for use in clinical practice to identify patients with unmet supportive care needs.

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Psychometric assessment of the Dutch version of the Supportive Care Needs Survey Short-Form (SCNS-SF34) and the newly developed Head and Neck Cancer Module (SCNS-HNC)

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Purpose: To assess the psychometric properties of the Dutch version of the Supportive Care Needs Survey Short-Form 34 (SCNS-SF34) and the newly developed module for head and neck cancer (HNC) patients (SCNS-HNC).

Methods: HNC patients were included from two cross-sectional studies. Content validity of the SCNS-HNC was analysed by examining redundancy and completeness of items. Factor structure was assessed using confirmatory and exploratory factor analyses. Cronbach's alpha, Spearman's correlation, Mann-Whitney *U* test, Kruskal-Wallis and intraclass correlation coefficients (ICC) were used to assess internal consistency, construct validity and test-retest reliability.

Results: Content validity of the SCNS-HNC was good but some HNC topics may need to be added. For the SCNS-SF34 a 4-factor structure was found: physical and daily living, psychological, sexuality and health system, information and patient support ($\alpha = .79$ to $.95$). For the SCNS-HNC a 2-factor structure was found: HNC-specific functioning and lifestyle ($\alpha = .89$ and $.60$). Respectively 96% and 89% of the hypothesised correlations between the SCNS-SF34 or SCNS-HNC and other patient-reported outcome measures were found; 57% and 67% also showed the hypothesised magnitude of correlation. The SCNS-SF34 domains discriminated between treatment procedure (physical and daily living: $p = .02$ and psychological: $p = .01$) and time since treatment (health system, information and patient support: $p = .02$). Test-retest reliability of SCNS-SF34 domains and HNC-specific functioning domain were above $.70$ ($ICC = .74$ to $.83$) and $ICC = .67$ for the lifestyle domain. Floor effects ranged 21.1% to 70.9%. **Conclusions:** The SCNS-SF34 and SCNS-HNC are valid and reliable instruments to evaluate the need for supportive care among (Dutch) HNC patients.

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Evidence-based guideline for psychosocial assessment, counselling and treatment of adult cancer patients in Germany

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Background/Purpose: The German evidence based guideline for psychooncological assessment, counselling and treatment of adult cancer patients (German guideline PSO) was developed within the national guideline program provided by the German Cancer Society (Deutsche Krebsgesellschaft DKG), the German Cancer Aid (Deutsche Krebshilfe DKH) and the Association of the Scientific Medical Societies (AWMF). **Methods:** The German guideline PSO is based on a systematic literature research, a systematic search, selection and methodological appraisal of existing guidelines and a structured development of expert consensus following the AWMF Guidance Manual and Rules for Guideline Development. **Results:** The evidence based guideline is covering all tumour diagnoses in all phases of the disease and all areas of health care (inpatient and outpatient). The guideline includes statements and recommendations graded according to the level of evidence. The recommendations cover the early detection and assessment of psychosocial distress and psychological comorbidity, the indication of various psychooncological interventions including psychopharmacological treatment according a systematic algorithm, the management of psychosocial issues of particular tumour diagnoses, patient oriented communication needs and quality assurance. For the evaluation and implementation of the guideline into the clinical practice quality indicators have been developed. A patient version of the guideline has been published February 2016. **Conclusions:** The German guideline PSO is an important step for the improvement of psychosocial care of adult cancer patients in Germany.

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Blended therapy for reducing psychological distress in colorectal cancer survivors: Intervention development and study protocol of the CORRECT multicenter trial

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Background/Purpose: Up to 35% of colorectal cancer survivors (CRCS) experience high levels of psychological distress. Interventions for distressed CRCS are scarce. Therefore, we developed a blended therapy, combining face-to-face cognitive behavioural therapy (CBT) with online self-management activities. This enables patients to complete part of their treatment at home at their convenience and spend more time learning and practicing CBT skills to manage distress. This intervention will be evaluated in the CORRECT trial.

Methods: This two-arm multicenter randomized controlled trial (RCT) will evaluate the efficacy and cost-effectiveness of blended therapy.

Treatment will be compared with a usual care control condition. The primary outcome is general distress. Secondary outcomes are cancer-related distress, anxiety, fear of cancer recurrence (FCR), depression, quality of life, fatigue, self-efficacy and cost-effectiveness. Assessments will take place at baseline, after 4 and 7 months.

Results: The blended therapy combines face-to-face CBT with e-consultations and an interactive self-management website. The intervention consists of one generic module and three optional modules which are aimed at decreasing: 1) depressive symptoms, 2) anxiety and FCR, and 3) distress caused by physical consequences of CRC. The intervention will be tailored to patients' individual needs. The treatment protocol is developed in collaboration with patients, a multidisciplinary reading committee and refined following a pilot study.

Conclusions: Blended therapy is an innovative, feasible and promising approach for providing tailored supportive care to reduce high distress in CRCs. A multicenter RCT is underway in the Netherlands to evaluate the efficacy and cost-effectiveness of this intervention.

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Anxiety after treatment for non-metastatic breast cancer: a systematic review to identify risk factors and evaluate multivariate model development

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Purpose: To identify potential predictors of anxiety in women with non-metastatic breast cancer (BC) after adjuvant treatments and evaluate methodological development of existing multivariate models using internationally accepted standards. This will inform the future development of a predictive risk stratification model (PRSM).

Methods: Databases (MEDLINE, Web of Science, CINAHL, CENTRAL and PsycINFO) were searched from inception to November 2015. Eligible studies were prospective in design, recruited women with non-metastatic BC, measured anxiety using a validated outcome ≥ 3 months post-treatment, included multivariate prediction models. Risk of bias was assessed using the QUIPS tool.

Results: Seven studies were included involving 3237 participants. Five were observational cohorts and two secondary analysis of RCTs. Follow-up time ranged from 3 to 72 months. Variability of measurement and selective reporting precluded meta-analysis. Twelve predictors were identified in total. Younger age, previous psychiatric history before or since diagnosis and experience of severe life events were identified as risk factors in ≥ 2 studies. Clinical variables (e.g. treatment, tumour grade) were not identified as predictors in any studies. Importantly, no studies adhered to all quality standards, none aimed to develop a PRSM and models that were developed were not subsequently validated.

Conclusions: Multiple predictors were identified but lacked reproducibility and inadequate reporting did not allow full evaluation for the multivariate

models. The use of quality standards in the development of PRSM within psycho-oncology would improve model quality and performance thereby allowing professionals to better target support for patients.

Review registration: <http://www.crd.york.ac.uk/PROSPERO/>, number CRD42016037321.

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Family caregivers require mental health specialists for end-of-life psychosocial problems: A nation-wide survey from the Japan Hospice and Palliative care Evaluation study (JHOPE2)

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Objective: In the oncological setting, psychological distress is common for patients and their family caregivers. It remains unclear how best to support distressed caregivers providing end-of-life care at home.

Methods: The present study was performed as part of the Japan Hospice and Palliative care Evaluation study (JHOPE2) among caregivers whose family members are provided home palliative care. The caregivers were asked whether they wished to receive psychological support from mental health specialists, and factors associated with the need for psychological support were analysed.

Results: Of the 1,052 caregivers, 628 completed the questionnaire. As a whole, 169 subjects (27%; 23–30% [95% confidence interval]) reported needing psychological support from a mental health specialist. The univariate analyses revealed that the caregiver's need for a mental health specialist was potentially associated with 8 factors. According to a multiple regression analysis, factors associated with the need for psychological support included 1) the poor health conditions of the caregivers [adjusted odds ratio: 2.9 (1.6–5.4), $p < 0.001$], 2) emotional distress due to the need to adapt to rapid worsening of the patient's condition [2.6 (95% C.I. 1.8–3.9), $p < 0.001$] and 3) having someone else available to care for the patient in place of the caregiver [0.5 (0.3–0.8), $p = 0.002$].

Conclusions: Psychological support is required for caregivers while caring patients at home.

152 Biological and Psychological Correlates of Cognitive Functioning in Testicular Cancer Survivors Six Months after Treatment

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Background: In cancer patients, even mild cognitive impairment has been associated with impaired psychosocial and work-related functioning. We have previously reported a high prevalence of cognitive impairment among recently orchiectomized testicular cancer (TC) patients, and found negative associations between cognitive performance and cortisol levels and post-traumatic stress symptoms (PTSS). In the present study, we aimed to explore associations between cognitive functioning and relevant biological and psychological factors in TC survivors at 6 months after surgery.

Methods: At 6-month follow-up, 65 TC patients (98.5%) completed eight standardized neuropsychological tests and a questionnaire package. Of these, 43 (66.2%) had been treated with surgery-only, while 22 (33.8%) had completed chemotherapy. Blood was sampled non-fasting between 9 AM and 2 PM. A global composite score (GCS) of overall cognitive performance was calculated for each participant and possible associations with biological (cortisol, IL-6, CRP, and TNF- α), and psychological (symptoms of stress, PTSS, and distress) variables were explored with correlation tests (Pearson's r).

Results: PTSS was significantly ($r = -0.33$; $p = 0.01$) associated with GCS. Furthermore, near-significant ($p < 0.10$) inverse correlations were found between the inflammatory markers of CRP ($r = -0.23$; $p = 0.08$) and IL-6 ($r = -0.24$; $p = 0.07$) and GCS. No other associations were found.

Conclusion: The result suggesting that higher levels of PTSS may be associated with lower overall cognitive function in TC survivors 6 months post-surgery is consistent with our previous findings shortly post-surgery. Symptoms of post-traumatic stress may be a potential risk-factor for both short- and long-term cognitive impairment. Post-traumatic stress-induced inflammation is a potential mechanism to be explored further.

154 Personality traits and coping strategies at the end of life: testing their role as mediators between emotional distress and wellbeing

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Background/Purpose: Emotional distress (ED) is quite common but often under-treated in palliative care; then, dying patients have to face issues and concerns related to death and dying relying on their own strength. Individual characteristics such as personality and coping could make the difference in the wellbeing (WB). However, the paucity of evidences in the literature does not allow to draw conclusions. Testing the role of personality and coping as mediators between dying patients' ED and WB is the purpose of the study.

Methods: Seventy-three hospice inpatients diagnosed with terminal cancer (life expectancy ≤ 4 months) were interviewed at bedside through self- and clinician-rated scales to assess their clinical conditions. ED was evaluated in terms of anxiety and depression through the Hospital Anxiety and Depression Scale; WB was evaluated through the General Cancer Assessment of Cancer Therapy; personality was assessed through the Temperament and Character Inventory; coping strategies were evaluated through the BriefCOPE. Mediation analysis were performed following the Baron and Kenny technique; Sobel test and kappa-squared measure were considered to estimate indirect effects and sizes of mediation effects, respectively.

Results: Assuming ED as predictor, mediation analyses identified Acceptance coping strategy and Self-directedness personality dimension as mediators for WB.

Conclusion: Findings showed that the effect of ED on WB is better explained by the indirect intervention of patients' individual characteristics rather than through a direct effect. Therefore, sustaining those characteristics (e.g., through psychological interventions) could enable patients to better deal with ED, then enhancing WB.

155 What influences dietary-change decisions among Chinese patients with colorectal cancer?

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Background: Despite a growing population of cancer survivors globally, little is known about their dietary behaviour post-diagnosis. While cancer survivors should be highly motivated to adopt healthy lifestyles, studies suggested that most cancer survivors do not.

Methods: Individual semi-structured interviews were conducted with 30 colorectal cancer (CRC) survivors within one year of treatment

completion. Interviews lasted 20–40 minutes each, being recorded and transcribed verbatim for analysis. Grounded theory approach was used.

Results: Most CRC survivors interviewed reported making dietary changes. Dietary change often was initiated as temporary changes aiming to deal with treatment side-effects, prevent food-drug interaction, and facilitate recovery. However, the majority continued with long-term dietary changes due to beliefs that certain food or dietary habits either contributed to their cancer or would help them avoid deterioration in health. These beliefs are greatly influenced by survivors' perception of their pre-diagnosis dietary habits and their cancer peers' views on diet and cancer. Surprisingly, the majority of survivors focused on avoiding or increasing particular food items rather than adopting a healthy diet as a whole. Common avoidance reasons related to traditional Chinese beliefs, such as beef being 'toxic' and raw foods being 'cold'; and food adulteration, such as hormones in chicken. Survivors also increased consumption of 'cancer fighting' foods, such as beetroot and asparagus.

Conclusions: Dietary modification though common among CRC survivors, was inconsistent with existing dietary guidelines. Dietary interventions targeting this cancer population need to address survivors' beliefs in order to better motivate them to adopt a healthy diet.

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Supportive care needs of primary cutaneous melanoma patients: prevalence and correlates among an Italian sample

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Background/Purpose: Skin cancers are among the most common cancers worldwide and the incidence of melanoma rises. Despite the increased health care demand, evidences about prevalence and correlates of supportive care needs (SCN) of melanoma patients are scarce. The study aims to provide knowledge in this regard investigating SCN and correlates in an Italian sample of primary cutaneous melanoma (PCM) outpatients.

Methods: A convenient sample of PCM outpatients (n = 175) was assessed in person during the follow-up visit through the self-rated Supportive Care Needs Survey Short Form 34 (SCNS-SF34) and its Melanoma Module (MM). The SCNS-SF34 has 5 domains: Psychological, Physical and daily living, Health system and information, Patient care and support and Sexuality. The MM considers 12 items. The Hospital Anxiety and Depression Scale and the Short Form Health Survey were administered. Descriptive statistics summarized the data and multiple regressions were performed to study SCN correlates.

Results: On average, PCM patients perceived SCN as met. Nevertheless, item level analysis showed that specific Psychological, Health system and information needs and those pertaining MM were unmet and perceived as intense. Psychological needs correlates were anxiety and physical functioning. Health system and information needs correlates

were depression, vitality and social role functioning. Physical and daily living needs correlates were bodily pain.

Conclusion: The study suggests that SCN screening may enhance the knowledge about the care for PCM patients in the follow-up phase. Furthermore, biological, psychological and social factors may be correlates of SNC, confirming the value of the biopsychosocial approach in psycho-oncology.

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Perception of parental support promotes psychological growth in children with cancer

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Background/Purpose: Children with cancer report greater perceived benefit/growth when referencing cancer-related events than non-cancer-related stressors. This study examined patient perception of how their parents respond to their event-related distress, testing for differences in cancer versus non-cancer-related events, and how these reactions in turn relate to patient reported psychological growth.

Method: Participants included 201 survivors of childhood cancer. Participants identified their most stressful or traumatic event, and completed measures related to that event, including 1) the Emotions as a Child Scale (EAC-II), a measure of perceptions of parental response to child distress and 2) the Benefit-Burden Scale for Children (BBSC), a measure of psychological growth.

Results: Events were characterized as cancer-related (50.2%) or non-cancer related. Youth who identified a cancer-related event perceived their parents as reacting with greater support and reassurance/distraction than those who identified a non-cancer event ($p < .001$). Psychological growth was associated with perception of parental support ($r = -.41$, $p < .001$), and reassurance/distraction ($r = -.37$, $p < .001$). A mediation analysis was conducted examining event-type and using multiple mediators and ordinary least squares path analysis. Children who identified a cancer-related event reported higher levels of growth ($p < .001$), and this effect was partially mediated through perceptions of parental support, but not reassurance/distraction.

Conclusion: Youth perceive their parents as reacting differently to cancer versus non-cancer-related distress, which is in turn predictive of their experience of psychological growth. Findings suggest that parental support and reassurance/distraction are possible mechanisms facilitating resilience and growth in children with cancer.

159 Coping with symptoms of depression – a mixed-methods study among older people with cancer living in nursing homes

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Background and purpose: Knowledge about mixed-methods perspectives that examine symptoms of depression and sense of coherence among cognitively intact nursing home residents with cancer is scarce. We aimed to investigate symptoms of depression and sense of coherence among nursing home residents who are cognitively intact and have cancer.

Methods: We used a quantitatively driven mixed-methods design with sequential supplementary qualitative components. The quantitative component comprised face-to-face interviews of 60 nursing home residents (≥ 65 years) using the Geriatric Depression Scale and Sense of Coherence Scale. The supplementary psychosocial component comprised qualitative research interviews about experiences related to depression with 9 respondents from the same cohort.

Results: In fully adjusted multiple regression analysis of the sociodemographic variables, Geriatric Depression Scale scores were correlated with the sense of coherence ($P < 0.001$). The experience of sadness was identified by the following subthemes: grief, feelings of loss and worthless. Coping with experience of symptom of depression was dominated by the subthemes: connectedness, confirm their identity and integrated, independent and being engaged.

Conclusion: More than half of the nursing home residents reported symptoms of depression, and the sense of coherence was associated with reduced symptoms. A mixed-methods design contributed to nuanced and detailed information about the meaning of depression, and the supplementary component informed and supported the core component. To improve the situation of nursing home residents with cancer, more attention should be paid to the residents' experience of depression symptoms and their sense of coherence.

160 Women's treatment-related experiences and reflections one year after primary breast cancer surgery.

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Background/Purpose: Many women adjust well after breast cancer surgery, but not all. The first year is stressful particularly for women

having received adjuvant therapy. This qualitative follow-up study describes women's individual treatment-related experiences and reflections 1 year after primary breast cancer surgery.

Methods: Individual interviews with ten women (mean: 56.8 years) at a Norwegian university hospital. Interview-data were analysed using Kvale's method of qualitative meaning condensation analysis.

Results: The three main themes emerged were sorrow and fear, changed body image, and femininity and attractiveness. The women experienced several physical and psychological treatment-related reactions, which were quite individually experienced. Some expressed grief over their cancer and having lost a significant body-part. Enduring chemotherapy was particularly difficult, generating sickness and fear of death. Being involved in the decision-making process regarding surgery was important. Some described changed self-perceptions due to bodily changes. Most women felt tired and lacked energy during and after treatment. Other difficulties included losing hair, using a wig, and increased body weight. Losing a breast through mastectomy or having a changed breast from a lumpectomy affected feelings of femininity and attractiveness.

Conclusion: Participants experienced several physical and psychological reactions related to treatment. The cancer and its treatments triggered sorrow, fear, various bodily changes, and changes in self-perception. A profound understanding of both similarities and differences in women's reactions to breast cancer and treatment, is vital for health professionals. Good listening, dialogue, and adequate information can help these women in their continued efforts to live with having had breast cancer.

161 Efficacy of internet-based cognitive behavioural therapy in improving sexual functioning of breast cancer survivors with a DSM-IV diagnosis of sexual dysfunction: results of a multicenter, randomized controlled trial

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Purpose: Sexual dysfunction is a prevalent, long-term complication of breast cancer and its treatment. Relatively few women opt for face-to-face sex therapy, which they tend to view as being too confronting. Internet-based interventions might be a less threatening and more acceptable therapeutic approach. We evaluated the efficacy of internet-based cognitive behavioural therapy (CBT) in improving sexual

functioning of breast cancer survivors with a DSM-IV diagnosis of sexual dysfunction.

Methods: We randomly assigned 169 breast cancer survivors to either the internet-based CBT or a waiting-list control group. The CBT had a maximum duration of 24 weeks and consisted of weekly therapist-guided sessions. Self-report questionnaires were completed by the intervention group at baseline (T0), 10 weeks after start of therapy (T1), and post-therapy (T2), or at equivalent time points for the control group. We used mixed effect models with repeated measures to compare the groups over time.

Results: Compared with the control group, the intervention group showed a significant improvement over time in overall sexual functioning ($p = .043$, effect size = .40), which was attributable to an increase in sexual desire ($p < .001$, effect size = .72), sexual arousal ($p = .015$, effect size = .46), and vaginal lubrication ($p = .016$, effect size = .45). The intervention group reported more improvement over time in sexual pleasure ($p = .002$, effect size = .58), less discomfort during sex ($p = .004$, effect size = .61), and less sexual distress ($p = .002$, effect size = .55) than the control group.

Conclusion: Internet-based CBT can improve sexual functioning of breast cancer survivors with a DSM-IV diagnosis of sexual dysfunction.

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“My Prostate Cancer Has Affected My Family in Many Ways”: Men's Perspectives about the Effect of Prostate Cancer on Family Life

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Background/Purpose: A cancer diagnosis “reverberates throughout the family system” (Rolland. Cancer; 2005; 104 2584-2595), yet little is known about how prostate cancer (PCa) affects family life beyond the spousal/partner dyad. Understanding the effect of PCa on other family relationships and the family as a whole is important to developing interventions that protect or promote family resilience and ultimately, adaptation to PCa. Therefore, the aim of this study was to use a family systems perspective to explore how PCa has affected diagnosed men's family life. **Methods:** Participants were men with localized PCa ($n = 120$) diagnosed within the past 5 years. Responses to a single item from a questionnaire about men's social support networks and PCa experiences were analysed. Participants were asked to describe in their own words how PCa has affected their family life and/or how their family life has affected their PCa. The constant comparative method was used to analyse for themes that illustrate the perceived effect of PCa on family life. **Results:** Four emergent themes include (1) changes feelings of connectedness with family members; (2) illuminates family members' support; (3) promotes re-evaluation of what is important; and (4) causes worry. Within each theme, spouses/partners, children, and the family as a whole were mentioned as affected by PCa. **Conclusions:** These findings suggest that a PCa

diagnosis affects family processes and responses that include but extend beyond the spousal/partner dyad. Future research should examine through in-depth interviews the perspectives of all family members to identify points of convergence and divergence.

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Perceived benefits and barriers to physical activity among patients with oesophageal cancer.

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Background/Purpose: Reduced physical functioning is a common sequela of treatment for oesophageal cancer. Exercise can be an effective intervention to ameliorate treatment related physical and psychological problems experienced. However, it is unknown whether patients are aware of the role that exercise can play in enhancing recovery. The aims of this study were to explore patients' knowledge and understanding of the role of exercise during cancer treatment and to identify patient reported barriers to exercise.

Methods: A qualitative descriptive study design was used. Patients receiving curative multimodal treatment for oesophageal cancer were purposively selected to complete individual semi-structured interviews. Thematic content analysis was used to analyse the data.

Results: Nine patients ($n = 7$ men), mean age 62 (SD 6.31) years, who had completed neoadjuvant therapy and were scheduled for surgery completed interviews. While patients recognised that exercise is generally beneficial, knowledge of exercise guidelines was poor and patients were unaware of some of the wider ranging benefits of exercise such as the role of physical activity to reduce cancer related fatigue. Both disease specific and general barriers to exercise were described. The primary disease specific barriers were quite unique to oesophageal cancer and included weight loss and reduced energy levels due to changes in diet and eating habits.

Conclusions: Patients with oesophageal cancer patients demonstrate a poor understanding of the benefits of exercise during cancer treatment, in addition to facing a number of barriers to physical activity. These results suggest potential targets for intervention to influence physical activity levels in this cohort.

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Acceptability and engagement with a workbook intervention to support return-to-work for cancer survivors

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Background: Over 100,000 people of working age receive a diagnosis of cancer annually in the UK. Returning to work is recognised as a key aspect of cancer survivorship and returning to normality post-treatment. However, returning to work can present several challenges. This study aimed to explore the engagement and experiences of cancer survivors participating in a workbook-based intervention (WorkPlan) to support return to work.

Method: Twenty cancer survivors from the intervention arm of the WorkPlan feasibility trial participated in a semi-structured telephone interview exploring engagement with and perceived usefulness of the intervention. Interviews were audio recorded, transcribed verbatim and analysed using a Framework approach. These data were used together with questionnaire data completed at baseline and six months post-randomisation (measuring illness perceptions, work ability and satisfaction with work) to further investigate levels of engagement.

Results: Engagement with the intervention materials was good. Three super-ordinate themes were identified; the importance of clear communication, the role of the employer in the return to work process and learning to cope in new ways. The study highlighted the diverse support needs of cancer survivors in the return to work process.

Participants undergoing chemotherapy/radiotherapy had more difficulty attending sessions, but the majority of course participants, 65% were able to attend weekly class and fully engage with the programme.

Conclusion: This study identified positive engagement with a workbook-based intervention to support return to work. Workbook-based interventions that focus on making sense of one's illness and practical planning activities offer the potential to be both effective and well received by cancer survivors. Future research could consider the support needs of self-employed individuals and the role of employers in the return to work process.

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Evaluation of an adapted Mindfulness Based Stress Reduction programme for people living with secondary cancer.

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Background: Mindfulness interventions in cancer patients have found the Mindfulness Based Stress Reduction (MBSR) programme to be effective in improving a wide variety of symptoms. Most studies have focused on stage 1–3 cancer. There are only two studies of MBSR offered specifically for those with a metastatic diagnosis. The ongoing stress and uncertainty of living with secondary cancer can be overwhelming for individuals. Finding ways of managing stress more effectively and developing skills for living well with illness would be valuable.

Method: In Cork ARC, we explored the feasibility of running an MBSR programme for people living with secondary cancer. We piloted two 10-week adapted MBSR programmes, inviting our participants to give detailed feedback on their experience of the course. We monitored attendance to evaluate the practicality of a weekly programme.

Results: Participants reported significant reductions in stress levels and future fears. They were able to draw upon mindfulness practice at high stress times e.g. going for scans, treatment or consultations. Other benefits were reduced rumination on their illness, improvement in mood and recognition of resilience.

Participants undergoing chemotherapy/radiotherapy had more difficulty attending sessions, but the majority of course participants, 65% were able to attend weekly class and fully engage with the programme.

Conclusion: The capacity of the MBSR programme to offer people living with secondary cancer accessible, flexible and responsive skills for managing stress and uncertainty, would suggest it could be more widely offered to this population. Further research in this area would be valuable.

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Existential loneliness at the end of life: Design and proposal of Existential Loneliness Detection Scale of (ELDS). Preliminary results

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Introduction: Existential loneliness is one of the factors that affect the emotional distress of patients with advanced cancer (AC) or at the end of life (EoL). Early psychosocial intervention in existential loneliness will improve the patient emotional well-being. Currently, there are no specific tools for assessment existential loneliness in the field of palliative care (PC)

Aim: Design of Existential Loneliness Detection Scale (ELDS) in patients with AC or EoL and present the preliminary results.

Material and methods: The ELDS has two sections: 1) three questions addressed to the patient and 2) four questions directed to the health staff related to external signs of existential loneliness.

Currently are being evaluated patients in three palliative care units.

Results: Preliminary results and data analysis will be presented at the congress. We think that ELDS is suitable for detecting loneliness and elements that can affect it in patients AC or EoL and probably will present good psychometric properties.

Discussion: Explore the factors that influence the emotional distress of the patient will identify and prioritize psychosocial care of those patients who have difficulty to die in peace related to feelings of loneliness.

We assume that ELDS be a useful and easy tool for identifying the existential loneliness of the patients attended in a Palliative Care Unit. The systematic use of ELDS will allow us to do a specific early psychological intervention.

Keywords: Existential Loneliness, emotional distress, palliative care, scale, detection, advanced cancer, end of life

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A multidisciplinary approach to radical cystectomy including psycho-educational interventions delivered to the patient-caregiver dyad: effects on quality of life and emotional well-being

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Background: The World Health Organization (WHO) supports multidisciplinary approaches, including psycho-educational interventions right from pre-operative period, aimed at improving clinical and psychological outcomes for patients undergoing major surgical procedures in cancer care. For instance, sustaining emotional well-being, health-related quality of life (HRQOL) and promoting healthy lifestyles such as smoking cessation are fundamental aims for radical cystectomy cancer patients. In these circumstances, the role of informal caregivers is also considered very important.

Purpose: We studied whether a psycho-educational intervention delivered to the patient-caregiver dyad from the pre-operative period may improve HRQoL, emotional well-being and healthy behaviours. Moreover, we evaluated the inter-item agreement for each dimension of patients' emotional distress between patients and caregivers.

Methods: This is an observational, prospective, and still-recruiting study. Within a multidisciplinary approach, cystectomy patients and their informal caregivers received psychological assessment and life-style monitoring at pre-hospital admission, at discharge from hospital and at six-month follow-up.

Results: A total of 34 patients were recruited, mean age 70 years (SD = 9.33, range 50–80 years). 29 patients (90.6%) had a caregiver. Patients demonstrated pre-post differences in emotional distress ($p = 0.44$), anxiety ($p = .007$), depression ($p = .006$) and need for support ($p = .017$) while caregivers reported statistically significant differences in the depression scale ($p = .038$). As regards inter-item agreement, no accordance was found using K-Cohen between patients and caregivers regarding patients emotional status ($K < .40$) either pre- or post-treatment. The three patients who smoked all quit smoking.

Conclusions: The intervention improves HRQoL and reduces emotional distress. The role played by caregivers in understanding patients' emotional status warrants thorough investigation.

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Experiences of Peer Mentoring for Cancer Patients: A Study of Stomach Cancer Survivor Peer Support Volunteers in Korea

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Background/Purpose: Peer mentoring, which shares cancer experiences and provides information, is critical for promoting recovery and the psychosocial adjustments of cancer patients. This study explores peer-mentoring experiences of stomach cancer survivors who are providing support to cancer patients.

Methods: In-depth interviews were conducted with 14 cancer survivors (nine male and five female) who had completed treatment for stomach cancer and who are currently participating in a mentoring program as peer mentors.

Results: Participants' mean age was 60 years old (SD = 6.8), ranging from 51 to 75 years old. All participants had received surgery; average years since surgery was 8.6 (SD = 2.4), ranging from 4.7 to 11.6 years. All participants have been involved in a peer-mentoring program for stomach cancer patients for more than 2 years. Thematic analyses revealed 10 subthemes within three categories: a) Reasons for participation (wanting to give back and help others, appreciating current life, and recognizing needs for mentoring); b) Role as a peer mentor (providing emotional and informational support, and feeling pressure and uncertainty); and c) Impact of mentoring experiences on life (finding meaning in life, promoting healthy behaviour, building bonds of friendship, and building self-confidence and self-esteem).

Conclusions: The study showed that peer mentoring provided benefits not only for patients who have recently been diagnosed with cancer but also for cancer survivors who act as peer mentors. Providing appropriate education and resources for peer mentor and collaborating with health professionals could address barriers to the peer-mentoring program.

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What gets in the way of faster cancer treatment? A review of factors that cause patients to delay and decline treatment

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Background: Initiating cancer treatment quickly is a key determinant of patient outcome, and many countries have prioritised shorter wait

times. Despite the introduction of Faster Cancer Treatment (FCT) health targets in New Zealand, delays in treatment continue. Clinical complications, system constraints and patient factors all have a role. Whilst considerable research into clinical and system factors exist, few studies have investigated why patients delay or decline their cancer treatment.

Methods: Research was conducted in two stages. First, a clinical notes audit extracted demographic and clinical information on the 70 Counties Manukau Health cancer patients who declined treatment or breached the FCT 62-day target in the 6 months prior to January 31st 2016. Second, in-depth interviews were conducted with participants who had delayed/declined due to patient factors. Data were analysed using an inductive approach to identify themes.

Results: Although there was no difference in the ethnicity of patients who breached the target compared with the wider population, patients living in higher deprivation areas were more likely to experience delays ($\chi^2 = 25.32$, $p = .000$). Analyses of qualitative interviews revealed themes regarding patients' decision-making which included rational, social and emotional factors. Barriers to initiating treatment quickly included prioritising family and social matters, practical concerns, and distress associated with diagnosis and/or treatment.

Conclusions: Reasons for declining or delaying treatment were varied and highly personal. Given the importance of timely cancer treatment on health outcomes, understanding the reasons why patients delay or decline treatment has important clinical implications through reducing barriers to faster cancer treatment.

172 Narratives surrounding intentional touch: Reflecting on practice

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There is widespread recognition of the beneficial effects of physical touch in relation to comfort, healing, and therapeutic relationships. Touch used for these purposes is referred to as intentional or comfort touch. Skilful ways to enact intentional touch requires health professionals to appreciate individual differences and respect personal, social, and cultural contexts; as well as the connection between self and other. Concerns over professional boundaries and ethical issues, together with limited understanding of how to use intentional touch mean that health professionals are often reluctant to use it in clinical practice. Further, health professionals own discomfort with relational intimacy, and emotional closeness can prevent its use in practice. Cultivating awareness of the possibilities of intentional touch in clinical practice requires health professionals to reflect on their ability to attend to moments where it could be of benefit, as well as a willingness to identify personal, physical, and emotional barriers that can inhibit closeness in their relationships with clients and therapeutic practices. The purpose of this presentation is to encourage attendees to consider their practices through reflection on narrative stories based on the authors' experiences using intentional touch in providing care to people with cancer receiving active treatment and palliative care. Although

the authors' draw on their experiences in nursing, the narratives and activities are relevant to all health professionals. Attendees will be encouraged to develop their own narratives on the use of intentional touch and to enter into a discourse on teaching and applying intentional touch within their clinical practice.

173 A pilot study to examine the effect of an exercise program in managing the pain experienced by Chinese women with cancer

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Background: Pain experienced by cancer patients is widely accepted as a threat to quality of life, with many cancer survivors experiencing chronic pain contributing to psychological distress. Exercise therapy has been shown to be effective in managing chronic pain. This study examined the effect of exercise on pain levels experienced by Chinese women with cancer and how they managed pain.

Methodology: Convenience sampling consisted of 20 women attending a community cancer centre. A mixed method design employing Brief Pain Inventory (BPI) questionnaires pre and post intervention and semi-structured interviews was used. Data analysis included descriptive and inferential statistics and content analysis of qualitative data.

Results: All 20 women participated in the training exercise program of whom 14 had breast cancer. Ages ranged from 49 to 70 with a mean of 54. All women experienced some pain, with knee pain the most frequent (6). 10 women described multiple pain sites. Comparison of pre and post intervention findings indicated a significant decrease in pain intensity in current level of pain ($M = 2.89$, $SD = 1.88$, $P < 0.05$) and a significant decrease in pain interference in personal relationships ($M1.56$, $SD2.27$, $P < 0.05$). Content analysis demonstrated 10 women had experienced pain before developing cancer. Pain management included both Chinese analgesic paste and analgesic medication.

Conclusion: Despite limitations of sample size and convenience sampling, findings indicate pain is not necessarily induced by cancer. A decrease in pain interference in relationships suggests exercise may have implications for psychological health. Women used both Chinese and western medicine to manage their pain.

174 Involving the Nursing and Medical Staff in Early Referral of Cancer Patients to the Palliative Care Team

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Background: Early palliative care interventions have been advocated because they are cost effective, improve quality of life, and reduce

futile treatment. This study is to assess the benefits of involvement of the medical and nursing staff in early referral to the palliative care team.

Methods: Over a time span of 4 weeks, for the purpose of concept clarification of palliative care and also for the benefit of early involvement of the palliative care staff, a series of meetings were conducted by the palliative care team to meet with the nurse practitioners and head nurses (N = 55), and physicians in general medicine, oncology and general surgery (N = 50). In order to ensure the effectiveness, a 2 × 4 card printed with the criteria and timing of palliative care referral was given to all nursing and medical staff starting January 2, 2016.

Results: New referrals for combined palliative care had consistently increased by 30% in the 3 months that followed compared with the same period of the previous year. Referrals for all purposes to the palliative care team, including the combined care, primary palliative care and home care, had also increased by 19%. Our nursing and medical staff are very satisfied with these collaborative efforts.

Conclusions: Providing educational information on the concept of palliative care and the benefits of early referral to palliative care is efficacious when the nursing and medical staff are involved right from the beginning of the process.

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. Feasibility, acceptability and useability of a smartphone application to support carers of people with cancer

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Background: Carers of people with cancer often experience physical, mental, social and financial burden during the caring period and experience unmet needs. There are few interventions addressing the needs of carers of people with cancer involving smartphone technology. This study will evaluate the feasibility, useability and acceptability of a smartphone application among carers of people with cancer.

Methods: Methodology involves four phases: Phase 1 – a systematic narrative review highlighting the feasibility, useability and acceptability of technology-based interventions in carers of and people living with chronic illness; Phase 2 – focus groups or individual interviews with up to 80 carers and healthcare professionals to discuss unmet needs and current attitudes and behaviours towards smartphone applications; Phase 3 – integration of data derived from Phases 1 and 2 to develop a smartphone application; and Phase 4 – trial of the application with up to 30 adult carers of people with colorectal cancer (CRC). Participants will have access to the application for 1 month and will be assessed at baseline and 1 month post-recruitment.

Results: Feasibility, acceptability and useability of the application will be assessed through a satisfaction survey. Carers will complete the Supportive Care Needs Survey-Partners & Caregivers (SCNS-P&C45) and the Zarit Burden Inventory (ZBI) to measure unmet needs and carer burden, to allow comparison to trends indicated in the literature.

Conclusions: This study will contribute to the literature by determining the feasibility, useability and acceptability of a smartphone application for carers of people with cancer.

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Characteristics of suicide in cancer patients in the Special Wards of the Tokyo Metropolitan Area

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Background: Cancer is the leading known cause of suicide. Adequate support for suicidal patients with cancer is critical. This study explored the sociodemographic characteristics of suicide in cancer patients in comparison to cancer-free cases in the Special Wards of the Tokyo Metropolitan Area.

Methods: Suicide data from the Tokyo Medical Examiner's Office from 2009–2013 were retrospective. Age, sex, household size, employment status, alcohol intake status, smoking status, and past and present illnesses in suicide cases were examined.

Results: A total of 503 (5.11%) out of 9841 people who committed suicide had cancer; age ranged from 26–97 years. The cancer patients were significantly older than the cancer-free cases. Among males, there were slightly more cancer patients than cancer-free cases. Suicide methods did not differ between groups. Among males, there were significantly more elderly cancer patients with cohabiters than cancer-free cases with cohabiters. Only half of young to middle-aged subjects had a job in both groups. There were significantly more cancer patients who lived on pensions, savings, and welfare assistance than those without cancer. There were significantly less alcohol consumers and smokers with cancer than those without cancer. Among females, there were no significant differences between groups.

Conclusions: Healthcare professionals should be aware of the high incidence of suicide in male elderly cancer patients even if they have cohabiters, benefit from a pension, and do not drink or smoke.

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Parental experiences of burden and resources in families affected by parental cancer

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Background: Parental cancer leads to disruption in the family system and family life. However, a majority of parents and children do not show elevated levels of distress and emotional problems per se. This

study investigates the impact of cancer on families with minor children and the resources of families in the face of parental disease.

Methods: We conducted 39 semi-structured interviews with 29 mothers affected by cancer and 10 healthy fathers. Interviews were audio-recorded, transcribed verbatim and analysed using thematic analysis.

Results: The age of the parents ranged from 30 to 51 years, 59% of the families had children ≤ 5 years. Mean time since diagnosis was 18 months (Range 2–77 months). Additionally to general cancer-related burden of mothers, we identified themes particularly referring to their role as a mother: concerns about not being a good mother, feeling of guilt, losses, interacting and talking with children and concerns about impact on children. Themes regarding the healthy fathers were being responsible for the family, redefining the role as a father, fears and concerns and interacting with children. Parents describe external resources e.g. good support networks but also intrapersonal resources such as self-efficacy or optimism. Family resources were e.g. emotional support, maintaining daily life and open communication. For most parents, their children were one of the most important resources.

Conclusions: Parents are confronted with additional burden but also use various resources. The findings suggest that psychosocial care needs to be attentive to families with high burden or little resources to offer support where necessary.

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Cancer patients seeking a second opinion – a systematic review

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Purpose: Although second opinions are increasingly requested by cancer patients, we know little about their added value. A systematic review was therefore performed to create an overview of the empirical evidence on frequency, antecedents, content and consequences of cancer patient's self-sought second opinions.

Methods: Empirical literature was searched in CINAHL, Embase, Medline and PsycINFO using variations and combinations of Cancer, Second opinion and Self-initiated. Only peer-reviewed full-text papers published in English, German or Dutch were included. Two reviewers screened titles and abstracts and read the full-text of the initial selection. Data extraction and quality assessment were performed for the definitive article selection

Results: 5693 non-duplicate references were screened, and after initial screening, 107 papers were read in full. 26 individual studies were included with qualitative ($n=4$) and cross-sectional ($n=22$) study designs. Included studies reported on second opinion rates ($n=12$), socio-demographic, medical and personality characteristics predicting second opinion seeking ($n=15$), patients' motivations ($n=6$), the content ($n=3$) and consequences of second opinions ($n=13$). Results were often incongruent or conflicting between studies: reported second opinion rates varied between 1% and 88%, and discrepancies between first and second opinions ranged between 11% and 51% across studies.

Conclusions: Empirical evidence on the benefits and drawbacks of second opinions is still limited. Many studies were not explicitly focused on second opinions. There was wide variation in methodology, conceptualization and setting, resulting in conflicting results. More research is needed as growing second opinions rates increase healthcare costs despite limited evidence on their added value.

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Prostate cancer patients seeking a second opinion: the role of uncertainty

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Purpose: Second opinions are increasingly requested by cancer patients, but we know little about their added value. Uncertainty plays a potentially crucial role throughout the second opinion process. Especially in prostate cancer, uncertainty is abundant throughout both diagnosis and treatment. We aimed to explore whether uncertainty provokes prostate cancer patients' need for a second opinion and may change as a result of it.

Methods: We performed in-depth semi-structured interviews with 23 men who sought a second opinion for prostate cancer. Patients were asked about their motivations, experiences and uncertainty. Analysis was performed by two independent coders and was inductive, using open coding first and axial coding next. Common themes were consequently identified.

Results: Uncertainty provoked patients' wish for a second opinion in different ways. First, patients often felt that medical specialists were pushing their own agenda's, disregarding patients' therapeutic uncertainty and need for more time. Second, patients were highly uncertain about choosing the right treatment option and experienced little guidance from their providers. Patients' uncertainty was reduced if the medical specialist providing the second opinion was well-respected, perceived as trustworthy and confirming of the first opinion. For some patients, uncertainty was enhanced, for example when the second opinion contradicted the first.

Conclusions: The experience of uncertainty and second opinion seeking is closely intertwined. Changes in healthcare organization and communication by medical specialists may reduce patients' experience of uncertainty. This may prevent the need for a second opinion and/or optimize its content and outcomes.

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Comparison of Subjective Well-being and Relevant Health Outcome Factors between Patients Undergoing Chemotherapy and Cancer Survivors in Stable Condition

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Background/Purpose: The purpose of this study was to compare the subjective well-being and relevant health outcome factors of patients undergoing chemotherapy (chemotherapy group) with those of cancer survivors out of treatment and in stable condition (stable group) and to identify the characteristics of the QOL of the two groups. **Methods:** A part of the data gathered for a verification study of a Japanese version of the Ferrans and Powers Quality of Life Index (QLI-J), which assesses QOL in terms of satisfaction with life, was used. Subjective well-being was measured by the QLI-J, and relevant factors were measured by the four major health outcome scales. The participants were ambulatory patients with gastrointestinal cancer; 55 comprised the chemotherapy group, and 76, the stable group. **Results:** No significant difference between the groups was found in terms of study variables including the QLI-J and demographics. However, stepwise multiple regression analyses showed that the QLI-J in the stable group was predicted by general health perceptions, depression, and anxiety ($R^2 = .67$, $F[3, 63] = 45.29$, $p < .001$), while the QLI-J in the chemotherapy group was predicted by depression, pain, and stress perceptions ($R^2 = .51$, $F[3, 48] = 18.63$, $p < .001$). **Conclusions:** Although the subjective well-being of the two groups did not differ significantly, the factors affecting their well-being did. These findings suggest that approaches corresponding to the factors affecting subjective well-being for each group might be necessary to sustain and improve the subjective well-being of each patient.

182 Improved treatment adherence through behavioural interventions among patients with chronic myeloid leukaemia

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Background/Purpose: Imatinib therapy is considered as the first line treatment for patients diagnosed in the chronic phase of chronic myeloid leukaemia. However, inadequate level of Imatinib adherence is an obstacle for an optimal clinical outcome among these patients. Thus, objectives of the study were to evaluate the effectiveness of behavioural intervention on adherence among CML patients at the Cancer Institute, Chennai.

Methods: The study adopted a randomized controlled design. Patients in the chronic phase of CML on Imatinib therapy, reported from March 1st, 2015 to June 30th 2015 were assessed for their treatment adherence. Of the patients assessed ($N = 254$), 9.06% patients were non-adherent and were subsequently selected into the control and experimental group using simple random technique. Patients in the control group received the standard protocol while patients in the experimental group received an individualized patient-oriented behavioural intervention by the psycho-oncologist, screening of the adherence video along with the standard protocol.

Results: The results showed a significant increase in the level of adherence in the experimental group than control group following the intervention (0.029 , $p = 0.05$). The results also revealed a significant increase in the level of treatment adherence among patients in the

experimental group between pre-intervention and post-intervention assessments (0.002 , $p = 0.001$).

Conclusions: Increased treatment adherence is directly associated with better clinical outcomes in patients undergoing Imatinib therapy. Thus, medical team which would include psycho-oncology services can bring about a solution to the problem of inadequate treatment adherence among patients with CML.

184 Self-efficacy for Coping in Palliative Care Patients: an Italian research.

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Background/Purpose: Newer models of palliative and supportive cancer care view the person as an active agent in managing physical and psychosocial challenges. Therefore, personal efficacy has been forwarded as an integral part of this new model. The present study aims to explore the utility of self-efficacy for coping in an Italian sample of palliative care patients.

Method: 219 advanced cancer patients who attended palliative care clinics were enrolled. The CBI-B was administered along with the EORTC Quality of Life Questionnaire C-30, the Mini Mental Adjustment to Cancer Scale (Mini-MAC), and the Hospital Anxiety and Depression Scale (HADS).

Results: Regarding the CBI-B, the majority was "totally confident" in maintaining their independence and a positive attitude (54%). EORTC QLQ-C30 Global Health Status ($p = 0.0012$), Role Functioning ($p = 0.0006$) and Physical Functioning ($p = 0.0007$) were significantly lower for ECOG grade 3 patients. Regarding the Mini-MAC, patients with age \leq median (62) had significant higher scores on fighting spirit ($p = 0.0002$); women present more fatalism ($p = 0.0006$) and cognitive avoidance ($p = 0.04$) than men. HADS showed females are more anxious than males ($p = 0.0181$).

Conclusions: Self-efficacy seems to have an important role in the coping processes of palliative care patients. Women present a more critical psychosocial condition. In order to improve the clinical practice in palliative care, it would be useful to identify specific self-efficacy goals for coping in advanced cancer patients. This could be an important resource both in the identification of patients' adaptation process in this particular stage of disease and in the structuring of specific psychosocial interventions.

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Positive evaluation of an e-learning module to improve communication about cancer family history and knowledge on hereditary colorectal cancer by non-genetic health professionals

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Background: A recent study showed that hereditary colorectal cancer often goes unrecognized, because of inadequate discussion of cancer family history. This leads to suboptimal referral for genetic counselling and can have negative health consequences for both patients and family members. To improve knowledge and discussion of cancer genetic topics, we developed e-learning for gastroenterologists (GEs) and surgeons. We aim to evaluate the feasibility of this e-learning.

Methods: After an online focus group among GEs and surgeons in training and discussing this with experts, an e-learning module was developed. The module was tested and evaluated with questionnaires in a pre-post design among surgeons in training.

Results: The focus group showed a positive attitude towards collecting a family history. However, lack of experience and oncogenetic knowledge are perceived as more important than lack of communication skills. Surgeons in training (n = 84) rate the e-learning module with an average 7.4 (scale 1–10), and 74% would recommend the module to others. According to self-report, knowledge increased in 33%, while the test showed it improved in 68% of participants.

Conclusions: The focus group has shown that the e-learning should be short, case-based and focus on knowledge. The e-learning was highly appreciated by the surgeons in training and knowledge increased, although most perceived their knowledge did not increase. Currently, the e-learning is tested among a group of GEs (n = 30). The e-learning and its evaluation will be presented during the conference.

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An ongoing systematic collection of cancer experiences across the health care sector

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The Danish Cancer Society, Copenhagen, Denmark

Background: The Danish Cancer Society offers professional multidisciplinary psychosocial support to cancer patients and relatives through 15 counselling centres and a nationwide telephone and online helpline. Based on up to 90.000 contacts a year, the counsellors

systematically collect and document experiences from a user perspective. This offers a unique insight in to the everyday life of people affected by cancer.

Methods: The method is inductive as the quality issues are determined by the patients and relatives. It is neither expensive nor time-consuming. Once a week, new data are reviewed by a small workgroup, and if necessary, the data are distributed almost instantaneously to relevant internal parties.

Results: In addition to the obligatory registration of demographic data, the counsellors are invited to add information whenever they are acquainted with a user experience relevant for the organisation's policy or media activities. Twice a year, a report describing and discussing the main issues is produced and distributed to relevant external parties across the health sector. Albeit the information gathered is neither representative nor generalisable, it gives the organisation an immediate insight into important issues concerning people affected by cancer, and it shows trends and flaws in regard to cancer care.

Conclusions: The systematic collection of user perspectives can be used to vividly communicate the complexity of experiences across sector boundaries and through the whole patient pathway. These experiences give The Danish Cancer Society an efficient tool for dialogue with local as well as national health care providers and authorities about quality improvement.

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Moderators of the effect of meaning-centred group psychotherapy for cancer survivors on meaning, psychological well-being, and distress

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Background/Purpose: Meaning-centred group psychotherapy for cancer survivors (MCGP-CS) has been developed to sustain or enhance survivors' sense of meaning in life. To explore for which subgroups MCGP-CS is specifically beneficial, this study aimed to analyse potential moderator variables.

Methods: Cancer survivors (N = 114) were randomly assigned to MCGP-CS or usual care. Participants were maximum 5 years after diagnosis, had completed curative treatment, and an expressed need for psychological care. Potential moderators included: age, gender, relationship, education, employment, religion, cancer type, tumour stage, cancer treatment, time since treatment, anxiety, depression, other negative life events, previous psychological treatment, and

therapy preference. Outcome measures were the Personal Meaning Profile (PMP), Scales of Psychological Well-Being (SPWB), and the Hospital Anxiety and Depression Scale (HADS). Assessment took place at baseline, post-intervention, at 3 and 6 months follow-up. For each moderator, a separate short-term (baseline until post-intervention) and long-term (baseline until 6 months follow-up) mixed model was built.

Results: At short-term, particularly males had significantly reduced depression (HADS-depression) after MCGP-CS ($F(1,98) = 6.12$, $p = .015$). Survivors with elevated depression at baseline improved most on purpose in life (SPWB) ($F(1,93) = 5.65$, $p = .019$). Participants who preferred CAU, and were subsequently randomized into CAU, deteriorated on purpose in life (SPWB) ($F(1,94) = 4.02$, $p = .048$). At long-term, specifically survivors without previous psychological treatment reported less distress (HADS-total) after MCGP-CS ($F(3,253) = 3.44$, $p = .017$).

Conclusions: MCGP-CS, an effective intervention for cancer survivors, is in particular beneficial for males, for survivors who did not receive psychological treatment before, and for survivors with depressive symptoms at the start of MCGP-CS.

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Genetic testing at the time of diagnosis – Women's experiences when offered genetic testing immediately after receiving a diagnosis of breast- or ovarian cancer.

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Background: Genetic testing for hereditary breast- and ovarian cancer is increasingly being offered in newly diagnosed breast- and ovarian cancer patients, since this information may influence treatment decisions. However, there are some concerns that genetic testing offered in an already vulnerable situation might be an extra burden to these women.

The purpose of the study was to explore women's experiences of having carried out a gene test for hereditary cancer just after being diagnosed with breast- or ovarian cancer.

Methods: A qualitative study with four focus-group interviews were conducted 7–18 months after the women were offered genetic testing through a Norwegian multicentre study (DNA-BONus). Seventeen out of forty two invited women participated, aged 40 to 69. A conventional qualitative analysis was used to identify patterns in the women's descriptions.

Results: Chaos as well as the condition of being "beside themselves" was reported by focus group participants. Ethical dilemmas had to be handled in an emotional turbulent situation. The women also

expressed the need for support and counselling in the decision process.

Conclusion: The need for a consultation with a health-professional is highlighted by the participants. We argue that personal support and counselling might help women to manage and comprehend this overwhelming situation.

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Experiential use of language: metaphors

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In view of the relation frame theory (RFT), the human mind continually creates arbitrary relations between mental objects that can influence the behaviour and create psychological pain.

In ACT psychotherapy (acceptance and commitment therapy), psychological flexibility represents an opportunity to help oncologist patients to become aware about their thoughts, emotions and physical sensations in order to decide how to guide our behaviour.

Formal exercises based on experience thus become the functional way to live the present moment and get out of the trap of inner dialogue like mindfulness exercises.

The metaphor provides an experiential contest and non-arbitrary language to therapist-patient dyad and generalizable shared experiences inside and outside.

Metaphor makes concrete an abstract concept and makes flexible thoughts, emotions and feelings. Metaphor makes functional current behaviours; it helps us to overcome many mental rules of oncological patient about disease and to legitimize values. Metaphor constructions in Psychotherapy setting must follow specific characteristics in order to make feel included cancer patients in their real needs and facilitate the adaptation to the context of illness.

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Extraordinary buildings to uplift people affected by cancer

Mrs. Laila Walther* | Mrs. Ditte Marie Bruun*

The Danish Cancer Society, Copenhagen, Denmark

Background: On a yearly basis, the Danish Cancer Society counsel cancer patients and relatives up to 90.000 times. From our users, we have learned that the psychosocial needs can appear early and that patients emphasize easy access to psychosocial counselling in a non-hospital environment.

Methods: Inspired by the concept of healing architecture, the aim was to build seven counselling centres next door to cancer treatment centres providing a place for support, rest and recovery for people affected by cancer. The new counselling centres offer free drop-in counselling, a variety of innovative and well documented patient support activities and the facilitation of meetings with peers.

Results: During 2015, an evaluation was enrolled. Results were compared with traditional counselling centres as well as to earlier user surveys. The evaluation shows a doubling of users coming. 16 percent more are referred by hospitals and 20 percent more users have a low socio-economic background. The proportion of cancer patients has increased by 10 percent, and they are contacting us earlier.

Conclusions: Extraordinary buildings with easy access to psychosocial counselling in a non-hospital environment have been shown to be an efficient setting to increase the number of users and involving them in a variety of activities. The concept furthermore attracts cancer patients and relatives with a low socio-economic background.

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Understanding the urban-rural health divide: a comparison of self-reported physical health, mental health and participation in health-promoting behaviours, between rural and urban Australian cancer survivors

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Background/Purpose: To determine whether self-reported health, mental health and health-promoting behaviours differ between rural and urban adults with a history of cancer.

Methods: Data were collected between 1 January 2010 and 1 June 2015 from the population based South Australian Monitoring and Surveillance System (SAMSS). Individuals who reported a history of cancer (n = 4,295) were included in these analyses.

Results: Univariate analysis revealed that rural cancer survivors were more likely to be obese (32.5% vs 24.1%), have diabetes (19% vs 14.7%), be physically inactive (32.9% vs 26.2%) and be at higher long-term risk of alcohol-related harm (22.3% versus 17.6%) than urban survivors. However, rural survivors reported greater trust in their local communities (88.7% vs 79.8%) and had a lower likelihood of reporting high or very high levels of psychological distress (7% vs 9.6%). After adjusting for calendar year, gender, age group, family structure, work status, county of birth, education level and household income, significant differences in the prevalence of diabetes, obesity, physical inactivity, neighbourhood trust and distress remained. In addition, rural survivors were significantly more likely to believe they had control over decisions affecting their lives.

Conclusions: Living in a rural setting is associated with an increased risk of diabetes, obesity and limited engagement in physical activity for cancer survivors. Targeted supportive care interventions are required to help address these issues and could be designed to capitalise on the high levels of community trust evident in rural Australian settings.

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Development of an online, guided, psychological self-help program for parents of children previously treated for cancer, together with end-users according to Participatory Action Research

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Uppsala University, Uppsala, Sweden

Background/Purpose: A considerable proportion of parents of children previously treated for cancer reports a clinically significant level of cancer-related emotional distress, yet there is no evidence-based, standardized intervention targeting this distress. The current study is a key step towards developing an easily accessible, relevant, and acceptable intervention for this population following the guidelines from the Medical Research Council (UK).

The research questions are as follows: How should an online, guided, psychological self-help program for parents of children previously treated for cancer be constructed and delivered?; Which procedures should be used in a controlled study aiming at evaluating the clinical efficacy and cost-effectiveness of the program?

Methods: The study is conducted according to principles of Participatory Action Research (PAR), which has its roots in action research and participatory research. PAR methodology steps beyond conventional 'collecting of information' and includes a collaborative process of knowledge production, merging experience-based knowledge with the academic tradition of intervention development. A group of parents of children previously treated for cancer is included as research partners. The data collection consists of group discussions, interviews, and other relevant research methodologies. As planned for now, the partners are invited to eight meetings during the spring 2016, addressing the following themes: Is the program something for me? How will I stay engaged with the program? How should we study if the program makes a difference?

Results: At the time of the conference, the study is expected to be completed. Preliminary results and our experiences of using the PAR methodology will be presented.

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. Posttraumatic Stress Disorder symptomatology in the course of allogeneic HSCT: a prospective study

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Background: Despite the life threatening character of allogeneic HSCT, no previous study investigated PTSD symptomatology in this patient group prospectively. Therefore, we aimed to confirm and extent results about prevalence, temporal course and predictors of PTSD symptomatology among this population.

Methods: Patients were assessed before conditioning (T0), 100 days after HSCT (T1) and 12 months after HSCT (T2). We used the PCL-C for evaluating overall PTSD symptomatology and each of the symptom clusters. We conducted multilevel modelling and multiple regression analyses.

Results: 239 patients participated at baseline, 150 at T1 and 102 at T2. Up to 15% met criteria for PTSD at least once. 52% showed diagnostic relevant levels of intrusion, 30% of avoidance and 32% of arousal. With exception of intrusion (peak at T0), all prevalence rates and severity scores were highest at T1. However, apart from severity of arousal, which increased between T0 and T1 ($\gamma = 0.11$, $p = 0.03$), none of the rates or scores significantly differed between time points. Being impaired by pain ($\gamma = 0.17$, $p < 0.01$), pain level ($\gamma = 0.04$, $p = 0.02$) and being female ($\gamma = 0.22$, $p < 0.01$) predicted severity of PTSD symptomatology across all time points. Acute plus chronic Graft-versus-Host-Disease and longer hospital stay predicted severity of PTSD symptomatology at T2 ($\gamma = 0.20$, $p = 0.04$; $\gamma = 0.01$, $p = 0.03$).

Conclusions: A considerable number of patients undergoing allogeneic HSCT meet criteria for PTSD. PTSD symptomatology is highest 3 months after HSCT but also prominent before treatment and 1 year after. Burden of pain, being female and medical complications are risk factors for elevated levels of PTSD symptomatology.

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A Cognitive Behavioural Conceptualization of Psychological Distress in Parents of Children Previously Treated for Cancer

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Background: A subgroup of parents of children previously treated for cancer reports high levels of psychological distress. Theoretical models describing this distress and evidence-based psychological treatments for the distress experienced by this population are lacking.

Methods: Individual face-to-face cognitive behaviour therapy based on a behavioural case formulations approach was conducted with 15 participants who had a child previously treated for cancer and who reported psychological distress. Case formulations included specifications of the participants' problems and hypotheses about causal and maintaining mechanisms. The case formulations were aggregated through continuous discussions with experienced researchers and clinicians, resulting in a theoretical model for psychological distress in the population.

Results: The theoretical model consists of two separate, but overlapping, paths describing development and maintenance of symptoms of traumatic stress and of depression, respectively. Central maintaining mechanisms for traumatic stress were avoidance of thoughts and emotions related to the child's cancer, and for depressive symptoms low degree of engagement in activities, i.e., low contact with positive reinforcers. Context-specific behaviours (health-related control behaviours, emotional avoidance, and disengagement in activities) fostered during the child's illness period were identified as central in the pathogenic process.

Conclusion: Psychological distress in this population can be conceptualized as a combination of traumatic stress and depressive symptoms. The theoretical model, if corroborated in future studies, might help to guide psychological treatment and thus has the potential to fill an important gap in the clinical care of parents of children diagnosed with cancer.

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Eating As Treatment (EAT): a stepped-wedge, randomised controlled trial of a health behaviour intervention provided by dietitians to improve nutrition in patients with head and neck cancer undergoing radiotherapy

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Background: Maintaining adequate nutrition for Head and Neck Cancer (HNC) patients is challenging due to the malignancy and the rigours of radiation treatment. Health behaviour interventions designed to maintain or improve nutrition in HNC patients have not previously been evaluated. This trial builds on promising pilot data, and evaluates the effectiveness of a dietitian-delivered health behaviour intervention to reduce malnutrition in HNC patients undergoing radiotherapy: Eating As Treatment (EAT).

Methods: A stepped wedge cluster randomised controlled trial was used in which five Australian hospital sites all began in the control condition and transitioned to the intervention condition in a randomised order. At each initiation point, the sites received two days' training from clinical psychologists, a second 'booster' training 2 months later and ongoing fortnightly phone supervision from a clinical psychologist. Dietitians received training in principles-based motivational interviewing (MI) and cognitive behavioural therapy (CBT) techniques, distilled to be integrated into their routine dietetic consultations.

The primary outcome of nutritional status (PG-SGA) was assessed by a dietitian at four radiotherapy time points: first and final week of treatment, and 1- and 3-month post treatment.

Results: Results from the pilot trial found that the intervention reduced malnutrition and a significant difference in mortality. The final results of this multi-centre national RCT will be reported at the conference.

Conclusion: A dietitian-led intervention utilising psychological techniques may be beneficial in improving nutrition in HNC patients undergoing radiotherapy.

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Possible Predictors of Adherence in a Randomized Controlled Trial of Mindfulness-Based Cognitive Therapy (MBCT) for Women Treated for Primary Breast Cancer – An Exploratory Analysis

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Background: Mindfulness-Based Therapies (MBTs) have shown promising results in reducing psychological and somatic symptoms in cancer patients. While positive associations between adherence to treatment and treatment effects are generally assumed, little is known about possible predictors of adherence to MBTs.

Methods: The present study included a subsample of participants ($n = 67$) in a randomized controlled trial of Mindfulness-Based Cognitive Therapy (MBCT) for pain in women treated for breast cancer. The primary endpoints of adherence were number of sessions attended (range: 0–8 sessions) and completed homework practice (number of minutes). Possible predictors at baseline were socio-demographic factors, motivation to participate in the MBCT program (a 6-point Likert scale), pain intensity (11-point Numeric Rating Scale), distress (Hospital Anxiety and Depression Scale (HADS)), and attachment avoidance and – anxiety (Short-Form Experiences-in-Close-Relationships (SF-ECR)).

Results: For number of sessions attended, multiple linear regression showed that the overall model explained 39% of the variance ($p = 0.003$). When exploring independent predictors, motivation to participate in the MBCT program predicted more sessions attended ($\beta = 0.57$, $p < 0.001$), whereas distress was inversely associated with attendance ($\beta = -0.27$, $p = 0.047$). For homework practice, results showed that neither the overall model ($p = 0.58$) nor any of the predictors reached statistical significance ($p = 0.09-0.94$).

Conclusion: Motivation to participate in MBT was an independent predictor of number of sessions attended, underlining the importance of pre-assessment interviews. In addition, symptom level may be an issue when screening eligible patients insofar symptoms of distress, which were not the primary aim of the intervention, predicted lower attendance.

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Improving perceptions of communicating with individuals with an intellectual disability and cancer: A brief online training package

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University of Chester, Chester, United Kingdom

Background/Purpose: Effective communication can enhance a patient's psychological and physical health outcomes; however, communication barriers might inhibit this when a patient has an intellectual disability (ID). Oncology nurses have reported a lack of confidence in communicating, identifying, and meeting the needs of this patient group. Brief video based interventions can improve perceptions. This research explores the impact of online training on oncology professionals' perceptions of communicating with cancer patients with ID.

Methods: Participants are oncology professionals from multiple disciplinary backgrounds, and geographical locations (UK and Australia). A baseline survey (T0) assessing confidence in communicating and intention to engage in difficult conversations with the patient group is completed before the training. The training package comprises video vignettes, self-directed worksheets, and informative handouts. A post-training survey (T1) and 6-week follow-up (T2) repeat the same self-report assessments, and a training evaluation.

Results: Data collection is underway, and analysis will take place in July 2016; a full summary of findings will be presented at the Congress. To explore the effectiveness of the intervention in improving perceptions of communicating with individuals with ID and cancer, we will conduct repeated measures ANOVAs.

Conclusions: Based on previous research, we expect the intervention to improve perceptions of communicating with individuals with ID and cancer. If shown to be effective, evaluative comments will be used to develop the training package for wider implementation. Such an intervention could provide a much needed, and easily accessible, resource for oncology professionals who are caring for cancer patients with ID.

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Physical activity and HRQoL 15 years after breast cancer treatment, a patient reported and observational study.

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Oslo University Hospital, Oslo, Norway

Background: Knowledge regarding the relationship between Physical activity (PA) level and health related quality of life (HRQoL) in long-term breast cancer (BC) survivors is limited. This study aimed to investigate the association between HRQoL and PA level in BC survivors 15 years after cancer treatment.

Methods: Hundred BC survivors, who underwent axillary lymph node dissection and participated in a PA intervention study 15 years earlier, were included. The EORTC QLQ-C30 and the HUNT3 questionnaires were employed. Upper limb physical function, lymphedema and body-weight were measured as well as age, co-morbidities, cancer relapse and socioeconomic status.

Results: The mean age was 67 (± 6), 65% were retired and 35% employed, and body-weight was 70 (± 12) kg. Overall, the patients reported better HRQoL than the general age matched female population. In multivariate analysis, two HRQoL variables were associated with PA levels. Global Health was associated with PA

intensity ($R^2 = 0.09$, $p = 0.005$), and Physical Functioning was associated with the recommended 30 minutes PA per day ($R^2 = 0.07$, $p = 0.007$).

Conclusion: Women treated for BC 15 years ago reported better HRQoL than the general female population. Increased PA level is associated with better Global Health and Physical Functioning.

Clinical Implications: This study confirms positive effects of the Norwegian governments PA recommendations of 30 minutes per day in BC survivors.

Research Implications: Further research is warranted on larger sample with prospective design to investigate the relationship regarding PA and HRQoL on survival in BC survivors.

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Severe fatigue in cancer survivors: from screening, prevalence and risk factors to evidence-based interventions

Hans Knoop^{1,2}

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Severe fatigue is among the most troublesome cancer-related symptoms, which decreases patients' quality of life and impairs daily functioning. This symposium will address cancer-related fatigue from its screening, prevalence and risk factors to interventions aimed at decreasing severe fatigue. First, the results of the three-armed randomized controlled trial 'Fitter na kanker' ('Fit again after cancer') will be presented. This study examined the effectiveness of two internet interventions for cancer-related fatigue in severely fatigued cancer survivors. Participants who received ambulant activity feedback therapy ($N = 61$) and online mindfulness-based cognitive therapy ($N = 56$) were compared with an active control condition, consisting of participants who received psycho-educational e-mails ($N = 50$). Second, a meta-analysis on more than 12,000 breast cancer survivors will be presented. Results include the prevalence, course, and demographic, disease-related and treatment-related risk factors of severe fatigue after completion of breast cancer treatment. The third presentation will address the screening of cancer-related fatigue. A study on 513 cancer patients will be presented, which examined if severe fatigue can be detected with the Distress Thermometer. The final presentation will focus on fatigue in patients who were treated for ductal carcinoma in situ (DCIS, a preliminary stage of breast cancer). The results of a study that examined the prevalence and related psychosocial factors of severe fatigue in 89 DCIS patients will be shown.

Chair: Dr. H. Knoop

Discussant: Prof. Dr. P. Jacobsen

Presenting authors:

H. Knoop, PhD

M.L. van der Lee, PhD

H.J.G. Abrahams, MSc

Supporting Abstract 1:

Effectiveness of two internet interventions for Cancer-Related Fatigue: results of a 3-armed Randomized Controlled Trial 'Fitter na kanker'

F. Z. Bruggeman-Everts¹, M. D. J. Wolvers^{2,3}, R. van de Schoot^{4,5}, M. M. R. Vollenbroek-Hutten^{1,2}, M. L. van der Lee¹

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Background: Physical activity and psychological interventions specifically designed to reduce cancer-related fatigue have shown to be effective in reducing fatigue severity. As easily accessible interventions are needed, we have developed two different internet interventions aimed at reducing CCRF. **Methods:** Participants ($n = 179$) suffering from severe fatigue and who had finished curative-intent cancer treatment at least 3 months previously were randomized into 1) a physiotherapist guided ambulant activity feedback therapy (AAF) ($n = 61$), 2) a psychologist guided online mindfulness-based cognitive therapy (eMBCT) ($n = 56$), or 3) an active control condition receiving psycho-educational e-mails (PE) ($n = 50$). All interventions were 9 weeks. Outcomes were fatigue severity and mental health, assessed at baseline (T0), 2 weeks post-intervention (T1), and at 6 months after baseline (T2). Fatigue severity was also assessed three times during the intervention (week 3, 6, and 9). The effectiveness was investigated using a multiple group latent growth model with a piece-wise growth curve analysis. The proportion of clinically relevant improved patients at T2 was calculated, as well as attrition rate.

Results: Fatigue severity significantly decreased between baseline and T2 in both the AAF and eMBCT condition, compared with the PE condition. Distress did not decrease in both interventions compared with PE condition. In the AAF, 76% ($n = 45$) adhered to treatment, and in the eMBCT condition 59% ($n = 32$) adhered to treatment. **Conclusions:** eMBCT and AAF are effective interventions for managing fatigue severity, though not for everyone. Recommendations for implementation are discussed.

Supporting Abstract 2:

Risk factors, prevalence, and course of severe fatigue after breast cancer treatment: A meta-analysis involving 12,327 breast cancer survivors

H.J.G. Abrahams¹, M.F.M. Gielissen², I.C. Schmits¹, C.A.H.H.V.M. Verhagen³, M.M. Rovers⁴, H. Knoop^{1,2}

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Introduction: Severe fatigue is among the most troublesome cancer-related symptoms. This was the first meta-analysis that examined (i) demographic, disease-related, and treatment-related risk factors, (ii) the prevalence, and (iii) the course of severe fatigue following breast

cancer treatment. **Methods:** PubMed, PsycINFO, Cochrane, CINAHL, and Web of Science were systematically searched from inception up to November 23, 2015. Inverse variance random effects analyses were performed. **Results:** Twenty-seven studies were included (N = 12,327). The risk for severe fatigue was lower in breast cancer survivors who had a partner, and were treated with surgery and surgery plus radiotherapy (RR respectively 0.96, 95% CI 0.93–0.98; 0.83, 95% CI 0.70–0.98; 0.87, 95% CI 0.78–0.96). Survivors who had stage II or III cancer, who were treated with chemotherapy, who were treated with surgery, radiotherapy and chemotherapy, and this combination plus hormone therapy were at higher risk (RR respectively 1.18, 95% CI 1.08–1.28; 1.12, 95% CI 1.06–1.19; 1.18, 95% CI 1.05–1.33; 1.38, 95% CI 1.15–1.66). The pooled prevalence of severe fatigue was 26.9% (95% CI 23.2–31.0), but this should be interpreted with caution because of high heterogeneity. A relatively large decrease in the prevalence of severe fatigue seemed to occur in the first half year after treatment completion. **Conclusions:** Approximately one in four breast cancer survivors suffers from severe fatigue. Risk factors of severe fatigue were higher disease stages, chemotherapy and receiving the combination of surgery, radiotherapy and chemotherapy, both with and without hormone therapy. Having a partner, receiving only surgery, and surgery plus radiotherapy decreased the risk.

Supporting Abstract 3:

Screening for severe fatigue in newly diagnosed breast and colorectal cancer patients with the Distress Thermometer

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Background: Internationally, the Distress Thermometer and associated Problem List are increasingly implemented in oncology as screening tool for psychological distress. Cancer-related fatigue is a common problem that is often overlooked in clinical practice. In the current study, we examined if severe fatigue in cancer patients can be identified with the fatigue item of the Problem List. **Methods:** A study sample of newly diagnosed breast (N = 334) and colorectal (N = 179) cancer patients was used. Severe fatigue was defined as a positive score on the fatigue item of the Problem List, and the Fatigue Severity subscale of the Checklist Individual Strength was used as gold standard measure for severe fatigue. **Results:** In total, 78% of breast cancer patients and 81% of colorectal cancer patients were correctly identified with the fatigue item. The sensitivity was 89% in breast cancer patients and 91% in colorectal cancer patients.

The specificity was 75% in breast cancer patients and 77% in colorectal cancer patients. The positive predictive value was 53% in breast cancer patients and 64% in colorectal cancer patients, whereas the negative predictive value was 95% in both tumour types. **Conclusions:** The mean sensitivity of both groups of 90% shows that the fatigue item of the Problem List can be used to quickly detect cases of severe fatigue. The mean specificity of 76% illustrates that if patients indicate fatigue as a problem, a validated fatigue questionnaire with cut-off point for severe fatigue is needed to exclude false positives and to confirm if these patients are severely fatigued.

Supporting Abstract 4:

Severe fatigue after treatment of ductal carcinoma in situ: a comparison with breast cancer survivors and age-matched healthy controls
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Background: It is unclear if severe fatigue is a problem after treatment of ductal carcinoma in situ (DCIS), a preliminary stage of breast cancer. The current study examined (i) the prevalence of severe fatigue; (ii) the influence of severe fatigue on quality of life, and (iii) which psychosocial factors are related to fatigue in DCIS patients. **Methods:** In the current cohort study, 89 patients treated for DCIS, 67 age-matched breast cancer survivors (BCS), and 178 age-matched healthy controls (ratio 1:2) were included. The main outcome was severe fatigue, measured with the Fatigue Severity subscale of the Checklist Individual Strength. **Results:** 21.3% of DCIS patients, 25.4% of BCS, and 6.2% of healthy controls were severely fatigued (p < .001). Severely fatigued DCIS patients had a lower quality of life and were more impaired in physical, role, emotional, cognitive, and social functioning. Sleep problems, avoidance of activities, all-or-nothing behavior, perceived lack of social support, coping problems, fear of future cancer occurrence, and dysfunctional cognitions were correlated to fatigue. **Conclusions:** The prevalence of severe fatigue in DCIS patients did not differ significantly from BCS but was significantly higher than in healthy controls. Severely fatigued DCIS patients had a lower quality of life and were more impaired in daily functioning. The psychosocial factors related to fatigue in DCIS patients are known to be perpetuating factors of fatigue in BCS. These factors are targeted in cognitive behavioral therapy for cancer-related fatigue. Our findings suggest that the same treatment elements might be applicable to severely fatigued DCIS patients.

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Art therapy of oncology patients in the Czech Republic and in Amelie, a non-profit organisation

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This report shows art therapy work with oncology patients in the Czech Republic on the basis of an implemented survey and specifically the art therapy in Amelie, z.s. Amelie has been providing a complex psychosocial assistance to adult oncology patients and their loved ones since 2006. This article introduces casuistry of a client and description of the art therapy in Amelie, which is a part of the complex care. Outcomes: Art therapy as a targeted, professionally managed approach is provided only in a few places in the Czech Republic, and each provides it in a different range. The most commonly used is the visual art therapy, the second one is musical therapy, and other therapies are only marginally used. The prevailing approach in oncology patients is an art therapy without professional guidance or a use of visual/musical techniques with psychotherapeutic elements.

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Psychosocial care for adults in the Czech Republic seen by Amelie, a non-profit organisation

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The report describes the state of psychosocial care in the Czech Republic on the basis of an implemented survey of availability of psychosocial and social assistance in major oncology centres and hospitals, and also on the basis of an organised conference "Also the words heal II. alias the complex care for oncology patients and their loved ones in the Czech Republic." Amelie has been monitoring the situation in the long term and provides a complex psychosocial assistance to oncology patients and their loved ones since 2006. This paper will present projects and activities of Amelie and will provide an overview of the complex care offered by Amelie. The outcome is an informed reader who understands the situation in the Czech Republic in the field of psychosocial care. Outcomes: Professional services are available only to some patients and their loved ones, they are not coordinated and linked, it is not possible to measure the efficiency. Available and quality health services are the priority, but there is a problem with a support of processes which ultimately affect the efficiency of health services, and the costs are transferred to the social system and loved ones. There is a lack of coordination of assistance to oncology patients as well as to their loved ones also because there is no umbrella organisation which would defend the interests of a large group of people in the whole spectrum of their needs.

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What can we do to increase cervical cancer screening uptake among older women? Understanding the views of older women

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Background: To be effective, cervical screening programmes require high uptake. In recent years, in several countries, uptake has fallen. In Ireland, the uptake pattern differs from other countries with organised programmes: it is lower in older (≥50 years) than younger women. We compared cervical screening views/attitudes between older and younger women in Ireland.

Methods: A questionnaire was mailed to 5,553 women aged 20–64, selected through primary care. This included 13 statements on views/attitudes towards smear tests and cervical cancer (informed by the Theory of Planned Behaviour and the Health Belief Model). Respondents' answers were compared by age using chi-squared tests. **Results:** 3,470 women participated; 1,015 were aged ≤35, 1,367 were 36–49 and 1,063 were ≥50. Older women more often perceived they had a lower risk of getting cervical cancer compared to other women their age (≥50 years: 10%; ≤35 2%; p<0.001) and were less worried about getting cervical cancer (≥50 years 16%; ≤35 31%; p<0.001). Older women more often agreed that: "women only need smears if they have problems like bleeding" (6% v 3%); and "women should start having smear tests after giving birth to their first child" (66% v 41%). They were also more likely to believe that cervical cancer is easy to treat (27% v 13%). Multivariable analyses will be presented.

Conclusions: Older and younger women differed in their beliefs about cervical cancer. Older women more often had misconceptions about smear tests. Studies like this, which seek to understand women's views, may inform initiatives to improve screening uptake among older women.

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Physical after-effects of colposcopy and their interrelationships with psychological distress: a longitudinal study

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Background: A hospital-based colposcopy is a common follow-up method for women with abnormal cervical screening results. Women can experience both psychological and physical after-effects following colposcopy. To date, little research has focused on physical after-effects of colposcopy. In a longitudinal study, we quantified the prevalence of physical after-effects experienced by women following colposcopy and investigated whether these were associated with post-colposcopy distress.

Methods: Women completed questionnaires 4-, 8- and 12-months following an initial colposcopy at two Dublin hospitals. Information on physical after-effects (pain/bleeding/discharge) experienced post-colposcopy was collected at the 4-month time-point. Colposcopy-specific distress was measured at all time-points using the Process Outcome Specific Measure (Gray et al. *Quality of Life Res* 2005; 14:1553–62). A linear mixed effects regression model was used to identify associations between physical after-effects and distress over the 12-month period, adjusting for clinical and socio-demographic variables.

Results: 584 women were recruited (response rate=73%, 59% and 52% at 4-, 8- and 12-months). 80% of women reported ≥ 1 physical after-effect: 56% experienced pain, 65% bleeding and 38% discharge. 86% were aware of the possibility of experiencing physical after-effect(s). Psychological distress declined over time. Variables significantly independently associated with higher distress were: being unaware of the possibility of experiencing physical after-effects; post-colposcopy pain; CIN ≥ 2 on histology; and never having had a previous colposcopy.

Conclusions: The prevalence of physical after-effects of colposcopy is high. Our study has, for the first time, found associations between physical after-effects and post-colposcopy distress. This novel finding may be relevant to the development of interventions to alleviate distress following colposcopy.

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A two-item depression screen (Patient Health Questionnaire-2) with a 'help' question in cancer patients referred to a Psycho-Oncology service

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Background: The psycho-oncology service at Cork University Hospital (CUH) advocates routine enquiry about depression by frontline oncology staff as part of their brief psychosocial assessment to better identify mental health needs. The Depression Enquiry is a two-item depression screening tool (Patient Health Questionnaire-2) with a 'help' question. This study examined the relationship between a positive Depression Enquiry and the likelihood of being diagnosed with a mental disorder.

Methods: Data was collected from consecutive referrals to the psycho-oncology service from 2006 to 2015. Data included: demographics, cancer diagnosis, Depression Enquiry score and the outcome of psychiatric assessment.

Results: The total number of assessments over 10 years was 2102. 60% (n=1257) were female. The mean age was 56 years (SD=13.5). 68% (n=1436) completed the depression enquiry. Women were more likely than men to complete the Depression Enquiry (Chi-Square 18.1 p<0.001 Fishers Exact Test). Women (73% N=657/904) were also more likely than men (65% n=347/532) to score positive on the depression enquiry (Chi-square 8.84, p<0.001 Fishers Exact Test). Those who completed a Depression Enquiry were no more likely to receive a mental health diagnosis than those who did not (Chi-Square 1.37, p=0.24). Those with a positive depression enquiry were more likely to have an acute mental health diagnosis (571/850) than those with a negative enquiry (164/356) (Chi-Square 46.9, p<0.001 Fishers Exact test).

Conclusions: Females were more likely to complete and score positively on the depression enquiry. Depression enquiry is a useful tool for frontline oncology staff as part of holistic approach to cancer care.

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'Testing Times' – A Social Worker's Role in Managing Conflict in Families in A Palliative Care Setting

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Background/Purpose: Using a case study to increase understanding of conflict in a family as one of their members' approaches death and to develop interventions that are helpful in ensuring that patient care is optimised. This illustrates how social work intervention can contribute to managing conflict within a family in a palliative care setting.

Methods: Single case study and review of the relevant literature. I selected this case due to the impact of conflict on the patient, family and team, which in turn significantly affected patient care.

Results: Exploring and understanding the roots of familial conflict can guide our interventions in a purposeful way that keeps the patient at the centre of our care. This contributed to a calmer environment where the family were able to spend quality time with the patient prior to his death.

Conclusion: Conflict that is deep rooted in families can often become more pronounced as families come together for a dying relative. Social workers have an important role in trying to manage this conflict. It is useful for us to develop some understanding of this conflict while accepting that we will not solve long standing family dynamics. However, limiting emotional damage to a family at this time can have significant benefits.

212 Implementing evidence-based principals: Training non-psychologists in ACT-enhanced communication skills in the cancer care setting

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Background: Distress and psychological suffering are ubiquitous with cancer and yet access to psychological support is often difficult to access. Acceptance and Commitment Therapy/Training (ACT) offers an evidence-based intervention framework with proven relevance and acceptability. The range of health professionals working in cancer offers vast resource for delivering psychosocial care; however, medical training typically instils a drive to 'fix' patients' psychological suffering. We aimed to change the nature of clinical communication away from 'fix-it' approaches towards encouraging willingness to sit with and accept suffering.

Methods: Working with a national cancer charity, we trained staff involved in cancer support drop-in (n=40). Part self-development, part communication skills training, this comprised a one-day experiential workshop. We collected data on psychological flexibility, stress, compassion fatigue and intention to apply the skills learnt using self-report questionnaires at pre-training, post training, and three month follow-up.

Results: The training was well received. Surprisingly, stress and compassion fatigue were relatively low, even at baseline. This was their first encounter with ACT for most, and even though principals seemed alien, the training resulted in a clear appreciation for its relevance and intention to apply those principals in cancer support drop-in. This presentation also discusses psychological outcomes of the training on participants.

Conclusions: Cancer care professionals are often driven—despite risk of stress and compassion fatigue—by personal values and meaning. Getting them excited in ACT should, therefore, be easy. Our research demonstrates that ACT-enhanced communication training can be delivered successfully to cancer professionals and may lead to demonstrable patient benefit.

213 Psychological transition after primary cancer treatment: Component mapping using Acceptance and Commitment Therapy for effective intervention development

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Background: The end-of-treatment transition period is psychologically stressful for cancer survivors. As a values-based intervention, focused on finding meaning and return to functional living, Acceptance and Commitment Therapy (ACT) may improve well-being in this population. This study will explore: (i) which components of the ACT framework predict psychological adaptation to survivorship, and (ii) which components have greatest potential for effective intervention.

Methods: Cancer survivors are being recruited from the UK, Canada and Australia using social media (Twitter, Facebook). Inclusion criteria require participants to be completing primary cancer treatment (any diagnostic site) within the next four weeks, or to have already completed treatment in the previous four weeks. Data collection is by self-report online questionnaire at baseline, and three-monthly time intervals for two years thereafter. Questionnaires assess core components of the ACT framework and primary outcome measures of fear of cancer recurrence, depression, anxiety, stress and quality of life.

Results: Recruitment launched in April and baseline data will be collected by July 2016. Though follow-up data collection is ongoing, we will present cross-sectional analyses from baseline data. These analyses will yield important knowledge about which outcomes might be especially targeted by which specific ACT components at this important transition point.

Conclusions: This study aims to explore how we can optimise the content of ACT-based interventions for cancer survivors. Using a ground-up, data-driven approach to intervention development, we will develop a more patient-led and clinically and cost-effective intervention package.

214 Relationship experiences and motivational patterns of women battling breast cancer – an interpretative phenomenological analysis

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Background/Goals: Breast cancer is often a very traumatic experience for both the patient and her partner. Reconstruction of personal goals and important relationships may play a crucial role when coping with cancer. Through the lived experiences of women living with breast cancer diagnosis, our study aims to discover how this process helps women to cope with the illness.

Methods: Five female patients coping with breast cancer were invited for a qualitative inquiry. The inclusion criteria were diagnosis at least one year prior to the study and living with their partners at least for two years. Semi-structured interviews were conducted on their personal goals, coping with illness and relationship experiences.

Results: We analysed the interviews by means of Interpretative Phenomenological Analysis (IPA). The main topics that emerged during the analysis indicate important aspects of coping with the illness: (1) diagnosis as a turning point, (2) mooring as a secure space, and (3) development, activity, and future perspective.

Conclusion: With IPA, we can get closer to the innermost motivations, fears, and expectations that are intertwined with personal plans of female patients suffering from breast cancer. Potential use of these results in helping breast cancer patients and their partners is discussed.

Keywords: Breast cancer, coping, personal goals, intimate relationship, IPA

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Examining Fear of Recurrence in Cancer Survivors: A Randomized Controlled Clinical Trial Pilot Study

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Background: Fear of cancer recurrence (FCR) is a frequently cited concern by cancer survivors and is associated with impaired functioning, lower quality of life, and increased health care use. To address the paucity of literature on psychosocial interventions for FCR, an individual Cognitive-Existential therapy intervention for FCR was developed and pilot-tested via a randomized controlled clinical trial.

Methods: Twenty-five female cancer survivors (n=25) with breast or gynaecological cancer were randomized to either an experimental group or 6-week wait-list control group. Sessions included cognitive restructuring exercises, behavioural experiments, emotional exploration, and relaxation techniques. A total of 19 women completed the 6-week therapy intervention and completed questionnaire packages at various time points (pre-, post-, and 3-month follow-up). Outcome measures included the Fear of Cancer Recurrence Inventory, the Impact of Events Scale, and additional measures of coping, intolerance of uncertainty, and quality of life.

Results: As compared to the wait-list control group, the experimental group showed downward trends in FCR, cancer-specific distress, and other secondary outcomes. Repeated measures ANOVAs revealed significant time effects for FCR; $F(2, 36) = 10.76, p < .001, \eta^2 = .374$; and for cancer-specific distress $F(2, 36) = 12.58, p < .001, \eta^2 = .411$, along with other secondary outcomes. Overall improvements were found from T1 to T2 and were maintained at T3.

Conclusion: This brief intervention shows promising results in addressing FCR among women with breast or gynaecological cancer. This research has direct implications for the development of clinical services to improve the quality of life for cancer survivors.

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Distress and Quality of Life among Older Adults Diagnosed with Cancer in Brazil

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Background/Purpose: Distress and anxiety/depression are common psychological issues associated with a cancer diagnosis, and can impair quality of life (QOL). Less is known about the experience of older adults diagnosed with cancer in developing countries, such as Brazil.

Method: The participants included 315 patients (65–89 years, $M=72.5$; 54% female), recruited at two Brazilian cancer centers. Patients were undergoing chemotherapy for gastrointestinal (27.9%), hematologic (22.2%) and breast (14.9%) cancer; 80% were at advanced disease stage. They were assessed using the DT, HADS and FACT-G.

Results: 22% reported moderate to severe distress, 11.7% symptoms of anxiety and 14% of depression. Patients also reported associated impairments in QOL. On the problem list, 59.9% reported an average of 1.6 Emotional Problems, and 93% an average of 4.6 Physical Problems. Linear regression analysis identified depression, sadness, worry, fatigue, nausea, pain and sleep as predictors of distress; and sadness, nervousness, worry, loss of interest in usual activities, eating, fatigue, nausea, pain and sleep predicting worse scores at FACT-G.

Conclusion: A lower prevalence of distress among older patients was established in the current study, as well as higher rates of depression symptomatology compared to anxiety. The present findings also highlights a set of intersecting concerns among older patients, including sadness, worry, fatigue, pain and sleep; potential risk factors that should be considered as part of the psychosocial care routine. Further, it is possible that the screening program served as a tool to prompt discussion of psychological support services that may not have arisen organically due to stigma.

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The Bare Necessities of Life: An Evaluation of a live-music programme in a children's hospital

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Background/Purpose: The negative impacts of hospitalisation on the social and emotional development of children have been well documented. There is an increasing recognition of the support role that music in hospital can play, in offering child and parents a distraction and a means of coping with the stress and anxiety of illness and hospitalisation. In this tertiary children's hospital, a tailored live-music programme is delivered by professional hospital musicians. This study evaluated the impact of a live-music programme in a children's hospital.

Method: Data was collected on four separate occasions from April–June 2015 within oncology and cardiology clinical settings. Questionnaires of open- and closed-ended questions were administered to children, parents and staff. Quantitative data was analysed using a statistical software package, and thematic analysis was used on qualitative data.

Results: Overall, 16 children, 31 parents and 34 healthcare-staff completed questionnaires. Most children (92%) reported that they liked the music sessions and felt happy afterward (88%). All parents and staff (100%) agreed/strongly agreed that the music was beneficial, relaxed

the children, made the children happy and contributed to a positive atmosphere.

Conclusion: While the primary function of a hospital is to deliver medical care, it is essential to address the broader contexts of the child's and family's experience and to create an environment of well-being and recovery. This evaluation has shown that music in healthcare, which is a relatively cost-effective, non-pharmacological activity, contributes a sense of wellbeing and is valued by all people in a busy clinical environment.

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Music + Children's Hospital = A Natural Equation: professional musicians' experience of participating in a live music programme in a children's hospital

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Background/Aim: Music in children's hospitals, a growing field of practice internationally, reflects the use of music in healthcare for cultural well-being rather than clinical purposes. Little is known of professional musicians' experiences in such an emotive environment. This research examined the delivery of a live music programme in paediatric Haematology–Oncology and Cardiology inpatient services from the musicians' viewpoint. It was part of a larger research study which evaluated the music programme in a children's hospital from the perspectives of children, parents and staff.

Method: The study was conducted from April–June 2015. The sample consisted of four trained hospital musicians who deliver the programme. Data was collected via a musician focus group and content analysis of their written reflective journals after each music visit. It was analysed using a process of thematic analysis. The findings of this phase of the study were then considered in the context of the larger project.

Results: Two of the themes emerging from the musician's perspective were: Professional Role of Hospital Musicians and Building Relationships. Both were corroborated by the findings of the wider study.

Conclusion: This study found that flexibility and adaptability to the children's needs and to the sensitive hospital environment are key elements of best practice in the professional role of a trained hospital musician. Partnership building, mutual trust and understanding between musicians and healthcare personnel in such challenging settings enables best outcomes for children, families and staff.

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Inequities in cancer outcomes between different health care systems in Brazil

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Background/Purpose: Studies have shown a clear difference among minority and economically disadvantaged patients. Less is known about marginalized populations in Brazil, a country that possesses a two-tiered healthcare system. We sought to explore differences in distress and quality of life (QOL) among patients receiving care within these systems.

Methods: 270 patients were assessed for distress (DT), anxiety/depression (HADS) and QOL (FACT-G). Half of them was recruited at a private institution (PRI) and the other at a public institution (PUB) (each group: n=135; 68.9% breast and 31.1% gynecological cancers). We calculated descriptive statistics and examined QOL and distress using T-test and ANOVA.

Results: We found ethnic differences between PUB (50.4% white, 32.6% mulato and 14.1% black) and PRI patients (82.9% white), and income disparities (PUB reported almost a third less monthly income than PRI patients). PUB patients were mostly late-stage diagnosed 70.4% compared to PRI counterpart 42.2% (p<.001). In general PUB patients reported higher rates of distress and anxiety/depression (p<.03); poorer QoL outcomes (p<.01).

Conclusions: This preliminary study is one of the first to investigate inequities in cancer outcomes among patients in Brazilian healthcare settings. Analyses revealed notable differences between groups across demographic characteristics, while individuals of lower socioeconomic status reported significantly poorer psychosocial outcomes. These results suggest a complex interaction between ethnicity, access to care and cancer outcomes, and warrants further research to better understand and address these inequities. Further discussion of the role of psycho-oncology research and clinical practice in reducing disparate outcomes among Brazilian cancer patients is warranted.

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Quality of Life and Psychological Distress among Patients Diagnosed with Rare Cancers

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Background/Purpose: Rare cancers are a heterogeneous group of conditions that can be associated with unmet medical needs and poorer quality of life (QOL). Despite this, and because of their rarity, sufferers remain a poorly understood group from the vantage of psychosocial concerns and QOL. Our main goal was to explore psychosocial outcomes reported by patients diagnosed with a rare form of cancer.

Methods: Data from 31 patients (64.5% female; M=51.32 of age) diagnosed with a rare cancer (74.2% at late disease stage) and treated at a Brazilian public hospital were evaluated for distress (DT), anxiety/depression (HADS) and QOL (FACT-G). All patients previous knew that their diagnostic was rare. Descriptive statistics and correlations between variables assessed were generated.

Results: 48.4% patients reported high distress levels, with 32.3% endorsing anxiety and 25.8% depression. A low mean QOL score was

found (at 25th percentile of the US norm), with emotional and functional well-being the most impaired subscales. Statistically significant correlations were identified between distress, anxiety/depression and QOL ($p < .01$). The most concerns were nervousness (71%), worry (71%), pain (64.5%), sadness (51.6%) and fatigue (51.6%).

Conclusions: Patients reported poorer psychosocial outcomes and impaired QOL when compared to normative data, suggesting that this patient population may be at elevated risk. A rare cancer diagnosis can be traumatic and prompt anxiety and uncertainty. Given their rarity, limited disease specific support groups or counselling exists, thus potentially invoking feelings of isolation. Further research should be conducted to investigate psychosocial aspects and possible interventions targeting this poorly understood group.

222 Contrasting reasons for delayed help-seeking in rural and urban colorectal and breast cancer patients in Australia: a mixed methods study

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Background/purpose: Cancer outcomes are often poorer in rural than urban populations. Differing attitudes or help-seeking behaviour, such as greater stoicism among rural populations, could delay presentation and increase disparities. This study explored presentation experiences of rural and urban patients with colorectal (CRC) and breast cancer (BC).

Methods: Mixed methods study with patients within 6–9 months of diagnosis. 923 patients (44% response rate) completed a survey examining time to diagnosis, and 32 ($n=20$ rural; $n=18$ CRC) also underwent semi-structured telephone interviews. Interview data were analysed using thematic analysis. A framework for delayed presentation was developed, which was also applied to free-text survey responses ($n=247$, 45% rural; 60% CRC) describing reasons for waiting >2wks before seeing a doctor. Descriptive and chi-square statistics examined quantitative data.

Results: Qualitative interviews identified similar appraisal and help-seeking triggers and barriers across cancer types, but non-specific CRC symptoms particularly lengthened delays. Some rural patients noted access issues to doctors, but stoic attitudes were not apparent. More CRC patients (59%) than BC patients (40%) reported delay seeing a doctor >2wks ($p < 0.001$). The most common delay theme across cancers was symptom interpretation (56%), with emotional reasons reported infrequently (6%). Rural patients ($p=0.02$) and CRC patients ($p=0.001$) were more likely to report symptom interpretation as reasons. More urban ($p=0.01$) and BC patients ($P < 0.001$) reported social/scheduling issues.

Conclusions: Symptom interpretation is a key reason for delay, particularly for CRC patients. Although attitudes are similar by area of

residence, rural patients may have more difficulty interpreting symptoms and accessing services.

224 Adolescent and Young Adults with Cancer: Concerns and Wishes for Support

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Background: Adolescents and young adults (AYA) with cancer have unique psychosocial needs. The purpose of this project was to examine AYA patient and survivor social support needs on and off cancer treatment. The long-term goal was to use these data to inform the job description of a navigator.

Methods: Individual interviews were conducted with AYA patients (aged 18–39) at a single institution using a semi-structured interview guide. Interviews were audiotaped and transcribed verbatim for coding of a priori themes.

Results: Saturation was reached after interviewing 13 females and 10 males; mean age=30 (56% on treatment). The majority were white, non-Hispanic, single or divorced, and diagnosed with lymphoma or sarcoma. The majority of AYA on treatment desired assistance with coordinating all appointments on the same day and identified the need for supportive resources for caregivers and minimizing the perceived burden on caregivers. AYA off treatment were uncertain about what should happen next with their healthcare and desired ready access to a person who could help ascertain what was “normal” and who to call for physical and psychosocial concerns. There were no differences between males and females except that females off treatment had fertility concerns.

Conclusion: AYA undergoing cancer treatment wish to maintain their independence and reduce caregiver burden. Off treatment AYA wish for assistance with transitioning to survivorship. The role of the navigator will be flexible, expanding to triage patients and survivors into existing services within the cancer centre while identifying and filling gaps of needed support services.

225 Psychosocial considerations in the maintenance of a Rapid Tissue Donation Program

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Introduction: Advances in cancer treatment have been made through the creation of cell-lines from patients with refractory disease. Rapid Tissue Donation (RTD), also known as rapid or warm autopsy provides an opportunity to gain greater insight into treatment-resistant cancers by collecting tissue from primary tumours and metastasis within 24 hours following a patient's death. This study examines the process of piloting an RTD program for advanced stage lung cancer patients.

Method: After a physician-guided introduction of the RTD program, participants with stage 4 lung cancer (n=8) and their companions (n=7) participated in qualitative interviews assessing decision about enrolment in RTD program. Coders reviewed the verbatim transcripts and applied qualitative thematic analysis.

Results: All patients regarded the program positively and perceived it as an opportunity to contribute to cancer research, particularly upon learning they could no longer be an organ donor. Participants desired for their companions to receive details from their tissue collection, with preferences ranging from general to specific details concerning biomarker or genetic findings. All participants disclosed their decision to participate with immediate family members, but several indicated they did not plan to inform extended family members. All companions supported patients' decision to participate in the RTD program. Several companions reported feeling distressed during the clinical discussion concerning the patient's participation. A brochure and remembrance wall was viewed positively by all.

Conclusion: Implementation of an RTD program requires consideration of the complex communication processes that occur at both interpersonal and institutional levels.

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Relationships between urinary function, sexual function and masculine self-esteem in men following radical prostatectomy for localised prostate cancer

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Background: Preliminary evidence suggests that sexual and urinary outcomes of patients' post-radical prostatectomy (RP) may be related and potentially mediated by changes in masculine self-esteem. This study assessed how changes in urinary function and masculine self-esteem are related to sexual outcomes post-surgery.

Methods: Consecutive patients undergoing RP were recruited from urology practices as part of a larger study. In the present study, urinary and sexual function, and masculine self-esteem data were obtained using the Expanded Prostate Cancer Index Composite and Prostate Cancer Related Quality of Life Scale. Changes in patient outcomes were assessed longitudinally over two time periods: 4 weeks to 6 months and 6 months to 24 months post-surgery.

Results: The survey was completed by 942 patients at 4-week post-surgery. Over the course of the study, 927 participants were retained. Results indicated a weak relationship between change in urinary

outcomes and sexual outcomes. Change in urinary outcomes positively predicted change in masculine self-esteem for both time periods assessed. Change in masculine self-esteem positively predicted sexual outcomes at 6 months and 24 months post-surgery. Masculine self-esteem change did not mediate the relationships between urinary and sexual outcomes.

Conclusions: Men who reported a decrease in masculine self-esteem, particularly in the latter recovery period, were more likely to experience poorer sexual outcomes. It may be important to assess men for changes in masculine self-esteem post-RP. This may allow the early identification of patients who require psychosocial support to develop more flexible ways of constructing their masculinities and adjusting to altered sexual functioning.

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The impact of multidisciplinary team meetings on patient assessment, management and outcomes in oncology settings: A systematic review of the literature

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Background: Conducting regular multidisciplinary team meetings (MDMs) requires significant investment of time and finances. It is thus important to assess the empirical benefits of such practice. A systematic review was conducted to evaluate the literature regarding the impact of MDMs on patient assessment, management, and outcomes in oncology settings.

Methods: Relevant studies were identified by searching OVID MEDLINE, PsycINFO, and EMBASE databases from 1995 to April 2015, using the keywords: multidisciplinary team meeting* OR multidisciplinary discussion* OR multidisciplinary conference* OR case review meeting* OR multidisciplinary care forum* OR multidisciplinary tumour board* OR case conference* OR case discussion* AND oncology OR cancer. Studies were included if they assessed measurable outcomes and used a comparison group and/or a pre- and post-test design.

Results: Twenty-seven articles met inclusion criteria. There was limited evidence for improved survival outcomes of patients discussed at MDMs. Between 4 and 45% of patients discussed at MDMs experienced changes in diagnostic reports following the meeting. Patients discussed were more likely to receive more accurate and complete pre-operative staging and neo-adjuvant/adjuvant treatment. Only two studies reported that a mental health professional was present at the MDM. None of the studies evaluated the impact of MDM on patient satisfaction, quality of life or psychological well-being.

Conclusions: MDMs impact upon patient assessment and management practices. However, there was little evidence indicating that MDMs resulted in improvements in clinical or psychosocial outcomes. Future research should assess the impact of the MDM on patient satisfaction, psychological distress, and quality of life.

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Living at a patient hotel during radiotherapy as narrated by 52 patients with breast cancer: A cage of safety and discomfort

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Background/Purpose: Many patients with cancer conclude their treatment with five to six weeks of radiotherapy while staying at a residency far away from home. The experience of this stay, from a rehabilitation perspective, has not previously been studied.

Method: Fifty-two women with breast cancer were followed with repeated thematic interviews from diagnosis up to two years.

Results: The majority of women saw both pros and cons with their stay, and overall the stay could be described as 'A cage of safety and discomfort'. Pros included 'Safety', 'Closeness and learning', and 'Feeling like being on holiday', while cons included 'An intruding self-image', 'Isolation and increased vulnerability', and 'A loss of function'. Some patients were in general able to take advantage of the stay at the residency and to promote their own rehabilitation, while those psychologically worse off mainly found it burdensome to be there.

Conclusions: The residence becomes an interactional field with the potential to facilitate patients in resuming a new everyday life. Those not taking advantage of this opportunity represent a possible target group for psychosocial interventions. It is a challenge for staff to motivate them to use their stay in a more productive manner.

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Dimensions of Posttraumatic Stress Symptoms and their Relationships with Depression, Anxiety, and Quality of Life in Parents of Children Recently Diagnosed with Cancer

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Background: Previous research with parents of children recently diagnosed with cancer supports four dimensions of posttraumatic stress symptoms (PTSS): re-experiencing, avoidance, dysphoria, and hyperarousal. However, it is unclear whether different dimensions of PTSS are differentially associated with other aspects of psychological functioning. The purpose of this study was to examine the relationships between these dimensions and depression, anxiety, and quality of life among parents of children recently diagnosed with cancer.

Methods: Data from 79 parents (55 mothers) of 79 children at a median of three months since diagnosis were included in these cross-sectional analyses.

Results: Partial correlation analyses showed that re-experiencing was associated with depression ($r = .23, p < .05$) and anxiety ($r = .46, p < .001$) while controlling for the other dimensions. Dysphoria was associated with depression ($r = .54, p < .001$) and quality of life ($r = -.39, p < .001$) while controlling for the other dimensions. Hyper-arousal was associated with anxiety ($r = .26, p < .05$) while controlling for the other dimensions. Avoidance was not significantly associated with any of the constructs.

Conclusions: Results indicate that the dimensions of PTSS are differentially associated with depression, anxiety, and quality of life in parents of children recently diagnosed with cancer. The dysphoria dimension had the strongest independent relationship with depression and was the only dimension independently related to quality of life. The results may inform the understanding of the relationship between symptoms of posttraumatic stress, depression, anxiety, and quality of life.

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Psychological effects of radical mastectomy in women breast cancer: is "unconditional self-acceptance" the key to minimize the impact?

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Introduction: Surgical approach in breast cancer has evolved from barbarian techniques of the ancient and middle age to breast conservative surgery and reconstruction with outstanding cosmetic results. Although surgical intervention in women breast cancer tend to be more conservative in the last few decades, in some cases, radical mastectomy is necessary.

Objectives: our aim is to analyse which is the emotional response to radical mastectomy when is not followed by breast reconstruction and how different psychological dimensions interact. Material and **Methods:** our study group is made by 56 mastectomised breast cancer patients, having at least 6 months from surgery. Psychological dimensions measured were unconditional self-acceptance, self-esteem, body image, sex-life satisfaction, stress, anxiety, depression and quality of life.

Results: We found body-image disturbance, low self-esteem, high scores on stress, anxiety, depression and decrease of quality of life and no effects on sex-life satisfaction. Women who have a good unconditional self-acceptance tend to experience less stress, anxiety and depression and have a better self-esteem.

Conclusions and discussions: This kind of surgery has a big emotional impact so the patients must be well prepared before by educational programs and counselling. Based on this research, we may predict that increasing unconditional self-acceptance through CBT techniques, negative effects of radical mastectomy can be minimized.

Key words: breast cancer surgery, radical mastectomy, body image, unconditional self-acceptance

231 The nurse's role in palliative care

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Background: Despite the fact that nurses are the largest group of health care professionals, little is known about their role in palliative care, across institutions and wherever they work in the health care system.

Aim: The aim of this review is to explore how the nurses themselves describe their role in providing palliative care across institutions and regardless of further specialization.

Methods: A qualitative systematic review of studies concerning nurses' role in palliative care was completed. A literature search was conducted for relevant articles published between January 2000 and September 2015. The process of thematic synthesis involved three steps: 1) reading the studies and noting findings describing the research question, 2) free codes organized into descriptive themes, and 3) descriptive themes generated into analytical themes. Twenty-seven articles were selected, analysed, and synthesized.

Results: The overall preliminary themes: being available, being touched, providing task-oriented nursing, being a supporter, and standing in demanding positions.

Conclusion: The nurse's role in palliative care involves a relational, a practical, and a moral dimension. To be an expert nurse in this field depends on how nurses encounter and fulfil these three demands. The nurses need to be expert in the general and provide comfort care.

234 Cancer survivorship: getting it right for quality of life and work engagement

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This symposium is based on an international and multi-disciplinary collaboration to better understand and act on the challenge of work engagement for those with cancer. The aim is to discuss its recent research in this area. Despite increasing recognition of the importance of work engagement for those with cancer and a growing interest in vocational rehabilitation, there is much left that could be achieved in translating research knowledge into better practice. The central thesis of the symposium is that improvement in the quality of life and work engagement for those with cancer depends on the development of a coherent corpus of research knowledge that can be applied to inform

the decision making of the key stakeholders involved. Better ways of providing such information and related advice and stakeholder involvement, appears to be required in many different countries. Any such interventions would logically be context dependent and, where developed, must be evaluated. It is this multidisciplinary and international perspective that makes this symposium unique. The symposium will be chaired by Dr Sara Jane MacLennan, Health Psychologist, and Professor Tom Cox CBE, Chair of Occupational Health Psychology & Management. There will be four discussants: Professor Phyllis Butow, Chair of Psychosocial Oncology, Dr Sara Jane MacLennan, Dr Haryana Dhillon, Senior Research Fellow and Professor Linda Sharp, Chair of Cancer Epidemiology.

Supporting Abstract 1:

Decision making, cancer survivorship and work engagement

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Background: Improvements in cancer detection and treatment and increased retirement ages mean more people experience cancer during their working lives. Cancer diagnosis and treatment are a major life crisis and often result in people leaving work either temporarily or permanently. Getting back to work may be difficult for a variety of reasons, including physical (symptoms and functionality), psychological (coping, motivation, and willingness to disclose cancer status) and workplace (type of work/demands, job flexibility, job skills, and support at work) factors.

Methods: We reviewed recent systematic reviews and publications to identify the state of the literature on decision-making about return to work.

Results: A recent systematic review of cancer survivors' experiences of the return to work process demonstrated that many survivors want to return to work after treatment and rehabilitation. However, the meaning of paid employment can also change following cancer. Return to work is a continuous process involving planning and decision-making regarding work readiness and symptom management. Yet many patients do not discuss employment with their treating team, health professionals feel ill-equipped to provide advice and research is scarce. Trusting in, valuing, and using one's own resources, taking the initiative, obtaining information, and being coached by a professional or supported by significant others have been found to be crucial to making well-founded decisions. A number of return-to-work interventions have recently been evaluated or are currently underway.

Conclusion: This presentation will provide an overview of this area, with discussion of potential interventions to make this process easier for cancer survivors.

Supporting Abstract 2:

Changing current practice: providing better information, advice and support on work engagement.

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Background: There is a growing body of evidence on the importance of work following a diagnosis of cancer. There is, however, a need to

provide better information, advice and support on work engagement and related decision-making. At the macro (or systems level) consideration has largely focused on the healthcare system itself and on patients' clinical pathways. This approach misses out other stakeholder groups.

Aims: What are the information and advice needs of those diagnosed with a urological cancer but also of other stakeholders in relation to work engagement?

Methods: The project involved three key groups: individuals diagnosed with a urological cancer, their health and care providers, and members of employing organisations. It was completed in three stages: in-depth interviews, a modified qualitative Delphi exercise and expert workshops. This paper reports on the interviews and the Delphi exercise.

Results: The data were explored using Framework Analysis. Ten key themes were identified: achievement of work engagement, decision-making and support, adaptation to work, communication, attitudes towards cancer, accommodation at work, roles and responsibilities, signposting; education, and resources.

Conclusion: Work engagement can be of importance to those with cancer and can improve individual and societal outcomes. Interventions around work engagement should include active participation of all stakeholder groups and should place an emphasis on role clarity within any information and advice system. There should also be consistency in the provision of advice and equality in access to information. Any new system is best integrated within existing care and has to be supported by adequate education of those involved.

Supporting Abstract 3:

The role of survivorship plans in improving the delivery of care for cancer survivorship and work engagement

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Background: Survivorship care plans (SCP) are recommended as useful strategies to support survivors moving out of acute care. Most SCP include disease/treatment summary, expected late effects and signs of recurrence and recommendations regarding lifestyle changes to improve overall health.

Aims: To examine the return to work needs identified in SCP in a cohort of Australian cancer survivors in relation to symptoms that might impact on work engagement.

Methods: Sydney Survivorship Clinic (SSC), Concord Cancer Centre has a multidisciplinary survivorship where patients see cancer specialist, specialist nurse, clinical psychologist, dietician, and exercise physiologist to assess their needs and develop SCP. Survivors complete questionnaires assessing distress, symptoms, quality of life, diet and exercise. When patients return to clinic follow-up assessments include review of the SCP, adherence to advice, and any change in patient side effects and priorities. SCP of patients attending SSC for an initial appointment between September 2013 and March 2016 were reviewed to determine the proportion referencing return to work related concerns, needs, and actions. We will also report how this relates to role function as assessed using the EORTC QLQ-C30 quality of life questionnaire.

Results: Survivorship clinic was accessed by 100 new patients, median age 54 years (range 23–80); 78% female. Most common symptoms that might impact on work engagement were \geq moderate severity were: fatigue (50%), anxiety (40%), and depression 32%. The psychologist recommended >50% for psychological follow-up.

Conclusion: Distress and fatigue are common in our cancer survivors. These concerns are likely to impact survivor return to work.

Supporting Abstract 4:

The cost of getting it wrong: how economic analyses can help us understand the gaps in the evidence-base for cancer survivorship and work engagement

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Background: As well as affecting the patient and their family, reduced work engagement after a cancer diagnosis impacts on the wider society and the economy. Every cancer-related work absence, either temporary or permanent, represents an economic loss to society. These costs provide an alternative perspective on cancer survivorship and work engagement.

Methods: Using cancer mortality data, we quantified lost productivity costs due to cancer-related deaths in people of working age in Europe. Using data from survivor surveys, we estimated other forms of cancer-related lost productivity costs including temporary work absence, early retirement, and reduced working hours.

Results: Lost productivity costs due to premature cancer-related mortality in Europe exceed €75 billion. Male costs (€49 billion) are almost twice female costs (€26 billion). Considering only premature mortality costs significantly underestimates cancer-related lost productivity costs – by more than half for breast and colorectal cancer, and by 80% for prostate cancer. Early retirement accounts for a large proportion of cancer-related lost productivity costs for head and neck (28%) and colorectal cancer (38%); reduced working hours accounts for a large proportion of lost productivity in prostate cancer (37%). Presenteeism (reduced work ability due to cancer) also contributes, but these costs have rarely been estimated. For each year, increase in the retirement age and cancer-related lost productivity will rise by around 10%.

Conclusion: This presentation will provide an overview of this area, with discussion of how health economic analyses can help reveal the gaps in the evidence base around cancer survivorship and work engagement.

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Behavioural and Emotional Outcomes of Cancer Survivors in Ireland. Results from the Irish Longitudinal Study on Ageing

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Background: With over 100,000 cancer survivors in Ireland and this number continually increasing, survivorship care is set to be the next challenge for the Irish health care system. Cancer survivors have a higher burden of sequential illness than their non-cancer equivalent.

Positive health behaviours can reduce the risk of comorbidities and second malignancies. This study aims to assess the current levels of smoking, physical activity and alcohol intake in older cancer survivors in Ireland and investigate the impact of these health behaviours on quality of life (QoL) and depression.

Methods: Results from The Irish Longitudinal Study on Ageing Wave One cohort were analysed. Smoking status, alcohol intake, physical activity, QoL and depression scores were recorded. Comparison was made between those diagnosed with cancer and non-cancer participants.

Results: Of 8,504 participants were surveyed, 522 were cancer survivors. Smoking cessation was not significantly increased in cancer survivors ($p = 0.657$). There was no difference in alcohol scores between groups ($p = 0.344$). A diagnosis of cancer was a negative predictor for physical activity ($p = 0.001$). Depression scores tended to be higher ($p = 0.051$) and QoL scores were lower ($p = 0.010$) in cancer survivors. Smoking tended to increase depression ($p = 0.059$) but didn't significantly impact QoL ($p = 0.195$). These varied with time from diagnosis.

Conclusion: Ageing cancer survivors in Ireland show no improvement in health behaviours compared to the general population and reported poorer QoL scores. Poor health behaviours may impact depression.

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Live and Let Die

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It is common to hear oncology professionals state that 'cancer affects the whole family' when it occurs in one member. However while noted to be beneficial in the overall psychological treatment of a cancer diagnosis, working therapeutically with individuals diagnosed with cancer and their family often does not occur. At best, for most cancer patients having their primary caregiver included in therapy sessions is the exception rather than the rule. Having a family therapy session in an acute hospital is rare. As families go through life, they will experience loss and occasionally concurrent losses. The timing of a cancer diagnosis within the family life cycle is influential in how the family cope with the diagnosis. This author will demonstrate through the use of video, genograms and theory the benefits of working therapeutically with all family members. Meet Rosemary who is recently diagnosed with refractory acute myeloid leukaemia. She has three daughters, two of whom have advanced Huntington's disease. The author facilitated a systemic therapy session where the family come together for the first time talking about the impending death of Rosemary. The added complexity of two of Rosemary's daughters facing their own death makes this exceptional footage to witness. The multiple layers of loss for this family are explored, including the anticipated loss of Rosemary along with themes of resilience and hope as they give Rosemary permission to die.

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Mindfulness-based Cognitive Therapy (MBCT) for Persistent Pain in Women Treated for Breast Cancer: Exploring Possible Mediators

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Purpose: Mindfulness-based therapies (MBT) has been shown efficacious in reducing various symptoms in cancer patients, such as depression, pain, and fatigue. Little, however, is known about the mechanisms mediating the effects. We explored mindfulness, self-compassion, and pain catastrophizing as possible mediators in a randomized controlled trial of MBCT for persistent pain in women treated for breast cancer (BC).

Methods: A total of 129 women treated for primary BC at the Department of Oncology, Aarhus University Hospital, were randomly assigned to MBCT or waitlist control. Participants completed questionnaires at baseline, post-intervention, and 3 and 6 months post-intervention, including the primary pain outcome (11-point-NRS pain intensity) and the proposed mediators mindfulness (the Five Facet Mindfulness Questionnaire (FFMQ)), self-compassion (the 12-item Self-Compassion Scale (SCS)), and pain catastrophizing (the Pain Catastrophizing Scale (PCS)). Multi-level models were used for all analyses.

Results: A statistically significant time group interaction was found for pain intensity ($d = 0.61$, $p = 0.002$). Testing for possible mediating effects on pain intensity, we found that the FFMQ subscale non-react ($p = 0.01$) and the PCS subscales of rumination ($p < 0.0001$), magnification ($p < 0.0001$), and helplessness ($p < 0.0001$) all mediated the effect of MBCT on pain. The remaining FFMQ subscales and the SCS did not reach statistical significance ($p = 0.37-0.74$).

Conclusions: MBCT may be an efficacious treatment for persistent pain in women treated for BC. The results further indicate that the mindfulness component non-reactivity and the tendency to pain catastrophize mediate the effect. This may have clinical implications as emphasizing these components in the intervention may increase the magnitude of the effect.

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Barriers and facilitators to self-management following head and neck cancer treatment: survivors' perspectives

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Background/Purpose: Head & Neck Cancer (HNC) survivors face unique challenges following treatment which can strongly impact their physical, functional, social, and psychological well-being. Research from other domains suggests that self-management practices may help to assist HNC survivors to overcome these challenges. In this context, the main aim of the current study was to explore the barriers and facilitators that HNC survivors encounter in relation to their post-treatment self-management practices.

Methods: Twenty-seven individuals who had completed primary treatment for HNC were recruited from four designated cancer centres in Ireland and interviewed about the barriers and facilitators they encountered in the self-management of their condition following treatment. Interviews were audio-recorded, transcribed, and analysed using thematic analysis.

Results: HNC survivors identified a range of barriers to their post-treatment self-management, including depressive episodes, participation in negative drinking behaviours, persistent recurrence fears, gendered concerns about seeking emotional assistance, and physical symptoms such as fatigue and inability to taste foods. They also indicated that having fewer work and family responsibilities in this period, engaging in future-oriented cognitions such as goal-setting and focusing on survivorship milestones and the availability of resources such as social support, spirituality and training for key self-management skills, helped to facilitate their use of self-management practices.

Conclusions: The current study is the first of its kind to underline key barriers and facilitators to HNC survivors' post-treatment self-management. This information is important for the design and implementation of self-management interventions tailored specifically for HNC survivors in the post-treatment period.

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How well informed do older haematological cancer patients (70+) feel about their disease, treatment, and support services?

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Background/Purpose: We assessed the self-perceived level of information about disease, treatment, and support in older haematological cancer patients and their satisfaction with this information.

Methods: We conducted interviews with haematological cancer patients (C81-C96, diagnosis/recurrence in the last 5 years) being > = 70 years. As assessment tool, we used the EORTC QLQ-INFO25.

Results: 190 patients (62% male, age: M = 76y) answered the questionnaire. Many of them suffered from physical impairments (e.g. 21% hard of hearing, 18% cognitive limitations, and 13% need of care). About 20% of the patients reported they didn't get any information about the diagnosis and the amount of the cancer disease, 13% did not receive information about the purpose of the medical examinations, and 22% didn't receive information about side effects. Only 23% of the patients had been informed about psychological support offers. 18% of the patients perceived the received information as not helpful. Particularly dissatisfied with the information were female patients and patients with lower education levels. 28% of the older patients would have liked to receive more and 3% would have liked to receive less information. There were no significant correlations between satisfaction with information and age ($p = 0.42$) or education ($p = 0.37$).

Conclusion: Information should be adapted to the cognitive capabilities of elderly patients. Elderly cancer patients need more information about psycho-oncological support services.

Acknowledgement of Funding: This study was supported by the José Carreras Leukämie-Stiftung (grant number DJCLS R 13/31).

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Acceptability of a Group-based Cognitive Behavioural Therapy (CBT) Intervention to Improve the Body Image of Women who have undergone Treatment for Breast Cancer

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Background/Purposes: Treatment for breast cancer can impose a long lasting and adverse impact on women's body image, warranting the need for intervention. A pre-existing manualized facilitator led group-based multi-session CBT body image intervention for women in midlife was adapted for use with breast cancer patients, by focusing on self-care and acceptance of treatment- and age-related changes to appearance.

This study sought its acceptability amongst target users and health professionals.

Method: Semi-structured focus groups were conducted with women who had undergone treatment for breast cancer ($n = 22$) and semi-structured interviews were conducted with health professionals ($n = 5$) to explore their views of the intervention with regards to its content, format, accessibility, and presentation of material. Transcripts were subjected to directed content analysis.

Results: Both groups of participants found the intervention acceptable and believed it would help to address the current lack of psychosocial source of support for body image concerns for this patient group. Suggestions for improving the intervention included edits to the examples, terms, and language used, and a greater focus on the impact of body image concerns on relationships and intimacy.

Conclusions: This preliminary study suggests this intervention is acceptable to both women who have undergone treatment for breast cancer and health professionals. Further work is needed to incorporate the suggested changes to the intervention, before evaluating its feasibility and efficacy.

243 Psychological issues and interventions for young partners in palliative care ward – How can we support young partners in short term?

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Background/Purpose: The purpose of this investigation is to investigate young partner's psychological issues and the contents of psychological intervention by clinical psychologist in palliative care ward in short term.

Methods: Researcher gathered data of eight young partners who had intervention by clinical psychologist and spent at palliative care ward in the end of patient's life from January 2014 to March 2016. And researchers who are clinical psychologist and palliative care doctor qualitatively analyzed the contents of psychological intervention and young partners' psychological issues from patients' care records using the KJ method. In this study, both young patients and partners are from 20 to 59 years old. (Patients: mean = 47.25, SD = 6.94/partners: mean = 49.25, SD = 7.81)

The average length of state in palliative care ward: 15.84 days

The average number of inpatient in palliative care ward: $n = 12.9$ /month

The average number of leave hospital mortality: $n = 21.3$ /month

The contents of partners: wife ($n = 4$), husband ($n = 3$), girlfriend ($n = 1$)

Results

The following four factors that constitute psychological issues were found:

1. Partner's psychological and physical symptoms
2. Support to family and people around partner and children
3. Environmental factors
4. Support for patient's decision making

The following four factors that constitute psychological interventions were found:

1. Psycho-education
2. Advice about partner's rest
3. Introduction about support group and service for children
4. Staff's support

Conclusions: The results show that clinical psychologist should assess these specific psychological issues between young partners and give them appropriate psychological interventions rapidly.

244 Losing your context – Exploration of emotional suffering after cancer during adolescence

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Background/Purpose: A subgroup of survivors of cancer during adolescence reports emotional suffering and unmet needs for psychological support after completion of cancer treatment. Studies of emotional struggles following adolescent cancer have often focused on posttraumatic stress, anxiety, and depressive symptoms; however, these concepts might not sufficiently capture this group's suffering. The aim was to explore and describe cancer-related emotional suffering experienced by young survivors of cancer during adolescence.

Methods: The study employed an explorative design. Potential participants were identified via the Swedish Childhood Cancer Registry and were eligible if they: were 15–25 years, were diagnosed with cancer during adolescence, had completed cancer treatment, and experienced a need for psychological treatment. Ten persons were included and interviewed twice about cancer-related emotional suffering by a clinical psychologist. Interviews were audio-recorded, transcribed verbatim, and analyzed with qualitative content analysis.

Results: Preliminary analyses identified the following categories: being different; emotional avoidance; fear and anxiety; feeling stuck; grief and sadness related to losses; insecurity including e.g. difficulties trusting self and others; loneliness and isolation; loss of control including e.g. not being able to trust own body; resignation including feelings of hopelessness, failure, and despair; and rumination about causes and meaning.

Conclusions: Preliminary findings highlight significant areas of cancer-related emotional suffering experienced by young survivors of cancer during adolescence. The findings provide important guidance in the development of illness- and age-specific psychological treatments to decrease emotional suffering after treatment for cancer during adolescence.

245 Sick leave among parents of children with cancer in Sweden – A national cohort study

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Purpose: Due to increased care burden or psychological distress, parents of children diagnosed with cancer may face a higher risk of sickness absence from work. The objective of this study was to examine the impact of childhood cancer on parents' sick leave.

Methods: The sample consisted of 3,635 parents of 1,899 children diagnosed with cancer during 2004–2009 and a matched reference group of parents (n = 35,096) sampled from the general population. Sick leave was measured as amount of benefit payments and number of reimbursed days of sickness benefit. Annual individual data on sickness benefit were retrieved from Swedish national registries. Logistic and negative binomial regression models were used to compare outcomes with parents from the reference cohort.

Results: The average number of days with sickness benefit was 3.20 times higher for mothers of children with cancer than for referent mothers at year of diagnosis (95% CI, 2.91–3.52) and 4.54 times higher one year after (4.10–5.04). The increase for fathers was 3.87 at year of diagnosis (3.40–4.42) and 4.61 one year later (3.96–5.37). The increase remained statistically significant four years after diagnosis. Although the relative increase in relation to the referents was higher among fathers than mothers, the average number of days in absolute numbers was higher among mothers than fathers for several years after diagnosis.

Conclusions: Both mothers and fathers of children diagnosed with cancer are at higher risk of sickness absence from work. The relative effect was more pronounced for fathers, and the absolute effect was more pronounced for mothers.

246 Investigating the efficacy of a smartphone application: breast awareness and breast cancer worry

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Purpose: To investigate if a smartphone application (App) designed to promote breast awareness (BA) can increase BA. To investigate if increasing BA will increase breast cancer worry (BCW). To investigate predictors of BCW. To identify behaviour change techniques (BCTs) present in the app.

Methods: A mixed method, single blind design was conducted. Participants were healthy women aged 19–60 (n = 112). BA was measured using the Breast Cancer Awareness Measure. BCW, risk perceptions and app usability were measured using self-report scales.

Results: Mixed analysis of variance revealed that the app failed to increase BA over time ($F(1.86, 142.84) = .07, p = .92, \eta^2p = .001$). Neither use of the app or receipt of a BA leaflet increased BCW ($F(2,154) = 2.53, p = .08, \eta^2p = .03$). A regression analysis revealed that risk perceptions were the only significant predictor of BCW, explaining 37% of the variance. A content analysis revealed 3 BCTs present in the app: prompts/cues, goal setting and modelling.

Conclusions: The App, although developed and marketed by a reputable source, claims to increase BA but fails to do so. This adds to the growing literature highlighting the need for the inclusion of health psychology theory and evidence in the development of healthcare apps. The results of this study support the view that the inclusion of BCTs does not guarantee behaviour change; theory and users views must be incorporated in intervention development. Finally, this study provided support to the literature advocating for increasing BA, demonstrating that it does not create or predict BCW.

247 Neglected domains of fears of cancer recurrence research and future directions

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Chair: Dr. Gozde Ozakinci (Deputy Chair, FORWARDS Special Interest Group)

Discussant: Prof. Phyllis Butow (University of St Andrews, Scotland, UK)

Threat of cancer recurrence is a top concern for cancer survivors and carers. Research into fears of cancer recurrence (FCR) has been prolific with particular attention to developing assessment tools, conceptualizing theoretical perspectives and developing/testing psychological interventions to reduce the impact of FCR. An IPOS Special Interest Group (FORWARDS) was formed in 2015 to stimulate FCR research and promote international collaboration. This FORWARDS-hosted symposium with data from qualitative and quantitative approaches aims to highlight the aspects of FCR research that receives less attention in terms of cancer site studied, longitudinal assessment of these fears, and self-help for coping with these fears. It will showcase the most current and diverse work that is being done in these areas. The first presentation will be on FCR in lung cancer patients – a group that is not studied as much as some other cancer sites. The second presentation will report on the trajectory of these fears over radiotherapy treatment. The third presentation will report quantitative data from gynecological and breast cancer survivors and the impact of these fears on fertility issues and quality of life. The final presentation will be on qualitative data on the patients' experiences of online self-help training for FCR. Overall, attendees at this symposium will gain an in depth understanding of the more neglected areas of FCR research and discussion around what future research should endeavor to uncover.

Supporting Abstract 1:

Fear of cancer recurrence in lung cancer survivors

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Background: Fear of cancer recurrence (FCR) is among the most commonly reported prevalent areas of unmet needs in lung cancer survivors.

Purpose: To explore FCR in a large heterogeneous lung cancer sample.

Methods: As part of a prospective study of quality of life (QOL), 652 patients, up to 16 years after their initial diagnosis (M = 3 years), completed self-reported scales. The Fear of Cancer Recurrence Inventory (FCRI), the Hospital Anxiety and Depression Scale (HADS), the EORTC QOL Questionnaire (C30), and demographic/medical information assessed at baseline (T1) were analyzed.

Results: 51% reported a clinical level of FCR (score ≥ 13) and 36% expressed a severe or pathological FCR (score ≥ 16). FCR was significantly associated with younger age, female gender, disease progression, chemotherapy, radiation, and non-surgical cancers, but not with time since initial diagnosis and other demographic variables. High FCR was significantly associated with more anxiety ($r = .57$) and depression ($r = .43$) as well as with lower QOL ($r = -.30$).

Conclusions: FCR is associated with distress and poor quality of life in lung cancer survivors. Rapid screening and early interventions appear particularly important to prevent the impact of FCR.

Supporting Abstract 2:

Fears of cancer recurrence trajectory over the course of radiotherapy treatment in breast cancer patients in East of Scotland

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1-Medical School, University of St Andrews, Fife, UK
2-Edinburgh Cancer Centre, Western General Hospital, Crewe Rd South, Edinburgh, UK

Background: Fears of cancer recurrence (FCR) in breast cancer patients are common, stable and once developed. Recent evidence shows that the quality of communication between the clinician and patient raises FCR. For example, the use of jargon interrupted message giving, and lack of empathy increase the chances of FCR developing in patients following their diagnostic interview. The aim of this pilot project (FORECAST) is to test the FCR levels in a longitudinal design with 100 patients receiving radiotherapy. Two research questions based upon self-regulation theory will be tested. First, are FCR levels raised on nearing the termination of treatment? Second, do these levels increase due to clinician communication processes? Audio-recordings will be taken of the radiotherapist during the period of the 15 to 25 treatment sessions. They will be coded using the Verona coding definitions of emotional sequences (VRCoDES) system to record emotional language and clinician responses. A short form FCR self-report scale will be collected in a daily diary. Longitudinal structural equation analyses and mixed linear modelling will establish the trajectory of FCR

over the course of treatment. This will be the first study to intensively investigate FCR development nearing the end of the patient's treatment cycle.

Supporting Abstract 3:

Fertility issues, fears of cancer recurrence, and their relationship to the quality of life among young women diagnosed with breast or gynaecological cancer

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Background: Reproductive concerns and cancer recurrence fears are prominent survivorship issues among young female cancer patients. This study aimed to investigate their relationship to the quality of life (QoL) among reproductive-age women diagnosed with cancer.

Methods: Women diagnosed with breast or gynaecological cancer and aged 18 to 45 at the time of diagnosis were recruited through the clinics and online outlets in the UK and Poland. They were invited to complete a survey investigating fertility-related distress, cancer recurrence fears, QoL, and their determinants.

Results: 164 women completed the questionnaire (mean age as 34.55 \pm 6.66 years). Fertility-related distress as measured by Impact of Event Scale-Revised was on average 29.36 (SD = 21.71, range 0–86), fears of cancer recurrence score was on average 26.38 (SD = 8.85, range 7–40), and the mean QoL score as measured by Quality of Life Adult Cancer Survivors Scale was 99.52 (SD = 32.55, range 39–273). While QoL was associated with fertility-related distress in univariate analysis ($p = 0.51$), only the cognitive illness perceptions – consequences, personal control, and identity, negative effect, and fear of recurrence remained significant in the multivariate model.

Conclusions: Young female cancer patients' QoL seems to be determined largely by the way they conceptualise their illness and the extent to which they fear cancer coming back. Fertility issues, albeit a source of distress for some women, have a lesser effect on patients' QoL.

Supporting Abstract 4:

A qualitative study on patients' experiences of online self-help training for fear of cancer recurrence and future directions

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Purpose: One of the most prevalent long-term consequences of surviving cancer is fear of cancer recurrence (FCR), which is associated with higher healthcare costs and lower quality of life. Because easily accessible and evidence-based interventions are lacking, an online self-help training for FCR was developed. Qualitative research gives us insight into patients' experiences of doing an online intervention and what aspects most helped, resulting in future recommendations about tailoring future interventions to the patients' needs.

Objective: This study aims to qualitatively explore patients' experiences concerning the helpful and hindering factors of an online self-help training for FCR.

Methods: An Interpretative Phenomenological Analysis (IPA) was performed on semi-structured interviews with 16 women diagnosed with breast cancer 1–5 years ago, without signs of recurrence or metastasis and aged ≥ 18 years old. All women were included in the

CAREST randomized controlled trial and participated in the online self-help training "Less fear after cancer."

Results: Preliminary results show that most women benefit from the intervention. For some however, FCR increased during the intervention. These women experienced lack of social contact or guidance during the intervention. Women with good self-management skills and a strong social network benefit most from the intervention; it provides them with tools for managing their fear and helps them to regain balance in their daily lives.

Conclusions: Online self-help training is an easily accessible intervention that can be helpful for most, but not all, cancer survivors. Some cancer survivors may benefit more from face-to-face therapy. Recommendations for eHealth developers are discussed.

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No Pain, No Gain: Bridging the Gap from Basic Science to Practice in Cancer Stress and Growth Research Among Cancer Patients, Survivors, and their Family Caregivers

Dr. Youngmee Kim

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Cancer is a major stress to the patients and their family members, yet it also helps them experience personal growth. Many unanswered questions remain, including whether cancer-related stress and post-traumatic growth (PTG) or benefit finding (BF) can be seen in non-self-reports, across different phases of survivorship, in diverse cancer types, and in both patients and family caregivers. This symposium addresses these questions. Focusing the early survivorship, one study examining family caregivers of colorectal cancer patients found that cancer-related stress related to poorer neuroendocrine functioning, whereas PTG/BF related to better neuroendocrine functioning, especially among older caregivers. In another study examining patients recently diagnosed with advanced cancer, psychological distress and PTG were manifested in poorer immune functioning, indicating tumor growth and metastasis, whereas spirituality was related to better immune functioning. Focusing on the transition to midterm survivorship, another study investigated PTG among newly diagnosed breast cancer patients and followed them up 4 times during the next 18 months. Cancer-specific stress, but not general distress, related to higher PTG; and patients who found growth experiences by 6 months post-diagnosis reported substantially reduced stress at subsequent assessments. Finally, another large study of colorectal cancer survivors examined long-term survivorship (over 5 years after the initial diagnosis), supporting BF as a key predictor of psychological adjustment. These studies were conducted in Australia, Ireland, and the U.S. Luiza Travado, IPOS President, discusses how to translate the findings to practice and policy making, to help people find meaning and thrive in life beyond the cancer stress experience.

Supporting Abstract 1:

Stress and Personal Growth Following a Loved One's Cancer Diagnosis Are Associated with Neuroendocrine Function of Family Caregivers of Colorectal Cancer Patients

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Cancer in the family is a major stressor but also provides an opportunity for personal growth. The existence of post-traumatic growth/benefit finding phenomena among family caregivers has been documented, yet mainly with self-reported outcomes. This study examined the associations of cancer-related stress and benefit finding with neuroendocrine markers among family caregivers of recently diagnosed patients with colorectal cancer. Family caregivers ($n = 91$), self-reported gender (75% female), and ethnicity (64% Hispanic), which served as covariates. Age, perceived stress caused by cancer in the family (Appraisal of Cancer Stress), and finding meaning from the cancer experience (Benefit Finding Scale) were predictors. Neuroendocrine biomarkers were obtained from saliva collected at wake-up and bedtime. Cortisol (stress biomarker) and dehydroepiandrosterone-sulfate (DHEA-S: anti-stress biomarker) were assayed. Hierarchical general linear modeling revealed that, controlling for covariates, older age ($B = -.11, -.05, ps < .004$) related to lower DHEA-S at awakening and bedtime, respectively. Greater perceived cancer-related stress related to higher cortisol and lower DHEA-S at awakening and bedtime, especially among older caregivers ($ps < .04$). Greater benefit finding related to lower cortisol and higher DHEA-S only at awakening, again especially among older caregivers ($ps < .04$). Among caregivers reporting lower cancer-related stress, greater benefit finding also related to higher DHEA-S at awakening ($p < .05$). Findings suggest that cancer in the family plays a significant role in family caregivers' biobehavioral health as not only a stressor but also an opportunity for personal growth, especially among older caregivers. Findings also suggest meaning-based psychosocial interventions may reduce family caregivers' risk for premature morbidity.

Supporting Abstract 2:

Post traumatic growth and spirituality: Psychological and immunological correlates

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Background: Spirituality and posttraumatic growth (PTG) have important implications on survival across chronic diseases. The aims of the study were to examine the potential psychological and biological mechanisms linking spirituality and PTG with mortality among cancer patients.

Methods: Advanced cancer patients ($n = 140$, 73% male, 86% Caucasian, and average 61 years old) were administered a battery of questionnaires shortly after diagnosis, and before treatment was initiated that included the Posttraumatic Growth Inventory (PTGI) and the FACIT-Spirituality. Level of cytokines and lymphocyte subsets were assayed from serum.

Results: Patients who reported clinical levels of depression had lower FACIT meaning [$F(1,128) = 168.708, p < 0.001$]; peace [$F(1, 128) = 45.745, p < 0.001$] and faith subscale scores [$F(1,128) = 5.388,$

$p = 0.019$]. Clinical levels of depression were also associated with higher PTGI New Possibilities [$F(1,1510) = 5.690$, $p = 0.018$], Personal Strength [$F(1,149) = 4.569$, $p = 0.034$], and PTGI total scores [$F(1,147) = 5.492$, $p = 0.020$]. The PTGI and its New Possibilities subscale, Personal Strength subscale, and Spiritual Change subscale were positively related to TNF-alpha (ρ s > 0.226 , p s $< .03$). The Personal Strength subscale was positively related to TGF ($\rho = 0.238$, $p < 0.05$). The FACIT meaning and peace subscales were negatively associated with IL-1 beta (ρ s > 0.242 , p s $< .02$), and the faith subscale was positively associated with NK cell numbers ($\rho = 0.213$, $p < .03$).

Conclusions: The relationship between spirituality and mortality may be mediated by inflammation; however, further research is warranted. The link between PTG and mortality may be mediated by depression. Continued examination to determine if treatment of depressive symptoms may influence reported levels of PTG and spirituality is needed.

Supporting Abstract 3:

The role of stress and distress in post-traumatic growth in breast cancer

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Objectives: There is an increasing body of research focused on post-traumatic growth (PTG) in the aftermath of highly stressful life events. While several theoretical models provide explanation for the genesis and development of this growth, empirical evidence regarding the predictors and consequences of PTG in breast cancer patients in active treatment and early survivorship is inconclusive. This study, therefore, examines the role of distress and stress as predictors and outcomes of post-traumatic growth in women with breast cancer over an 18-month period.

Methods: These effects are tested in two structural equation models that track pathways of post-traumatic growth in a sample of 253 recently diagnosed women. Questionnaires were completed at diagnosis and at 4 follow-up time points assessing cancer-specific stress (IES), global stress (PSS), and depression and anxiety (HADS). Post-traumatic growth (SLQ -38) was assessed at follow-up time points.

Results: Cancer-specific stress was related to higher post-traumatic growth concurrently and longitudinally, but overall general distress had minimal impact on post-traumatic growth. Global stress was inversely related to PTG. Positive growth at six months was associated with subsequent reduction in stress.

Conclusions: This study showing that early stage cancer-specific stress was related to positive growth supports the idea that struggle with a challenging illness may be instrumental in facilitating post-traumatic growth and findings show positive implications of PTG for subsequent adjustment.

Supporting Abstract 4:

Posttraumatic growth, distress and cancer survivorship

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The concept of posttraumatic growth (PTG) covers positive changes or transformation in a person's life that they attribute as having arisen from a traumatic or stressful life experience. This growth or

transformation arises from the individual's struggle with their new and changed reality or life circumstance, rather than the trauma itself. This study tested this debate with long-term cancer survivors. A total of 1966 colorectal patients (average 65 years old, 74% married, 60% male) in Australia completed psychological distress (BSI-18) and PTG (16-item PTG) measures at 5-month post-diagnosis and at five additional yearly assessments over a 5-year period. Latent difference score modeling revealed that increased PTG from one year (e.g., Year 1) to next year (e.g., Year 2) predicted subsequent increases in psychological distress (e.g., from Year 2 to Year 3). In contrast, increased psychological distress year to year predicted subsequent decreased PTG, CFA = .95, RMSEA = .061, 90% CI: .057-.066. Findings highlight that PTG and psychological distress are mutual leading indicators of each other. They add to ongoing debate about whether PTG is real or illusory. Findings also have important implications contrasting how media portrayals of cancer survivorship contribute to popular views on PTG against emerging research suggesting that PTG may be a linked distress response. Identifying psychosocial interventions targeting for improving PTG among long-term cancer survivors may be warranted.

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Pain, coping strategies and pessimism in patients with resected cancer receiving chemotherapy

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Background/Purpose: The pain is conceived as a situation of chronic stress in which the patient coping mechanisms play an important role. The objective of the study is to analyze the relationship between pain, emotional repression, and coping strategies in cancer patients treated with adjuvant chemotherapy.

Methods: NEOcoping is a prospective, multicenter, and observational study. The project involves 23 Spanish hospitals and 34 researchers. The study has a website to collect clinical data and questionnaires for doctors and patients that are filled out before starting adjuvant chemotherapy and at the end of the treatment. The applied tests were: Minimal Adjustment to Cancer (MAC), EORTC QLQ-C30 (pain scale), and Life Orientation Test (LOT-R).

Results: 195 patients' data (median age, 58 years, and 60% female) were recruited during the period June 2015 to March 2016. The primary tumor localization was mainly colon (41%) and breast (34%). The most used coping strategies were fighting spirit ($X = 76.4$, SD

=22.4), avoidance ($X = 65.5$, $SD = 21.7$), and pessimism ($X = 55.8$, $SD = 7.9$). The pain was negatively related with hopelessness ($r = -.208$), fatalism ($r = -1.33$), and positively correlated with pessimism ($r = .186$). The patients with more pain had passive attitudes and more pessimism than patients with less pain ($t = 3.080$, $p = .002$; $t = 2.278$, $p = .24$, respectively).

Conclusions: The presence of severe pain may cause the patient to use more passive coping strategies and feel more depressed. Pain plays an important role in the ability of coping and well-being in cancer patients treated with adjuvant chemotherapy.

250 Impact of physical symptoms in anxiety and depression of cancer patients receiving chemotherapy

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Background/Purpose: Anxiety and depression in cancer patients has been associated with worse clinical and pathological findings. The objective is to analyze the relationship between anxiety and depression on quality of life in cancer patients treated with adjuvant chemotherapy.

Methods: 297 patients with a resected no advanced cancer and candidates for adjuvant chemotherapy were invited to participate in the study. 33 patients were excluded for failing to meet inclusion criteria and 69 because they have not completed all the questionnaires. The final sample was composed of 195 patients of 13 Spanish centres. The items considered were: sociodemographic and clinic-pathological variables, for the anxiety: BSI-18 and for physical symptoms: EORTC-QLQ-C30.

Results: The mean age was 58.3 years ($SD = 12.2$) and 60% were women. The most common cancers were: colon (41.5%), breast (34.4%), and stomach (10.8%), stage III (38.5%). Less than 30% of the sample reached scores indicative of anxiety and/or depression symptomatology in the BSI-18. More than 50% of the patients presented moderate physical symptoms arising from the treatment; the most frequent were insomnia (61%), fatigue (53.1%), loss of appetite (46.4%), and pain (32.7%). Insomnia and loss of appetite explain 23.9% of anxiety and 29.2% of depression in these cancer patients ($F = 31.668$, $p < .001$; $F = 32.390$, $p < .001$, respectively).

Conclusions: Physical problems referred by cancer patients seem to have a relevant weight in anxiety and depression symptomatology during chemotherapy.

251 Liverpool Stoicism Scale (LSS) and Big Five Inventory (BFI-10) in a sample of patients with a resected non-metastatic cancer.

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Background: The concept of stoicism defines it as an emotional control and the ability to endure hardship and indifference to pain and other symptoms. The objective was to analyze the psychometric properties of the Liverpool Stoicism Scale (LSS) Spanish version and the relationship with clinical variables with the five factor model of personality.

Methods: NEOcoping is a prospective, multicenter, and observational study. Patients were recruited consecutive and prospectively in 13 Spanish teaching hospitals.

Results: 165 patients were enrolled within a period of 9 months (93 women and median age 59.2 years ($SD = 12.1$)). Colon cancer was the most common (43%) followed by breast cancer (31%) and 50% were stage I-II cancers. All patients having adjuvant chemotherapy, the average score on the LSS scale was 56.2, lower than the British and higher than the Latvian sample. The Spanish version of the stoicism scale has good internal consistency and reliability ($\alpha = .770$). The unifactorial structure explained 32.7% of the variance of the scale. Men had higher scores on stoicism than women, also people over 55 years, patients with colon vs. breast cancer too and patients with stage III vs. stage I-II (all, $p < .001$). Introversion personality factor explains 55.2% of the variance of stoicism ($F = 18,238$, $p < .001$).

Conclusions: The stoicism concept could be interesting for future research in the field of oncology. The LSS scale presents a good reliability and validity for the assessment of stoicism in Spanish patients with cancer. High levels of stoicism can influence in seeking help for health problems.

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Multidimensionality of spiritual well-being: meaning of life, peace, and faith in a prospective sample of patients with cancer

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Background/Purpose: The study of spirituality in cancer patients emerges from the need for the patient to face the fear of disease and the search for meaning of life, peace, or transcendence. To provide normative data on the scale of spiritual well-being (FACIT-Sp; Functional Assessment of Chronic Illness-Therapy Spiritual well-being) Spanish version and compare the score of patients analyzed with two international samples.

Methods: 297 patients of whom 195 patients met the inclusion criteria were evaluated prospectively in the period of June 2015 to March 2016. All belonged to 13 Spanish centres (project NEOCOPING), had a resected non-metastatic cancer, and were candidates for adjuvant treatment with chemotherapy. The variables considered were: sociodemographic, clinical, and the questionnaire FACIT-Sp.

Results: The average in spiritual well-being score was 32.9 (SD 8.3, range 6 to 48). In the two reference samples, the score of spiritual well-being for the American population of surviving cancer patients was 37.4 (SD = 8.6) and for the Australian's 33 (SD = 9.0). Our patients obtained a score lower than American sign ($t = -7.395$, $p < .001$) and similar to the sample of Australia ($t = -.017$, $p = .986$). From direct scores on the scale of spirituality and the cumulative frequency, the percentile score for our sample was calculated (these data will be displayed at the Congress).

Conclusions: This study and analysis provides normative data for Spanish patients recently diagnosed with cancer and highlights the importance of the evaluation of spiritual well-being in these patients.

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A progress report from STREAM-1: Web-based stress management for newly diagnosed cancer patients: A randomized, wait-list controlled intervention study

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Background: New technologies open new opportunities: minimal-contact psychological online interventions are becoming standard of care in several psychological disorders. Internet interventions overcome many barriers for seeking face-to-face support and allow for independence in time and place. We assess efficacy and feasibility of the first web-based stress-management intervention for newly diagnosed, German-speaking cancer patients.

Methods: In this ongoing prospective, wait-list controlled trial 120 newly diagnosed cancer patients will be included within 12 weeks of starting anti-cancer treatment. Satisfaction with the program was measured with the Client Satisfaction Questionnaire (CSQ-8) with additional 3 predefined questions assessing the online therapeutic contact.

Results: Currently, 81 patients are randomized (intervention $n = 43$; wait list $n = 38$) with the following characteristics: mean age = 52.3 years, (min 24, max 78); 86% female ($n = 70$); 68% breast cancer ($n = 55$), 10% lymphoma ($n = 8$), and 22% other ($n = 18$). Dropout before primary outcome assessment was 2% ($n = 2$). The entire 8-week intervention is completed by 42 participants (others ongoing) with a total of 1330 sessions with a mean length of 25.48 min (SD 14.96) and 11.22 (SD 4.59) visited pages per session. Post-intervention satisfaction was high: mean CSQ-8 score 27.5 out of 32 (SD 3.7, $n = 39$). The majority rated the therapeutic contact as personal (82%), were not missing face-to-face contact (59%), and felt at ease with online treatment (64%).

Conclusion: Recruitment into this randomized trial of the first minimal-contact online stress-management program for newly diagnosed German-speaking cancer patients is successful (expected trial completion end of 2016). Participants are predominantly breast cancer patients. Adherence and satisfaction with the program are high.

254 Oncology social work activities following distress screening: First steps in the development of an instrument to capture social work response.

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Background/Purpose: Research on distress screening and its implementation has rapidly expanded as a result of the Commission on Cancer's (CoC) mandate that patients be screened for psychosocial needs. However, we still know little about if and how psychosocial services are provided for patients demonstrating significant levels of distress. This paper describes the development of an instrument to capture the activities of social workers in response to distress screening.

Methods: In 2014, the Association of Oncology Social Work (AOSW) established A Project to Assure Quality Cancer Care (APAQCC), a practice-based research network comprised of 65 COC-accredited cancer programs in the USA and Canada. A two-month retrospective review of electronic medical records (EMR) was conducted. One open-ended question was included to describe social work response. Through content analysis of this question, investigators developed a preliminary instrument describing social work activities. To increase validity, five investigators coded the same data in multiple rounds, discussed differences and adapted the instrument after each round.

Results: The index developed from this study includes activities such as contacting, assessing and intervening. The data can also be used to measure the intensity of social work activity, from very minimal (sends information on social work services offered) to complex evidence-based interventions over multiple sessions. This paper presents the instrument and its frequencies for the 65 participating APAQCC cancer programs.

Conclusions: We have developed a new instrument that has the potential to document clinical social work activity in the provision of psychosocial care. Future research plans are described as well.

255 Screening for Distress and Distress Management Program in Nova Scotia, Canada

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Background/Purpose: The impact of cancer on individuals and families is multifaceted and involves many challenges. In Nova Scotia, Canada,

we are improving person-centered care by expanding our Screening for Distress and Distress Management Program for adult cancer patients, using evidence-informed referral pathways, and developing programmatic interventions, to better meet patients' psychological, emotional, practical, social, spiritual, and physical needs.

Method: In the past year, we have expanded our program in two ways. First, patients are now being screened at more than one point in the cancer continuum with self-report distress measures. Second, four group psychoeducation sessions have been developed that focus on the management of cancer-related worry and anxiety, sadness and depression, fatigue, and pain.

Results: Over 8000 adults with a wide range of cancers have completed the Screening for Distress Tool to date. The most frequently reported concerns include: fatigue, pain, depression, fears/worries, anxiety, well-being, sleep difficulties, understanding illness/treatment, and worry about friends and family. Distress results will be presented focusing on burden of specific cancers. So far, 140 cancer patients and their supports have attended the psychoeducation sessions, and their quantitative and qualitative results will be presented.

Conclusions: Screening for Distress and Distress Management is effective in identifying and understanding patient concerns/needs and can help frontline staff manage patient distress. Successes and challenges in implementation are discussed. Group psychoeducation is helpful and empowering to patients (especially for those with mild to moderate distress) and can support a Distress Management Program with limited psychosocial oncology resources.

256 Bridging the Advance Care Planning Gap in Cancer Care

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Background: Blood and marrow transplantation (BMT) is a high-risk procedure for patients with hematological malignancies and other serious illnesses. At a large cancer center in the Southeastern United States, the advance directive completion rate for BMT patients was very low, which contributed to ethical conflicts at the end of life, administration of futile care over long hospital stays, patient and family dissatisfaction, and the moral distress of staff.

Method: A systematic, program-wide approach to Advance Care Planning (ACP) was implemented, which included 16 hours of formal training and certification of social workers as ACP facilitators, multidisciplinary grand rounds, and small-group education sessions for medical staff. ACP, strategically integrated into the clinic workflow, included a scheduled social work appointment for a biopsychosocial assessment and ACP introduction, followed by a formal ACP facilitation appointment and follow-up discussions with social work at critical junctures throughout care. From June 2013 to December 2015, 1140 BMT patients and families participated in ACP.

Results: Following project implementation, the advance directives completion rate for BMT patients rose from 41% at baseline to a quarterly mean of 86%, and end-of-life ethics consults decreased from an average of 2.8 per year to a total of 0 since implementation.

Conclusion: This coordinated and replicable ACP intervention created a paradigm shift within the BMT Program. With increased understanding, communication, and advance directives documentation, it is possible to honor patient wishes, reduce ethical conflicts, and decrease family and staff dissatisfaction at the end of life.

257 From Quality of Life to Depression in Oncological Patients: The Role of State Anxiety – A Preliminary Mediation Analysis

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Background: In psycho-oncological settings, psychologists often work to improve patient's coping strategies to reduce cancer-related depression. However, the possible role of a core variable – such as anxiety – in the process leading from mental adjustment to cancer to depression is not always considered. Thus, the aim of the study was to test a mediation analysis – with multiple predictors – in which anxiety mediates this psychological cancer-related process.

Methods: An observational research design was used. Patients (N = 66) were consecutively enrolled at the Department of Medical Oncology at “Presidio Ospedaliero” of Saronno, ASST Valle Olona, Italy. Oncological patients were tested with MAC subscales [Fighting Spirit (FS, Alpha = .69); Anxious Preoccupations (AP, Alpha = .71); Hopelessness-Helplessness (HH, Alpha = .77)], STAI – state anxiety version (Alpha = .95), and Beck Depression Inventory (Alpha = .84).

Results: A regression based mediation analysis shows model's statistical significance [$F = 22.31$, $p < .001$; $R^2 = .57$]. The relationship between coping strategies and depression was fully mediated (FS: $\beta = -.327$, $p = .003$, 95%CI: $-.949$, $-.205$; AP: $\beta = .318$, $p = .003$, 95%CI: $.276$, 1.25 , and HH: $\beta = .288$, $p = .013$, 95%CI: $.187$, 1.52) by state anxiety ($\beta = .726$, $p < .001$, 95%CI: $.371$, $.647$).

Conclusions: These findings highlight the role of anxiety in the process that lead to cancer-related depression. Results point out a possible way in which psycho-oncologists should structure a stronger intervention, based on the improvement of coping strategies and the reduction of state anxiety, in order to reduce the magnitude of cancer-related depression.

258 Cozy companies: Caring workplaces for employees with cancer

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Background: About 66% of individuals diagnosed with cancer survive 5 or more years post-diagnosis in North America. Most cancers strike working-age people, work can be beneficial for them, yet only about 60% have returned to work by 2 years following treatment. This implies a significant loss of productivity in the workplace and of quality of life for those diagnosed with cancer, meriting research to understand barriers and facilitators to successful workplace integration after a cancer diagnosis.

Methods: In depth semi-structured interviews were conducted with 15 female managers, aged 26 to 60, who either directly managed individuals with cancer or managed their work file. Participants represented three different roles and were employed in a variety of sectors. Grounded theory informed the analysis.

Results: Of the 15 managers interviewed, 7 reported on workplace characteristics that we identified as demonstrating an unusual level of caring for their employees with cancer. All described the workplace in terms of emphasizing closeness, such as “tight knit” and “like a family.” Four interrelated characteristics contributed to the “cozy workplace” experience. These were: open communication from and to the employee, abundant support for employees (beyond standard policies and benefits), the emotional impact of the cancer diagnosis on co-workers, and co-workers sharing the workload of the sick employee.

Conclusions: Caring workplaces create a high level of trust amongst employees and provide exemplary support for employees with cancer. This comes at the cost of emotional distress amongst co-workers and extra burdens as co-workers manage the work of the ill employee.

259 Lower cancer-specific distress and inflammatory cytokine levels after a stress management intervention predict lower fatigue interference into survivorship in non- metastatic breast cancer patients

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Background. Prior work has shown that Cognitive Behavioral Stress Management (CBSM) decreases cancer-related intrusive thoughts and inflammatory gene signaling over the initial 12 months of primary breast cancer (BCa) treatment, though women revealed individual variation in these changes. Little is known if such psychobiological changes predict longer-term symptom management, including fatigue. We tested whether 6-month post-intervention levels of cancer-related intrusive thoughts predicted fatigue at 18 months and whether levels of inflammatory markers between these two points (12 months) mediated this relationship within the CBSM condition. Methods. Women (N = 120) with stage 0-III BCa were recruited 2–10 weeks post-surgery for a 10-week CBSM intervention. Participants completed psychosocial questionnaires including the Impact of Event Scale-Intrusion subscale (IES-I) and the Fatigue Symptom Inventory-Interference scale (FSI-I) at baseline and 6, 12, and 18 months post-baseline. Participants provided blood samples at baseline and 12 months post-baseline. Structural equation modeling was used to assess the direct effect of 6-month IES-I scores on 18-month FSI-I scores and the indirect effect through time-lagged 12-month inflammation (serum TNF- α , IL-6, and IL-1 β), controlling for baseline IES-I and FSI-I scores. Results. Lower 6-month IES-I scores and lower levels of inflammatory cytokines at 12-months predicted lower 18-month FSI-I scores. Tests of indirect effects were not significant; thus, mediation was not supported. Conclusion. These findings shed light on temporal associations between post-CBSM cancer-specific distress and inflammatory status in predicting a major quality of life issue (fatigue) into survivorship. Future work should explore other potential mediators of the distress-fatigue association including sleep quality and physical activity.

260 Mediterranean Bridges and Drifts: The European Migrant Crisis and the Role of Psycho-oncology

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The European Union (EU) has defined the recent migrant crisis as the worst refugee crisis since the Second World War. About half a million of migrants are expected before the end of the present year. Access to and equality of healthcare is increasingly becoming a core and dramatic issue in European policy. There is a need for improved data on cancer epidemiology among the migrants and for targeted healthcare resources allocation. We face a progressive increase in growth of a sub-population highly at risk for inequalities in cancer care. Socio-economic data urge European countries to implement an interdisciplinary and cross-national approach to cancer care. At the same time, most of

the studies on the economic burden of cancer care highlight wide differences between European countries. We assume, as the EU does, that a patient-centered approach and socioeconomically, culturally and linguistically tailored psycho-social care are core elements in cancer care in this historical moment. We need to integrate into our healthcare systems patients and professionals with shared linguistic and cultural backgrounds simultaneously. The choices we make as psycho-oncologists are going to shape the future of so many people. The aim of the present symposium is to highlight key elements of a psycho-oncological approach to addressing the enormous challenges that confront us. Professor Lea Baider will chair this symposium and introduce different perspectives about the role of psycho-oncology in supporting migrant cancer patients, within and outside of the EU. Successful strategies for facing such a challenge, implemented within diverse contexts, will be discussed.

Supporting Abstract 1:

Beyond Borders and Nations: A Participatory Approach to Face the Migrant Flow towards Europe

Simone Cheli (presenting author), Lucia Caligiani
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More than a million of migrants crossed into Europe in 2015. Only a small fraction of refugees reaches Europe. The most of them live in the refugee camps close to the EU border. EU considers this crisis a flow that is not expected to end and exhibits a few characteristics: (i) the most of the refugees come from war-zones where the healthcare systems are collapsed, (ii) they have two main access points (Greece and Italy), and (iii) they have a few preferable destinations (Germany, UK, etc.). Within the cancer care, such a crisis represents a huge challenge not only in terms of in-/equality, but especially in terms of access and education. The aim of this presentation is to discuss pros and cons of a participatory action research (PAR) approach in facing with the migrant crisis. During 2015, we conducted a feasibility study in order to explore the epidemiology of cancer among foreign patients in the Florence health district. We also evaluated the EU data about the migrant flow. All the results highlighted a low rate of access and a critical lack of education in migrants. We also observed the failure of a previous top-down intervention aimed to offer a migrant-friendly psycho-oncology service. We're pilot-testing a PAR approach aimed to involve the local foreign communities in supporting the access to and education about cancer care. As the first step, we conducted a few participative meetings with migrant patients and communities, together with cancer professionals, in order to generate consensus upon a few priority strategies and goals.

Supporting Abstract 2:

Intercultural Realities in a Transforming World: The Case of Israel
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**Psycho-Oncology Services, Oncology Institute, Assuta Medical Center, Tel-Aviv, Israel

A multicultural society poses challenges relevant to every aspect of human life notwithstanding health and health care services, such as overcoming differences in cultural beliefs concerning health, illness, and medication compliance as well as language barriers. Health care

practitioners and policy makers face an enormous task in providing effective health care in any multiethnic environment. We propose to examine the Israeli experience as an example for multicultural and integrative approach to psycho-oncology relevant to the recent migrant crisis in Europe. Israel can be described as an amalgamation of cultures, religions, and people from different origins spread over a relatively small area. More than three million immigrants of Jewish origin arrived from different countries in Israel since its establishment. Roughly one-third of these immigrants were born in Africa or Asia (approximately half were born in the former USSR) while two-thirds were born in Europe or America. As a result of this complex structure, issues of national history, origins, and religion are in the heart of the Israeli discourse. We'll discuss approaches to interpretation of the relation between demographic data and cancer epidemiological data and the relation between the data to cultural norms. In conclusion, we'll suggest the healthcare professionals to consider the following premises: Respecting cultural diversity implies more than treating individuals as equals. There is a need to find Proper balance between respect for diversity and "common ground" (i.e., equivalent treatment for all). Healthcare professionals may use conflicting cultural backgrounds and beliefs as leverage for achieving better quality of life.

Supporting Abstract 3:

Austria and its borders: Conflicts and dilemmas on pursuit of refugees' adaptation and psycho oncology care

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Modern societies are characterized as pluralistic, open and diverse. People from dissimilar origins, cultures and languages could live together within communities in the similar geographical area. However, could Austria incorporate the masses of refugees, within a stable and homogeneous society? About 20% of the population are immigrants coming from an amount of different countries. A multicultural society poses challenges relevant to every aspect of human life. One of the profound challenges is based on the health and health services that is confronted with the differences in cultural beliefs concerning health, superstitions and religious beliefs, illness and medication compliance, as well as language barriers. The health care practitioners and policy makers are faced with an enormous task in providing effective health care in a new multi ethnic and multicultural environment within the immigrant community. Austrian's demographic change, the specific situation of new immigrants and their integration or non-integration in the society and the impact on the oncological and psycho-oncological care will be demonstrated. Case reports, which challenges are arising for the patient, for the family member and for the professional healthcare team in a Comprehensive Cancer Center, will be discussed.

Supporting Abstract 4:

Targeting Socioeconomic Determinants of Cancer Treatment Access and Completion Among Diverse Immigrant and Refugee Groups in New York City

Francesca Gany (presenting author), Julia Ramirez, Rosario Costas-Muniz, Javier Gonzalez, Jennifer Leng

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Hundreds of thousands of immigrants and refugees arrive in the United States each year. They come from diverse geographic areas and backgrounds, speak over 150 languages, and face multiple obstacles to the receipt of culturally and linguistically responsive cancer care. Interventions that assess and address these barriers show promise for improving patients' quality of life, for increasing cancer treatment completion and, hence, for improving cancer outcomes. This presentation will describe potential socioeconomic deterrents to cancer care access faced by migrating populations and strategies that have been employed to overcome these obstacles. We will then share the results of a number of randomized controlled trials testing socioeconomically targeted interventions to facilitate socioeconomically, culturally, and linguistically responsive care among diverse immigrant groups in New York City. Outcomes presented will include quality of life and cancer treatment completion rates.

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Suffering in silence: A mixed method examination of willingness to communicate, communication barriers, and sexual health concerns in breast cancer survivorship

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Background/Purpose: Sexual health (SH) concerns have been reported in up to 50% of breast cancer survivors. Research indicates survivors want to discuss SH with healthcare professionals (HCP); however, these conversations rarely take place. Our aim was to ascertain the relationship between communication and SH outcomes and investigate barriers to SH discussions for survivors.

Methods: Survivors (n = 305) representing various developmental phases and survivorship lengths completed a survey to determine the relationship between women's SH-related quality of life (SQOL) and willingness to communicate about SH issues (WTCOSH). Interviews informed by survey results were conducted with a subsection of participants (n = 40). The constant comparative method was used to analyze for themes that illustrate barriers to communication.

Results: The relationship between SQOL and WTCOSH was significant, $F(6,266) = 4.92$, $p < .000$, adj. $R^2 = .080$. Five themes illustrate barriers survivors experience: 1) taboo nature of sexuality (e.g., embarrassment surrounding terminology or emotions related to sexuality), 2) patient-HCP demographic differences (e.g., reluctance based on age and sex), 3) demoralizing HCP behaviors (e.g., perception of HCP disregard and inattention), 4) limitations of training and science (e.g., HCP knowledge gap and limited treatment options), and 5) inability to access timely or coordinated care (e.g., poor coordination among HCPs, confusion about which HCP to approach, and inability to access HCPs).

Conclusions: Findings highlight the complex nature of intrapersonal, interpersonal, and structural challenges survivors face when attempting to address SH concerns. Results could contribute to resource development for patients, inform provider communication training, and enhance organizational practices.

262 Development of an Online Psychoeducational Intervention for Family Caregivers of High-grade Primary Brain Tumour Patients

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Background/Purpose: Although rare, high-grade brain tumours are commonly associated with significant physical, cognitive, and neuropsychiatric impairments. Family members, who take on significant caregiving responsibilities, experience unmet needs related to caregiving, and associated anxiety and distress. Traditional caregiver support programs (e.g. face-to-face programs) may be problematic for caregivers who cannot leave the patient or live remotely, highlighting the possible place for an online intervention. The aim of this project is to develop an online psychoeducational intervention for family caregivers to increase their preparedness to care and self-efficacy in caregiving.

Methods: A self-paced online intervention is being developed based on Social Cognitive Theory. An initial prototype was developed utilising existing resources and literature review. Qualitative interviews with past/present family caregivers of adults with high-grade tumours are being conducted to: 1) identify potential facilitators and barriers to engagement with the intervention; 2) generate examples of caregivers' application of intervention strategies, to be integrated into the intervention in future iterations; and 3) elicit user views of the iteration through a 'think aloud' process. Interviews with healthcare professionals will refine intervention content and identify facilitators and barriers to caregiver engagement and implementation.

Results: The resultant online intervention aims to increase caregiver self-efficacy to make treatment decisions, provide day-to-day care, manage side effects and physical, cognitive and personality changes, deal with stress, and cope with the changes in their own lives.

Conclusions: An iterative development process involving caregivers and healthcare professionals will ensure the intervention is acceptable and identify potential barriers to implementation.

263 Japanese physicians' attitude toward end-of-life discussion with pediatric cancer patients

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Objectives: End-of-life discussion (EOLd) is one of the most difficult tasks for pediatricians. However, little is known about actual situation of end-of-life discussion with pediatric patients. The aim of this study was to explore pediatricians' practice and attitude regarding EOLd with pediatric cancer patients.

Methods: A multicenter questionnaire survey was conducted with 139 pediatricians who engaged in the treatment of pediatric cancer. Measurements included pediatricians' attitude toward EOLd, their practice on EOLd, and demographic data. We asked their attitude and practice in the following 3 specific age groups: 1) earlier age group (6–9 years old), 2) middle age group (10–15 years old), and 3) older age group (16–18 years old).

Results: About physician's attitude, 41% participants reported that they should have EOLd with earlier age group, 68% with middle age group, and 93% with older age group. About actual practice, the percentage of participants who answered that they "always" or "usually" discuss about incurability with each age groups were 6%, 20%, and 36%, respectively. And in the case of patient's own imminent death, it was 2%, 11%, and 24%, respectively.

Conclusions: Though many participants reported that they should have EOLd especially in adolescent cases, there were not many participants actually discuss incurability and their own imminent death with patients. Further study is expected to explore the preference of child patients themselves toward EOLd, in order to construct a framework of EOLd for pediatricians.

265 Systematic Review: Exercise interventions for patients with metastatic cancer: Recruitment, Attrition and Exercise adherence

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Introduction: Patients with metastatic cancer can suffer from debilitating physical symptoms such as fatigue, pain, dyspnoea, and nausea. Due to these symptoms, patients may find it difficult to participate in exercise programmes. This systematic review investigates the recruitment, adherence, and attrition rates of patients with metastatic cancer participating in exercise interventions.

Methods: Relevant studies were identified through a systematic search of CINAHL, PUBMED, PsychINFO, and EMBASE to September 2015. Two quality-assessment tools were used, and levels of evidence were assigned. The characteristics of studies were described using means, standard deviations, frequencies, and percentages.

Results: The search identified 13 studies published between 2004 and 2014. CEBM levels of evidence ranged from 1b to 4. Exercise interventions included both aerobic and strength training. The mean recruitment rate was 50% (SD = 20%; range 15–74%). Patient reported barriers to recruitment included time constraints and difficulties traveling to exercise centres. Direct referral from a physician was associated with higher recruitment rates. Levels of adherence ranged from 44% to 100%; however, the definition of adherence varied substantially between trials. The average attrition was 22% (SD = 11% range 0–42%) with a progression of disease status reported as the main cause for dropout during exercise interventions.

Conclusion: A large variance in recruitment, adherence, and attrition rates was found in the studies reviewed. Furthermore, the measurement of patient adherence to prescribed programmes varied considerably. Further efforts are needed to increase the pool of advanced cancer patients eligible for exercise trials.

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The effectiveness of a group psychological intervention on emotional problems and the impact of the event for patients with breast cancer under radiotherapy: a pilot study

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Patients with cancer have a high prevalence of emotional problems and radiotherapeutic treatment (RT) often influences the intensity of the event impact. The aim of this pilot study was to test the effectiveness of a CBT intervention for the abatement of emotional distress, depression and event impact for patients with breast cancer following RT. This study involved a pre-post test design and was performed on patients with breast cancer, hospitalized at the Oncology Institute, Cluj Napoca, Romania. The study sample consisted of 16 patients with breast cancer following only RT, which were assigned to experimental and control groups. Exclusion criteria included the presence of personality disorders, psychiatric and somatic diseases. The Student's *t*-test and mixed-design analysis of variance (ANOVA) model were used as statistical methods. The interaction of time and intervention was significant for the level of emotional distress [$F(1,14) = 30.60$, $p < 0.001$] and IES-R [$F(1,14) = 4.98$, $p = 0.043$] that changed over time in different ways on the groups. Concerning the change in depression scores over time in groups, we obtained a tendency toward statistical significance [$F(1,14) = 3.08$, $p = 0.10$]. As limitations of the present study, we could

mention the low sample size ($N = 16$). The group psychological intervention may be a useful approach for emotional distress, depression and event impact dimensions for patients with breast cancer under radiotherapy.

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Predictors of self-reported pain medication in women treated for primary breast cancer?

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Background: Naturally occurring mindfulness has been found associated with less pain and mindfulness-based therapies (MBT) have been found to reduce use of pain medication. Naturally occurring mindfulness may thus be predictive for use of pain medication. This association has, however, not been investigated so far.

Method: The present study included 129 participants in a randomized controlled trial of mindfulness-based cognitive therapy (MBCT) for pain in women treated for breast cancer. The primary endpoints were use of prescription and non-prescription pain medication (a 6-point response format ranging from no use to used >8 times during the previous week). Possible predictors at baseline included level of mindfulness (the Five Facet Mindfulness Questionnaire (FFMQ)) together with socio-demographic and treatment-related factors, and pain intensity and -burden (11-point Numeric Rating Scales). Multiple linear regressions were used to explore possible predictors for use of pain medication.

Results: The FFMQ total score did not predict use of neither prescription ($p = 0.34$) nor non-prescription pain medication ($p = 0.22$). In contrast, surgery with axillary lymph node dissection (ALND) ($\beta = 0.30$, $p = 0.02$) and higher levels of perceived pain burden ($\beta = 0.35$, $p = 0.04$) predicted more use of non-prescription pain medication. For prescription pain medication, none of the predictors reached statistical significance; however, a similar trend was observed for pain burden where higher levels of perceived pain burden predicted more use of prescription pain medication ($\beta = 0.26$, $p = 0.11$).

Conclusion: Mindfulness did not predict use of pain medication. This could suggest that the previously found reductions in use of pain medication following MBT is not mediated by increased levels in mindfulness.

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Speaking about intimate relationship and sexuality with teenagers and young adults with cancer (TYAC)

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Background: To assess the need for information amongst TYAC and satisfaction with the implementation of a workshop concerning intimate relationships and sexuality integrated in a therapeutic educational program (AGORA) at Gustave Roussy Center.

Methods: The AGORA program takes place within the hospital, led by a professional translational multidisciplinary team. The workshop, Quand notre cœur fait boum, (created in 2013, led by a pediatric oncologist and a psychologist) aims to provide sexual health information and a space for dialogue about the impact of cancer/treatments on fertility, sexuality and intimate relationships.

Results: Cancer and the impact of treatment on fertility and sexuality are serious topics highlighted by TYAC care professionals. However, our experience is that although TYAC don't talk much about fertility (which is probably a sensitive issue), they are more likely to discuss intimate relationships and ways of managing them with the disease. Patient testimonies, as well as the systematic self-assessment questionnaires, help us to continually adjust our approach to these delicate subjects. Results are being evaluated.

Conclusions: Our positive experience encourages us to continue and extend this approach. We are collaborating with graphic artists and created a comic book website of stories on the topics put forward by the TYAC as it is a media well suited to approaching these sensitive subjects. Building on this, we look forward to enriching this website with other artists and TYAC contributions.

Thanks to La Ligue contre le cancer et l'INCA (Institut national du cancer).

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A nationwide study of the function of the social worker in cancer care and rehabilitation: the present status and prospects for the future

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The number of patients living with cancer as a chronic disease is increasing. This stresses the importance of efforts to facilitate for these persons to resume a new everyday life in work, family and leisure time. In Sweden, the social worker is the professional who more than other professionals in health care represents the psychosocial perspective in rehabilitation. However, the function of the social worker in cancer care is poorly studied. The purpose of the present study is therefore to explore the function of the social worker – its present status and future prospects. In March 2016, 299 questionnaires were distributed to the social workers in Sweden practicing at least half-time in oncology. The questionnaire covered background data as affiliation, position and collaboration in an organizational context, complementary education, main tasks, but also a detailed description of their last three clinical cases, i.e. initiative and motive/subject for contact in each case. In addition, we ask the social workers to evaluate their present work and to identify requirements for improved interventions. Analysis will be conducted with descriptive statistics as well as with continuous comparisons in grounded theory. The results will display a condensed description of the background variables characterizing this group of social workers, but it will first of all focus on their clinical function and the social workers' prospects for development of the function. The conclusions will be presented in terms of a typology of different roles as social workers combined with ideas about development of these roles.

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A man in a women's world: development of an online information portal for male breast cancer patients, health care professionals and researchers

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In the Netherlands, approximately 100 new male cases are diagnosed each year versus 14,000 female cases. Male breast cancer (MBC) patients usually receive information material designed for female patients. Furthermore, oncologists, nurses, and general practitioners rarely treat MBC patients. There is a need, from the point of view of the patient, professional, and researcher to create a central – virtual – location with all relevant information about male breast cancer.

The aim of this project is to develop and implement an online, easily accessible, and central information portal for MBC patients, health care professionals, and researchers. Three phases of portal-development will be followed. 1) All relevant literature and (online) information will be reviewed. An expert meeting with representatives of all relevant organizations (patient federation, cancer websites, and research groups) will be organized. A needs assessment (focus group, questionnaire, and interview) with men treated for breast cancer and with health care professionals and researchers will be performed; 2) the portal will be developed and tested; and 3) the final version of the portal will be launched and nationwide implemented. This study started in January 2016. Results from the literature review and expert meeting showed that there is a need for one central portal with information for patient, professional, and researcher. Currently, we have invited 25 men to investigate their informational needs. From the first phase, we can conclude that there is a need for reliable and easily accessible information about male breast cancer. The online portal will provide a guide to up-to-date information, photographs, and useful links.

273 Different transitions in returning to everyday life for patients with head and neck cancer – a qualitative prospective study

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Background/Purpose: Most studies of how the illness and its treatment affect patients with head and neck cancer (HNC) are quantitative and focus on assessing patients' quality of life or distress post-treatment. These studies are important but of limited value if we are interested in understanding more about head and neck cancer in an everyday life context. The present study is a contribution.

Methods: 56 patients with HNC were interviewed five times over the course of two years about how they lived their lives during treatment, and at 6, 12 and 24 months post-treatment.

Results: Four different trajectories and transitions emerged reflecting different impacts that the illness had on the patients' everyday life. The first group (n = 15) evaluated their illness experience as a past parenthesis in their life. In the second group (n = 9), the impact of the disease seemed to be diluted by other strains in their life, and although these patients to some extent were still hampered by side effects, they regarded them as 'no big deal'. The cancer really made a difference in the third group (n = 12), in both positive and negative ways and seemed to reflect a seesaw in reasonable balance. In the fourth group (n = 20), the physical and/or psychological problems predominated and the patients' lives had changed for the worse.

Conclusions: Being afflicted by HNC has impacts depending on different life circumstances, and living an everyday life post-treatment is very much a matter of transition in this context.

274 Intervening to reduce cognitive impairment and maintain cognitive functioning due to cancer treatment

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Background/Purpose: Cancer patients commonly experience cognitive impairment as a result of cancer and its treatment, and this consequence can have a significant impact on a patient's life. Using the Medical Research Council's (2008) guidance on developing and evaluating interventions, we developed an intervention to reduce and manage cancer-related cognitive impairment.

Methods: We adopted a staged approach to intervention development. First, a Cochrane Collaboration review was undertaken to identify best available evidence; relevant theories were then identified and synthesised to uncover common theoretical constructs, which may be amenable to intervention. Finally, qualitative interviews were undertaken to elicit the views of cancer patients (n = 4), representatives from cancer charities (n = 3), cancer care nurses (n = 3) and lead clinicians, nurses and occupational therapists from the memory clinic (n = 3) in addition to discussions by the research team.

Results: Integrating the findings from all stages indicated that teaching specific internal and external compensation strategies alongside stress management is likely to reduce cancer-related cognitive impairment. Qualitative findings indicated that patients would prefer a non-pharmacological way to address cognitive impairment; and emerging themes suggested that the design and content of the intervention should aid sense-making, reassure and empower patients and facilitate self-management.

Conclusions: An intervention has been developed comprising education, stress management and cognitive compensatory strategy training in order to redress cancer-related cognitive impairment. The next stage of the research will assess the acceptability and feasibility of the intervention for cancer patients, their families and cancer care professionals including the feasibility of conducting a randomised controlled trial evaluation.

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Effects of an Acute Bout of Moderate-Intensity Aerobic Exercise on Working Memory in Breast Cancer Survivors

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Background/Purpose: Many breast cancer survivors (BCS) report deficits in cognitive functioning, specifically domains of executive function associated with higher order processing. Deficits in memory, attention, and speed of processing (components of executive function) may persist in over a third of BCS years after treatment. The purpose of this study was to examine the effects of an acute bout of physical activity on spatial working memory in a sample of BCS.

Methods: Using a within-subject repeated measures design, BCS (N = 27; M age = 49.81) completed two sessions in counterbalanced order: 30 minutes of moderate-intensity treadmill walking and 30 minutes of seated rest. Women completed a spatial working memory task immediately before and after each session.

Results: Within-subjects repeated measures analyses of variance revealed a marginally significant time by condition interaction for accuracy [$F(1,26) = 3.36, p = .08, \eta^2 = 0.12$] on the 4-item spatial working memory task. This interaction was driven by trends towards improved response accuracy post-exercise compared to reduced response accuracy post-rest ($d = 0.52$).

Conclusions: While not statistically significant, the moderate effect size between the two conditions is promising, highlighting the effects of moderate-intensity aerobic exercise on working memory. This finding provides preliminary support for the use of physical activity for cognitive health in breast cancer survivors and has significant real-world implications. By opting for a short walk instead of remaining seated, BCS may improve a key component of memory. Future studies might examine if similar working memory effects are maintained, if not magnified, after a delayed follow-up period after exercise.

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Treatment of Depressive Symptoms in Breast Cancer Patients: Comparison of Cognitive Therapy and Bright Light Therapy

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Background. Depressive symptoms are highly prevalent in women with breast cancer and are associated with numerous negative consequences. Many studies have supported the efficacy of cognitive therapy (CT) to treat depressive symptoms, but CT is not always available. Moreover, many patients initiate treatments by themselves,

such as bright light therapy (BLT) whose efficacy in non-medically ill individuals is supported. The goal of this randomized controlled trial was to compare the efficacy of CT, BLT, and a waiting-list control condition (WLC) to decrease depressive symptoms in the context of breast cancer. **Methods.** Sixty-two patients were randomly assigned to an 8-week CT (n = 25), BLT (n = 26), or WLC (n = 11). Participants completed the depression subscale of the Hospital Anxiety and Depression Scale (HADS-D), the Beck Depression Inventory-II (BDI-II), and the Hamilton Depression Rating Scale (HDRS) at pre- and post-treatment, as well as 3 and 6 months later. **Results.** Group X time factorial analyses revealed that CT patients had a significantly greater reduction of depressive symptoms than WLC at post-treatment, as assessed with the HADS-D and the BDI-II. BLT patients showed a greater reduction of depressive symptoms than WLC on the HADS-D only. A superiority of CT compared to BLT was found at post-treatment on BDI-II scores only. No significant differences were found between CT and BLT at follow-up. **Conclusion.** Although replication is needed, these results support the efficacy of CT for depression in the context of breast cancer and suggest that BLT is a promising alternative.

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To be or not to be positive: Development of a tool to assess the relationship of negative, positive and realistic thinking with psychological distress in cancer

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Background: There is a widespread belief that positive thinking is a key strategy to cope with cancer. While dispositional optimism is associated with lower cancer-related psychological distress, the literature supporting the efficacy of cognitive-behavioral therapy indirectly suggests that realistic thinking is also an effective strategy. A tool is needed to directly compare the effect of realistic thinking vs. positive thinking on adjustment to cancer.

Goals: 1) to develop the Thoughts and Anticipations about Cancer questionnaire (TAC) and 2) provide preliminary data on its relationships with psychological distress.

Methods: Individual interviews were held with 15 women about to initiate chemotherapy for breast cancer. Interviews were transcribed verbatim and TAC items were derived from that information with the help of a committee of experts. Then, 10 other women were interviewed and administered the TAC and the Hospital Anxiety and Depression Scale to refine the TAC content and to provide preliminary data on its association with psychological distress.

Results: 51 items compose the TAC, 27 with a negative valence and 24 with a positive one. By taking into account the levels of both reported negative and positive anticipations, it will eventually be possible to

categorize patients into negative, positive and realistic thinking. Women reported more positive thoughts than negative ones. Stronger associations of psychological distress were found with negative items (depression: $r = .66$; anxiety: $r = .62$) than with positive ones (depression: $r = .38$; anxiety: $r = .15$).

Conclusions: The TAC is a promising tool to assess the effect of negative, positive and realistic thinking on psychological adjustment to cancer.

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Does treating cancer-related insomnia reduce productivity loss?

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Background. Insomnia affects up to 59% of breast cancer patients. A Canadian study conducted in the general population estimated the annual costs of insomnia at \$6.6 billion, of which 76% were attributable to insomnia-related work absences and reduced productivity. The efficacy of cognitive-behavioral therapy for treating cancer-related insomnia (CBT-I) is well established, but no study has yet assessed whether treating insomnia is associated with a reduction of productivity loss. **Methods.** 242 breast cancer patients with insomnia symptoms were randomly assigned to: 1) professionally administered CBT-I (PCBT-I; 6 weekly sessions), 2) video-based CBT-I (VCBT-I; 60-min video + 6 booklets), or 3) no treatment (CTL). At pre- and post-treatment, patients completed a questionnaire evaluating their productivity loss in the past month, in general and due to insomnia. **Results.** At pre-treatment, 12.6 days of productivity loss were reported on average and this number significantly decreased in PCBT-I (-7.4 , $p < .01$), VCBT-I (-7.0 , $p < .01$) and CTL (-5.7 , $p = .02$), with no significant between-groups differences ($p = .87$). The severity of productivity loss (on a 1–4 scale) was 2.3 on average at baseline, and this score decreased significantly in PCBT-I patients only (-0.4 ; $p = .001$). The proportion of productivity loss due to sleep problems was 52.2% at baseline, and it decreased significantly in PCBT-I (-24.4 , $p < .01$) and VCBT-I (-18.9 , $p < .01$) but not in CTL (-7.9 , $p = .07$) patients at post-treatment. **Conclusions.** Treating cancer-related insomnia appears to lead to a reduction of general and insomnia-related productivity loss, an effect that is likely to lighten the financial burden of cancer on society.

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Can the Patient Navigation Project improve distress, well-being, health literacy and social support among socially vulnerable cancer patients?

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Background: Social inequality in cancer survival and rehabilitation is a major problem. Patient navigation has shown to improve quality care among cancer patients. These promising results make it relevant to explore whether patient navigation can improve quality care among vulnerable groups. The purpose of this study is to examine whether the nationwide Patient Navigation Project improves distress-levels, well-being, health literacy and social support among socially vulnerable cancer patients.

Methods: Socially vulnerable cancer patients were included in the project and matched with a navigator (volunteer). The navigators, who had a background in social welfare or health care, supported the patients during a 6-month period. A theory of change describes how desired changes are achieved within the three domains, well-being, health literacy and social support. The patients filled out a baseline questionnaire and 6-month questionnaire after enrolment. They contained validated questions regarding distress and well-being and questions referring to the theory of change.

Results: The 65 patients who are currently included in the project are predominantly on welfare (69%) and has no or a short education (78%). At baseline, the mean distress level was 8.1 and 63% had a low well-being, and therefore, at risk of depression/long term stress. Thirty-three percent is always or often alone although they want to be together with other people.

Conclusion: The method used in the Patient Navigation Project is promising regarding recruitment of socially vulnerable cancer patients. Autumn 2016, we have sufficient data to present whether patient navigation improves distress-levels, well-being, health literacy and social support.

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The influence of cognitive biases on fear of breast cancer

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Background: The fear produced by breast cancer has been reported to be stronger than that evoked by deadlier conditions. This situation does not seem to have changed much in the last 30 years, despite continuous improvements in treatments and outcomes in oncology. In addition to its impact on health, breast cancer is said to affect women's sexuality and perception of femininity perhaps like no other illness.

However, it has been suggested that heightened fear of breast cancer is also associated with the abundance of breast cancer stories in the mass media, as they sometimes contain inaccurate information highlighting the negative consequences of having breast cancer.

Purpose: 1) to establish the extent to which breast cancer remains more feared than other serious chronic illnesses and 2) to evaluate the impact of attentional and memory biases on the level of fear.

Methods: Experimental design. Healthy women will complete baseline measures to evaluate beliefs, knowledge, and behaviours about health and illness. Afterwards, they will be allocated into two different conditions, where they will be differentially primed to information about breast cancer and other chronic illnesses.

Results: It is expected that fear of breast cancer will differ across conditions and that this will be explained by the differential priming of information about breast cancer and other illnesses.

Conclusions: A better understanding of the nature of fear of breast cancer and the psychological factors leading to it may be highly informative in the design of prevention campaigns.

282 The influence of knowledge about breast cancer on fear of breast cancer

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Background: The dread produced by breast cancer has been reported to be stronger than that evoked by deadlier conditions. In addition to its impact on health, breast cancer is said to affect women's sexuality and perception of femininity perhaps like no other illness. Still, continuous advances in treatment and improved outcomes do not seem to have changed this situation during the last 30 years. In fact, research has found that many women overestimate their risk of being diagnosed with breast cancer and hold misconceptions and fatalistic beliefs about outcomes.

Purpose: To examine the impact of knowledge about breast cancer on fear of breast cancer.

Methods: Healthy women will complete baseline measures to evaluate health-related beliefs and behaviours, as well as knowledge and fear of breast cancer. A path analysis will be conducted to establish the impact of knowledge on fear after controlling for baseline measures.

Results: It is expected that poor knowledge of breast cancer will be a significant predictor of heightened fear of breast cancer.

Conclusions: Heightened fear of breast cancer may interfere with prevention practices (e.g. use of mammography) and negatively influence the process of adjustment following diagnosis of breast cancer. In addition, heightened fear may lead to attentional bias, through which information about breast cancer may be selectively attended to while information about other illnesses (e.g. lung cancer and cardiovascular disease) may be disregarded.

283 Social Support Scale for cancer informal caregiver: description and primary results

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Cancer is not an individual experience – it also concerns the family. Informal caregivers may experience health issues associated with the burden of caregiving. One of the factors of the health status of family carers is social support. The following poster describes a new research tool to diagnose the social support provided by family members. The questionnaire was prepared in 4 equivalent versions – two for patients and two for caregivers. Each scale contains 24 items. The theoretical foundation of the questionnaire was derived from the Cohen and Wills classification that names four types of social support: emotional, informational, instrumental and integrative. Each questionnaire references the four social support dimensions. Prior to developing the tool, research was conducted among breast cancer patients (N = 30) asking them about their social support needs. The gathered data was then used to create questionnaire items. The inspiration for the questionnaire form was the Berlin Social Support Scale. The Cronbach's alpha was used to calculate the reliability of the tool and factor analysis to assess the validity. The results of the analysis show that Cronbach's alpha for all the versions ranges from 0.8–0.91. More tests need to be conducted to determine the psychometric properties of the tool. The stress associated with the experience of cancer diagnosis may result in deteriorated health status, and social support may be an important factor in this process. The presented tool may be used to evaluate social support in this specific group and determine its relation to other psychological factors.

284 mychoice: The development of a culturally tailored mHealth decision tool on clinical trials for African Americans

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Background/Purpose: Clinical trials participation among African Americans (AA) is suboptimal. Although participation barriers are documented, there are few culturally tailored communication tools assisting AA patients to address their specific concerns. The mychoice mobile application was designed to help AA patients elicit their specific concerns through interactive modules and guide an informed decision making process with their physicians.

Methods: Mixed-methods formative research, including in-depth interviews and perceptual mapping surveys with AA cancer patients who had and had not participated in a clinical trial, served as the foundation. We used an iterative process, gathering patient feedback during the development of the messages and user testing. mychoice includes educational information about clinical trials, common concerns voiced through video with real patients, and a self-selected relevant concerns to share with the provider.

Results: User testing (qualitative and quantitative data collection) with 11 cancer patients at a large urban oncology clinic indicated that it was just the right length and easy to use (91%) and would be helpful for patients (100%). Survey results showed that 1/3 felt it was slanted towards participation and 27% would like more information.

Conclusions: Qualitative data highlighted the complexity of the issue with mixed reactions to the focus on African Americans and the need for more information. We will present the formative development process, the app design, tailored messages and app sections, and findings from the user testing. We will discuss the implications for continued development of the mychoice communication tool, as well as how it informs other culturally tailored decision aids.

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Human Rights and Children with Cancer: Finding Solutions to Human Rights Issues Faced by Child Patients, Parents and Providers

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Summary: The care of children with cancer is emotionally difficult under the best of circumstances. When, in addition, there are superimposed limitations in access to care, when children are unnecessarily separated from their parents or when war imposes additional threat upon families dealing with childhood cancer, the psychological burdens are often nearly unbearable. Children are adrift, left alone and fearful, parents are torn in many directions. Providers are confronted with terrible choices in order to be able to provide much-needed medical attention. Our symposium, proposed by the IPOS Human Rights Task Force, offers examples of human rights challenges in the care of children with cancer under conditions of war, hospital detention or limited medication in several African and Asian nations. We also offer an example of successful resolution engineered by a vibrant coalition of providers, government agencies and non-governmental human rights organizations. Discussion centers on how international health organizations and governments can work together to provide needed data of high quality and to counter issues of unethical or unequal treatment in low-resource settings. Chair: Andrea Farkas Patenaude Ph.D., Department of Psychosocial Oncology and Palliative Care, Dana-Farber Cancer Institute, Department of Psychiatry, Harvard Medical School, Boston MA USA, Vice-Chair, IPOS Human Rights Task Force. Discussants: William Breitbart M.D., Chairman, Department of Psychiatry and Behavioral Science, Memorial Sloan-Kettering

Cancer Center, New York NY. Past President of IPOS, Chair IPOS Human Rights Task Force. Catherine G. Lam M.D., Pediatric Oncologist, Department of Global Pediatric Medicine, St. Jude Children's Research Hospital, Memphis, TN, USA.

Supporting Abstract 1:

PARENTS' AND HEALTH-CARE PROVIDERS' PERSPECTIVES ON HOSPITAL DETENTION PRACTICES IN KENYA

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Background: Corruption plays a major role in health-care systems in developing countries and can result in hospital detention practices (HDP). Patients at Kenyan public hospitals are detained if families cannot pay medical bills. Access to health insurance and waiving procedure to prevent detention is limited. This study explores perspectives of parents and health-care providers (HCP) on health insurance access, waiving procedure and HDP.

Methods: Semi-structured questionnaires were completed by 46 parents of childhood cancer patients who abandoned treatment (response rate 87%) and by 104 HCP involved in childhood cancer care (response rate 78%).

Results: Of 46 children, 78% had no health-insurance and 53% could not pay medical bills and were detained. In total, 37% of detained patients received no information about waiving procedure and their bills were not waived. Parents reported desperation (95%) and powerlessness (95%). Most parents (87%) felt HDP must cease. After parents apply for health insurance, it takes too long before treatment costs are covered according to 67% of HCP. Parents are scared by waiving procedures and may never return to hospital (68%). Poor families delay visiting hospital and may seek alternative treatment instead (92%). When poor families finally attend hospital, disease may be advanced (94%). Parents sometimes abandon detained children if they cannot pay hospital bills (68%). HDP is not approved by 84% of HCP.

Conclusions: HDP and waiving procedure are highly distressing for parents and may jeopardize treatment outcomes. HCP acknowledge that access to health insurance needs improvement. Most disapprove of HDP. These factors require urgent attention and modification.

Supporting Abstract 2:

PROFESSIONALS' DILEMMAS FACING HOSPITAL DETENTION IN CHILDREN WITH CANCER

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5. 5National Children's Hospital Benjamin Bloom, San Salvador, El Salvador
6. 6St. Jude Children's Research, Hospital, Memphis, TN, USA

Background: Hospital detention (HoD) is defined as a practice whereby patients are denied release after medical discharge due to families' inability to pay hospital bills. Recently, HoD has been recognized as a global phenomenon. Few data exist about the extent of HoD or about dilemmas professionals experience when encountering HoD. The Global Hospital Detention Taskforce (GHDT) of the SIOP PODC Committee has initiated studies in this area.

Methods: An informal email enquiry was circulated to over 100 pediatric oncologists in Asia (primarily India) working in public and private hospitals, enquiring about HoD practices and professionals' experiences and responses. Replies were assessed qualitatively.

Results: 20 responses were received. The narrative responses confirmed providers' experiences with HoD. Providers described the sensitivity and complexity of problems HoD raises for professionals as well as for patients and parents. We report procedural, professional, political and psychological issues encountered and discuss methodological challenges to research in this area.

Conclusions: There is a need for carefully designed studies to optimize data collection about roles professionals can take regarding HoD without jeopardizing their positions. The GHDT, recognizing professionals may face significant professional and psychological dilemmas, plans to conduct a refined physician perspectives survey to better understand the issues. The data will inform future steps towards increased recognition of the extent and adverse impact of HoD and the dilemmas for providers. Future goals are to utilize the data to develop effective interventions sensitive to the needs of all stakeholders, including front-line providers, to effectively end hospital detention of patients.

Supporting Abstract 3:

PSYCHOLOGICAL CHALLENGES FACED WHEN FIGHTING CHILDHOOD CANCER DURING WARTIME IN SYRIA

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Background: Childhood cancer is a challenge for the child, his/her parents and medical care providers in limited resources countries. This becomes more difficult when war conditions and violence are present.

Methods: The Department of Pediatric Oncology at Al Bairouni Hospital in Damascus, one of 3 Syrian hospitals offering specialized pediatric cancer treatment, was opened in 2010. Much of Syria has experienced war in the intervening 6 years. From observations and discussions with colleagues, patients and parents, we report on ways in which concurrent occurrence of war adds multiple burdens and challenges the psychological equilibrium and coping efforts of patients, parents and providers.

Results: Disempowerment was the major psychological burden. Fear, anxiety and loss of hope were also burdensome. Psychological

challenges faced when treating cancer during wartime include: changing the life priority of the child and his/her family, lack of medication availability and increased costs, difficulties and dangers of transport of patients to and from the hospital location, and the heavy, resulting psychological impacts on patient, parents and medical care providers. Exposure to war and worry about the safety of near and distant family members affects medical care provider's attention, availability and energy as well.

Conclusions: Childhood cancer is a complicated problem in Syria. Unsafe hospital locations and difficulties of transport and other problems create challenge in the childhood cancer management and increase the psychological burdens facing patients, their families and health care providers during wartime.

Supporting Abstract 4:

DIGNITY IN PAIN: HOW THE BATTLE FOR HUMAN RIGHTS MADE MORPHINE CONSTANTLY AVAILABLE TO PEDIATRIC ONCOLOGY PATIENTS IN SENEGAL (WEST AFRICA)

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Background/objectives: In Senegal, pediatric oncology patients arrive at hospital at advanced stages of their disease. Both human and material resources are sparse. Morphine was inconsistently available. This study assesses the impact of lack of morphine on distress levels of patients, parents, and providers and the reports the battle for access to morphine and its outcome on patient care.

Design/methods: Qualitative data from group and individual therapy sessions were reviewed. Our sample included 24 children, 5 and 15 years old, 10 parents, 3 doctors, and 7 nurses. During therapeutic groups with children, we explored the impact lack of morphine had on pain management. We conducted structured interviews and focus groups with parents, doctors, and nurses and contributed to a report Human Rights Watch exploring medical and political causes for the shortage and psychological repercussions on care.

Results: Reports showed the morphine shortage was agonizing for everyone. Children and parents were frightened, for they associated intensity of pain with severity of the illness. Doctors developed avoidance mechanisms when incapable of justifying inability to alleviate patients' pain, while nurses depersonalized while administering care. HRW concluded inaccurate estimation of needs due to miscommunication between the Ministry of Health and the prescribers was causal. Following the report's release, the government ordered ten times more morphine and shortages became exceptional.

Conclusion: Adopting a collaborative approach between the medical and psychological teams, the government, and the civil society resolved an outstanding human right issue in cancer care, regardless of its occurrence in a low-income country.

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The influence of gender, treatment type, and time since diagnosis on the relationship between parental distress and emotional and behavioral problems in children with cancer

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Parental psychological distress influences the well-being that children with oncologic diseases may experience during chemotherapy and/or radiology therapy (ChT/RT). The purpose of this study was to investigate the relationship between parental distress and emotional and behavioral problems (PD and EBP) in children with cancer. It was hypothesized that gender differences, the type of treatment and the period of time since diagnosis could influence the relationship between PD and EBP. The ecological purpose of this study was to adapt the psychological intervention to various relevant differences between patients. A cross-sectional descriptive study was designed using the Profile of Emotional Distress to measure the PD level and the Child/Young Behavioral Checklist to identify EBP of children with cancer/leukemia. Seventy-two subjects were recruited from two Oncology Institutes from Bucharest. The participants were children ($N = 36$) with cancer/leukemia undergoing active ChT and/or RT (mean = 13.4, SD = 3.7). The sample includes 17 girls and 19 boys, 61.1% ongoing a combined treatment and 47.2% being diagnosed since more than six months. Thirty-six attending parents (mean = 40.4, SD = 7.2) participated at the study. Spearman's rank correlation coefficient revealed statistically significant correlations between PD and depression ($r = .41$, $p = .01$), social problems ($r = .36$, $p = .03$) and attention difficulties ($r = .35$, $p = .03$) of the children that are predominantly manifested in boys (e.g. for depression $r = .62$, social problems $r = .51$, and attention difficulties $r = .5$). Depressive symptoms increase with the longer hospitalization and with the combined treatment. The findings indicate that psychological intervention should be adapted on gender difference, ongoing treatment type and duration of hospitalization.

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Stigmatization of cancer patients (breast, prostate, colon or lung) and its effect on psychological, social and occupation-related issues

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Background: To date, little is known about stigmatization of cancer patients. However, stigmatization can lead to severe consequences, such as heightened stress levels, social withdrawal, abandonment of aims in life, and a considerable reduction in quality of life. The present study investigates social and occupational-related experiences of

stigmatization of cancer patients and draws conclusions contributing to de-stigmatization.

Methods: In this cross-sectional and register-based study, 600 cancer patients (breast, prostate, colon or lung, $N = 150$ per group) are assessed. Inclusion criteria are age (between 18 and 70 years), time since diagnosis (maximum 2 years), and first manifestation or relapse. We use validated questionnaires, such as the Social Impact Scale (SIS-D) for investigating the extent of experienced stigmatization.

Results and Conclusion: The project started in April 2016. First results are expected in August 2016. Topics to be investigated are the following: extent and dimensions of stigmatization; sociodemographic, and illness-/symptom-related factors with impact on stigmatization; associations between experienced stigmatization and self-stigmatization; effects of stigmatization on psychological strain, quality of life and occupational-related issues; conclusions regarding further research questions and practical use of research results (e.g., for de-stigmatization). The study is funded by a grant from the "Roland Ernst Stiftung für Gesundheitswesen" (2016–2017).

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The AiMS Study: Assessing the impact of Monoclonal gammopathy of undetermined significance (MGUS). A pilot study

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Background/Purpose: Monoclonal gammopathy of undetermined significance (MGUS) is a plasma cell disorder which precedes multiple myeloma (MM), an incurable blood cancer. Lifelong follow-up is advocated owing to the risk of progression to MM and associated malignancies (1% per year), which remains elevated beyond 25 years. A pilot qualitative study was conducted in response to limited research regarding the impact of receiving a MGUS diagnosis on patient's perceived health and well-being. The results of the pilot study will contribute to a larger MGUS psychosocial study.

Methods: Two focus group interviews were conducted with MGUS patients ($n = 8$). Patients were identified via haematology telephone clinics in Northern Ireland. The recorded interviews were transcribed and subjected to thematic analysis, incorporating both respondent and inter-coder validation.

Results: Living with a MGUS diagnosis elicited a series of complex emotions in some patients, both at and post diagnosis. Difficulties in accessing and understanding information, diagnosis within cancer centres, awaiting follow-up test results, and a perceived lack of support

from healthcare professionals were the chief concerns. Nurse-led telephone follow-up clinics were positively reviewed by all patients and the positive impact of receiving clear and accurate information at diagnosis.

Conclusions: These findings suggest MGUS has a significant psychosocial impact on the lives of some patients, yet several unmet service provision areas exist. The medical/scientific community should be aware of the impact of living with a precancerous condition and appropriate resources such as telephone clinics should be put in place to help alleviate the burden of living with such a diagnosis.

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Impact of a web-based decision aid for women considering breast reconstruction: study protocol for a multicenter randomized controlled trial

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Background: Decisions about breast reconstruction depend to a great extent on personal preferences of the patient and can be difficult to make. Additionally, a substantial number of women experience mild to strong levels of post-decisional regret. To support decision-making in breast reconstruction, a Dutch web-based decision aid is currently being developed. Our aim is to investigate the impact of the intervention on facilitating decision-making.

Methods: A multicenter randomized controlled trial will be conducted. In total, 400 women eligible for breast reconstruction due to (an increased risk of) breast cancer will be invited to participate. The web-based decision aid will be offered to the intervention group. The control group will receive care as usual accompanied by a standard information leaflet on breast reconstruction. Both groups will be requested to complete questionnaires at baseline and 1, 6, and 12 months follow-up. Primary outcomes are decisional conflict, post-decisional regret, satisfaction with information and knowledge of breast reconstruction. Other patient reported outcomes such as health-related quality of life will be compared between groups as secondary outcomes. Furthermore, implementation measures among both patients in the intervention group and healthcare professionals will be evaluated.

Results: First results are expected in 2017.

Discussion: This study will provide empirical evidence regarding the efficacy of a web-based decision aid that is currently being developed in terms of facilitating women in their decision-making about breast reconstruction. Moreover, results will give insight into factors related to successful implementation of the intervention into a breast cancer care setting.

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Coping during early cancer survivorship: a 1 year longitudinal study into coping with cancer and possible predictors

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Background/Purpose: The course of coping among early cancer survivors in the first year after primary cancer treatment is unclear. However, applying adequate coping strategies improves quality of life. It is therefore relevant to assess the course of coping and its predictors among early cancer survivors in general and among relevant subgroups, which was the purpose of this study.

Methods: Participants were cancer survivors (N = 231, any cancer type) allocated to a waiting list control group of a randomized controlled trial. They completed an online questionnaire at baseline and after 6, 12 months. Demographics, disease related factors (cancer type; time since treatment), and personality characteristics (resilience (BRS); self-control (BSC)) were assessed at baseline. Coping related outcomes, respectively adjustment to cancer (MAC positive, negative adjustment); personal control (IPQ-R); problem solving (SPSI-R), were measured at baseline, 6, 12 months. Multiple Generalized Linear Mixed Models analyses were performed with coping scales as dependent variables and previous coping scores (at three time points), demographics, disease related factors and personality characteristics as independent variables.

Results: Personal control and negative adjustment skills did not change over time; problem-solving improved. Positive adjustment skills worsened in the low-income group. Demographics and disease related factors were not predictive for coping. Self-control predicted problem-solving coping, and resilience predicted all forms of coping.

Conclusions: Resilience is an important predictor of adequate coping in early cancer survivors. Problem-solving skills improve during the first year, while negative adjustment and personal control stay stable. Low-income survivors have more problems with positive adjustment coping.

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What Lies Beyond Testicular Cancer Screening: Introducing 'Testicular Awareness'

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Background/Purpose: The incidence of testicular cancer (TC) and benign testicular disorders (BTD) is on the rise. Evidence suggests that young men's awareness of these disorders is lacking. The aim of this paper is to introduce the concept 'testicular awareness' based on evidence from two systematic reviews and one integrative review on TC and BTD awareness as well as findings from a qualitative study on testicular awareness.

Methods: Studies exploring awareness of TC and its screening ($n = 25$), interventions promoting TC and testicular self-examination ($n = 11$), and papers exploring awareness of BTD ($n = 4$) were reviewed. A qualitative study was then conducted to explore men's awareness of testicular disorders and their educational needs ($n = 29$).

Results: Findings from the reviews and qualitative study suggest that men, including ethnic/sexual/socioeconomic minorities, are often unaware of TC and BTD, and their intention to seek help for testicular symptoms is suboptimal. Only those with a personal history of testicular disease were well informed. Men were interested in learning about testicular disorders and proposed a multitude of channels to do so including short and catchy videos and campaigns. The concept 'testicular awareness' can be adopted to address the aforementioned knowledge gap. The attributes of this concept include: familiarity with one's own testes; knowing what is normal versus what is not normal; ability to detect an abnormality; and knowing one's own risk factors.

Conclusions: Future research promoting testicular awareness should take account of men's educational needs and preferred modes of learning including men at risk for health inequalities.

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Psychosocial Care: Caregiver Involvement in Symptom Management

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Aims: To determine the effects of a home-based reflexology intervention delivered by a friend/family caregiver compared to attention control among women with advanced breast cancer undergoing chemotherapy, targeted and/or hormonal therapy.

Methods: Patient-caregiver dyads ($N = 248$) were randomized to either 4 weeks of reflexology or attention control. The intervention effects

were assessed post-intervention at week 5 and at week 11 follow-up for symptom severity and interference with daily activities (M.D. Anderson Symptom Inventory), social support (Multidimensional Scale of Perceived Social Support) and quality of patient-caregiver relationship (Quality of Relationship Tool). Linear mixed effects models were used to relate outcomes at weeks 5 and 11 to study group while controlling for outcome values at baseline.

Results: The reflexology intervention resulted in a significant reduction in symptom severity (mean difference -5.13 , standard error (SE) 1.94 , $p < .01$) and interference (mean difference -4.12 , SE = 1.43 , $p < .01$). There were no differences between study groups in social support or quality of relationship at weeks 5 and 11, indicating that the added task of reflexology delivery had no adverse social effects. Stronger quality of relationship was associated with lower symptom interference (coefficient = 2.46 , SE = 1.08 , $p = .02$), but controlling for it did not diminish the effect of intervention on symptoms.

Conclusions: Involvement of friend or family caregivers in the delivery of reflexology to patients is not associated with strains on patient-caregiver relationship or social support. Efficacy findings of caregiver-delivered reflexology with respect to symptom reduction open a new evidence-based avenue for home-based symptom management.

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Tailored nurse navigation for women treated for breast cancer: a pilot randomized controlled trial

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Background: Women with breast cancer may experience a number of psychological and physical symptoms during treatment, which are not always adequately managed. The aim of this pilot study was to evaluate a screening-based nurse navigation intervention in a randomized controlled design. Materials and

Methods: 50 women with moderate to severe psychological distress (≥ 7 on distress thermometer (DT)) at diagnosis were included and randomized to either intervention or control group between June 2013 and June 2014 at Rigshospitalet, Copenhagen, Denmark. The intervention included systematic screening for psychological and physical symptoms (using the DT and EORTC) at four times from before surgery and up to 12 months after. Based on the screening, the women were offered individual sessions with a nurse navigator providing psycho-education, self-management instructions, referral to symptom management and to a psychologist. The control group had usual care and rehabilitation. Data collection of questionnaires at time of diagnosis, after 1 week, and at 6 and 12 months ended in June 2015 while analyses are ongoing. Primary outcome is distress (DT) while secondary outcomes include symptoms (EORTC) measured as changes from baseline until 6 and 12 months, respectively.

Results: Results on the effect of screening-based nurse navigation on distress, anxiety and depression and physical symptoms will be presented. Furthermore data on patients' satisfaction with the intervention will be shown.

Conclusion: The pilot study will provide knowledge on the effectiveness of systematic symptom screening combined with nurse navigation contributing to future development of rehabilitation programs.

Note. Preliminary results were presented ECCO 2015

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Looking Forward: Co-designing a psychosocial information program for patients completing active treatment

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Background/Purpose: Looking Forward aimed to design and evaluate an evidence-informed supportive re-entry program for patients using a patient-centred participatory action research approach. Results and knowledge translation of phase 1 are presented.

Methods: An experience-based co-design (EBCD) approach was adopted with patients and professionals involved in two university-affiliated oncology programs. Five focus groups were held with 15 patients and 11 clinical and community-based professionals to obtain their perspectives on the experiences of care, key 'touch points', and information/support needs. A 20-minute 'trigger film' highlighting emergent themes of experience, perspective, expectations and concerns, was developed from the video recording of the patient groups and presented at a joint co-design session. Patients and professionals agreed a common set of priorities for content and format. Patient collaborators led the development of an introductory video and oversaw program development.

Results: The program encompasses an orientation session, a 3-minute introductory video, and print-based materials structured to support 'as need' information seeking. The topics for the seven stand-alone information booklets include: Identity, Side effects and symptoms, Fear of recurrence, Regaining function and health, Back to work, Caregiver support, Finding reliable information. The information was developed from existing high-quality, evidence-based materials.

Conclusion: A patient-centred co-design approach enabled patients and professionals to share different perspectives and structure program content and format. Patients demonstrated a high willingness to participate. Patients identified the need for detailed health information at recovery which contrasted with professional's views to restrict this information. Evaluation of the acceptability and impact of the program will be completed.

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Economic evaluations of psychosocial interventions in cancer: A systematic review

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Objective: Although the effectiveness of many psychosocial interventions for people with cancer has been established, one barrier to implementation in routine clinical care is a lack of data on cost-effectiveness. We conducted a systematic review to assess the cost-effectiveness of psychosocial interventions for improving psychological adjustment among people with cancer.

Methods: A systematic review of the literature, study appraisal and narrative synthesis.

Results: Eight studies involving 1668 patients were identified. Four studies reported outcomes in a cost per quality adjusted life year (QALY) framework. Six studies reported psychosocial interventions to be cost-effective for improving health-related quality of life, mood, pain, distress or fear of cancer progression, compared with usual care. Of the six psychosocial interventions identified as cost-effective, three were cognitive-behavioural therapy-based interventions, one was a nurse-delivered telephone follow-up plus educational group program, one was a group-based exercise and psychosocial intervention, and one was a series of 10 face-to-face or telephone-based individual support sessions delivered by a nurse. The quality of studies assessed according to the Consensus Health Economic Criteria-list criteria was good overall; however, some studies were limited by the choice of outcome measure and omission of important categories of costs.

Conclusions: Several psychosocial interventions, particularly those based on cognitive-behavioural therapy, have been demonstrated to represent good value for money in cancer care. Future research should include a clear definition of the economic question, inclusion of all relevant costs, and consideration of utility-based quality of life measures for QALY estimation.

Systematic review registration: PROSPERO Registration Number: CRD42014006370.

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Good systems not good luck: what oncologists and haematologists believe would make it easier for them to refer their patients to psychosocial care

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Background/Purpose: To determine why some oncologists and haematologists find it difficult to provide cancer patients and survivors with advice on and referrals to psychosocial services and to identify interventions through which enablers may be promoted and barriers may be surmounted that clinicians would be willing and able to participate in.

Methods: A purposive sampling method ensured data were gathered from oncologists and haematologists with varying levels of experience at two large, public South Australian teaching hospitals. Qualitative data were collected using semi-structured interviews, guided by the COM-B framework (Michie et al., 2014) to help understand influences on the target behaviour (i.e. referral). Data were analysed with assistance from NVivo software, using Braun and Clarke's (2006) method of Thematic Analysis.

Results: Several barriers relating to oncologists' and haematologists' capability, opportunity and motivation to refer to psychosocial services were identified; for example a lack of knowledge on available psychosocial services, how to refer to them and the types of patients that would find them beneficial. Each dominant barrier will be discussed with reference to ways of overcoming it that were acceptable to participants. Changes to professional training, hospital systems and methods of psychosocial service provision and promotion are options that will be explored.

Conclusions: Findings will inform the development of acceptable behaviour-change-theory-based interventions to improve the rate of referral to psychosocial services by oncologists and haematologists. Without novel interventions of this type, a substantial number of people affected by cancer will continue to unnecessarily suffer from high levels of distress.

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The supportive care needs and intervention preferences of rural cancer survivors who have completed active treatment

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Background/Purpose: Completion of cancer treatment and transition from urban treatment centres back to rural communities is challenging for many rural cancer survivors. The purpose of this study is to a) build deeper understanding of the unmet needs of rural people who have completed active cancer treatment and returned to their rural communities, b) identify their barriers to engagement in existing psychosocial and tertiary prevention interventions at this time and c) determine methods through which existing services could be re-orientated and/or new web or telephone-based interventions could be developed and delivered to more appropriately meet their preferences and needs.

Methods: Purposively sampled, adult South Australians who lived outside metropolitan Adelaide and had completed active cancer treatment, and participated in semi-structured interviews. A broad range of demographic backgrounds and medical histories were represented in the sample. Qualitative data were analyzed using Thematic Analysis (Braun and Clarke, 2006).

Results: Participants reported a range of unmet post-treatment social, emotional, practical and tertiary prevention needs. Barriers to engaging in existing services/interventions were identified. Acceptable methods of overcoming these issues via web and telephone-based interventions will be discussed.

Conclusions: Unique needs, barriers to engagement, intervention requirements and preferences must be carefully considered before attempting to adapt or develop supportive care and tertiary prevention interventions for rural cancer survivors who have completed active treatment. This is the first study to articulate the intervention design requirements and preferences of this underserved population and will inform the adaption of existing and development of new interventions that better meet their needs.

[Correction added on 19 December 2016, after first online publication on 14 October 2016: Author "Professor Karen Meneses" and her affiliation, "Cancer Control and Population Sciences Program, The University of Alabama", have been added to the authors list and affiliations list of Abstract 299.]

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The meanings of living with advanced breast cancer: women resilient to distress vs. women with chronic distress

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Background: Improved treatment has increased length of survival for women with advanced breast cancer (ABC). The aim of this qualitative study was to compare illness meanings of ABC between women with chronic psychological distress and those with low or transient distress.

Methods: The sample was drawn from an existing longitudinal study exploring trajectories of distress during the first year following

diagnosis of ABC. Forty-two Chinese women diagnosed with locally or metastatic ABC were recruited based on their distress trajectory status (low-stable/transient, or persistent distress). Interviews were recorded, transcribed, and analyzed following grounded theory principles.

Results: Women exhibiting persistent distress perceived diagnosis as an extra blow in life, with the illness permeating every aspect of their life. Coping styles evidenced Nerenz & Leventhal's (1989) model predominantly featuring maladaptive rumination and thought suppression, with a pronounced sense of demoralization highlighted in their narratives. In contrast, women with transient/low-stable distress encapsulated their illness, holding an attitude of acceptance and living in the present moment. The availability of a supportive environment played an important role in women with low distress.

Conclusions: These study narratives highlighted how cognitive processing, social resources, and exposure to other life stress influence the ways women make sense of the ABC diagnosis. ABC patients should be assessed for recent exposure to life crises, availability of family or other close support, and pre-existing emotional problems. Relevant and appropriate supportive care should be available.

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A cascade model of residual cancer symptoms and psychosocial distress

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Background: Physical symptoms after cancer disrupt normal activities, possibly cascading to create psychosocial distress, facilitated by cognitive factors.

Methods: We assessed 1,114 cancer survivors 9 months after treatment completion. Path Analysis extended Jim et al.'s (2013) hypothesized sleep (PSQ) -fatigue (CFS) -depression (HADS-D) pathway by including current pain/symptom distress (MSAS-SF), neuroticism (EPI) and intrusive thought (IES-I) influences on sleep quality. Model 1 regressed (pain or symptom distress) on age, gender, cancer-type and neuroticism. Model 2 sleep on (pain or symptom distress), neuroticism, age and IES-I; Model 3 IES-I on neuroticism, age and gender; Model 4 fatigue on sleep, and Model 5 depression on fatigue.

Results: Model 1a showed pain predicted only by neuroticism ($\beta = .190$, $R^2 = .046$), while Model 1b symptom distress predicted by neuroticism ($\beta = .444$), age ($\beta = -.106$) and cancer-type ($\beta = -.048$) ($R^2 = .214$). Model 2a showed that while current pain ($\beta = .144$) and IES-I score ($\beta = .349$) predicted sleep quality ($R^2 = 0.168$), Model 2b showed that symptom distress ($\beta = 0.412$), IES-I score ($\beta = .201$) and age ($\beta = .115$) better predicted poor sleep quality ($R^2 = .293$); Model 3 showed both neuroticism ($\beta = .451$) and gender ($\beta = .085$) predicted IES-I score ($R^2 = .225$); Model 4 identified poor sleep correlated with fatigue ($\beta = .429$, $R^2 = .184$), and Model 5 that fatigue strongly correlated with depression ($\beta = .543$, $R^2 = .295$). Respecifying model 1b to include IES-I ($\beta = .374$) increased the explained variance ($R^2 = .320$).

Conclusions: The cascade model connects psychological distress as depression with disrupted life activities. In particular, poor quality sleep, previously associated with later fatigue and depression, appears to be pivotal. Poor sleep quality is particularly associated with residual symptoms and worry and was more common among older patients in this sample. Worry was associated with higher neuroticism scores and younger age.

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An exploratory study of the effectiveness of a parent-child family group in enhancing family functioning among bereaved Chinese families with young children

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Background: The death of a loved one is one of the most painful challenges to adaptation amongst all of life's stressful events. Such bereavements also affect the total well-being of individuals and families. It is particularly threatening and stressful in families with young children. This study aimed to assess whether a parent-child family group using therapeutic approaches enhanced family functioning.

Methods: A parent-child family group, based on the strength-based family centered approach, was introduced to 6 Chinese families with young children in which one of the parents had died during the last 12 months. Pre- and post-assessment of family functioning was examined using the 12-item subscale of general functioning from the Family Assessment Device (FAD). Qualitative data were obtained through analyzing dialogue and interactions during the group process.

Results: Quantitative analysis of the pre- and posttest data indicated a significant positive change in family functioning ($t = 5.293$, $p < 0.05$). Qualitative data demonstrated participants feeling supported by the group and identified improvements in the parent-child relationship. Parents also described their children being more able to use their initiative and less fearful of being alone during their daily living activities.

Conclusions: Although a small study, this approach to a parent-child family group demonstrated not only different family members sharing their sorrow but also how their pace of grieving and coping differed. It also facilitated families to increase their resilience in the grief process. The findings may suggest a future direction for service development.

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'Cascade': A randomized trial of online support for parents after their child's cancer treatment

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Background/Purpose: Childhood cancer is increasingly recognised as a chronic illness which impacts families after the child is 'cured'. Parents of childhood cancer survivors can experience poor quality of life and other psychosocial challenges. This two-stage study evaluated 'Cascade': an online, group-based, cognitive-behavioral therapy (CBT) intervention, delivered by a psychologist using videoconferencing technology. Cascade is a manualized program that assists parents to navigate distress and adjustment following their child's treatment.

Methods: Stage One: A randomized pilot investigated the acceptability and feasibility of Cascade ($N = 47$; 25 randomized to Cascade). Stage Two: A multi-site randomized-controlled trial is currently evaluating the efficacy of the intervention ($N = 60$ by October 2016, based on current recruitment rates). Parents' quality of life and psychological functioning is measured at baseline, post-intervention, and 6-month post-intervention.

Results: Stage One: Regarding feasibility, almost all participants completed Cascade ($n = 24/25$; 96%). Most parents (80%) completed every questionnaire (mean completion time: 25 minutes ($SD = 12$)). Cascade was described as at least 'somewhat' helpful by all parents. None rated Cascade as 'very' or 'quite' burdensome. Parents reported that the 'online format was easy to use' ($n = 28$, 93.3%), 'I learnt new skills' ($n = 28$, 93.3%), and 'I enjoyed talking to others' ($n = 29$, 96.7%). Peer-to-peer benefits were highlighted by good group cohesion scores. Stage Two: Early efficacy data will be presented.

Conclusions: Cascade appears highly acceptable and feasible. CBT skills delivered in a group-based online format can be used to support parents as they manage the ongoing challenges of their child's cancer survivorship.

304 Sexual behaviors and knowledge: A web-based survey with adult survivors of pediatric, adolescent, and young adult cancers in Japan (1)

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Background: Sexuality is an important component of the quality of life of people with cancer. This study aimed to determine the impact of cancer experience on sexual behaviors and knowledge among adult survivors of pediatric, adolescent, and young adult cancers.

Methods: Adult cancer survivors (aged ≥ 20 years) who were diagnosed with cancer aged 0–29 years completed a cross-sectional web-based survey.

Results: In total, 108 survivors participated. Participants' mean age at the time of diagnosis was 13.0 ± 9.2 years and was 31.3 ± 8.0 years at the time of survey. Of participants, 38.9% were male, 88.9% had an education beyond high school, and 71.3% had sexual experience. The mean age of the first sexual experience was 20.9 years for males and 20.3 years for females, which was similar to that of the general public in Japan. Respondents who were diagnosed at 0–19 years of age had a significantly lower rate of sexual experience compared with respondents diagnosed at 20 years and older ($p = 0.015$). Participants were asked questions that evaluated knowledge about STDs, HIV, and contraception methods, with correct answers ranging from 33.3 to 87.7%; similar to responses of university students to the Annual Sexual Behavior Survey in Japan.

Conclusions: The present study found little gap between the sexual behaviors and knowledge of adult survivors of pediatric, adolescent, and young adult cancers and the general public of similar age in Japan. However, more research is necessary to examine the impact of factors such as long-term cancer complications and the age of diagnosis.

307 Genetic testing for childhood cancer survivors' risk of late effects: Consumer understanding, acceptance and willingness-to-pay

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Background/Purpose: Most childhood cancer survivors (CCS) are given generalized information about their risk of developing late effects from their cancer and its treatment. However, many late effects are associated with specific genetic mutations. Genetic testing to determine childhood cancer survivors' risk of developing late effects is therefore likely to be offered to young survivors of the future.

Objectives: To explore the extent to which CCS and parents understand and accept genetic testing for late effects and its implications.

Methods: Stage 1 involved a pilot study ($N = 24$), which informed the development of the Stage 2 interview schedule. In Stage 2, 20 CCS (mean age 26.0) and 20 parents of CCS (mean age of CCS 14.2) completed a semi-structured interview (response rate 40%). Interviews were analysed using NVivo 10.0.

Results: Most participants (95%) reported that they would be willing to undergo genetic testing to determine their risk of late effects, and over

two-thirds reported that it would be acceptable to pay up to AUD5000. The majority reported that it would be acceptable if results were returned up to six months post-testing. Participants were asked to rate how fourteen potential benefits/concerns would influence their decision-making. Ratios indicated a positive decisional balance amongst survivors and parents, with both groups leaning towards testing.

Conclusion: Though clinical efficacy is yet to be clearly demonstrated, survivors and parents describe positive interest in genetic testing for risk of late effects. Perceived benefits outweighed negatives, and the majority of participants would be willing to pay and wait for testing.

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Health care use and associated factors among lymphoma survivors

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Background/Purpose: Lymphoma and its treatment can affect patient's life physically and psychologically, which often leads to more health care use. This increased health care use places a high burden on the health care system. This study therefore identifies which factors are associated with a higher health care use among lymphoma survivors.

Methods: A population-based sample of survivors diagnosed with lymphoma between 2008 and 2012 was selected from the Netherlands Cancer Registry (NCR). They completed a health care use and quality of life questionnaire, including questions on emotional functioning (worry and depressive feelings) between 2011 and 2013. Sociodemographic and clinical data were retrieved from NCR.

Results: Of the 781 invited survivors, 564 participated (response 72%). Lymphoma survivors made more medical visits than the general population (6.0 vs 1.3 times per year; $p < 0.01$). These differences were completely explained by cancer-related visits. Survivors with lower emotional functioning, diagnosed with a high-grade lymphoma, and diagnosed more recently made more cancer-related medical visits, whereas age, sex, and comorbidity were not associated to more cancer-related visits. Twenty-six percent of survivors received additional care, with 14% receiving psychosocial care. Receiving psychosocial care was related to younger age (OR = 0.96; 95%CI = 0.94–0.98), being female (OR = 0.38; 95%CI = 0.21–0.68), and lower emotional functioning (OR = 0.97; 95%CI = 0.96–0.98).

Conclusions: Lower emotional functioning was associated to more cancer-related medical visits independently of clinical factors. Psychosocial care was received by 14% of lymphoma survivors. Possibly, patient-centered information provision and self-management education may improve survivors emotional functioning, which may potentially reduce the amount of medical visits.

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Participation and characterization of patients with lymphoma in a web-based self-management intervention

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Background/Purpose: Greater resources for coping with cancer can reduce the risk for poor psychological health. Research shows a positive influence of self-management interventions on psychological and physical health among patients with cancer. For the evaluation and potential further implementation, it is important to understand which patients participate in these interventions. However, little is known regarding characterization of patients and their willingness to participate. Therefore, this study identifies which sociodemographic, clinical, and psychological variables are associated with participation in a web-based self-management intervention for patients with lymphoma.

Methods/Results: Patients diagnosed with lymphoma are selected from the population-based Netherlands Cancer Registry and invited to participate in a randomized controlled trial (RCT) on the effectiveness of a web-based self-management intervention. Willingness to participate will be evaluated and characteristics of respondents and non-respondents will be compared. Patient characteristics include sociodemographic (gender, age, marital status, and education), clinical (lymphoma type, stage of disease, and treatment), and psychological variables (personality, symptoms of anxiety, and depression). Data collection of the first 50 patients will be gathered in summer 2016, and results will be first presented at the IPOS conference.

Conclusion: This study will provide information on the uptake and characterization of patients' participation in a web-based self-management intervention. This information is important with respect to the generalizability of results and could contribute to the provision of patient-tailored health care.

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Romantic relationships after cancer diagnosis and illness disclosure: A web-based survey with adult survivors of pediatric, adolescent, and young adult cancers in Japan (2)

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Background: Development of interpersonal relationships, especially romantic relationships, is central to identity development. This study aimed to determine the proportions of Japanese pediatric, adolescent, and young adult cancer survivors who had experienced romantic relationships after their diagnosis and illness disclosure to a partner and to identify the associated factors.

Methods: Adult cancer survivors (aged ≥ 20 years) who had been diagnosed with cancer between ages 0–29 years participated in a cross-sectional web-based survey. Age at diagnosis was divided into three groups: 0–14 years, 15–20 years, and 21–29 years.

Results: In total, 104 participants were eligible for analysis, with an average current age of 30.9 ± 7.6 years. Cancer types included leukemia (34.5%), testicular carcinoma (10.0%), sarcoma (9.0%), retinoblastoma (7.3%), and lymphoma (7.2%). Sixty-six participants (63.5%) reported that they had romantic relationships after their cancer diagnosis. Of these, 62 participants (93.9%) had talked about their cancer to their partner. After controlling for current age, logistic regression showed that those with a younger age at diagnosis (0–14 years) were more likely to have had romantic relationships than those aged 21–29 years at diagnosis. Participants who experienced limb and joint problems after cancer treatment were less likely to have had romantic relationships. None of the variables studied were significantly associated with illness disclosure.

Conclusions: Cancer survivors with limb and joint morbidity may experience difficulties in forming romantic relationships. Provision of support may be helpful for this group to facilitate their identity development.

313 End-of-life decision-making in India

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Background: Culture influences the way an individual experiences life, understands death and makes sense of one's own mortalities. In India, illness is a shared family experience where often advance directives do not exist and families act as proxies for patients. This study explored terminal Indian cancer patients' attitudes towards and experiences of end-of-life decision-making.

Methods: Twenty-five Indian cancer patients who have less than 9 months to live and were aware of their prognosis participated in semi-structured interviews exploring their attitudes towards and experiences of end-of-life (EOL) decision-making, particularly about preparing one's will, do-not-resuscitate (DNR) orders and euthanasia. The interviews were transcribed and analyzed using Interpretative Phenomenological Analysis.

Results: Five major themes emerged from the analyses: (i) doctor's role – should give emotional support but more importantly must provide a treatment and cure, (ii) patient's decision – must not give up and should fight the disease, patients who have supportive families were less likely to prepare a will, choose DNR orders and/or euthanasia, (iii) family's decision – family, especially the most educated person, is closely

involved in decision-making, (iv) children's responsibilities – divided between daughters (emotional care, home and non-financial) and sons (logistics, interface with hospital staff, and finances), and (v) God's will – EOL decisions are in the hands of God, and consequently, doctors should continually try to treat and cure the patient.

Conclusions: The findings suggest that it is important to consider cultural perspectives on EOL decisions, especially with respect to preparing a will, choosing DNR orders and euthanasia.

314 “You have to find a way somehow”: Pathways to care and structural dynamics in Indian cancer care

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Background: On their journey to seeking appropriate care for cancer in India, people usually lose a lot of time. Research suggests this delay may be due to lack of cancer awareness (of symptoms and treatment choices) and inequitable access to healthcare services. In order to better understand the experiential aspects of help-seeking, this study explored Indian cancer patients' accounts of their pathways to care.

Methods: Indian patients (40) who were living with cancer and were aware of their diagnosis participated in semi-structured interviews exploring their experiences of navigating the health system, symptom identification, and barrier to accessing care. The interviews were transcribed and analysed using thematic analysis.

Results: Two major themes with several sub-themes emerged from the analysis: (i) delay in seeking help (linked to poor symptom identification, taboo of using the word “cancer,” fear, and low levels of cancer literacy), (ii) structural inequalities (proximity to one's home, lack of trust in “smaller” hospitals, and financial constraints).

Conclusions: The findings suggest that it is important to improve public health literacy in order to raise awareness of cancer symptoms and available resources. Importantly, it may be useful to develop a positive discourse on early identification and its connection to surviving cancer. Addressing the issues of structural inequalities, it may be necessary to provide additional support to patients in terms of planning for the costs of care.

315 Physical activity and patients with advanced cancer: A qualitative exploration

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Background: There is a growing body of evidence detailing the benefits of staying physically active through all stages of the cancer

continuum. To be effective, interventions involving physical activity (PA) should be guided by the needs, attitudes and beliefs of a population. This qualitative study examined the attitudes and beliefs of patients living with advanced prostate cancer towards physical activity.

Methods: Semi structured interviews were completed with 14 patients. This interview included eight questions relating to attitudes towards PA, which were based on the guiding principles of the Health Belief Model. Thematic analysis was performed on the transcribed interview data.

Results: The mean age of participants was 71 years (SD = 8.6). Four main themes emerged which influenced participation or opinions about physical activity: a history of being physically active, family support, the activity levels of patients' peers and barriers to exercise. There was wide variation in reported levels of family support for PA and in patients' perceptions of their activity levels in relation to their peers. A diagnosis of advanced cancer was not perceived as a barrier to engaging in PA. Bad weather, a lack of suitable facilities, pain, fatigue and low motivation were commonly reported barriers to engaging in PA.

Conclusion: Patients with advanced cancer reported multiple barriers which influenced their level of physical activity participation. Health professionals and researchers can use this information to plan tailored physical activity programs, taking into consideration the individual barriers patients with advanced cancer face when trying to maintain or increase PA levels.

318 Online self-management for distress after prostate cancer treatment: assessing acceptability and viability of The Getting Down to Coping® Programme

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Background: Despite prevalent distress after prostate cancer treatment, psychological support is not readily available and men do not always seek help. Without support, physical and mental difficulties can escalate, increasing health service utilisation. Accessible, tailored intervention is required. This mixed methods study asked: for men with mild/moderate distress, is it feasible to deliver an innovative, self-referral, online intervention, based on CBT combined with filmed peer support, through a low-intensity mental health service?

Method: Users and researchers co-designed the intervention. A process evaluation tested feasibility. Men diagnosed ≤ 3 years were accessed through primary care. Study procedures were conducted online and the intervention was facilitated through the Improving Access to Psychological Therapy (IAPT) service.

Results: 432 men were invited: 61 consented; 47 who had not received psychological support participated and were assessed using the GHQ; 28. 21% ($n = 10$) had mild/moderate distress and entered the intervention; and 10.5% ($n = 5$) had severe depression/suicidal thoughts and were referred to their GP. Substantial programme engagement was indicated by completion rates, time logged-in, programme entries, films viewed and satisfaction responses. Chat room engagement was weaker. IAPT staff interviews indicated the need for the following: practitioner training; more appropriate tools for assessing distress; and designated clinical facilitation time.

Conclusion: Preliminary evidence supported proof of concept. Substantial unmet need exists in this population. Research is required to identify how best to promote programme availability, to evaluate benefit across the disease trajectory and distress spectrum, and to assess the effectiveness of integrating the programme into the IAPT service. An exploratory randomised trial is planned.

320 Cancersupport.eu for cancer patients & caregivers

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www.cancersupport.eu comes from the idea of Christina Sanson and Fia Hobbs.

Our professional collaboration follows our first meeting in Rotterdam, in 2013, at the 15th World Congress of Psycho-Oncology held by IPOS. This project is an innovative e-health intervention developed in four languages (English, French, Italian and Swedish) and aimed to support people - with diagnosis of cancer - in a holistic framework, through an easy access via skype and/or e-mail. The website is on line since 1st of July 2016. Vision: Both of us had been working in the field of counseling for years, and our work face to face with cancer patients has made it clear that focusing on the quality of life and mind and body well-being has positive effects on the treatment that people are going through. Open-Minded/Action-Focused: The Five Pillars of our Holistic Treatment: Cancer affects all levels of the human condition: mental, physical, emotional, social and spiritual. The lack of integration among any of these parts can prevent the healing process. We design an individualized plan to give everyone a tailored holistic support, in all different stages of cancer, to find his/her own resources and tools, in order to cope with illness and to reveal the emotional blueprint. Research is an important and integrative part of our work to further understand the underlying causes of psychosocial cancer onset. To be up-to-date, we collaborate with the wide professional world, sharing expertise and experience.

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Investigating the role of self-management strategies as predictors of health-related quality of life (HRQL) in head and neck cancer (HNC) survivors

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Background/Purpose: Self-management is a key component of effective chronic illness care and improved patient outcomes. To date, however, research focusing on self-management among HNC survivors has been lacking. The present study addresses this knowledge gap by investigating the role of specific self-management behaviors in predicting HRQL in HNC survivors who had completed primary treatment.

Methods: Participants ($N = 177$) were HNC survivors aged 18 yrs + at diagnosis and were 1–5 yrs post-primary treatment. Hierarchical regression analysis explored the unique role of self-management behavior using the Health Education Impact Questionnaire (heiQ), controlling for lifestyle (Block 1: marital status, household income and smoking status) and psychosocial variables (Block 2: body image concern, fear of recurrence and cognitive functioning), in predicting HRQL.

Results: The model, as a whole, explained 62% of the variance in HRQL. Self-management behaviors accounted for 8% of the variance, once lifestyle variables ($R^2 = .219$) and psychosocial variables (R^2 Change = .325) had been controlled for. Critically, in terms of self-management behavior strategies, social integration and support (SIS; $\beta = -.283$, $p < .005$), positive and active engagement (PAE: $\beta = -.219$, $p < .05$) and constructive attitudes and approaches (CAA: $\beta = .206$, $p < .05$) made unique contributions to HRQL. Specifically, higher SIS and PAE predicted higher HRQL. In contrast, lower CAA predicted higher HRQL.

Conclusions: This is the first study to provide evidence of a link between self-management behaviors and HRQL in HNC survivors and may provide important targets for future intervention development.

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You and I. Lights and Shadow of Cancer

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"You and I. Lights and Shadows of Cancer" is a tool for reflection giving voice to the personal and professional experience of the author in the field. But first of all, it is a book giving voice to the people with diagnosis of cancer. Christina Sanson reports some of the most significant human meetings lived during her over 20-year voluntary activity, by witnessing how the psychological factors and life experiences can contribute the cancer onset and influence its care path. If the XXI century is considered the era of biotechnology and of major scientific and technological advances, cancer – often considered as a modern illness – was already present in ancient times. And more, the connection between psyche and tumor is not a new idea, and many psychosomatic studies have showed the onset of cancer in people who had suffered emotional trauma or stress conditions. From this background, the author moves and leads the reader into a new thought made of lights and shadows about the cancer onset, showing the results of a new psychosocial research (still ongoing). In its first phase, this study involved 50 Italian-speaking people and was divided in 5 sections, linked to the definition of cancer concerning emotions, body's trauma and sufferings, and the Jungian psychological types. The referring sample was collected evenly by gender and experience/absence of oncological illness. In a second step, the questionnaire was translated and administered to other 50 participants, this time, English-speaking.

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"Ways we can help men like you": Developing and testing targeted psychosocial service information for rural men affected by cancer in South Australia

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Rural men affected by cancer use services at a much lower rate than other people affected by cancer. It has been suggested that developing targeted psychosocial service information may help to address some barriers to service use in this population, but to date, this idea has not been objectively tested. We developed a targeted rural- and a targeted rural male-psychosocial service information brochure and compared their effectiveness to an existing generic control brochure on outcome measures of perceived informational relevance, attitudes to help-seeking and intention to use services. 90 rural men were recruited via Cancer Council SA's supportive accommodation facilities. The pre-post randomised trial design delivered one brochure; participants completed measures at baseline (Time 1), immediately post viewing the brochure (Time 2) and approximately one day later (Time 3). Complete-case bivariate

analysis and reliable change indices indicated no detectable group differences on attitudinal or behavioural measures. Content analysis revealed service information in this sample was primarily sourced from friends, family and medical professionals (not brochures). There was no evidence that rural or gender-focused targeting improved attitudes to help-seeking. However, existing service use was unusually high in the sample, due to recruitment methods. Therefore increasing awareness of services is likely to have been particularly challenging in this group. Further qualitative research to build understanding about how best to target information for this population and replication of the study in a sample recruited from the community or via a hospital (rather than via an organization that provides supportive care) would be useful.

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Prevalence rates and risk factors of suicidal ideation in head and neck cancer patients

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Background: Head and neck cancer patients (HNC) are reported at increased risk for suicide. No study has investigated suicidal ideation, attempts, and completion in this population from a longitudinal perspective.

Methods: We analyzed a longitudinal dataset of 223 HNC patients who completed the Beck Scale for Suicidal Ideation (SSI) items.

Results: 11.3% had a positive Suicidality Screen within 2 weeks of diagnosis, 10.9% at 3 months, and 8.1% at 6 months; higher than one-year rates were found in Canada (3.7%) and Quebec (3.9%). Approximately 11.3% reported lifetime suicidal ideation, equivalent (or lower) than 14.7% in Canada. One patient attempted suicide (0.7%) within 3 months and two successfully suicided (0.9%) during 1–3-year follow-up. A logistic regression identified the following baseline predictors of 3-month suicidal ideation: baseline suicidal ideation ($B = 8.064; p = 0.009$), high levels of anxiety and depression (HADS) ($B = 0.468; p = 0.016$), coping using self-blame ($B = 1.721; p = 0.036$) or venting ($B = 0.992; p = 0.097$ (trend)) (Brief COPE), and positive alcohol abuse/dependency screen (RAPS-QF > 2.5) ($B = 3.984; p = 0.048$). While these variables were significant, the single most important predictor of suicidality at 3 months was baseline suicidality (93.4%, $p < 0.001$), with other variables not significantly contributing to overall prediction. Other variables were found unrelated (e.g., cancer stage, ECOG, and symptom burden). Descriptive statistics and clinical assessment of suicide risk revealed that almost half were not currently actively suicidal; instead, contemplating hastened death or suicide in the future “if things get worse.” Overall risk was categorized as low (76.9%) or medium (23.1%); 3.6% showed intent to die at baseline, 2.7%–2.8% at 3 and 6 months.

Conclusions: While some HNC patients are actively suicidal, most have fleeting future thoughts of suicide. Screening for suicidality appears important in this population, as well as long-term treatment plans for patients contemplating suicide early in their cancer trajectory.

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McGill Body Image Concerns Scale (MBICS-HNC) for Use in Head and Neck Oncology: Full Validation Using Classical Test Theory and Rasch Measurement Theory

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Background: Given no such measure currently exists, the aim of this study was to develop and validate a patient-reported outcome measure designed to evaluate body image concerns in HNC patients.

Methods: Items were created using a combination of deductive (e.g., US Food and Drug Administration Qualification of Clinical Outcome Assessments, literature review) and inductive approaches (e.g., subject matter experts, HNC patients). Items were then translated for use in both English and French using back-translation. A two-step empirical validation process using Classical Test Theory and Rasch Measurement Theory was conducted with 224 HNC and 246 HNC patients, the latter having undergone disfiguring surgery within the past three years.

Results: Analyses suggest two subscales for MBICS: body image concerns (12 items) and social stigma (7 items). The MBICS is reliable with high internal consistency ($r > 0.95$) and temporal stability over a two-week period ($r = 0.91$), has strong and statistically significant ($p < 0.01$) criterion validity ($r = 0.82$) and convergent validity ranging between $r = 0.38$ and $r = 0.88$, and has consistent and statistically significant ($r < 0.05$) divergent validity ranging between $r = -0.15$ and $r = 0.60$. Rasch Measurement Theory was applied to the data and confirmed a high internal reliability 0.95 and overall good item fit. A *t*-test of principal components of residuals confirmed the subscale structure suggested by exploratory factor analysis.

Conclusions: There is strong evidence for a new self-reported measure of body image concerns in HN oncology. This will enable further research into quality of life of HNC patients and opens the door for screening of body image distress in HNC patients.

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"Not now, maybe later": Reasons why cancer patients with emotional distress decline psycho-oncological support

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Background: Psychosocial distress screening has become an international standard in comprehensive cancer care linking patients with significant emotional distress to psychosocial health care services. However, distress severity is not always decisive for patients' intention to use support. We examined (1) the association between distress and intention and explored (2) distressed cancer patients' reasons against using psycho-oncological support.

Methods: A prospective observational study in an oncology outpatient clinic was used. Patients were routinely screened for psychosocial distress with the distress thermometer (DT). Patient data was collected in semi-structured interviews and analysed with a mixed-methods approach.

Results: 334 cancer patients participated (mean age: 60 years, 55% male). Distress was significantly associated with intention to use psycho-oncological support ($p < .01$). Among patients with significant emotional distress ($DT \geq 5$) 34% intended to use support, 32% were ambivalent, and 34% did not intend to use support. Reasons against use were 'managing distress oneself', 'sufficient social support', and 'feeling insignificantly distressed'. Ambivalent patients reported partially overlapping reasons yet were open towards attending psycho-oncological support service at a later stage combined with if-then thinking (e.g. 'if my social support breaks down, I might use support').

Conclusion: Distress is associated with intention to use support. Nonetheless, two thirds of distressed cancer patients did not intend to use psycho-oncological support immediately. Some patients clearly declined, while others were undecided but basically open towards psycho-oncological support. To optimize psycho-oncological care delivery, research and practice need to address patient-related motivational barriers and approaches to encourage distressed patients to attend psycho-oncological support services.

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Parental health beliefs and HPV vaccination uptake of their adolescent daughters: a longitudinal cohort analysis in Hong Kong

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Background/Purpose: HPV vaccination uptake remains extremely low among Hong Kong Chinese adolescent girls. A longitudinal

study identified predictors of adolescent girls' HPV vaccination uptake.

Methods: 1,996/3337 (60%) randomly sampled Chinese parents, who had at least one HPV unvaccinated daughter aged 12–17 years and heard of HPV vaccine, were interviewed by telephone; 1255 and 979 completed re-assessment 6 and 12 months later regarding their daughters' HPV vaccination status. Logistic regression identified factors predicting vaccination uptake.

Results: Most parents (88.6%) reported never received a doctor's recommendation to vaccinate daughters against HPV. Despite 37.7% of parents indicating positive intentions at baseline, 12 months later, only 9.8% reported vaccinating their daughters against HPV: two-thirds of those intending to and one quarter of those not intending to vaccinate their daughters ($p < 0.001$). Factors associated with greater uptake were perceiving cervical cancer as difficult to prevent (odds ratio [OR] 2.86, 95%CI = 1.42–5.76), trust in government (OR 2.35, 95%CI = 1.11–4.95) and perceiving daughter as vulnerable to cervical cancer (OR 1.89, 95%CI = 1.02–3.49). Parents who were healthcare workers (OR 0.27, 95%CI = 0.08–0.89), older parents (OR 0.31, 95%CI = 0.16–0.61), believing vaccines weaken immune systems (OR 0.33, 95%CI = 0.17–0.66), parental-peer influence (OR 0.43, 95%CI = 0.20–0.88), and anticipated regret about vaccination (OR 0.49, 95%CI = 0.24–0.99) predicted lower vaccination uptake.

Conclusions: These findings highlight that intention weakly predicts vaccination behaviour and how trust in information, social influence, and anticipated regret influence parental decision-making for daughters' HPV vaccination. Further insight into vaccination uptake determinants is important to improve cervical cancer prevention.

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The symptom cluster of insomnia, depressive mood, anxiety and somatization: association with subjective cognitive complaints and neuropsychological test performance in breast cancer survivors

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Background: Insomnia, depressive mood, anxiety, and somatization are highly prevalent, co-occurring symptoms amongst breast cancer survivors. These are in previous studies collectively recognized as a symptom cluster. Individually and collectively, they are associated with poor cognitive performance in healthy populations. However, no studies have examined the possible association between the collective symptom cluster and cognitive impairment amongst breast cancer survivors.

Methods: Patients were 157 breast cancer survivors participating in a web-based cognitive training study. Baseline questionnaire data on insomnia, depressive mood, anxiety, somatization, quality of life (QOL), and subjective cognitive complaints were included. Furthermore, neuropsychological tests were conducted, and data was converted to z-score-based domain scores of memory and working memory. Cluster analysis based on insomnia, depressive mood, anxiety, and somatization were conducted to identify subgroups. Independent samples *t*-test were used to compare the subgroups.

Results: Cluster analysis classified patients into two groups based on their symptom cluster rating: a low symptom ratings group (LSR; *n* = 64) and a high symptom ratings group (HSR; *n* = 92). The HSR group reported significantly more subjective cognitive deficits (*p* = .000) and reduced QOL (*p* = .000) but was indistinguishable from the LSR group on memory (*p* = .296) and working memory (*p* = .307) performance.

Conclusion: The findings do not support an association between a symptom cluster of insomnia, depressive mood, anxiety, somatization, and objectively assessed cognitive functioning in breast cancer survivors. The cluster appears, however, related to QOL and perceived cognitive impairment. This supports previous findings that perceived cognitive impairment is associated with high levels of distress.

337 Researching the psychosocial needs of cancer patients in the clinical setting

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People with primary malignant brain tumour diagnoses are a heterogeneous group with particular needs. Many patients will live in a prolonged state of dependency with high attendant care needs, early cognitive failure, and prognostic uncertainty. At present, the evidence-base informing service provision and psychosocial care for people with a primary malignant brain tumour is limited, with this government-funded study being the first of its kind in Ireland focusing on this patient group. The core aim of this doctoral study is to explore in great depth and theorise the phenomenon of the lived experience of patients with a primary malignant brain tumour diagnosis. This grounded theory study uses in-depth repeat interviews across the disease trajectory to fully capture the patients' experience of diagnosis through to the completion of treatment and experiences post-treatment. Recruitment of approximately 30 patients is ongoing and has been facilitated through a specialist radiation-oncology hospital in Dublin over a 12-month period. Despite the necessity to conduct qualitative psychosocial research within the oncology setting, many aspects of the research design are dependent on balancing the needs of patients and clinicians with those of doctoral-level research. The researcher must negotiate challenges presented by inhabiting a clinical setting, where priorities and ontology may be at variance with the nature of qualitative research. In this presentation, I will discuss the

various challenges I have faced to date and their implications for further research relating to practice, service design, and service provision in oncology settings.

338 Translation and validation of the Dutch version of the Fear of Cancer Recurrence Inventory (FCRI-NL)

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Purpose: Fear of cancer recurrence (FCR) is one of the most prevalent long-term psychological consequences of surviving cancer. However, research on well validated multidimensional measures is limited. There is one exception, the Fear of Cancer Recurrence Inventory (FCRI) (Simard & Savard Support Care Cancer 2009; 17 241–51), validated in both French and English. In order to make the FCRI available for clinical and research purposes in Dutch-speaking countries, the FCRI was translated into Dutch (FCRI-NL). This study aims to investigate the psychometric qualities of the FCRI-NL.

Methods: A mixed sample of 281 cancer survivors (243 female; mean age 52.5 years, SD = 9.8) was recruited through websites and newsletters of patient organizations in the Netherlands in 2011–2012. The FCRI-NL and six additional questionnaires were completed for determining reliability and construct validity. Moreover, confirmatory factor analysis was done for determining construct validity. For test-retest reliability, 116 participants completed the FCRI-NL again after two weeks.

Results: Confirmatory factor analysis of the FCRI-NL resulted in an acceptable fit of the original 7 factor-model ($\chi^2(812) = 1956,39$ *p* < .00; $\chi^2/df = 2.41$; RMSEA = .071; CFI = .82; PNFI = .69). Internal consistency ($\alpha = .93$) and test-retest reliability (*r* = .82) of the FCRI-NL were good. Construct validity was good; both concurrent validity with related constructs (all *r* ≥ .05) and divergent validity with different constructs (all *r* ≤ .04) were confirmed.

Conclusions: Overall, the results of the present study indicate that the FCRI-NL is a reliable and valid measure of FCR.

339 Systematic Literature Review and Meta-synthesis of patients' experience on fear of cancer recurrence

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Background/Purpose: Fear of cancer recurrence is now fully recognized as a major issue and concern in a majority of cancer survivors. In the last few decades, a large number of studies about this topic have appeared, with quantitative research having been recently reviewed and summarized. Nevertheless, qualitative research is still called for to develop psychological theory about the nature and effective treatment of fear of cancer recurrence. We are carrying out a systematic review and meta-synthesis of qualitative studies about patients' experience of fear of cancer recurrence, in order to address the following research questions: "What does fear of cancer recurrence mean for cancer patients/survivors?"; "What experiences do patients with fear of recurrence have?" **Methods.** The PsycInfo; MEDline; PubMed; CINAHL and ProQuest databases are being searched, combined with additional "berrypicking" strategies. Only qualitative data are being considered, extracted not only from scientific articles but also from dissertations and chapter books, when the inclusion criteria are met. The selected studies are evaluated using a quality appraisal form. A descriptive-interpretative meta-synthesis approach is being used, from which central features about patients' experience are being identified. **Results.** This study is still on progress. **Conclusions.** The results of this systematic review and meta-synthesis will inform theoretical understandings and future interventions on fear of cancer recurrence.

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The association between patient's and partner's fatigue in couples coping with colorectal cancer: a longitudinal study

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Background: Couples coping with colorectal cancer were monitored during the first year after diagnosis to evaluate (i) levels of patients' and partners' fatigue – hereby comparing their scores to each other and a normative population, (ii) association between patients' and partners' fatigue, (iii) the course of partners' fatigue, and (iv) biopsychosocial predictors of the partners' fatigue, including the patients' level of fatigue.

Method: Couples ($n = 171$) preoperatively completed questions regarding age and sex as well as questionnaires assessing neuroticism and trait anxiety. Questionnaires assessing fatigue, anxiety, and depressive symptoms were measured preoperative (Time-0) and three (Time-1), six (Time-2), and twelve months (Time-3) postoperative. Patients' clinical characteristics were retrieved from the Eindhoven Cancer Registry. Descriptive statistics, correlations, and linear mixed effect models were used.

Results: Compared with a normative population, partners' fatigue was similar ($p > .05$), while patients' fatigue was higher at Time-2 and Time-3 (p 's $< .001$). At each time point, correlations between

patients' and partners' fatigue were small ($r < .30$). Partner's course of fatigue was as follows: 18.2 at Time-0, 19.0 at Time-1, 19.4 at Time-2, and 19.2 at Time-3 ($p = 0.64$). Scoring higher on neuroticism ($\beta = .12$) and trait anxiety ($\beta = .23$) and more depressive symptoms ($\beta = .30$) significantly contributed to higher partners' fatigue.

Conclusion: Trait anxiety, neuroticism, and depressive symptoms predicted higher levels of partners' fatigue, while demographic factors, patients' fatigue, and clinical factors did not. Health professionals are advised to be alert for partners with a vulnerable personality and depressive symptoms. If needed, they can, for instance, refer to a psychologist for treatment.

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Virtual Reality pain management for children with onco-hematological diseases undergoing venipuncture

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Background: Venipuncture is one of the most common painful procedures for children with onco-hematological diseases. Although several techniques for pain management are commonly used, high levels of pain remain a widespread problem. Immersive Virtual Reality (IVR) seems to reduce pain during several procedures that included port access placement and intravenous access. Our aim is to test feasibility and effectiveness of IVR as distraction technique to reduce pain in patients undergoing venipuncture in the Onco-hematology Service of an Italian children's hospital. **Methods.** Using a within-subjects design, 10 children (mean age 11.75 years) underwent venipuncture twice, using IVR and receiving the standard care. Pain and IVR experience were investigated using a specific self-report questionnaire and coping strategies were evaluated using the Italian version of the Waldron/Varni Pediatric Pain Coping Inventory. **Results.** Patients in IVR condition referred significantly lower levels of pain and time spent thinking about pain and unpleasantness of the procedure, than in control condition. No significant differences in pain reduction emerged in the four pain coping strategies. No side effects were reported by patients. **Conclusions.** IVR seems to be a useful distraction technique for children pain management during venipuncture, without differences connected with coping strategies. Our results support the existent literature and suggest the need of deeper studies to evaluate IVR effectiveness during this procedure and to analyze the influence of coping strategies.

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CANCER AND SEVERE MENTAL ILLNESS – MIND THE GAP: A PROGRAM FOR PSYCHIATRIC PATIENTS IN A CANCER CENTER

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Background: Health outcomes disparities between severe mental illness (SMI) and general population are well known. Cancer mortality and morbidity are generally increased in SMI. In this article we review the literature and present a brand new multidisciplinary program implemented for severe mental patients with cancer in a major Cancer Center in Lisbon.

Methods: We conducted a literature review using PubMed and American Cancer Society database between 2006 and 2016 with the following keywords: cancer prevention, cancer diagnosis and severe mental illness.

Results: From 606 reviewed articles, we realized that increased mortality and morbidity in SMI patients is probably linked to unhealthy lifestyles, socioeconomic factors, unequal access to care and mental illness stigma. Only one randomized clinical trial studied the benefits of tailored intervention in SMI to reduce cardiovascular risk factors. One article, just based on expert opinion, suggested public health measures plus tailored interventions for cancer prevention, screening and treatment stages in SMI.

Conclusion: To reduce the gap in our cancer center in Lisbon, we are implementing a program for SMI patients with cancer based on (1) immediate referral to psycho-oncology clinic on admission; (2) referral to tobacco and nutrition tailored clinics; (3) adoption a model of case management with a navigator; (4) education of Oncology teams about communication and coping with SMI patients; and (5) raising awareness about this inequality in the community and regional Psychiatry Centers.

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Elevated cancer mortality in severe mental illness and schizophrenia: a meta-analysis of 65 population studies

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Patients with severe mental illness (SMI) have elevated mortality from natural and unnatural that typically causes 10–15 years of premature mortality. It is often presumed that this is mainly cardiovascular mortality and suicide; however, cancer mortality may also be elevated. We conducted a systematic search citation search data extraction data analysis/meta-analysis. Data was extracted

from using Standardized Mortality Ratio (SMR) or Hazard Ratio (HR/RR) only for those studies comparing severe mental illness with those without mental illness using population data. We located 30 publications containing 65 analyses of SMI. There was no significant bias but there was heterogeneity. On random effects meta-analysis the increased cancer related mortality was 30% (36% on fixed effects) $p < 0.0001$. We located 12 publications containing 15 analyses of schizophrenia. There was no significant bias but there was heterogeneity. On random effects meta-analysis, the increased cancer related mortality was 37% (60% on fixed effects) (95% CI = 1.16 to 1.62, $p = 0.0003$). We conclude patients with SMI (and schizophrenia) have at least 30% elevated mortality after the diagnosis of cancer, although the reasons for this are not entirely clear. Further research is needed whether the incidence/mortality gap is most marked for specific cancers such as colorectal, melanoma, prostate, and breast cancers.

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Patient Competence in Patients with Breast, Colorectal, or Prostate Cancer. An Analysis of Its Dimensions and Changes during Oncological Rehabilitation and 9 Months Afterwards

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Background: The concept of Patient Competence (PC) has received increasing attention in the light of growing demands for patient autonomy, increasingly complex cancer therapies, prolonged survival, and efforts to enable shared decision making. Thus, Germany's National Cancer Plan considers PC as an important goal in comprehensive cancer care, while also acknowledging a need for clarifying the concept itself and analysing the determinants and effects of PC empirically. Therefore, this study explored the dimensions of PC and its changes during oncological rehabilitation and afterwards.

Method: In a multicentre study, patients with either breast, colorectal, or prostate cancer were surveyed at the beginning ($N = 377$) and at the end of their rehabilitation and 9 months afterwards. At each time point, patients filled in questionnaires covering, e.g., PC, self-efficacy, fear of progression, depression, coping, and quality of life. Data analysis included factor analyses and 3 (Diagnosis) x 3 (Time) repeated measures ANOVAs.

Results: Factor analyses support distinguishing between 4 dimensions of PC: information-seeking, interacting with physicians, self-regulation, and managing distressing emotions. Breast cancer patients score significantly higher on information-seeking ($\eta^2 = .07$). Changes across time are significant for self-regulation and managing distressing emotions only ($.04 \leq \eta^2 \leq .07$): Slight increases during rehabilitation are followed by slight decreases afterwards.

Discussion: The findings support a multidimensional approach to measuring PC. The small changes observed across time, however, raise the

question of how to better promote PC and how to refine the measure of PC used here in order to adequately reflect its desired changes.

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Elevated cancer mortality in unipolar and bipolar affective disorders: a meta-analysis of population studies

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Patients with depression and bipolar disorder have elevated mortality from natural and unnatural causes. Depressive symptoms and a clinical diagnosis also influence case fatality after a diagnosis of cancer according to two meta-analyses (Cancer. 2009 115(22):5349–61; Psychol Med 2010;40(11) 1797–1810). However, it is unknown if cancer mortality is higher compared with population controls (SMR rather than case fatality ratio). We conducted a systematic search citation search data extraction data analysis/meta-analysis. Data was extracted from using Standardized Mortality Ratio (SMR) or Hazard Ratio (HR) only for those studies comparing affective disorders with those without mental illness using population data. We located 8 publications containing 12 analyses of bipolar disorder. There was no significant bias and there was no heterogeneity. On fixed effects meta-analysis, the cancer related mortality was increased to 1.15 (95% CI = 1.08 to 1.23, $p = 0.0062$). We located 5 publications containing 8 analyses of depression. There was no significant bias, but there was heterogeneity. On random effects meta-analysis, the increased cancer-related mortality was 17% (15% on fixed effects). We conclude that there is elevated cancer mortality in affective disorders between 15 and 17%, which although lower than schizophrenia, is still significant.

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Predictors of baseline cancer-related cognitive impairment in cancer patients scheduled for a curative treatment

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Background: Increasing research in the field of cancer-related cognitive impairments (CRCI) has shown CRCI presentation prior to treatment initiation. Some have attributed these problems to worry and fatigue, whereas others have suggested an influence of age, IQ and other psychosocial and medical factors.

Methods: Patients (≥ 18 years) with a histologically confirmed diagnosis of a solid cancer or haematological malignancy, scheduled for a curative treatment, were evaluated with a baseline neuropsychological assessment including patient-reported outcome measures (PROMs). PROMs entailed distress, anxiety and depression, fatigue and cognitive complaints. The neuropsychological assessment comprised several cognitive domains such as premorbid IQ, attention, processing speed, flexibility, verbal and visual episodic memory and verbal fluency.

Results: Cross-sectional data of 125 patients were collected. Patients had a mean age of 60.9 years (range 30.0–85.0) and comprised primarily females (65.6%). Patients presented with cancer of following sites: breast (44.0%), digestive (28.8%), urological (11.2%), gynaecologic (8.0%), hematologic malignancy (4.8%) or lung cancer (3.2%). Patients presented with a premorbid IQ of 105.3 (range 79.0–124.0). In 29.6% of patients, a CRCI was detected. Binary logistic regression analyses showed that a lower premorbid IQ ($\beta = -0.084$, $p < 0.01$) and a higher level of fatigue ($\beta = -0.054$, $p < 0.05$) predicted baseline CRCI. Premorbid IQ also predicted performance on an individual cognitive domain. Some domains were also influenced by age, gender, having a breast cancer diagnosis and an active treatment for hypertension.

Conclusion: Premorbid IQ is an important predictor of baseline CRCI. Therefore, we advise researchers to implement a short IQ test when conducting clinical trials on CRCI.

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Quality Characteristics of Psychosocial Cancer Counselling Centers in Germany: A Nationwide Analysis

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Background: In one of its goals, Germany's National Cancer Plan addresses the necessity of providing psychosocial cancer care across the whole cancer trajectory and tailoring it to patients' individual needs. Thus, assuring the quality of in- and out-patient psychosocial cancer counselling increases in importance. In a study funded by the German Cancer Aid, we therefore explored quality characteristics of psychosocial cancer counselling provided by out-patient cancer counselling centres in Germany.

Method: Starting from a list of 151 psychosocial cancer counselling centres available from the German Cancer Information Service in Heidelberg, data on quality characteristics concerning the structures and processes of psychosocial cancer counselling as provided by these centres were collected via either internet or mail survey. 106 of the centres (70%) responded. Data analysis included frequency counts and contingency tables. The quality characteristics covered were based on a prior expert Delphi study conducted by us.

Results: A majority ($\geq 79\%$) of the centres provide basic counselling services like giving information, psychosocial counselling, social benefit counselling, and referring to other services. 75% of the centres employ social workers and psychologists having received additional training in psycho-oncology. Furthermore, 75% of them conduct regular case conferences, 66% regular external supervision. Only 28% screen all their clients for distress.

Discussion: The number and type of services provided, the qualification of the staff, and conducting regular case conferences appear largely appropriate. However, there also seems to be room for improvement, especially with respect to distress screening and external supervision as a quality assurance measure.

348 Quality of life and Psychological Well Being of ovarian cancer patients: the Italian validation of the City of Hope "Quality of Life Scale: Ovarian Cancer Patient"

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Considering the paucity of questionnaires of specific quality of life and psychosocial condition in ovarian cancer patient, the present study intends to translate and validate in Italian the questionnaire City of Hope "Quality of Life Scale: Ovarian Cancer Patient." The research design is multicentric, observational and cross-sectional. For the purpose of validation, the following instruments will also be used: EORT Quality of Life Questionnaire (C-30), EORTC Quality of Life Questionnaire (OV28) and PGWB Psychological General Well-Being Index. The questionnaires will be administered to a minimum of 100 ovarian cancer survivors. Participants are eligible for this study if they are at least 18 years of age, survivors of ovarian cancer and able to speak and read Italian fluently. Currently, the City of Hope "Quality of Life Scale: Ovarian Cancer Patient" questionnaire have been translated into Italian and back-translated, and a pilot study will be conducted involving 30 patients representative of the target population. In the light of the information gathered from the pilot phase, we prepare the final version of the instrument to be validated in the present study. The partial results will be presented at the conference. The Italian version of the City of Hope "Quality of Life Scale: Ovarian Cancer Patient" may be useful for research and the clinical practice in the field of ovarian cancer in Italy. With regard to the experimental

context, it is crucial to have specific instruments with sound psychometric properties; in this way it is possible to have available appropriate measures to conduct rigorous studies focused on ovarian cancer survivors. This could be an important resource both in the identification of patients needs and in structuring specific psychosocial interventions.

349 Professional Quality of Life of Oncoprosessionals in Flanders, Belgium

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Purpose: The Cédric Hèle institute, Flemish institute for psychosocial oncology (CHI), conducted an in-depth study to explore the psychological impact of working in an oncology setting and the role of self-efficacy on this field.

Methods: CHI distributed digital questionnaires among healthcare providers, medical staff and nurses working with oncology patients, in intra- and extramural settings. The questionnaire consisted of a questionnaire concerning demographic and job features, The Health Professions Stress Inventory, The Dutch General Self-Efficacy Scale and the ProQoL (Version 5, 2009).

Results: The results are based on the data from 548 participants. 21.5% of the participants score low on compassion satisfaction. There is an indication that 23.2% and 24.5% have an increased risk for burnout and compassion fatigue, respectively. The vulnerability to burnout and secondary traumatic stress is not significantly different for medical and paramedical disciplines. The predictors of the extent to which professionals evaluate self-efficacy are the number of years of experience in Oncology, stress from the lack of professional recognition and support, and stress from experiencing uncertainty in caring for patients.

Conclusion: The results of the study give an insight into the main sources of stress experienced by oncology professionals and show that the extent of self-efficacy has an influence on the development of burnout and secondary traumatic stress and the satisfaction of working in the oncology field. The findings offer recommendations in developing training for the prevention of work-related problems and the improvement of the professional quality of life of those working in oncology.

350 COMPARING THE POST-TRAUMATIC GROWTH LEVELS OF TURKISH PATIENTS WITH BREAST AND LUNG CANCER

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Introduction: The current methods for early diagnosis and increased treatment options have improved survival rates in cancer. Cancer diagnosis affects individuals in physical, psychological and social dimensions either positively or negatively. Cancer diagnosis is an extremely stressful experience that has a profound impact on a patient's life. Cancer-related perceived stress and complications may lead to the experience of positive psychological changes and post-traumatic growth (PTG). This study is aimed to compare the post-traumatic growth level of patients with breast and lung cancer.

Method: This study took place in the Medical Oncology Unit of, Istanbul Medipol Mega University Hospital, between the 1st of September 2015 and the 1st of November 2015. Thirty-seven patients with breast cancer and twenty-two patients with lung cancer who were in their 6th months after diagnosis at least were included in this study. Data were collected by using The Posttraumatic Growth Inventory. Data were analyzed in the statistical program SPSS Version 18.0. The Independent t-test and ANOVA variance were used for analysis.

Results: In the study, total posttraumatic growth scores of the patients with breast cancer, changes in self-perception, changes in philosophy of life and the development of interpersonal relationship scores were higher from the patients with lung cancer.

Conclusions: Lung cancer is diagnosed late-stage and symptom burden is more. Also the recover possibility is limited and survival time is shorter than breast cancer. So that Posttraumatic Growth could be affected because of these reasons.

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Gender-Related Identity as a Predictor of Psychosocial Well-being among Young Breast Cancer Survivors

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Purpose: Young breast cancer patients' sense of self is powerfully affected by the illness experience. The (dis)integration of traditional gender role expectations post-mastectomy can drastically affect women's body image dissatisfaction and quality of life. Yet, limited research has been conducted to address this topic. The aim of this investigation was to examine whether the internalization of values that counteract traditional gender-related identity and role expectations can predict psychosocial well-being among young breast cancer survivors.

Methods: One hundred and thirteen women breast cancer survivors, diagnosed at age 36.25 (SD = 5.89), mostly between stages I–III (93.9%), participated in the study. Participants completed gender-specific measures to assess gender-related identity and role expectations, including Objectify Body Consciousness Scale (OBCS), Gender Role Socialization Scale (GRSS), Mental Freedom Scale (MF), and Silencing the Self Scale (SS). Two outcome measures of

psychosocial well-being were included: the Functional Assessment of Cancer Therapy–Breast (FACT-B) and the Experience of Embodiment Scale (EES). Correlation and multivariate regression analyses were conducted to examine the relationship between gender-related identity and psychosocial well-being.

Results: All gender-related scales were significantly correlated with the two measures of psychosocial well-being, such that counteracting traditional gender role expectations was associated with enhanced well-being. In a multiple regression model, GRSS and MF significantly predicted FACT-B scores, $R^2 = 40.0\%$. In contrast, OBCS predicted EES scores, $R^2 = 61.0\%$.

Conclusions: The results of this study highlight a critical relationship between an individual's altered body, gender-related identity, and psychosocial well-being after a cancer experience. These findings have important implications for psychological interventions with young breast cancer patients entering survivorship.

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Cognitive behaviour therapy for cancer related fatigue: analysis of the treatment response and new applications in patients on targeted therapy

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Severe fatigue is a prevalent and debilitating symptom after cancer treatment with curative intent. According to the cognitive behavioural model of Cancer Related Fatigue (CRF) in cancer survivors, cognitions and behaviour maintain fatigue once the cancer and/or cancer treatment has triggered the symptom. Cognitive behaviour therapy (CBT) for CRF is aimed at changing the cognitions and behavior that maintain the fatigue. Two randomised controlled trials testing the efficacy of CBT for CRF in cancer survivors showed that fatigue severity and level of disability decreased significantly directly following treatment. CBT for CRF consists of six components: graded activity, sleep-wake regulation, lessening the fear of recurrence, improve coping with cancer, changing social interactions with respect to fatigue, and changing fatigue-related cognitions. The first two presentations in the symposium focus on the treatment response of CBT for CRF in cancer survivors. First, the results of a randomised controlled trial comparing the efficacy of graded activity with the other five components of CBT will be presented. In the second presentation, results of a long-term follow-up of CBT in cancer survivors, up to 14 years after completion of treatment, will be discussed. Severe fatigue is also an often-reported side effect of targeted therapy. The last two presentations will focus on how CBT for CRF can be adapted for patients with targeted therapy-related fatigue (TTF). The adaptation process will be described, and some preliminary data on the feasibility of the adapted CBT for TTF will be presented using a novel single case experimental design.

Supporting Abstract 1:

The efficacy of graded activity in cognitive behaviour therapy for severe postcancer fatigue

Author:

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Background: Cognitive behaviour therapy (CBT) is an evidence-based treatment for postcancer fatigue. CBT consists of six components: graded activity, sleep-wake regulation, fear of recurrence, coping with cancer, social support and fatigue-related cognitions. This study aimed to test the efficacy of graded activity compared to the other five components together.

Methods: In a randomised controlled trial, graded activity (study arm A) was compared to the other five components (study arm B). Fatigue was measured with the subscale Fatigue severity of the Checklist Individual Strength before (T1) and after CBT (T3). In arm A, the therapist started with graded activity, and when completed, an interim analysis took place (T2), after which the other components were delivered. In arm B, the therapist started with the other five components, and when completed, T2 took place, after which graded activity started.

Results: Participants with mixed cancer diagnosis were randomised to arm A (N = 41) and B (N = 48). Fatigue significantly decreased from T1 to T2 in arm A (45.5 (SD = 5.3) versus 30.8 (SD = 10.3); $p < .001$) and B (46.7 (SD = 5.8) versus 36.1 (SD = 10.4); $p < .001$). The decrease was significantly larger in patients who started with graded activity (moderate effect size Cohen's $d = 0.5$, $p = .036$, ANCOVA). In addition, 59% of the patients in arm A and 48% in arm B could not be classified anymore as severely fatigued (difference n.s.). Preliminary data indicated that, overall, about three quarters of patients were recovered from severe fatigue after CBT (T3).

Conclusions: Graded activity was more effective in decreasing fatigue severity compared to the other five components together.

Supporting Abstract 2:

Long-term follow-up after cognitive behaviour therapy for postcancer fatigue

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Background: Cognitive behaviour therapy (CBT) aimed at fatigue perpetuating cognitions and behaviour is an effective therapy for fatigue after curative treatment for cancer. It is unclear to what extent therapy effects are sustained over time. In this study, with a follow-up period up to 14 years after completion of CBT, we examined whether therapy effects are maintained.

Methods: Participants (n = 103) of two previously published randomised controlled trials, testing the efficacy of CBT for fatigue after treatment of cancer with curative intent, were contacted for a follow-up assessment. The primary outcome fatigue severity was assessed with the Checklist Individual Strength, subscale 'Fatigue severity'. The effect of CBT on mean fatigue scores from post-therapy assessment to long-term follow-up was examined using mixed model analysis.

Results: After CBT, there was a significant decrease of mean fatigue severity in the CBT group: from a mean score of 47.0 (SD = 6.7) at baseline to a mean fatigue severity score of 25.9 (SD = 12.6) post-therapy. At long-term follow-up, mean fatigue severity was significantly increased to 34.1 (SD = 12.7). At post-treatment, 75% of patients were no longer severely fatigued, whereas at long-term follow-up, this percentage was significantly decreased to 45.

Conclusions: Positive effects of CBT for fatigue in cancer survivors were partly sustained at long-term follow-up as about half of patients were no longer severely fatigued. Further research should examine why a subgroup of patients relapsed and reported severe fatigue.

Supporting Abstract 3:

Adapting an Evidence-based Intervention to Address Targeted Therapy-related Fatigue (TTF) in Chronic Myeloid Leukemia (CML) Patients Paul Jacobsen PhD ¹; Hanneke Poort ², Msc, Cathy Meade PhD¹, Hans Knoop PhD^{2,3}; Marieke Gielissen PhD³; Javier Pinilla-Ibarz MD¹ ¹Departments of Health Outcomes and Behavior and Malignant Hematology, Moffitt Cancer Center, Tampa, USA; ²Expert Center for Chronic Fatigue, Radboud University, Nijmegen, The Netherlands; ³Department of Medical Psychology, University of Amsterdam, Amsterdam, The Netherlands

Background: Although TTF is common among CML patients, there is no established treatment. To address this issue, we adapted a cognitive behavior therapy (CBT) intervention effective against post-treatment cancer-related fatigue to create a CBT-TTF intervention. The adaptation also involved moving from clinic-based delivery to Internet-assisted delivery via FaceTime using iPads. This presentation reports on the adaptation process guided by the ADAPT-ITT framework.

Methods: Adaptation was based on data collected from CML patients and oncology care providers using self-report questionnaires and semi-structured interviews and consultation with experts on cancer-related fatigue.

Results: Overall, patients and providers felt the six-module intervention based on established perpetuating/exacerbating factors of fatigue (sleep, activity, thinking, coping, social support, and fear of recurrence) was worthwhile. Patients were receptive to the Internet-assisted delivery, frequency, and duration of CBT-TTF. The most significant change was development of a new psycho-education module addressing the need for more information about CML and its treatment.

Conclusion: We successfully adapted a TTF-specific version of the original intervention. The adapted intervention is now being tested for acceptability and preliminary evidence of efficacy in a pilot randomized trial.

Supporting Abstract 4:

FEASIBILITY AND EFFICACY OF COGNITIVE BEHAVIOR THERAPY (CBT) IN THE TREATMENT OF TARGETED THERAPY-RELATED

FATIGUE (TTF) IN CHRONIC MYELOID LEUKEMIA (CML): A SINGLE-CASE EXPERIMENTAL DESIGN

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Background: TTF is the factor that limits quality of life the most among patients with CML, yet no treatment studies have been conducted. We aimed to examine feasibility and explore efficacy of a CBT-TTF intervention.

Methods: Prior to conducting a full-scale trial, this first treatment study used a Single-Case Experimental Design (SCED), which is particularly appropriate when studying small-*n* populations. A 53-year old male being treated with Bosutinib for CML and who reported severe fatigue (score ≥ 35 subscale fatigue severity, Checklist Individual Strength; CIS-fatigue) was enrolled in the study. Upon completion of baseline assessment, the participant was randomized to a CBT-TTF start point (week 11, range: 8–27). Within this participant, CBT-TTF was compared to the 10-week no-treatment baseline period. Weekly CIS-fatigue data were collected and analyzed by means of visual inspection and a randomization test. Additionally, an effect size measure was calculated (Non-Overlap of All Pairs; NAP).

Results: Weekly CIS-fatigue data indicated a downward trend in the expected direction. However, statistically significant improvement was not demonstrated (mean difference: -4.20 , p -value = .09). NAP indicated a medium intervention effect (91.50%). Towards the end of CBT-TTF, the participant was hospitalized with bacterial gastroenteritis.

Conclusions: CBT-TTF delivery was both feasible and acceptable. Although our in-depth study of this single-case added to the scarce knowledge on treating TTF in CML patients, limitations of the SCED may have impacted the results and will be discussed. Further efficacy testing of CBT-TTF is currently being conducted in a series of SCEDs.

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Is Burnout the real problem of the operators in Oncology field? Exploratory analysis of data from a single Institution in Italy

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Background: Several trials highlighted a significant impact of burn out on the operators' QoL in the Oncological field, whilst others pointed out a feeling of a poor psychological training.

Purpose: The aim was to screen the personnel (including physicians and nurses) working at our institution in order to draw paths for training and psychological support.

Methods: Four Evaluation tools, including Link Burn Out Questionnaire (LBQ), Beck Depression Inventory II (BDI), Staxi 2, and CBA-VE, have been administered to 72 out of 75 operators (3 refused) from January to March 2016.

Results: Male/female ratio was 19/56 (25.3%/74.7%); median age was 40 (range 20–62 years). 32 were Physicians (17 oncologists and 15 fellows), 28 Nurses (12 trainers), and 12 Healthcare Assistant. According to LBQ, 7% showed high values: 3 operators in the Relational Deterioration scale and 2 in the Disillusion scale. According to the BDI, 11% showed depressive problems, and furthermore, 57% had sleep problems, 15% low self-esteem issues, 33% excessive self-criticism. CBA VE underlined high anxiety levels in 24% of the operators, low well-being decrease in 14% and psychological suffering in 14%. At the STAXI 2, 15% had a high expression of aggressiveness, while the 10% was overcontrolled.

Conclusions: Our analysis showed how burn out does not seem to be the main problem among the operators, but several others need to be taken into consideration. Selected operators will be referred to individual and group training and support paths. Retests will be carried out to evaluate the effectiveness of the interventions.

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Adjustment mechanisms and early attachment relations in breast cancer patients

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Background: Psychological adaptation of breast cancer patients was shown to be related to processes such as coping strategies and defense mechanisms. Considering that early attachment relations play a pivotal role in establishing emotion regulation patterns in adulthood, they may also influence adjustment to stressful situations. The present study investigated whether adaptive processes are associated to attachment patterns in women hospitalized for breast cancer surgery.

Methods: One hundred and ten patients were administered questionnaires assessing coping with cancer, defense mechanisms, and memories of parental bonding in childhood in the days following quadrantectomy or mastectomy.

Results: High levels of paternal overprotection were associated with less mature defenses (Median=4.27, IQR: 3.43-4.86, $p=0.03$; all ps

adjusted for age and type of surgery), withdrawal (Median=6.67, IQR: 4.67-8.00, $p=0.01$) and fantasy (Median=3.5, IQR: 1.83-5.00, $p=0.05$), and with a hopeless/helpless coping mechanism (Median=15, IQR:12-19, $p=0.05$). Low levels of paternal care were associated with a greater use of repression (Median=3.67, IQR: 2.67-5, $p=0.05$). No association was found significant for maternal care and overprotection. Immature defenses correlated positively with disadaptive coping styles, whereas mature defenses were positively related to a fighting spirit and to fatalism, and inversely related to disadaptive coping styles.

Conclusions: These data suggest that the recollection of paternal relations in childhood is associated with emotional, cognitive, and behavioral regulation in adjusting to cancer immediately after surgery. Attachment representations may constitute a relevant index for the adaptation to cancer, indicating which patients are at risk and should be considered for psychological interventions.

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A qualitative assessment of unmet needs in prostate cancer patients

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Prostate cancer has many treatment options with different side effects. However, patients often face impact of treatments (e.g., erectile dysfunction) without being prepared. Most studies in this field assessed unmet needs using quantitative approaches. Here, we qualitatively evaluated participation in communication and decisions, and unmet needs in the relational and practical domain of prostate cancer patients throughout the careflow. 10 patients undergoing radiation therapy underwent a semi-structured interview addressing 4 main thematic blocks: patient-healthcare providers communication, decision making role, needs and difficulties, resources.

3/10 reported the possibility to share information and questions with healthcare providers. For decision making, the role of healthcare providers was perceived as directive/informative (6/10), but patients assumed an active role (spontaneously or "on demand") in treatment-related decisions (7/10). Unmet needs included difficulty in sharing relevant information, establishing trustful relations with physicians, conciliating work and treatment during radiation therapy, practically and emotionally managing requirements for therapy (e.g., empty rectum, full urinary bladder). Resources included social support both from a practical and an emotional perspective, sharing experiences with other patients, availability of economic resources, flexibility in working schedules.

Authors interpret these results suggesting that the adoption of a personalized approach early in prostate cancer careflow may improve quality of life and patient engagement, overcoming unmet needs.

These considerations were used for the development of a cancer self-management platform aiming to increase patients' empowerment. The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No643529.

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Three ways to Care and Connect: a comprehensive approach to supporting families affected by childhood cancer in a global community

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Background/Purpose: Families with children affected by paediatric cancer need improved access to supportive cancer care to empower decision making throughout a cancer diagnosis and beyond. Empowering parents to make informed decisions includes providing support for emotional and social well-being, knowledge and education, understanding of the research landscape and access to treatment. Increasingly, more families are seeking access to clinical trials across borders when options become limited locally. A flexible multi-model approach "Care and Connect" to family support is a forward-thinking unique paradigm developed to offer comprehensive support to children and their families. To date, we continue to support over 120 families globally.

Methods: • Applicability of Care and Connect – a brief overview will show how this is applied in remit of access to treatment – including clinical trials overseas, education and research. • Facilitating this coordinated approach through my role as Family Coordinator in meeting the needs of individual cancer patients and families. Access to someone who listens, identifies and provides tailored support and guidance throughout a cancer journey. • Case studies on 3 families demonstrate the necessity for flexibility and illustrate the range of resources required for supportive cancer care.

Results: • This multi-model approach directly helped families in making informed decisions to improved palliative support, accessing clinical trial overseas, and quality of life in survivorship.

Conclusions: • Families are empowered to make informed decisions regarding their child's cancer care when this multi-model approach of caring and connecting is applied.

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The predictive power of the Social Difficulties Inventory in cancer follow-up

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Background: A significant minority of cancer survivors experience long-term compromised Health-Related Quality of Life (HRQOL). Risk-stratified follow-up based on cancer type, treatment and

individual needs is recommended at transition from active treatment to follow-up, including screening for physical, psychological and social issues. Screening requires measures, which are not only acceptable, meaningful and psychometrically sound but also have predictive power (not commonly investigated). In a secondary analysis, the predictive power of the Social Difficulties Inventory (SDI-21) Social Distress summary scale (SD-16) in patients' future HRQOL was examined.

Methods: Data were taken from the ePOCS study (Ashley et al. *J Med Internet Res.* 2013;15(10):e230). UK patients with potentially curable breast, colorectal or prostate cancer (N = 357) completed the SDI-21 and SF-36v2 online at nine and fifteen months post-diagnosis, respectively. Hierarchical binary logistic regression analyses examined the extent to which SD-16 scores (dichotomised at the ≥ 10 cut-point) predicted SF-36 physical (PCS) and mental (MCS) component summary scores (dichotomised $> 1SD$ below the normative mean score), six months later, after controlling for social and clinical characteristics. Relative risk analyses were undertaken.

Results: Social distress at nine months was a significant independent predictor of physical and mental HRQOL, fifteen months post-diagnosis. The relative risks of poorer HRQOL six months after scoring above the SD-16 cut-point were 3.45 for PCS; 4.78 for MCS; 3.21 for either PCS or MCS; and 8.69 for both PCS and MCS.

Conclusions: Initial evidence of the predictive power of the SD-16 to identify cancer patients at future risk of lower HRQOL is encouraging.

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eRAPID: electronic patient self-Reporting of Adverse-events: Patient Information and aDvice. A randomised controlled trial in systemic cancer treatment

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Aims: eRAPID is an online system for patient self-reporting of symptoms during and after cancer treatment. eRAPID allows reporting from home via the internet with data integrated into Electronic-Patient-Records for use in routine care. The system provides immediate self-management advice and alerts to clinicians. The overall aims of eRAPID are to improve delivery of cancer treatments, enhance patient care and standardise documentation of symptom data within clinical datasets.

Methods: eRAPID is being assessed in an RCT (parallel group design with repeated measures and mixed methods, with internal pilot phase). Adult patients with Internet access attending St James' Hospital, Leeds receiving chemotherapy for colorectal, gynaecological or breast cancer are eligible (target sample N = 568). Participants are randomised to either the eRAPID intervention or usual care. Intervention participants complete weekly eRAPID symptom reports for 18 weeks. The primary outcome of the RCT is quality of life (FACT-G). Secondary outcomes include process-of-care measures (hospital contacts), health

economics, patient self-efficacy and health activation. Interview data is also collected from staff and participants.

Results: Recruitment began in January 2015. Of 258 identified patients, 134 were approached during the pilot. 87 consented, 22 declined and 25 were excluded after further screening. The consent rate when excluding ineligible patients was 80%. Early findings suggest the intervention is well received.

Conclusions: Pilot recruitment figures have met the criteria for progression to the full trial. Recruitment will run until December 2017. The overall findings will determine the acceptability and value of the eRAPID intervention for supporting patients receiving systemic cancer treatment.

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Factors mediating psychological adjustment in patients with ductal carcinoma *in situ*: preliminary findings from an ongoing study

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Detection and diagnosis of ductal carcinoma *in situ* (DCIS) is rising. DCIS is a preinvasive malignancy of the breast with a highly variable clinical presentation and a number of treatment options. Many women are unable to distinguish between preinvasive and invasive breast cancer (IBC) and may overestimate the implications despite relatively positive prognosis. Conflicting exists in evidence in literature with some studies indicating these patients adjust relatively easily and others indicating levels of distress comparable to those diagnosed with IBC. In line with published data trends, we expect to find that 1) patients with DCIS are experiencing similar levels of psychological distress as patients with IBC, and 2) that inaccurate risk perceptions (pertaining to the progression of DCIS and IBC) may be related to these negative psychosocial outcomes, which may in turn influence decision-making and subsequent health behaviours. Participants assessed to date (N = 43; IBC n = 32; DCIS n = 11) complete a number of psychometric questionnaires at the pre-treatment stage, looking at anxious symptomatology (PHQ-4, Distress Thermometer); risk perception (Cancer Worry Scale), and Intolerance of Uncertainty (IUS). Preliminary data analysis of the sample to date (N = 43; IBC = 32, DCIS = 11; age range = 36–74, mean age = 55.15) indicate that the DCIS group is showing slightly higher levels of distress than the IBC group on the Distress Thermometer. The IBC group is currently showing higher levels of Intolerance of Uncertainty (mean = 61.61) than the DCIS group (mean = 47.45). Further analysis will be undertaken as recruitment progresses.

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Effects of low income over treatment adherence in oncological patients in Northeastern Mexico

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Background: In undeveloped countries, economic hardship remains an obstacle to adequate oncologic care. Oncologic patients in the most affected section of society may be susceptible to more psychosocial comorbidity, adverse outcomes and a reduced quality of life. Additionally, treatment adherence may also be reduced.

Methods: Cross-sectional study, patients are recruited from the Outpatient Oncology Clinic on treatment with chemotherapy/radiotherapy or both. Patients were divided into very low socioeconomic status (those with household income equal or less than the minimum wage) and controls. All participants completed a semi-structured interview and completed the following.

Instruments: Post-traumatic stress disorder (PTSD) checklist-Civilian Version; Morisky-Green scale of treatment adherence, the Functional Assessment of Cancer therapy-General (FACT-G) for quality of life and the Sarason Social Support Questionnaire (SSQ).

Results: We included 142 subjects, mostly women (79%), with a mean age of 48 ± 16 years. Neither sex, age or cancer types were associated with income. There were also no differences in PTSD prevalence, social support or quality of life scores between groups. Patients with low income were more frequently non-adherent to treatment (65% vs. 30%) and low income had an OR: 4.3 (IC 95%: 1.9-9.5, $p = 0.001$) for having poor adherence.

Conclusions: Oncologic patients with low income did not have a higher prevalence of PTSD, a worse quality of life or poor social support; however, they were much more likely to be non-adherent to therapy. These patients are particularly vulnerable to having difficulties in treatment adherence, and measures should be taken to ensure their care.

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Prevalence of PTSD in Cancer Survivors and Its Effects over Treatment Adherence in Northeastern Mexico

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Background: Post-traumatic stress disorder (PTSD) can affect those exposed to a traumatic event. Cancer survivors (CS) are known to be at risk for long-term psychosocial adversities including PTSD, which

may affect CS's treatment adherence and increase overall health care costs. We studied the prevalence of PTSD in a sample of CS and its association with treatment adherence and social support.

Methods: Cross-sectional study of CS, recruited from the Outpatient Oncology Clinic at a general hospital in Northeastern Mexico.

Instruments: PTSD Checklist – Civilian Version (PCL-C); Morisky-Green Scale of Treatment Adherence and the Sarason Social Support Questionnaire (SSQ).

Results: We included 154 subjects, women (79%), with a mean age of 48 ± 16 . The diagnoses were Breast (39.4%), Cervico-Uterine (15.4%), and Ovarian Cancer (7.1%). PTSD prevalence was 23.37%. Good treatment adherence was found in 45.4%. Social support consisted of a mean of 2.4 caregivers, and the majority (89%) reported high levels of satisfaction with their social support. Poor levels of adherence and social support were significantly correlated with the presence of PTSD.

Conclusions: We found that a significant proportion of CS in our center, especially those with a poor social support, had PTSD symptoms, which were also associated with poor treatment adherence. The early identification, evaluation and treatment of PTSD symptoms are an important part of cancer survivorship care, and could lead to increased treatment adherence were more frequently non-adherent to treatment (65% vs. 30%) and low income had an OR: 4.3 (IC 95%: 1.9-9.5, $p = 0.001$) for having poor adherence.

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Quality of Life and PTSD in Mexican Cancer Patients

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Background: Prevalence of Post-Traumatic Stress Disorder (PTSD) in Mexican general population is 2.8 to 6%. In cancer patients, international literature has reported an incidence of 0-32%. The purpose of this study was to determine PTSD prevalence in Mexican cancer patients and how it may impact their quality of life.

Method: Cross-sectional study of cancer patients, recruited from the Outpatient Oncology Clinic at a general hospital in Northeastern Mexico. All participants completed a demographic profile, the PTSD Checklist – Civilian Version (PCL-C) and the Functional Assessment of Cancer Therapy – General (FACT-G) to measure quality of life and four of its components: general functionality, family and social environment, emotional state and personal performance capacity.

Results: Prevalence of PTSD was 23.37% ($n = 36/154$). Older patients reported less PTSD symptoms than younger patients. Mean FACT-G scores were 45.8 ± 18.16 . We found no statistically significant association between overall quality of life (FACT-G) and PTSD. We did find a significant association between PTSD scores and both the subscales

of general functionality ($p = 0.002$) and general family and social environment ($p = 0.042$).

Conclusions: The prevalence of PTSD in cancer patients is much higher than that reported in the general population in Mexico. Mean overall quality of life in these patients (45.8) is rather low when compared to the FACT-G standard (80.1) in the general population. More studies are required in order to better understand the support patients and their families' needs.

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“Roll the dice and it's a toss-up between quality of life and life”: a mixed methods study exploring adherence to adjuvant endocrine therapy and interventions to improve adherence

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Background: Despite the known efficacy of adjuvant endocrine therapy (AET) in reducing breast cancer recurrence and mortality, adherence is sub-optimal. The aim of this study was to explore factors affecting adherence and non-adherence to AET to inform interventions to support women with long-term adherence.

Methods: This mixed methods study includes a questionnaire survey ($n = 211$, 73%) and semi-structured interviews ($n = 32$) with women prescribed AET who were at 2–4 years post treatment. Data were analysed in SPSS. The Framework approach was used to analyse transcripts, informed by the WHO Model of adherence and Beliefs about Medicine Model (Horne, 1999).

Results: The questionnaire analysis found that factors significantly associated with intentional non-adherences were the presence of side effects, concerns about AET, and lower perceived necessity to take AET. Factors significantly associated with unintentional non-adherence were younger age, post-secondary education, and being in paid employment. Interviews added depth to these findings. Non-adherence was influenced by an unmanaged side effect profile, the desire for quality of life in remaining years in older women, a lack of belief in efficacy of AET, and ongoing concerns about the toxicity of AET. Adherence was influenced by limited impact of side effect profile on daily life, trust in health professionals, feeling supported in ongoing AET therapy, and belief in efficacy of AET.

Conclusion: Reasons for adherence or non-adherence to AET are variable and complex. Interventions are required to ensure women are well-informed and supported to continue with AET where appropriate, thereby reducing breast cancer-related morbidity and mortality

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Under the situation of our country apply palliative sedation therapy in patients with end-stage

Ms Bing Gui

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Palliative sedation is through the use of sedative drugs to reduce the patient's degree of consciousness and achieve the goal of relieved patients' pain. Palliative sedation application is not fully used in our country. The gradual composed method choice for dying patients and their families is a good starting point to alleviate the patients' pain, maximize survival quality and maintain dignity of life of patients.

Palliative sedation

cancer pain

palliative care

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The association between antihormonal treatment and cognitive complaints in breast cancer survivors with sleep problems

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Background: Cognitive complaints following chemotherapy are common and often associated with psychological distress. There is also a growing concern about cognitive problems among BC survivors receiving adjuvant antihormonal therapy. We, therefore, investigated the association between antihormonal therapies and cognitive complaints in baseline data from a sample of Danish BC survivors with sleep problems.

Methods: Baseline data were collected from a nationwide sample of 255 Danish BC survivors experiencing significant sleep problems, recruited for trial of Internet-delivered cognitive-behavioral therapy for insomnia. The questionnaire package included the Cognitive Failure questionnaire (CFQ) and validated scales assessing sleep quality, symptoms of depression, fatigue, stress, and cancer-related post-traumatic stress symptoms (PTSS).

Results: A total of 255 survivors were included for analysis. Statistically significant associations were observed between the CFQ and all measures of psychological distress (depression, fatigue, PTS, and perceived stress ($r = 0.33$ – 0.58 , p 's > 0.001)). Severity of sleep problems was also associated with the CFQ ($r = 0.16$, $p = 0.01$) There was no significant effect of antihormonal treatment on any of the psychological

distress measures. However, we found statistically significant differences in cognitive complaints between survivors who received antihormonal treatment ($n = 111$, CFQ-total = 33.4(SD = 15.2); CFQ-distractibility = 10.4(SD = 5.7) vs. those who did not ($n = 144$, CFQ-total = 29.9(SD = 14.6); CFQ-distractibility = 8.9(SD = 5.2) (p 's = 0.06; 0.03). When adjusting for severity of sleep problems, symptoms of depression, PTS, fatigue, and perceived stress, these differences remained statistically significant (CFQ-total: $p = 0.047$; CFQ-distractibility: $p = 0.03$).

Conclusion: BC survivors on antihormonal treatment endorsed more cognitive problems compared to those who did not. These results warrant further investigation into the possible detrimental cognitive effects of antihormonal treatments.

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The role of social support in cancer-related health behaviors after cancer diagnosis: results from the Cancer Survivorship in Metropolitan Detroit cohort study

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Background/Purpose: Social support is associated with positive psychological outcomes for cancer patients, but less is known about its association with cancer-related health behaviors among survivors.

Methods: Using data from the Cancer Survivorship in Metropolitan Detroit cohort study, we estimate associations between PROMIS measures of emotional support, instrumental support, isolation, depression, and anxiety and cancer-related health behaviors including physical activity, fruit and vegetable consumption, and current smoking and drinking in 500 white and African-American survivors (ages 32–79) diagnosed with or treated for breast, colorectal, lung, or prostate cancer since January 1, 2013. Logistic regression models included age, sex, race, and cancer site. Odds ratios (OR) and 95% confidence intervals (CI) are per standard deviation score on the PROMIS measures.

Results: Instrumental and emotional support were both positively associated with engaging in any physical activity in the previous month (ORemotional: 1.03, CI: 1.00–1.05; ORinstrumental: 1.03, CI: 1.01–1.05), while higher depression and anxiety scores were inversely associated with any physical activity (ORdepression: 0.97, 95% CI: 0.95–0.99; ORanxiety: 0.97, CI: 0.95–0.99). Isolation, depression, and anxiety were all associated with current smoking (ORisolation: 1.04, CI: 1.02–1.07; ORdepression: 1.05, CI: 1.02–1.08; ORanxiety: 1.04, CI: 1.01–1.06). None of the social support measures considered were associated with current drinking or consuming at least five servings of fruits and vegetables per day.

Conclusions: Social support measures are associated with small but significant differences in some important health behaviors associated with cancer outcomes. Interventions to improve survivors' health behaviors could benefit from consideration of their social environments.

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Using peers to assess the quality of teamwork: the development and testing of the cancer multidisciplinary team meeting observational tool (MDT-MOT)

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Purpose: Poor teamwork in multidisciplinary team meetings (MDMs) can compromise treatment decision-making, yet improvement tools that can be used by peers (health service staff) in routine practice are lacking. Our aim was to develop and test a tool for independent observational assessment as part of a teamwork improvement toolkit (MDT-FIT).

Methods: The MDT-MOT was developed, informed by national clinical consensus recommendations for best practice in cancer MDTs and in collaboration with an expert group. Proof of concept was tested across 20 MDTs and utility assessed using semi-structured interviews, leading to further refinement and use by 16 MDTs. Criterion validity was assessed by 13 peers viewing video excerpts of optimal/sub-optimal performance. Inter-rater reliability and agreement was assessed using video-recordings of 10 MDMs independently rated by a clinical and non-clinical observer.

Results: MDT-MOT consists of ten teamwork domains, rated on a 5-point Likert scale using descriptive anchors. Peers reported observation was feasible and MDT members found observational assessment and feedback useful, with the potential to facilitate improvements in team working. Peers were able to discriminate between optimal/sub-optimal MDM teamwork ($p \leq 0.05$). Percentage agreement within 1 point was high for 9/10 domains. Inter-rater reliability was good for 3/10 domains ($K \geq 0.60$).

Conclusions: MDT-MOT is a feasible and acceptable tool to assess MDT performance. It demonstrates good criterion validity and although agreement between clinical/non-clinical observers (within one point on the scale) was high, this was inconsistent with reliability coefficients and warrants further investigation. MDT-MOT might provide a useful resource for MDTs seeking to improve their effectiveness.

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Results of the art therapy program to support psycho-oncological rehabilitation

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Background: Art therapy is offered within an oncological rehabilitation program in the Netherlands Cancer Institute. The 10 to 15 sessions are provided individually.

Purpose: The aim of the study is to evaluate the effectiveness of art therapy within a psycho-oncological rehabilitation program in terms of decreased levels of distress, goal attainment, and satisfaction.

Participants: We invited adult cancer patients in rehabilitation, with emotional problems due to cancer.

Method: Before the start of the art therapy, patients completed a questionnaire including personal goals and the Distress Thermometer (DT). At the end of art therapy, patients completed a questionnaire including the DT, a score of appreciation, and goals obtained.

Results: In total, 33 of the 48 persons (response 69%) completed the intervention and participated in both the pre and post-assessment. Dropout was due to medical reasons or change of rehabilitation goals. Mean levels of distress decreased significantly, from 7.3 (SD = 1.6) pre-intervention to 3.9 (SD = 2.1) post-intervention ($t = 7.05$; $p < 0.000$). Before the intervention, the most frequently mentioned goals were to express feelings and to integrate the illness in daily life. After the intervention, 97% of the respondents reported that their goal had been attained. The mean rating for this art therapy program was 9.4 (SD = 0.8) out of 10.

Conclusion: A strong decrease in levels of distress was reported after the art therapy; almost all respondents attained their goal and were extremely positive about the art therapy program. We would recommend implementing art therapy in the rehabilitation program of cancer rehabilitation centers.

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Psychological impact of genetic testing

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Background: It is important to determine the impact of genetic tests on the emotional state as well as on the quality of life once the results have been handed out.

Purpose: To evaluate the Oncological Genetic Counselling's (OGC) psychological impact, mood status, quality of life and determine the role in the OGC's impact on the following variables: results; cancer diagnosis; being the first subject under study; and the period of time from the handover.

Methods: The sample is constituted by 27 persons; all of them went through OGC due to a possible hereditary breast/ovarian cancer syndrome. The following evaluation tools were applied: • Multidimensional Impact of Cancer Risk Assessment (MICRA) questionnaire • Distress Thermometer (DT) of the NCCN • Hospital Anxiety and Depression Scale (HAD) RESULTS • The profile refers to women, with an average age of 34.77. 63% were healthy persons and 74.1% have not been the first subject under study. • The psychological impact resulted in an average score of 26.11. • Psychological distress when

the DT or the HAD were applied was (DT average = 4.58; anxiety = 8.69; depression = 4.96). 53.8% referred poor quality of life. Positive correlation was between previous cancer diagnostic and OGC impact. The key variable in the psychological impact was test result.

Conclusions: People who are positive for the mutation have a greater negative impact. This study is part of a broader assessment on the psychological impact of CGO; by enlarging the sample of this study, we would give more validity.

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Self-management interventions for head and neck cancer survivors: A qualitative study of patients' and health professionals' perspectives

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Background/Purpose: Self-management interventions improve patient outcomes in many chronic conditions. Developing a self-management intervention for survivors of head and neck cancer (HNC) may help them to deal with its unique physical, social and psychological consequences. This study explores, for the first time, HNC survivors' and health professionals' perspectives on such interventions.

Methods: Twenty-four HNC survivors who had completed primary treatment and 32 multidisciplinary health professionals involved in their care from four hospital sites in Ireland participated in semi-structured interviews, which were audio-recorded, transcribed and analysed using thematic analysis.

Results: Both HNC survivors and health professionals highlighted potential benefits of self-management interventions in managing the multifaceted consequences of HNC and its treatment. Notwithstanding this, individuals in both groups cautioned against a one-size-fits-all approach; for example, older, male patients were identified as being less likely to attend due to a perceived discomfort in talking about their experiences. Many HNC survivors anticipated that the opportunity to meet peers and receive practical information about the consequences of HNC would facilitate their attendance and expressed preferences for a hospital-based intervention built into routine follow-up care. Health professionals emphasized the need to address organizational barriers to the implementation of self-management interventions (e. g., limited resources) and collaborate with the multidisciplinary team in their delivery.

Conclusions: These findings provide a valuable insight into potential barriers and facilitators to the uptake of a self-management

intervention for HNC survivors and will be useful in informing the development, marketing and implementation of future interventions targeting this patient group.

379 ASSESSMENT OF SUICIDE RISK IN THE PALLIATIVE PATIENT

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Introduction: Palliative patient encounters prolonged suffering that can lead to a state of despair and hopelessness. In palliative care patients, there is a suicide risk up to 10 times higher than the normal population. Approximately 45% of cancer patients have suicidal ideation but is usually fleeting. The most important risk factors are uncontrolled pain, advanced disease, male gender, despair, delirium, previous psychopathology and substance abuse.

Objective: Clinical evaluation of suicide risk in patients palliative.

Method: Review of scientific literature on the subject.

Results: Some studies indicate that although relatively few cancer patients commit suicide, all are with an increased risk. Passive suicidal thoughts are common in cancer patients. Studies show as risk factors for suicidal ideation and suicide attempt include not only the fact of having a disease like cancer but also having unresolved conflicts, being part of a dysfunctional family and alcohol consumption. Overdosing with analgesics and sedatives are the most common method, and most suicides occur at home. Further states that the reported incidence of suicide in cancer patients is probably underestimated, as there is resistance to admitting this type of death.

Conclusions: A clinical evaluation in these patients is necessary since the early identification and treatment is essential. Health workers should know that talking about suicide will not cause the patient to suicide; on the contrary, talking about suicide legitimizes this concern and permits patients to externalize their feelings and fears, providing a sense of control.

380 PSYCHOLOGICAL INTERVENTION WITH FAMILIES IN PALLIATIVE CARE. THIS IS NOT AN INTERVENTION STUDY?

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Introduction: Psychological intervention in palliative care assumes a basic pillar is the family (Arranz, Barber, Bayés 2005). This is fully consistent with all the Palliative Care guidelines on the World Health

Organization, with recommendations on Palliative Care EU that are clearly reflected in national documents such as the Palliative Care Strategy of the national Health System and, within our region, Andaluz documents and Palliative Care Plan 2008–2012.

Objective: To assess the needs of caregivers of hospice patients in order to provide the most appropriate psychological strategies.

Method: A literature review of scientific literature on the subject.

Results: The situation of the family of a terminally ill patient is characterized by the presence of a great emotional impact conditioned on the presence of multiple "fears" that, as professionals, we know how to recognize and deal with as far as possible. Death is always present, and the fear of suffering of a loved one, the uncertainty of whether they will have easy access to medical support, doubt whether they can or will have the strength to take care of the problems that may appear at the right time death or will recognize that he is dead, etc.

Conclusions: In short, the role of the family in palliative care is of vital importance, especially in terms of support provided to the patient. However, the family itself is part of the process at a time, standing before the same as an affected more, which requires specific interventions,

381 PSYCHOLOGIST FUNCTIONS IN PALLIATIVE CARE TEAMS

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Introduction: The fact of dying is one of the events with more psychological impact. Flow causes intense emotions in the patient and the family, which can trigger psychological stress, emotional maladjustment and great suffering. This raises the need for psychologists in palliative care teams (ECP).

Objective: Establish roles of psychologists in palliative care teams.

Method: A literature review of scientific literature on the subject.

Results: The main function is the psychological care to patients and families. This includes assessment, setting goals, the plan of action, psychological intervention and monitoring and is always done in coordination with other team professionals. 80% advise his team in addressing some emotional aspects regarding the patient and family, and 45% paid, likewise, psychological support team to prevent burn-out. 78% of professionals report that one of the important activities is coordination with the other components of equipment to establish an action plan and consider common goals to achieve an ultimate goal, which is the welfare and alleviation of suffering of the sick and the family. 62% engaged in teaching and employ 37% of their time on research.

Conclusions: The data obtained show that the psychologist has a specific role and a concrete activities and interventions to be made in the ECP

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What are the care experiences of adolescents and young adults (AYAs) with cancer and do these experiences influence quality of life?

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Background: Adolescents and young adults (AYAs) with cancer are a unique yet poorly understood patient group. Neither children nor the common age for adult cancer, most AYAs are treated in hospitals with limited experience with this population. This study examines the association between AYAs' cancer care experiences and their quality of life (QoL).

Methods: Cross-sectional survey of 200 AYAs (15–24 years at diagnosis), recruited through two Australian states' population-based cancer registries, examining experiences at diagnosis, treatment, and patients' physical, social, emotional and functional QoL.

Results: On average, participants were 21-years-old (SD = 3.03) and 8.5 months (SD = 4.14) post-diagnosis. The majority had undergone surgery (70%) and/or chemotherapy (61%), with 31% having radiotherapy. Most patients were satisfied with their treatment (94%) and felt their treatment was age-appropriate (87%). However, 16% did not understand the information provided to them and only 54% indicated that health professionals (HPs) always checked this. AYAs who were always given information relevant to their age (34%) and who definitely received information about how to discuss their experience with family/friends (25%) displayed better social and emotional well-being than AYAs not always given this information ($p < 0.01$). AYAs reporting an HP provided emotional support throughout their care (47%) displayed better social well-being than those not consistently given this support ($p < 0.01$). Only 32% were offered the chance to meet other young cancer patients/survivors.

Conclusions: This is one of the few large-scale studies to quantitatively assess AYA's care experiences. Results highlight the importance of age-appropriate services, information and support for enhancing this patient group's QoL.

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Talking About Prostate Cancer

Dr Tania Estapé

FEFOC, Barcelona, Spain

Chair: Tania Estapé, FEFOC, Spain

Discussant: Jimmie Holland, MSKCC, USA

Prostate cancer (PC) is one of the most frequent cancers in men. Its consequences on quality of life interfere seriously with daily activities.

It is linked to a "male profile", due to possibility of erectile dysfunction and/or urinary incontinence. Two thirds of men with PC are over age 65, when men may be struggling with retirement from work and feelings of being useless. Couples are challenged by PC as well. Men are less likely to express their inner feelings than women, especially "negative" emotions, such as feelings of frailty and sadness. Perhaps that is why there are far more studies related to women coping with breast cancer than men with PC. Men are often reluctant to ask for psychological help. This symposium will explore these issues from male reactions to PC to treatments devised to help. Dr. Tania Estapé will chair this session and present research on psychological assessment and problems reported by men with PC; Dr. Bill Given will talk about how the latest medical treatment for PC may elicit depression and cognitive problems. Dr. Joachim Weis will discuss differences between men with PC and women with breast cancer regarding group and individual psychotherapy, and Dr. Andy Roth will propose an intervention program to help patients to overcome their emotional difficulties. Dr. Jimmie Holland will be the discussant and will bring many years of experience in discussing the significance of understanding and addressing the challenges facing men with PC.

Supporting Abstract 1:

Psychological assessment and illness related problems (RP) in Prostate Cancer (PC) patients

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Background: PC has not been psychologically addressed as other cancers. Male profile and reluctance to show sadness and fear may explain this. Men are expected to be strong, no allowed to cry or express frailty. Social changes towards gender differences are slow, and most men with PC don't reflect them yet. It is difficult to assess psychologically PC patients. Some works point out at a higher level of depression than anxiety in PC.

Objectives: to assess psychological problems and RP in a sample of PC.

Methods: We included HAD and MiniMAC scales and a general questionnaire on illness RP for patients asking for advice in our PC web.

Results: 280 patients answered RP questionnaire, 214 HAD and 17 MiniMac. Sample description includes: \bar{x} age = 58.6 (Sd = 10.18), 88% married, 59% active working, and 39% underwent radical prostatectomy. Main PC RP includes 58% urinary incontinence (in 39% it impairs daily life); 95% have difficulties in achieving erection (not related to surgery), but 43.1% had previous erection problems, and 64% maintain sexual drive. 80% have not told their friends they have PC. 69% felt pressured to positive thinking; 8.28% have experienced familiar problems mainly couple impairment, and 27% use alternative medicines, half without telling to doctor. Psychological assessment: HAD anxiety \bar{x} = 9.43 (Sd = 5.06), HAD depression \bar{x} = 7.01 (Sd = 4.89), 50.7% and 33% reach clinical level for depression and anxiety, respectively. Age only yield differences in depression punctuation (higher for older patients, $p < 0.016$). HAD punctuation was not linked to any RP, except higher punctuation for those who tell to friends they have PC ($p < 0.04$, $p < 0.031$).

Conclusions: There is a slow increase in participation in psychological assessment in our web. Due to online mode, our sample is younger

than expected in PC, so a high percentage is actively working. Erection impairment is the main problem, but a high percentage maintains sexual desire. Very few have couple impairment. Most hide diagnosis, which is related to low HAD results. They have a higher anxiety punctuation than depression one.

Supporting Abstract 2:

Implications for Treating Late-Stage Prostate Cancer with Targeted Oral Agents

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Abstract Theme: Progressive and advanced disease

Research type: Original Research

Background/Purpose: Late-stage prostate cancer patients who were part of a larger 12-week trial to manage symptoms following a new prescription of oral targeted agents were examined, and two questions posed. First, does the intervention reduce prostate cancer patients' symptoms? Second, how does age, symptom severity, depression at intake and trial arm explain the number of days patients remained on oral agent treatment?

Methods: Thirty-one advanced prostate cancer patients, newly prescribed with targeted oral agents, and meeting eligibility criteria were assigned to standard care plus symptom monitoring, or standard care plus referral to a symptom management toolkit for all symptoms at a severity of 4 or higher on a 10-point severity assessment during weeks 1–8. Eighteen symptoms were measured at intake, weekly for 8 weeks, and at week 12, a mixed effects model was employed to assess, after adjusting for age, function, cognition, the impact of trial arm on symptom severity over time. A Cox proportional hazard model was used to evaluate the predictors of time to discontinuation of medication.

Results: Over weeks 4–8, advanced cancer patients exposed to the symptom management intervention had significantly lower summed symptom severity, but this difference was not sustained at 12 weeks. Hazard for medication discontinuation was lower for patients with lower symptom severity at intake and those in the experimental arm of the trial.

Conclusions: Symptom management interventions are effective in reducing the severity of symptoms and these reductions may allow late stage patients to remain on treatment.

Supporting Abstract 3:

Evaluation of a psychoeducational group intervention for prostate cancer patients – a non randomized controlled pilot study

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Background/Purpose of the study: Psychoeducational interventions have been proven to be effective in improving quality of life, but most of the studies in psychoeducational interventions have been conducted with breast cancer patient. Therefore, the main purpose of the study was to evaluate the effects of a specific psychoeducational intervention for prostate cancer patients.

Methods: Based on a non-randomized controlled pilot study, we have evaluated this intervention compared with controls. The psychoeducational intervention includes six structured group sessions with one session per week. Patients have been assessed at three points of measurement, before intervention, (t1) after intervention (t2) and six weeks later (t3), using various standardized questionnaires measuring psychosocial distress, quality of life, depression, anxiety and fear of recurrence. As statistical methods, we use MANOVA as well non-parametric tests.

Results: We were able to include a total of N = 96 patients (n = 51 in the intervention group, n = 45 as controls). Prostate cancer patients in the intervention group (n = 25) show small non significant improvements at t3 with special benefits in enhancing self efficacy and reducing fear of recurrence. Breast cancer patients in the intervention group improved in social functioning and fear of recurrence. All changes over time show only small effect sizes.

Conclusions: Results show that prostate cancer patients compared with breast cancer patients show less profit from the group intervention and should be probably better addressed by individual therapy.

Supporting Abstract 4:

Psychotherapy for Prostate Cancer (PC): The DRAFT into Emotional Judo (EJ)

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Purpose: To describe a newly psychotherapy that is feasible for men with early and late stage PC. Issues discussed: current psychotherapies studied in men with PC and an overview of EJ and how it is used in PC.

Methods: A literature search of psychotherapy in PC was conducted; elements of current approaches were combined to develop a novel eclectic approach called EJ.

Results: Most psychotherapeutic interventions in PC are aimed at early stage and focus on Cognitive Behavioral Therapy (CBT), exercise therapy and meditation. EJ combines aspects of supportive psychotherapy, CBT oriented, problem-solving therapy, and Acceptance and Commitment Therapy (ACT) into a practical method for easy teaching, understanding and practice for all stages of PC. It teaches the DRAFT Method (Detect, Recognize, Acknowledge, Flip, and Transform) of EJ to confront the distress of decision making, coping with side effects, and end of life concerns. DRAFT into EJ was developed as a

straightforward intervention that would resonate with men to decrease distress in all stages of PC.

Conclusions: Many men with PC are not readily willing to accept psychiatric treatment when needed. The formalities of CBT, ACT, and other approaches are often rejected by men incapacitated emotionally or physically by cancer because of the time, effort or willingness needed. DRAFT into EJ is a combined yet accessible approach of these psychotherapies found to be successful in real clinic time over many hours of therapy on men with PC.

Research Implications: Most interventions in PC are geared to those with early stage disease. EJ has been found to be successful in all stages. It is straightforward, and gives men a handle on improving uncomfortable or self-defeating thoughts, emotions and behaviors. Rigorous testing of EJ is needed to confirm successful clinical experience with this new modality.

Clinical Implications: Distress is often underdiagnosed and undertreated in PC. It can be better addressed in men who have physical and emotional complaints with the DRAFT into EJ techniques.

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Using the Internet to provide psychological assessments and interventions to cancer survivors

Dr. Tania Estapé

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Convenor/chair: Tania Estapé; Fundació FEFOC

Discussant: Lee Ritterband; University of Virginia

The use of Internet-based assessments and interventions as an option in the delivery of cancer care services, particularly as it relates to behavioral health, is growing exponentially. Partly due to the growing complexity and needs in oncology, the use of these type of eHealth tools is becoming necessary. They can provide ongoing services that extend beyond the hospital, ultimately helping patients obtain the care they need. There are now many web-based assessment and treatment programs in various stages of development, evaluation, or in use. Unfortunately, most have little scientific basis or empirical validity, and even fewer have been evaluated in rigorous ways. This symposium will review a number of projects focused on improving the validity and reliability of Internet-based assessments and interventions from around the world. Dr. Tania Estapé (Spain) will chair this session and present research comparing web-based psychological assessment in breast cancer patients to in person evaluations. Dr Suchitra Mehta (India) will review a study evaluating a modified web-based questionnaire that was tailored for Indian female patients at a cancer hospital. Roy Willems (Netherlands) will present results from an RCT evaluating the efficacy a web-based self-management tool aimed at increasing survivors' psychosocial well-being. Dr. Robert Zachariae (Denmark) will present results from an RCT (Danish language version) of an Internet intervention for insomnia utilized with breast cancer survivors. Dr. Lee Ritterband (USA) will discuss the importance of this type of eHealth work in the changing psycho-oncology field.

Supporting Abstract 1:

Comparing Administration of Questionnaires via the Internet to Pen-and-Paper in Breast Cancer Patients

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Background: Internet is becoming a usual tool in Psychooncology, so we need to have evidence-based approaches. In previous works, we set up research on online psychological assessment. However, since questionnaires used are developed to use in person, we need further research to validate them in online mode.

Objectives: To determine the validity of internet use of psychooncological assessment by comparing to a pen-and-pencil sample.

Methods: We set up a study in our breast cancer patient's web including HAD and Mini-MAC scale, which reliability online was tested in previous research. A in person sample was recruited in different cancer units, simultaneously. They are included if they do not use Internet or use a few and not at all to search information related to their illness.

Results: Descriptive and comparative statistical analysis was done. Online sample (OS) is younger ($n = 225$, $\bar{x} = 43.86$, $SD = 8.92$) than in person one (IPS) ($n = 99$, $\bar{x} = 53.49$, $SD = 10.21$), at a $p < 0.005$ level. Also, there were differences by time since diagnosis, being slightly higher in OS concentrated in more than one year period (46% versus 40%, $p < 0.0005$). However, neither age nor time since diagnosis yielded differences in test punctuations results. Comparing both samples, the only significant difference was the higher level of anxiety measured by HAD (OS versus IPS, $p < 0.042$) and by anxious preoccupation coping strategy in Mini-MAC scale, which was near signification ($p = 0.06$).

Conclusions: Internet administration appears to be equivalent to person administration of HAD and Mini-MAC scales. Similarity of the properties of the measures using paper-and-pencil and online modes of administration suggests the viability of the Internet for assessing psychological variables in cancer patients. We need to include a way to control anxiety level yielded by Internet consulting situation.

Supporting Abstract 2:

Title: 'Just FIVE': An effective internet assessment tool for psycho-oncologists to manage 'typical' Indian women cancer patients

Type: Original research

Authors:

1. Dr Suchitra Mehta, Psycho-oncologist, Central India cancer research hospital, Nagpur, India

2. Dr Suresh Ughade, Associate Professor, PSM department, Govt. medical college, Nagpur, India

3. Dr Ajinkya Mehta, Adult psychiatry, HSE, Dublin, Ireland

4. Ms Sulakshan Sachdeva, Counselor, Central India cancer research institute, Nagpur, India

Background: Although there is no distinct definition of a 'typical' Indian woman, it usually refers to a woman facing inequality, with high priorities for family and children, minimal awareness of health issues

including cancer, minimal aims in life, and dependency on a male counterpart for most of her needs resulting in financial dependencies. Hence, this study was conducted to evaluate the sensitivity of a modified version of the proposed scale in comparison to the globally accepted distress thermometer in diagnosed female cancer patients.

Methods: An Internet tool using a 'Just FIVE' concept was implemented at various levels in 106 newly diagnosed female cancer patients. The 'Just FIVE' concept included the following: A] A set of 5 questionnaires was used during their first visit to determine baseline distress. B] Another set of 5 targeted questions were asked to better understand their fears. C] A set of 5 dimensions was used to manage patients with targeted psychotherapy. D] Finally, to maintain the 'Just FIVE' theme, feedback from the psycho-oncology staff was obtained covering 5 issues.

Results: Validity measures for the proposed 'Just FIVE' test, i.e., sensitivity, specificity, diagnostic accuracy and reliability measures like Cohen's kappa, were found to be reasonably good in comparison to the distress thermometer.

Conclusion: The 'Just FIVE' test was found to be convenient, easy, safe, feasible, valid and reliable in this specific Indian setting and can be considered for implementation in the female cancer patient population in India. Validation by other Indian Institutes is recommended.

Supporting Abstract 3:

Title: Effects and mediators of a web-based tailored intervention for cancer survivors on quality of life, anxiety, depression, and fatigue

Type: Original research

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Background: Many cancer survivors face difficulties affecting their quality of life, of which anxiety, depression, and fatigue are prominent issues. Therefore, the web-based computer-tailored 'Kanker Nazorg Wijzer' intervention (KNW; Cancer Aftercare Guide) was developed, a self-management tool aimed at increasing survivors' psychosocial well-being. **Methods:** As part of a randomized controlled trial comparing a waiting list control group (n=231) with an intervention group (n=231), the effectiveness of the KNW on quality of life (EORTC QLQ-C30), anxiety and depression (HADS), and fatigue (CIS) was assessed at 6 and 12 months from baseline using multilevel linear regression analyses. Theoretically hypothesized mediators, measured at 3 months from baseline, were problem solving skills (SPSI-R) and personal control (IPQ-R). Mediation analyses were conducted with Hayes' PROCESS macro. **Results:** At 6 months from baseline, the KNW was effective in reducing depression and fatigue. In addition, effects were found for emotional and social functioning, although these effects were less strong. At 12 months from baseline, the effects were not statistically significant. Mediation analyses, with depression and fatigue at 6 months from baseline as outcomes, showed that personal control mediated the effects of depression and fatigue. There was no evidence for problem solving skills as mediator. **Conclusions:**

The KNW can be considered as an effective intervention (at short-term), low-intensive, and easy accessible intervention that expedites cancer recovery, partly through changing personal control. Therefore, it might serve as a first step in stepped care for initial psychosocial support after cancer treatment.

Supporting Abstract 4:

A Trial of a Danish Language Version of SHUTi, an Internet Intervention for Insomnia, with Breast Cancer Survivors

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Introduction and aim: Approximately 9–30% of the general population experience symptoms of insomnia, and 6–10% meet diagnostic criteria; however, for cancer survivors, the experience is even more prevalent with 2363% reporting specific symptoms of insomnia up to 9 years after completed treatment. Cognitive-behavioral therapy for insomnia (CBT-I) has been shown to be a highly effective intervention for individuals with insomnia and is recommended as a primary treatment option. Unfortunately, CBT-I is not widely available due to expense, time constraints, and lack of trained professionals. The Internet, however, has been shown to be a feasible and efficacious mechanism for delivering CBT-I. We present, for the first time, results from a Danish language version of SHUTi, an Internet intervention for insomnia delivered as a six-week automated, interactive and tailored program. The aims of the trial were to test whether a group receiving Internet-delivered CBT-I will experience sleep improvements compared to a waiting list control group.

Methods: 255 Danish breast cancer survivors experiencing significant sleep problems were randomized to the SHUTi (N = 133) and waitlist control (N = 122) conditions, and 201 and 195 participants completed post-treatment and 6-month follow-up assessments, respectively.

Results: Preliminary GLM repeated measures analyses show statistically significant group x time interaction effects for both insomnia severity (ISI) [F(1,201) = 97.4; p < 0.001; Cohen's d = 1.39] and sleep quality (PSQI) [F(1,201) = 48.2; p < 0.001; d = 0.98] at post-treatment. Effects were maintained at 6-month follow-up for both ISI [F(1,195) = 67.9; p < 0.001; Cohen's d = 1.18] and PSQI [F(1,190) = 37.5; p < 0.001; d = 0.88].

Conclusion: These findings provide further evidence for web-based programs to be considered as an important means to reducing the public health burden of insomnia, which is prevalent among cancer survivors.

[Corrections added on 19 December 2016, after first online publication on 14 October 2016: In the sentence "Dr. Roy Willems (Netherlands) will present results from an RCT evaluating the efficacy a web-

based self-management tool aimed at increasing survivors' psychosocial well-being.", Roy Willems was mistakenly identified as a "Dr.". Also, the Supporting Abstract 3, "A Trial of a Danish Language Version of SHUTi, an Internet Intervention for Insomnia, with Breast Cancer Survivors," was replaced with "Effects and Mediators of a Web-Based Tailored Intervention for Cancer Survivors on Quality of Life, Anxiety, Depression, and Fatigue".]

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GyneGals: An Online Support Group for Women Who are Sexually Distressed Following Treatment for Gynecologic Cancer

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Women treated for gynecologic cancer often suffer silently with body image, sexual concerns, and relationship challenges due to the side effects of treatment. There are few resources available to help them with these highly sensitive and personal issues. This paper is a preliminary report of a randomized controlled trial that examines the efficacy of an online support group intervention for women who are psychosexually distressed subsequent to treatment for gynecologic cancer. GyneGals is a 12-week intervention that utilizes a professionally moderated discussion board that is accessible at any time of the day or night, two chat sessions over the course of the 12 weeks, and psychoeducational material provided on a dedicated website. Each week, a new topic is introduced, and women are free to engage in the discussion topic, to return to previous discussion topics, and to introduce new topics if they desire. Women are recruited in cohorts of 40 and are randomly assigned to either the immediate treatment condition or a waitlist condition. Eligible women must be disease free, no more than 5 years out from treatment, and meet a clinical cut-off for psychosexual distress. We are presently in the fourth year of this 5-year multi-site study. We will discuss the lessons learned about recruiting for this online intervention, what we have learned about moderating online support groups, and what women say about participating in these groups. Preliminary impressions are that women who participate in this intervention appreciate the information provided and the opportunity to share their experience with others.

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The Role of Social Support on Depression and Anxiety: For Stomach Cancer Patients and Their Family Caregivers

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Background: There is a consensus that cancer care should go beyond the physical care as cancer patients and their family caregivers experience psychological burden, financial difficulty, social relation issues, and physical troubles. The current study aimed to investigate the moderating impact of social support on depression and anxiety of cancer patients and their family caregivers.

Methods: Stomach cancer patients and their family caregivers who visited a university medical center in Seoul were introduced to the research participation opportunity. Fifty-two pairs of adult patients and caregivers participated in the study. Along with the demographic information and the physical condition of the patients, including pre-operation cancer stage and the type of gastrectomy, social support, depression, and anxiety were measured for patients and caregivers, respectively.

Results: Among other factors, patients' depression was explained by patients' age, while patients' anxiety was explained by their income and living arrangement. On the other hand, caregivers' depression was explained by patients' pre-operation cancer stage, while caregivers' anxiety was explained by patients' type of gastrectomy. When the demographics and physical conditions were controlled for, patients' social support explained patients' anxiety, whereas caregivers' social support explained both depression and anxiety of caregivers.

Conclusions: Social support decreased the negative effects of demographic and physical conditions of the patients. While the latter cannot be adjusted in the short-term, the former can be provided by a support system. Diverse implications in medical settings are discussed.

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The Potential Benefits of a Mindfulness-based Compassion Intervention (MBCI) on Bio-Psycho-spiritual Well-being of Chinese with Cancer: A 2-arm Randomized-controlled Pilot Study

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Background: Self-compassion is the self-directed loving attitude in times of adversity; it is associated with well-being and better adjustment to stress among individuals exposing to hypothetical stressors. Nevertheless, we know little about the clinical application of self-compassion in coping with life-threatening situations. This randomized-

controlled pilot study explored the potential benefits of an 8-week Mindfulness-based Compassion Intervention (MBCI) on self-compassion and bio-psycho-spiritual outcomes of people with cancer.

Methods: Forty-four Chinese cancer patients, with primary treatment completed, were randomly assigned to either the MBCI (N = 22) or the wait-list control group (N = 22). They were surveyed twice on a self-administered questionnaire packet on self-compassion, emotion experience, quality of sleep, and cancer-related symptoms at baseline and post-intervention.

Results: Repeated measures analyses were conducted to explore the potential benefits of MBCI, with baseline negative affect and age as covariates. Compared with the wait-list control group, the MBCI group showed statistically significant improvements in self-compassion, the ability to describe their inner experience, and to respond to them in a non-reacting way. They also experienced more positive effect and reductions in anxiety and depressive symptoms. MBCI participants also reported fewer cancer-related symptoms, as well as symptom distress. Nevertheless, the potential benefits of MBCI in improving quality of sleep remained inconclusive.

Conclusions: Results of the pilot study supported the potential benefits of an 8-week Mindfulness-based Compassion Intervention in cultivating self-compassion and promoting bio-psycho-spiritual well-being among people with cancer. Further research could examine the role self-compassion plays in mindfulness practices and the sustainability of positive gains at post-intervention.

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What good is self-compassion in cancer coping? A cross-sectional study of bio-psychosocial-spiritual well-being of people with cancer

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Background: Self-compassion is the awareness and acceptance of suffering, and to respond to it with self-directed kindness. It was found to be associated with better adjustment to hypothetical stressors among healthy population. Nevertheless, little is known of its clinical value among people diagnosed of life-threatening illness. This study attempted to explore the associations between self-compassion and body-mind-spiritual well-being among people with cancer.

Methods: This cross-sectional study utilized the baseline data from a randomized-controlled study. A total of 55 Chinese with cancer, who have completed their primary treatment, were interviewed on a self-report questionnaire packet on self-compassion, facets of mindfulness, positive and negative effect, depressive and anxiety symptoms, cancer-related symptoms, and quality of sleep.

Results: Self-compassionate individuals were less likely to be self-judgmental, to feel isolated, and get carried away by their own emotions; they were more likely to have a higher level of awareness of their inner

experience and the ability to respond to them in a non-reacting manner. In terms of psycho-social well-being, self-compassionate individuals reported more positive affect and better quality of sleep; they reported fewer negative effect, anxiety and depressive symptoms. Furthermore, they reported fewer cancer-related psychological and physical symptoms, and lower level of distress.

Conclusions: Self-compassion is associated with bio-psycho-social-spiritual well-being. Results of the cross-sectional study pointed toward the potential contributions of self-compassion in improving affect, protecting against mood disturbance, improving quality of sleep, and reducing cancer-related symptoms. Further study may explore the predictive validity of self-compassion and ways to boost self-compassion to facilitate better coping.

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A structured interview to standardise the selection and development of cancer support group leaders

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Background: Despite the number of peer support groups in operation globally, there are no standards or selection tools to help cancer agencies determine the suitability or development needs of support group leaders. This study's aim was to produce a tool fit for this purpose using initial content identified via a systematic review.

Methods: We used a three-round online Delphi study with an interdisciplinary panel of experts including support group leaders. Panel consensus ($\geq 75\%$ agreement) determined the following: interview content (knowledge, skills and attributes (KSA) to be assessed); wording of questions and probes to elicit information relevant to KSA; and examples of responses anchored to three-point numerical ratings.

Results: Seventy-three potential participants were approached. Forty-five participated in round 1, 36 in round 2 and 23 in round 3. In round 1, the initial content was expanded from 59 KSA to 114. In round 2, the panel selected 52 KSA as required to be ready to undertake the group leader role. Results were used to develop a provisional set of 11 questions and two scenarios to elicit information on KSA each with

a relevant rating scale. Consensus was reached on all elements of content, structure and format of the interview. Revisions related to inclusion of additional probes and adjustments to wording for clarity.

Conclusions: This study used multiple sources to develop a structured interview relevant to the selection and development of cancer support group leaders. The final stage of this project will confirm the scoring rubric and clinical utility of the tool.

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Self-management Education Interventions for Physical Symptoms and Emotional Symptom Distress in Adult Cancer Patients: A Systematic Literature Review

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Background: Self-management education interventions (SME) are advocated to improve health outcomes. Few reviews have focused on SME and the effects of core elements essential to SM in cancer. In this paper, we present results of a systematic literature review of SME in adult cancer populations.

Objectives: The aim of this study includes the following: 1) define SME and core elements; 2) identify Randomized Controlled Trials (RCTs) of SME and effects on symptoms and distress; and 3) explore if the effects on patient outcomes differ by patient characteristics or core elements. We also conducted a quality appraisal of studies.

Methods: A systematic search for RCTs was conducted in OVID MEDLINE (2005 to April 2015) EMBASE (2005 to 2015 week 15), the Cochrane Database of Systematic Reviews (Issue 4, April 2015), CINAHL (2005–2015), PsychINFO (2005 to 2015). RCTs were included if they met at least one of the eight core elements for SME. A narrative qualitative synthesis was used to summarize results.

Results: Forty-two RCTs met eligibility criteria for inclusion in the review. Most of the studies (over 80%) examined symptom outcomes. Whereas, other studies examined coping or emotional distress. SME showed effects for reducing fatigue, pain, symptoms of depression, anxiety and emotional distress and improved quality of life. Very few studies used the same combination of core elements for SME.

Conclusions: The endorsement of definitions for cancer SME and the fundamental core elements for inclusion in supporting self-management research and to ensure consistent provision of self-management support in the cancer system.

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Support for children facing parental cancer at school: a cross-sectional survey among school teachers in Japan

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Objectives: The number of cancer patients among the child-raising generation is increasing in Japan. Their school-aged children spend a good portion of the day at school, but the type of support being provided is unclear. This study aimed to ascertain the actual situation and perceptions surrounding support at school for children facing parental cancer.

Methods: A mail-based questionnaire survey was conducted with school teachers of one prefecture in Japan. The questionnaire included demographic data, actual situations, perceptions and information needs for supporting children at school. Statistical analysis was conducted for 568 teachers (effective answer rate, 72.9%), and qualitative content analysis was conducted on free descriptions regarding contents of consultations.

Results: Participants' mean age was 40.5 years; 10.1% of elementary school teachers and 14.8% of junior high school teachers had experience consulting with children about parental cancer. The rates of consulting members were mothers with cancer (31.4%), fathers having spouses with cancer (23.5%), mothers having spouses with cancer (13.7%) in elementary schools, students (28.2%), mothers with cancer (28.2%), and mothers having spouses with cancer (17.9%) in junior high schools. Many teachers recognized their lack of knowledge regarding the support children and acknowledged that more information was required in order to help children along their developmental stages.

Conclusion: The results insist the class teachers have tried to work with parents, other teachers and school nurses to support children facing parental cancer. Development of tools and workshops for school teachers in order to support children facing parental cancer adequately.

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Bereavement Risk Assessment: the Development of a Brief Screening Tool

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Bereavement is a major stressor that has significant physical and mental health consequences, including cardiovascular disease, increased alcohol and tobacco consumption, depression and suicide. While it is estimated that 80–90% of individuals cope with the death of their loved ones without requiring professional intervention, identifying those individuals at-risk of difficult bereavement reactions presents a huge challenge for clinicians.

Predicting bereavement outcomes has been an increasing focus of research over the last decade with attention being paid to the existence of prolonged grief disorder as a separate entity. A number of risk factors have been reported in the literature, including a history of psychiatric disorders, the death of a child and witnessing difficult deaths in the hospital setting.

In oncology settings, there often is no systematic way to identify those individuals most at-risk of developing difficult bereavement reactions and follow-up can be haphazard. Being able to identify 'at-risk' family members prior to the death of the patient or soon after would facilitate early intervention, which in turn, positively impacts not only the individual but also society as a whole.

To address this issue within our cancer institution, we developed a brief screening tool as part of a clinical quality improvement project that we are currently testing. This tool, completed by social workers, not only helps to identify 'at-risk' individuals but also provides a systematic way to help clinicians think about risk prior to the death of the patient. In this presentation, the tool will be described, and the challenges we face will be discussed.

397 Factors related to major depressive disorder in the bereaved seeking medical counseling at a cancer center

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The death of a person is a stressful life event. This stress affects the physical and psychological well-being of the bereaved. With the aim of alleviating psychological distress in the bereaved, our hospital started an outpatient service for bereaved families (Bereavement Clinic). At consultation, to distinguish MDD from other reactions to bereavement is important. However, factors related to MDD have not been investigated. The purpose of this study was to explore factors that predict MDD.

We retrospectively reviewed patients who consulted the Bereavement Clinic within 2 years after the death, between April 2007 and March 2016. Then, we performed logistic regression analysis using those binary scores of the diagnosis of MDD for each demographic characteristic as independent variables. This study was approved by the Institutional Review Board of Saitama International Medical Center, Saitama Medical University.

During the study period, 196 patients consulted the Bereavement Clinic. The ages ranged from 17 to 84 years (mean: 52 ± 14). Mean age of the deceased was 57 years. The mean days from the death to the initial consultation was 165 days. The most common psychiatric disorder among the bereaved was uncomplicated bereavement ($n = 108$, 55%), followed by MDD ($n = 42$, 21%). Females ($n = 157$, 80%), and the bereaved who lost their spouse ($n = 124$, 63%), were the most common users of the service. Age was a significant predictor of MDD (OR, 1.04; 95%CI, 1.01 to 1.08).

This study clarified the factors that could predict MDD. Considering bereaved families' age is important in making a psychiatric diagnosis.

398 The Feasibility of Heart Rate Variability to Test Dose Effectiveness of Home-based Meditative Practices in Lung Cancer Patients

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Background/Purpose: Early evidence suggests that meditative practices can be efficacious for symptom management and improving health related quality of life (HRQOL) in lung cancer populations. Bio-physiological data are essential to enhance understanding of outcomes associated with supportive interventions. Meditative practices may provide benefits via impact on the autonomic nervous system (ANS) by improving vagal tone. Heart rate variability (HRV) measurement provides an index of autonomic flexibility and vagal tone as a potentially valid parameter to evaluate dose by capturing balance between sympathetic and parasympathetic activation. The purpose was to conduct HRV feasibility and respiratory timing testing among participants engaged in meditative practice.

Methods: The sample consisted of five healthy adults (age 35–63 years; four females, one male) and five patients with advanced lung cancer (age 55–67 years; four females, one male). Analysis included descriptive statistics and bio-data evaluation. HRV and respiratory timing were measured using the Clev-Med bio-radio program during 5 minutes of rest and 20 minutes of guided meditation without specific breathing timing instructions.

Results: Participants had variable meditation experience. All participants demonstrated differences in breathing and HRV between times spent quietly sitting and time spent in meditation. While both groups had similar breathing patterns, advanced lung cancer patients demonstrated lower HRV.

Conclusions: This study evaluated feasibility and acceptability of examining dose effects associated with a promising non-pharmacologic approach to symptom palliation. If bio-physiological benefits can be demonstrated longitudinally with larger samples, patients may gain access to a supportive intervention flexibly delivered in the home environment to manage symptoms and improve HRQOL.

399 Addressing Inequities in Cancer Care for People with Severe Mental Illness: Collaborating across Disciplines in Research and Clinical Care

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Individuals with severe mental illness (SMI) have higher cancer-related mortality than individuals without SMI in part due to disparities in cancer treatment. This mortality gap is widening, has been identified in multiple countries, and is not explained by differences in socioeconomic status or insurance coverage. However, people with SMI are fre-

quently neglected in cancer outcomes research and excluded from clinical trials. Without participation in research, individuals with SMI remain at-risk for inadequate and inappropriate cancer care. In this symposium, we will discuss clinical challenges of delivering cancer care to individuals with SMI and present research findings that can guide intervention development for this underserved population. We will include the perspectives of a consult psychiatrist, oncology nurse, and oncology social worker. Our consult psychiatrist will discuss the challenge of delivering optimal cancer care for patients with SMI in the inpatient setting. Our oncology nurse researcher will share qualitative analyses highlighting the nursing perspective on barriers and facilitators to cancer care for people with SMI. Finally, in a joint presentation including social work and psychiatry, we will describe the development of an intensive collaborative care intervention for patients with SMI and cancer. We will share a case study and discuss encouraging results from our pilot study of proactive psychiatry consultation and case management. This intervention is feasible and acceptable to multiple stakeholders: patients, caregivers, and oncology clinicians. We will conclude by discussing next steps to advance clinical care and research focused on improving outcomes for individuals with severe mental illness and cancer.

Supporting Abstract 1:

Challenges in caring for patients with severe mental illness and cancer: The Inpatient Oncology Unit

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¹Massachusetts General Hospital Cancer Center, Harvard Medical School

Background: Individuals with severe mental illness (SMI) experience inequities in medical care in the inpatient cancer setting including higher rates of in-hospital mortality, inadequate pain control, and infrequent referrals to palliative care and hospice. New collaborative approaches are needed to address the challenge of delivering cancer care for patients with SMI and cancer in the hospital setting.

Methods: Drawing from clinical experience and qualitative research with oncology and mental health clinicians, we will discuss common issues encountered by the interdisciplinary team of oncologists, oncology nurses, inpatient psychiatry consultants, and support staff.

Results: We will present three clinical cases and discuss important challenges to the delivery of optimal inpatient cancer care: (1) addressing diagnostic dilemmas and complex symptoms, (2) communicating with patients and implementing behavioral management at the bedside, and (3) assessing patient understanding and decision-making capacity while upholding autonomy. We will also present team-based strategies to address these challenges including the following: (1) ensuring psychiatric and social work consultations occur in the inpatient setting, (2) educating professional colleagues about the needs of patients with SMI, (3) creating optimal care committees that can help clinicians to solve ethical dilemmas, and (4) promoting access to high-quality care throughout the cancer care continuum.

Conclusions: Clinicians may not be prepared to meet the complex needs of patients with cancer and SMI. Team-based approaches that capitalize on the strengths of multiple professions can address the shortcomings present in the current inpatient cancer care experienced by patients with SMI.

Supporting Abstract 2:

Nurses' Perceived Barriers and Facilitators to Providing Quality Cancer Care to Individuals with SMI

Teresa L. Hagan¹PhD, RN; Amy E. Corvelyn¹MSW, LICSW; Carlos Fernandez-Robles¹MD; Kelly E. Irwin¹MD

¹Massachusetts General Hospital Cancer Center, Harvard Medical School

Background: Oncology nurses provide intense care for individuals with SMI who have cancer, yet little research has described their experience. Before designing a collaborative care model to address the health inequities experienced by this population, nurses' perceived barriers and facilitators to working with this population must be explored.

Methods: Using a semi-structured interview guide, we conducted in-depth interviews with 33 oncology and mental health clinicians including nursing, social work, and physicians. We asked nurses to describe their past experiences caring for individuals with SMI who have cancer, the process of providing care, and barriers and facilitators to providing care to this population. Interviews were audio-recorded and transcribed verbatim. An interdisciplinary group of clinicians and qualitative experts iteratively reviewed transcripts to uncover overarching themes.

Results: Six nurse practitioners and two registered nurses ($n = 8$) were recruited from an academic cancer center and community mental health clinic. Nurses' perceived barriers included the following: (1) communicating with individuals who struggle to report symptoms and problems, (2) lacking family and caregiver support to assist with patients' care, and (3) having inconsistent follow-up care. Nurses' perceived facilitators focused on the following: (1) building trusting, supportive relationships over-time, (2) advocating for individuals' needs ranging from basic needs to making decisions about supportive care, and (3) working and communicating with a team of committed, multi-disciplinary health care providers.

Conclusions: Nurses' perceived barriers and facilitators highlight the need for improved patient-provider communication and multi-disciplinary approaches to providing extra support to these individuals. Future research will utilize these qualitative findings to inform the development of a collaborative care model to improve cancer care for individuals with SMI.

Supporting Abstract 3:

Pilot Study of Proactive Psychiatry Consultation and Case Management for Patients with Severe Mental Illness and Cancer

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¹Massachusetts General Hospital Cancer Center, Harvard Medical School

Background: Collaborative care models have improved depression outcomes for patients with cancer, yet patients with severe mental illness (SMI) have been excluded from these trials. Conducting trials with this population may address inequities in cancer treatment and survival.

Methods: We developed an intervention combining proactive psychiatry consultation and case management for patients with SMI and cancer. We conducted a one-arm pilot study to assess the feasibility and acceptability of this intervention among patients, caregivers, and clinicians. Inclusion criteria included 1) SMI defined as schizophrenia, bipolar disorder, and major depressive disorder with prior psychiatric

hospitalization and 2) recent diagnosis of cancer. Study participants were followed intensively for 12 weeks and then bridged to community-based care.

Results: We enrolled 30 patients (90% of those approached) in 5 months, and 87% of participants completed the psychiatric assessment and engaged with a case manager. Exit interviews conducted with oncologists, patients, and caregivers demonstrate that the intervention is acceptable and useful. Successful components include the following: 1) proactive, team-based approach at cancer diagnosis to assess barriers to care, optimize psychiatric symptoms, and collaboratively develop the cancer treatment plan, 2) improving communication between the oncology and mental health teams, and 3) patient-centered care across settings (hospital, outpatient clinic, and home) with an emphasis on understanding the patient's needs and perceptions of care.

Conclusions: A collaborative care intervention for patients with SMI and cancer is feasible and acceptable. Additional research is needed to investigate the clinical efficacy of this intervention on cancer and mental health outcomes.

400 6-Week Cybermeditation App Program Introduces Hospice and Palliative Care/Oncology Professionals to Meditation and Improves Professional Quality of Life

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Background/Purpose: Meditation can relieve stress, cultivate healthcare professionals (HCP)' self-regulation skills, and modify risk for and relieve symptoms of compassion fatigue and burnout. However, approaches such as mindfulness-based stress reduction require attending 2-hour weekly sessions over 4–8 weeks. We developed a minimally invasive 6-week cybermeditation program based on 10–12 minute meditation apps involving breath, gentle movement and visualization combined with bi-weekly support emails and tested it with hospice and oncology/palliative care professionals.

Methods: Salaried hospice and palliative care professionals at a large Midwestern United States healthcare network were invited. Participants completed a pre-survey, downloaded and used the apps for 6 weeks, received teaching/support emails, and completed post-surveys. The apps automatically uploaded usage data.

Results: Nearly half (48%) of 93 professionals invited to participate registered. Among registrants, 77% ($n = 36$) downloaded and used the apps. Engagement with the meditations was high. Over 6 weeks, the average number of meditations participants used was $M = 17.2$ ($S.D. = 8.7$, range = 4–33). Paired t -tests showed significant improvements in compassion fatigue from the pre-survey ($M = 2.22$, $S.D. = 4.52$) to post-survey ($M = 2.06$, $S.D. = 5.0$, $t(35) = 2.062$, $p < 0.05$) and in burnout from the pre-survey ($M = 2.13$, $S.D. = 4.14$) to post-survey

($M = 2.00$, $S.D. = 5.02$, $t(34) = 2.209$, $p < 0.05$). Two thirds of participants indicated they were somewhat or very likely to continue to use the apps post-study.

Conclusions The cybermeditation program introduced and engaged participants with meditative practices across 6 weeks and yielded small but significant improvements in professional quality of life benefits are identified with larger scale research, HCPs may gain access to a scientifically sound flexibly delivered intervention to manage stress and compassion fatigue.

401 The National Youth Cancer Framework for Adolescents and Young Adults with Cancer; Strategic Priorities for Australia to 2020

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Background/Purpose: CanTeen and Cancer Australia jointly developed the National Service Delivery Framework for Adolescents and Young Adults with Cancer (NSDF) in 2008, with a vision to maximise survival and quality of life outcomes for young oncology patients in Australia. During 2015–2016, a re-named National Youth Cancer Framework (NYCF) was developed, articulating a strategic vision for world class treatment and psychosocial care. This presentation articulates this initiative and will launch the new Framework on the international stage.

Methods: A collaborative approach was undertaken to update the NYCF, led by CanTeen, a peak non-government organisation and Cancer Australia, the national government cancer control agency. A National Reference Group was convened and a stakeholder consultation process undertaken with Youth Cancer Service health professionals, adolescents and young adult cancer survivors (AYAs) and key external stakeholders such as cancer organisations and government health departments. Along with these consultations, a review of the literature was undertaken, which together, guided the scope and development of the updated Framework.

Results: The Framework considers the cancer patient pathway for 15- to 25-year olds, from early detection, through treatment, psychosocial and other support, to survivorship and palliation. It is underpinned by a Vision, Principles, Success Indicators and four Strategic Pillars; service delivery networks; health professionals; data and information; and research.

Conclusions: The NYCF provides an important and visionary blueprint for action to 2020, articulating a national approach for best practice treatment, through a consistent, integrated and coordinated response across the Australian health system.

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Assessing unmet needs and distress in adolescents and young adults who have a parent or sibling die from cancer

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Background/Purpose: Each year another 22,000 young Australians have a family member diagnosed with cancer. Changes in family dynamics, loss of normalcy, feelings of isolation, and increased internalizing behaviours often occur. Unfortunately not all parents and siblings survive cancer, which can exacerbate these changes. Additionally psychosocial care can be fragmented, without a clear understanding of the needs of young people dealing with death. To this end, a measure of unmet needs for bereaved adolescents and young adults (AYAs) has been developed to understand the type and relative importance of unmet needs to ensure appropriate support services are delivered.

Methods: Measures of unmet needs, psychological distress (Kessler-10) and demographics were completed by 335 bereaved AYAs (age M = 15.8 years, SD = 3.3; 64.8% female; 88.4% bereaved offspring; time since death M = 14.4 months, SD = 14.9). Factor analysis was completed on the 58-item unmet needs measure to identify the underlying factor structure and most frequently endorsed unmet needs.

Results: Most (82%) AYAs identified at least 10 unmet needs. Items associated with having fun and spending time with other young people in a similar situation had the highest endorsement. Sixty-one percent of AYAs reported high/very high levels of distress. Factor analysis supported a seven-factor structure.

Conclusions: Bereaved AYAs experience high levels of unmet need and distress. A measure to assess these needs amongst bereaved AYAs is important for identifying areas to focus support; further development of this measure is currently underway, along with the design of more targeted service provision to reduce the psychosocial concerns of these young people.

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Reducing the impact of cancer: Piloting a manualised health promotion cancer program in Australian secondary schools

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Background/Purpose: A third of cancers can be attributed to modifiable lifestyle factors. Adolescence is a key period for establishing healthy behaviours as young people begin to take responsibility for

their own health. Schools are established loci for health promotion. Despite the wealth of evidence into the causes and psychosocial impact of cancer, currently, no Australian school programs exist that provide cancer education. This project aimed to develop and pilot a cancer program for Australian secondary school students.

Methods: The manualised 90-minute classroom-based program includes the following content: awareness of cancer, its early signs, and psychosocial impact; reducing cancer risk; help-seeking for medical advice or support for self and others impacted by cancer; and supporting friends affected by cancer. A pilot evaluation was conducted in two Australian schools. Data collected from students, teachers and program facilitators measured program satisfaction and perceived increased knowledge.

Results: Fifty-two year 9–10 secondary students participated in the study (age M = 15.3 years, SD = 0.7). Over 90% of students agreed that the presentation was useful, adolescent-friendly, and easy to understand. Of the five main cancer prevention behaviours discussed in the program, students recalled a mean of 2.3 behaviours (SD = 1.4), suggesting knowledge transfer from the program. Perceived increased knowledge was high for each outcome (72.5%–94.1% agreement).

Conclusions: Pilot data suggest the program is acceptable to students and meets learning objectives of increasing knowledge about reducing cancer risk, offering support to others impacted by cancer, and help-seeking behaviours. Next steps include program revision based on pilot findings and a full evaluation.

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The association of coping style and perceived burden in caregivers of older patients with cancer

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Background/Purpose: Cancer diagnosis has a profound impact on patients and their relatives. Caregivers can experience substantial pressure, which can entail burden and other psychosocial problems. Patient and caregiver coping style might be associated with the caregiver's perceived burden. The aim of this study is to explore influences of patient and caregiver coping style on caregiver perceived burden.

Methods: KLIMOP is a prospective cohort, including older cancer patients (≥ 70 years), middle-aged cancer patients (50–69 years), older patients without cancer (≥ 70 years) and their caregivers. Participants received questionnaires within 3 months after diagnosis (BL), after 1 year (1YFU) and 3 years (3YFU). Caregiver questionnaires included amongst others the 15-item Utrecht Coping List and the 12-item Zarit Burden Inventory.

Results: Data of 146 patient-caregiver dyads were analyzed at BL and 1YFU. 3YFU will be presented at the congress. Both at BL and 1YFU, increased levels of high to severe perceived caregiver burden were

found (69% respectively 64%). There was no effect of caregiver coping style on perceived caregiver burden at BL. However, at 1YFU, there is an over two times higher perceived caregiver burden when caregivers having an avoiding coping style. Patient avoiding coping style also indicates a higher perceived caregiver burden at BL and 1YFU. Caregiver active coping style seems to be protective for perceived caregiver burden at 1YFU.

Conclusions: The results indicate an effect of patient and caregiver coping style on perceived burden in caregivers, which remains high over time. These results, further conclusions and implications will be presented.

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An evaluation of the impact of the “Improving Cancer Journey” project: Preliminary findings

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Background: Safe, effective, person-centred care delivered by integrated agencies is the current health policy in Scotland. The aim of ‘Improving Cancer Journeys’ (ICJ) is to proactively provide personalised support to all individuals diagnosed with cancer in Glasgow. It has already been hailed as a model of success. £9 million fund has just been set aside by Scottish Government to fund support services modeled on ICJ. The aim of this study is to independently evaluate its impact.

Methods: Mixed-methods design. Data include validated measures of patient activation, social support and quality of life alongside interviews, observations and reflective diaries. Participants include people affected by cancer who have used ICJ, a comparative sample who have not, ‘link officers’; workers who deliver the service and wider stakeholders.

Results: Baseline data show that 1472 people have used ICJ since inception in 2014. Four thousand one hundred twenty-nine onward referrals have been made to 220 support agencies generating £1 677 820 in extra benefits. People who use ICJ were significantly younger, less likely to be married, in a lower sociodemographic band, with lower levels of social support and quality of life than those not using ICJ. Observations and reflective diary content from link officers showed the importance of effective inter-personal skills in operationalising health and social care integration.

Conclusion: Baseline data suggest that ICJ is used effectively by those who need it the most. This presentation discusses the latest data.

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Silhouette: A creative representation of transformational aspects of breast cancer

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Silhouette

A creative representation of transformational aspects of breast cancer

Objective: This study aimed to systematically explore the lived experience of women diagnosed with breast cancer with particular emphasis on how identity was constructed and creatively represented in silhouette art-form after a breast cancer diagnosis.

Method: To explore these aims, a qualitative design was employed, consisting of life-story informed, semi-structured interviews with $N = 9$ women diagnosed with breast cancer between the age of 32 and 55 years. A blank silhouette drawing was introduced to capture the transformational aspects of breast cancer in creative form by using drawings, symbols or colour with personal descriptions representing their breast cancer experience. The data were subjected to a descriptive interpretative approach and narrative informed inquires to identify themes.

Results: A thematic analysis across women's stories uncovered four domains and three themes. The themes were a) breast cancer experience as being life altering, b) the self and identity as changing, and c) learning to live in the shadow of a cancer diagnosis.

Conclusion: The findings of the study will be discussed in relation to current literature with an emphasis on the use of silhouettes in representing the transformational aspects of breast cancer on the body, sense of identity formation and how the findings including silhouettes can be use in clinical practice, to capture the essence of the felt sense of self with breast cancer. Recommendations are made for future research.

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The role of psychological flexibility in cancer patient with pain: an observational study

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Background: It has been extensively studied chronic pain in patients suffering from different non-cancer diseases.

Aim of this study is to investigate the role of psychological flexibility in cancer patients with pain.

Methods: Patients with pain were asked to complete questionnaires designed to detect pain (NAS and BPI), the psychological flexibility (AAQ II), the anxiety-depressive symptoms (HADS) and distress (TS).

Results: Thirty-three patients completed questionnaires ($M = 62$ years ($SD 11.28$)), 52% of which are female. Greater levels of psychological flexibility showed a higher correlation with lower levels of anxiety ($r = -0.73$, $P < 0.000$), depression ($r = -0.59$, $P < 0.001$), distress ($r = -0.45$, $P < 0.019$) and emotional interference ($r = 0.38$, $P < 0.40$).

Discussion: The results seem consistent with studies in patients with non-cancer pain.

In the future study, it could further investigate the role of psychological flexibility to adapting to pain in cancer disease.

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To explore the use of an android app to promote adherence to adjuvant endocrine therapy following breast cancer

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Introduction: Adherence to adjuvant endocrine therapy (AET) following treatment for breast cancer is sub-optimal resulting in increased recurrence and mortality. Smart-phone and internet ready devices such as apps are a novel approach used to improve medication adherence. They are constantly accessible, involve and educate the patient, and provide a repository for patient- and medication-specific information. This study aimed to explore the feasibility and possible content for an app to inform and support women taking AET and promote adherence.

Methods: Two focus groups with women ($n = 15$) and five individual telephone interviews with women aged 43 to 79 years who are prescribed AET following breast cancer. Women were recruited through the UK charity Breast Cancer Care. A thematic analysis was used to analyse transcripts.

Results: Computer literate women were positive about the use of an app. Women suggested the content of the app could include an electronic diary to record side effects, provision of information on managing side effects and alternatives available, provision of links to evidence-based information, links to online forums, reminders to take medication, and reminders for repeat prescriptions. Data have informed the development of a prototype app which is being further evaluated with women.

Conclusion: Modern technology such as apps is transforming the way we approach healthcare. Women taking AET were positive about the idea of using an app to self-manage AET, and their views have informed the content of this app. Future studies will explore whether the app assists in improving adherence, support and quality of life.

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A comparative study of the fatigue in cancer-related fatigue with the fatigue in chronic fatigue syndrome

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Background: Cancer-related fatigue (CRF) is prevalent and distressing symptoms in patients with cancer, yet its causes and characteristics remain unclear. This study aimed to compare CRF with chronic fatigue syndrome (CFS), and to better understand the characteristics of CRF.

Methods: Patients with CRF and persistently fatigued subjects without medical cause were examined. Subjects completed questionnaires on fatigue, mood, sleep and quality of life and provided a blood sample for high sensitivity C-reactive protein (CRP), a marker of inflammation. Objective sleep assessment was conducted with a wrist actigraph for 3 days, and neurocognitive tests were also performed.

Results: In comparison to subjects with CFS, patients with CRF showed a higher level of CRP. In the CRF group, fatigue score had positive correlation with severity of insomnia ($r = 0.58, p < 0.01$). Multiple regression analyses revealed that fatigue in CRF was related to lower performance on the verbal learning test ($b = -1.1, p = 0.04$) and poorer physical well-being ($b = -2.5, p = 0.01$). In the CFS group, fatigue was positively associated with scores on stress ($r = 0.49, p = 0.03$), other fatigue related factors were not found.

Conclusions: The current results provide some support to the hypothesis that CRF is related in part to sleep disturbances and implications for the management of fatigue in patients with cancer.

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Developing an impact evaluation framework to demonstrate the psychosocial impact of the Irish Cancer Society's services

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Background/Purpose: The Irish Cancer Society (the Society) in its current strategic plan states that it will "develop and deliver evidence-based, high impact cancer risk reduction programmes and support services." In 2013, a review of the evaluation and reporting process was carried out. While the Society frequently carried out evaluations on specific projects, it was recognised that these were often poorly linked, monitoring, and reporting on long-term impact was limited, and psychosocial impact was not captured.

Methods: The Society engaged consultants from the UK-based organisation Charity Evaluation Services (CES) to develop evaluation plans and tools, focusing on demonstrating psychosocial outcomes and the impact of the Society's services. An organisational theory of change was developed resulting in 31 outcomes for all services, and an evaluation framework was created. The tools were piloted, and two reports were produced. In 2015, CES recommended that the Society employ a resource and evaluation officer to oversee the evaluation process in-house.

Results: In 2016, the Society assumed responsibility for annual impact monitoring. In consultation with the service managers, 18 services were selected to be evaluated in four themed reports. It is hoped that the Impact Reports will streamline existing practices, increase lateral thinking across the organisation and reduce the need for individual evaluations. The reports are due to be completed by February 2017.

Conclusions: The agreed outcomes, cross-organisation evaluation framework and improved reporting will assist the Society in monitoring and reporting psychosocial impact to management, funders and supporters in a much more effective manner.

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Is APOE ϵ 4 status a moderator of chemotherapy-induced changes in white matter connectivity in testicular cancer patients undergoing treatment? A prospective explorative study

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Background: Chemotherapy (CT) with bleomycin, etoposide, and cisplatin (BEP) has been associated with cognitive impairment. We have recently shown that cognitive impairment is particularly evident in carriers of the APOE ϵ 4 allele. Changes in brain white matter structure (WM) have been highlighted as a possible underlying neural substrate to the impairments and evidence suggests that the APOE ϵ 4 allele makes the brain less resilient to neurodegenerative processes affecting WM. The aim of the present explorative study was, therefore, to investigate the possible moderating effect of the APOE ϵ 4 allele on WM connectivity in testicular cancer (TC) patients undergoing cisplatin-based CT.

Methods: Twenty-two recently orchiectomized TC patients underwent magnetic resonance imaging (MRI) of the brain including a 32-directional diffusion-weighted scan prior to chemotherapy (T1), and at a 6-month follow-up (T2). Blood samples were collected for APOE genotyping in all patients. APOE status was evaluated, and patients were classified based on the presence ($N = 7$) or absence ($N = 15$) of at least one APOE ϵ 4 allele. Group differences (unpaired T-tests) in mean fractional anisotropy of WM tracks at T1 and T2 were tested with cluster corrected ($p < 0.05$) voxelwise statistical analyses using Tract-Based Spatial Statistics (TBSS) with 5000 permutations and threshold-free clustering enhancement.

Results: No statistically significant between-group differences in fractional anisotropy average values of any WM tracts were found for any time points.

Conclusion: These preliminary findings suggest that carriers of the APOE ϵ 4 allele are not at an increased risk of CT-induced impairment of WM connectivity.

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A family's perspective on end of life care provided through the Irish Cancer Society's Night Nursing Service

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Introduction: The Irish Cancer Society Night Nursing Service (ICSNNS) facilitates end of life home-care by specially trained nurses. Clinical governance is the framework through which health systems can assure the public that their obligations are met.

Material and Method: The aim of this study was to conduct an evaluation of the ICSNNS. A mixed methods approach was used, data was collected concurrently using the following: focus group interviews ($n = 67$ participants); an online survey ($n = 198$ night nurses); and a postal survey of 159 family members. This paper will report on the family members' experiences of the end of life care provided by night nurses. Some comparisons will also be drawn with data collected from other stakeholders.

Findings: The majority of family members, i.e. 91% of respondents, were very satisfied with their interactions with the Irish Cancer Society Night Nursing Service; 83% of responders noted that night nurse(s) provided excellent end of life care which respected the wishes of their loved ones; 87% reported that the night nurse(s) made them feel prepared or very prepared for the death of their loved one. Two thirds of responders (67%) described the death of their loved one as almost perfect, and 18% described the death as good.

Conclusion: A number of barriers to accessing the service highlighted by family members included the following: (i) lack of public funding for the service, (ii) lack of specialised nurses, (iii) slow access to the service through other health care professionals, and (iv) using the nights 'sparingly' for fear of nights running out.

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Asking for a second medical opinion – a patient's right or a concession?

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Asking for a second medical opinion (SMO) is a complex process which may influence a patient's diagnosis, treatment or prognosis. In Romania, asking for a SMO represents a patient's right and is protected by Patient's Rights Law and by Medical Deontological Code. Instead of this, few patients are asking for a SMO maybe because of the cultural background dominated by a paternalistic model of medical communication.

Transversal study, 40 patients were administered a semi-structured interview based on doctor-patient communication, decision-making process, patient's suspicions about their medical care, and their opinion about seeking another medical opinion. Inclusion criteria: adult patients, signing informed consent, and malignant diagnosis. Exclusion criteria: patients that refused to participate. The methodology of the study was approved by the Medical University Ethics Committee. The data were processed both qualitatively (phenomenological approach) and quantitatively using SPSS.16.

All the patients had a suspicion on their medical care. Only two patients asked for another opinion. Patients who did not request it motivated by the fact that it is not a common practice in the Romanian medical system have not thought about it or did not know whom to ask. There is a statistically significant association between patient's level of education and the desire to seek a SMO. The poster will qualitatively analyze patient's opinion about the attitude of their doctor if they would know that the patient asked a SMO.

Some patients need to ask for a SMO, this is not a usual practice, and informational campaigns for patients regarding their rights are needed.

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The problem that will not go away: a literature review of psychological interventions to tackle burnout and compassion fatigue in oncology nurses.

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Background/Purpose: Cancer care professionals are at high risk of stress; this is especially true for oncology nurses. Unlike for patients groups (for whom cancer has a definite start and often a clearer end point), this stressor is more enduring for staff. Studies report high prevalence of burnout and compassion fatigue, highlighting a need for evidence-based interventions. Our study aimed to review this evidence.

Results: Interventions discussed in the literature include educational-based programs and those informed by psychotherapeutic models, though there are fewer of the latter. Evidence for intervention effectiveness varies, with regard to both effect size and longevity. Few studies describe how underlying models inform intervention content, and those that do tend not to provide a justification for why they would benefit this specific population. Third-wave psychotherapeutic models take a data-driven approach to intervention development. One particularly relevant example, Acceptance and Commitment Therapy/Training (ACT) consists also of components that may be more relevant to the ONs' role/experiences.

Implications and conclusions: To date, no published study has empirically tested the effectiveness of ACT for burnout and/or compassion fatigue in oncology nurses, though studies have explored ACT for work-related stress in other healthcare professionals. Based on previous research, the evidence suggests that the underlying ACT framework may be more suitable (than other psychotherapeutic frameworks) for at-risk oncology nurses. ACT can be presented in brief and/or group format which may be attractive to this population, in whom current stress levels and time constraints act as barriers to participation in self-care interventions.

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Which unmet cancer needs determine emotional distress, anxiety and depression? A large scale problem list analysis using the Emotion Thermometer

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There are few large scale studies that examined the link between unmet needs emotional distress, anxiety and depression.

We conducted a large scale study using a convenience sample consecutive patients who completed a checklist of 33 unmet needs from locally developed inventory of needs. We analysed data collected from Leicester Cancer Centre over 1 year where individuals were approached by a research nurse and two therapeutic radiographers. Of 738 people approached, we collected data on 474 people with cancer seen 3 to 9 months after treatment.

The following unmet needs/issues were most closely linked with emotional complications: nervousness sadness, faith, depression, fears, pain, issues with children, mouth sores, issues with partner, worry, and sleep (all $p < 0.005$). However, there were differences in relation to prediction of anxiety, distress, depression and anger. Looking at physical/somatic unmet needs: faith mouth sores related to distress; faith, sleep, mouth sores related to anxiety; pain, children, partner, faith influenced depression; pain, children, partner, and faith influenced anger. Interestingly pain was a strong predictor of depression and anger but a modest predictor of anxiety and distress.

Conclusion. Although some unmet needs are common to anxiety, depression and anger, there are also important differences where some needs appear to influence specific emotional complications.

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An Etiquette-Based Medicine Decalogue on the Professional style in the Multidisciplinary Unit (UVM) of Cosenza Hospital Oncology Department

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Purpose: In the helping profession, the observance of etiquette-based medicine is a protection against not only embarrassment and confusion, but misapprehension and dissensions, injurious alike to physicians and patients. Etiquette is derived from the Greek word for graceful, elegant or manifesting good form or bearing. In the ambulatory where

cancer patients are assessed before starting a cancer treatment, we wrote and shared a rules Decalogue about the professional and relationship style of the oncologic team in order to better manage the setting.

Materials and Methods: 20 Helping Professionals (HPs) (10Oncologists; 4Radiation Therapists, 2Surgeons, 3Psycho-oncologists, 1Social Worker) attended 3 focus-groups, conducted by a Psycho-oncologist. The purpose was to select rules and effective behaviors to welcome the patient and his/her family-members. The selected rules were collected and submitted to the attention of the participants. Three steps were identified: (1)what to do before, (2)during and (3)after the first visit time with patient and family/caregiver.

Results: The most relevant aspects of etiquette-based rules look at: patient welcome, exhaustive and patient-family-centered communication, active listening, patient/family-expectations centrality, take care and drive the patient and his family throughout the care pathway. Rules were written like a Decalogue with computer graphics techniques and posted in the first visit-room. Between the HPs, 3/20 did not share what was posted, while 17/20 demonstrated enthusiasm.

Conclusion: In medical-rooms, well-highlighted posted rules remind everyone "how to behave". As such, HPs, patients and caregivers/families become an active part of a continuous improvement process. References M.W. Kahn, N ENGL J Med 358;19-MAY 8, 2008

421 Psychosocial Support for Pediatric Oncology & Hematology Patients' Parents

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The diagnosis of childhood cancer and its treatment have well-researched psychosocial impacts on patients and their families. Therefore, psychosocial support is included in comprehensive treatment programs. Psychosocial support provided for parents improves parents' coping skills as well as their children's. Inspired by this knowledge, a pioneer Parents' Support Group was designed in Istanbul, Turkey, where these services are absent.

The study took place in the Family Home of KACUV and included 24 parents. Twelve session psychosocial support groups are designed to target the group's needs, such as psychological education about the effects of illness, relationship with healthy siblings, anger management, grief and loss. The program included psycho-education, CBT, art activities, improvement of parenting skills, breathing and relaxation exercise. Effects of psychosocial support group were investigated with exploratory methods.

A 10-question survey was designed to assess satisfaction with psychosocial support. Nine female and seven male participants answered the questions. Results show that all of the participants are willing to recommend this program to others. More than half of the respondents rated discussion topics as "useful" or "very useful". Skills to cope with illness and feelings of the healthy siblings are highly evaluated as very useful topics.

Based on the positive outcomes, these data highlight the importance of providing parents a space to share feelings and working on skills to cope with difficulties.

This research demonstrates the parents' satisfaction with the pioneering psychosocial program. Basing on this research, more programs should be started in Turkey for parents of pediatric cancer patients.

422 Effect of mind and beauty education on body image among young breast cancer patients: A randomized controlled trial

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Young breast cancer patients are more likely to suffer from altered appearance due to cancer treatment such as breast disfiguration, hair loss, skin change and experience poor body image. This randomized controlled trial (RCT) is designed to evaluate the effect of mind and beauty education program on body image among breast cancer patients under 40 years old.

Young breast cancer patients were recruited and randomly assigned to intervention and control group from August 2014 to April 2015 at a university-based hospital in Seoul, Korea. Intervention group received a structured 8-hour education (2 hours for 4 weeks), and control group had education after outcome evaluation. Body image as primary outcome was assessed using EORTC QLQ-BR23. Outcomes were evaluated before the intervention, right after the intervention (visit 2), and three (visit 3) and 6 months (visit 4) after the intervention. Linear mixed model was performed to compare the outcomes of the two groups.

A total of 54 and 55 patients (mean age 35.5 years) were assigned to intervention and control group. Intervention group reported significantly improved mean change of body image than control group at visit 2 (Intervention; 11.56, 5.77 to 17.35 and Control; 1.84, 3.46 to 7.13, *P* for interaction =0.02). Improved mean change of body image in intervention group remained to visit 4 (Intervention; 12.67, 6.71 to 18.64). This study provided evidence supporting that mind and beauty education program would be beneficial to young women with breast cancer who would suffer from low body image.

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Perception, knowledge, and experience of using wearable device and smartphone application for physical activity among breast cancer patients: A cross-sectional survey

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Although many studies showed that physical activity after diagnosis may have a beneficial effect on quality of life, fatigue, and survival, cancer patients seemed to have barriers to interfere engaging in regular exercise. Emerging technologies of wearable device and smart-phone application to track the physical activity were suggested to have a potential to support for increasing and maintaining physical activity beyond cancer treatment. Therefore, this cross-sectional survey was conducted to assess perception, knowledge, and experience of using wearable device and smart-phone application for physical activity among breast cancer survivors.

This cross-sectional survey was conducted with 100 breast cancer survivors from October to November 2015 at a university-based hospital in Seoul, Korea. Of the 1,108 consecutive breast cancer patients to visit the hospital in Seoul, Korea, 100 breast cancer survivors provided written informed consent and completed interview. Data were collected via face-to-face qualitative interview by trained interviewers. Participants were asked to respond the semi-structured questionnaire including the acceptability of using wearable device and mobile application.

Among 100 participants (mean age 49.5 ± 8.6), 41% and 79% of participants have heard about wearable device and smart-phone application (perception), 21% and 60% have known the function of wearable device and smart-phone application (knowledge), 2% and 31% have used wearable device and smart-phone application (experience), and 55% and 70% have willingness of using wearable device and smart-phone application (willingness), respectively.

These findings will inform health professionals and researchers to consider the smart phone application and wearable device for increasing and maintaining physical activity among cancer patients.

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Psychosocial support programme: Play is my medicine

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Project "Play is My Medicine" is implemented by the Hope Foundation for Children with Cancer to help children between the ages 3 and 15 in their adaptation to the treatment process. It offers services to support emotional and social development, to improve the ability to express emotions. The project activities implemented by volunteers are developed by experts for three different age groups.

Four-legged-evaluation process involves 1) a children survey to evaluate satisfaction with activities, group interactions and volunteers, 2) a family survey to evaluate parents' opinions about the project and the implemented activities as well as attitudes towards children, illness and hospital, 3) a volunteer survey and additional interviews to assess activity book's content and implementation process, and 4) a healthcare professional survey to evaluate the effects of the offered services on the treatment process.

Results show that implemented activities helped children get distracted in the hospital. Children who enjoyed activities were more likely to socialize more and improve their relationships. Children express more their emotions about the illness and use these activities a tool to cope with the process.

In conclusion, families and children are satisfied with the project which contributes to the emotional well-being of the children. With the help of the activities, children were able to socialize, get distracted, have fun and learn new skills to cope with the psychological effects of the illness.

There is a lack of psychosocial support services in the treatment of childhood cancer in Turkey. We kindly suggest similar programs to be developed and disseminated.

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Measuring organisational impact: Outcomes of a psychosocial assessment and review process with young people living with cancer

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Background/Purpose: Adolescents and young adults (AYAs) who are impacted by their own or a family member's cancer diagnosis experience high levels of distress and unmet needs. CanTeen, an Australian youth cancer support organisation, provides a range of support options

for this vulnerable group, including the following: therapeutic programs; multiple formats of counselling; medical and psychosocial information resources; and peer-support. To better understand these young peoples' needs, inform program delivery and research priorities, and measure service impact, CanTeen introduced a psychosocial assessment and review process. Findings on the psychological well-being of AYAs receiving support are presented.

Methods: Baseline assessments of unmet needs and psychological distress (Kessler-10) were completed by 1795 AYAs (age $M = 16.3$ years, $SD = 3.3$ years; 62.3% female; Sept 2013 to Mar 2015), including 452 patients and survivors, 256 siblings, 722 offspring, 36 bereaved siblings and 329 bereaved offspring. Of these, 593 completed a 6-month review, and 97 completed an 18-month review. Changes in distress and unmet needs scores across time were analysed.

Results: At baseline, 46.5% of AYAs reported clinically elevated distress along with a high proportion of unmet needs (19.5%–48.1%) assessed using a range of validated multi-domain measures. Results found significant decreases in distress and unmet needs across time.

Conclusions: Accessing the broad range of services offered by CanTeen was effective in reducing distress and unmet needs in young people seeking help to cope with their cancer experience. On-going analysis of this data will enable greater understanding of the impact of specific services and assist in identifying potential improvements in service provision.

426 Psychological Reactions of Children and Adolescents to Malignant Disease and Treatment

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Using a sample of 60 children and adolescents who are affected by various malignant diseases (ages 7–12) ($N=30$) and (ages 13–19) ($N=30$) this study aimed to investigate different psychological reactions during the oncological treatment. The subject of the research can psychological reactions such as: anxiety, depression and fatigue during the treatment be properly estimated and how they affect the quality of life and efficiency of the prevalence in children and adolescents.

Results: Statistically significant difference was also demonstrated on the anxiety scale and on subscales: Physiological anxiety (lower score in adolescents) ($t = 2.258$, $DF=58$, $p = 0,028$) ($p < 0,05$) and Social anxiety (lower score in adolescents) ($r = -.228$, $t = 0,40$) ($p < 0,05$). We applied T tests for independent samples for testing the difference between pediatric and adolescent population (the first group of children age 7 to 12, and the other group of adolescents age 13 to 19) at the scale for anxiety, depression, fatigue experience, quality of life and way of coping. Analysis demonstrated statistically significant differences at the depression scale (The Children Depression Inventory) on the following subscales: anhedonia (higher score in children) ($t = 2.274$, $df = 58$, $p = .027$) ($p < 0,05$); low self-respect (higher score in children)

($t = 2.325$, $df = 58$, $p = .024$) ($p < 0,05$); total depression score (higher score in children) ($t = 2.125$, $df = 58$, $p = .038$) ($p < 0,05$). Analysis demonstrated statistically significant difference at the physical functioning subscale PCQL – 32 Patient Self Report Quality of Life Scale (boys scored higher than girls ($t = 2.006$, $DF = 58$, $p = .049$) ($p < 0,05$).

427 The Cost of Survival: The Influence of Fear of Recurrence (FCR) and Fear of Cancer Metastases (FCM) on Colorectal Cancer Survivors' Quality of Life (QOL)

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Background/Purpose: Colorectal cancer (CRC) survivors may regain good overall quality of life (QOL) following treatment. However, fear of cancer recurrence (FCR) and metastasis (FCM) are lingering psychosocial issues affecting QOL. This mixed methods sequential explanatory design study explores CRC survivors' QOL and experiences of physical and psychosocial effects in the 5-year following treatment.

Methods: A purposive sample of CRC survivors ($n = 304$) attending hospitals and cancer support centres in the Republic of Ireland were recruited between September 2014 and January 2016. All participants returned a postal questionnaire, which included The Functional Assessment of Therapy–Colorectal (FACT-C) questionnaire, the EUROQOL Self-Rated Health Visual Analogue Scale, and symptom experience items. Ethical approval for this study has been granted.

Results: A total of 169 participants (55.6%) indicated FCR ($n = 159$, 52.3%) or FCM ($n = 137$, 45.1%). Non-parametric tests revealed FCR and FCM were each associated with lower self-rated health, physical well-being, emotional well-being, functional well-being, CRC-specific well-being and overall QOL on the FACT-C scale compared with those who did not disclose these fears.

Conclusion: FCR or FCM was experienced by more than half the of CRC survivors up to 5-year following cancer treatment. Often cancer survivors experience changes in the dynamic of relationships with healthcare professionals when transitioning to follow-up which fails to alleviate such fears. With this in mind, strategies to mediate the influence of FCR or FCM on QOL must be explored.

Conflict of Interest: This study is funded by the Health Research Board of Ireland, grant number HPF.2014.715.

428 A multi-centred study of the effectiveness of PEGASUS, an intervention to promote shared decision making about breast reconstruction

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Background/Purpose: Decision making about breast reconstruction after mastectomy can be difficult. Women's expectations of the surgery are often not met, and dissatisfaction with outcome and ongoing psychosocial distress are common. PEGASUS (Patients' Expectations and Goals: Assisting Shared Understanding of Surgery) supports shared decision making by helping women clarify their individual goals about reconstruction, stratifying these as physical (e.g., breast shape) versus psychological (e.g., improve self confidence) and ranking their importance, then using them to guide discussion of expectations with their surgical team. Acceptability/feasibility work has shown it is well received by patients and health professionals alike. This trial examines its efficacy alongside a health economic analysis.

Methods: A mixed method, multi-centred time-sequential between subjects before-and-after design comparing usual care ($n = 90$) with the intervention (PEGASUS) ($n = 90$). The usual care group will be recruited before health professionals are trained to use PEGASUS, which will then be delivered to the intervention group. Standardized measures (Breast-Q, EQ-5D-5L, Decisional Conflict Scale, Collaborate, ICECAP-A) at the time of decision making, 3, 6 and 12 months after surgery. Interviews with health professionals and a purposefully selected sample of participants will explore whether expectations of reconstruction were met, and their experiences of PEGASUS (if appropriate).

Results: Statistical analysis will examine changes in self-report scores over time and compare the intervention and usual care groups.

Conclusions: PEGASUS has the potential to provide health professionals with a tool to support shared decision making, identify expectations and improve breast cancer patients' satisfaction with breast reconstruction. Results will be available in 2019.

431 Attitudes towards cancer and cancer patients in Iran

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Background/Purpose: This study aims to evaluate public attitudes and stigma towards cancer and cancer patients and people's willingness to disclose cancer diagnosis in Iran.

Methods: A cross-sectional survey with the general public of 953 men and women with no history of cancer carried out in the community setting from November 2014 to February 2015 in Isfahan, Iran. A set of 12 questions grouped in three domains (impossibility of recovery, cancer stereotypes, and discrimination) was used to assess public attitudes towards cancer.

Results: 19.6% of participants thought that it is impossible to treat cancer regardless of highly developed medical science; 33.9% agreed that it is very difficult to regain one's health after a cancer diagnosis. Similarly, 37.1% agreed that the working ability of cancer patients would be reduced even after successful treatment. In addition, 17.4% felt uncomfortable when they were with cancer patients, and 26.9% said that they tended to avoid marry people whose family members have cancer. Of total, 53.3% and 48.4% of the participants said that they would not disclose a cancer diagnosis to neighbors and co-workers. Attitude towards cancer was different by gender. Men were more likely to hold stereotypical views, and female were more likely to have discriminative attitudes towards cancer and cancer patients.

Conclusion: Negative attitudes, stereotypes, and discriminative attitudes towards cancer exist among urban Iranian population. Our findings emphasize on public education to provide more favorable and support for cancer.

432 Psychological Aspects Facing Sickness and Death

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Introduction: Getting sick entails confronting a previously unknown and denied world. In sickness, every individual experiences a series of emotional reactions that may be adaptive or pathological and that the health professional shall consider and evaluate.

Purpose: This study aims to knowing the factors that take part in the reaction of the patient before sickness in order to provide key psychological advice for its control.

Method: Literature review.

Results: Perception of imminent death causes in the individual himself an emotional impact, including more or less intense physiological, cognitive and behavioral responses, as well as problems derived from the awareness of such situation, considered threatening and going beyond his own capabilities. There exist many factors involved in these responses, such as the patient's personality, age, sickness type, family and friends, secondary profits, medical professional and other health professionals' personalities.

Conclusions: Terminal patients are in a position of weakness, resulting from a delicate health situation, sometimes in extreme conditions and with his life in danger. The way the individual behaves when facing sickness, according to his idiographic and singular way of perceiving, feeling and thinking of the symptoms, makes the situation aggravate

or alleviate. According to Elisabeth Kübler-Ross, a patient with terminal disease undergoes a period of five adaptation phases, namely, (1) denial, (2) rage, anger, fury, (3) deal or negotiation, (4) depression, and, finally, (5) acceptance.

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Use of Quetiapine for insomnia, anxiety and adjustment disorders in a cancer service: Data from a psycho-oncology clinic

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Background: Quetiapine, in a low dose (25–200 mg), has been prescribed widely for insomnia and anxiety.

This practice has caused concerns about potential abuse and metabolic effects, especially in children and older adults (Schutte-Rodin *et al.* JCSM 2008; 4 487–504); mean weight gain with low-dose quetiapine ranging from 4.9 to 12.7 pounds (Cates *et al.* CMHJ 2009; 45 251–4, Williams *et al.* Pharmacotherapy 2010; 30 1011–5).

In another context however, such as cancer treatment, this weight gain might be perceived as beneficial.

Results of low-dose quetiapine use in insomnia trials vary (Todder *et al.* J CP 2006; 26 638–42, Coe *et al.* AP 2012; 46(5) 718–22), while showing good response in trials for anxiety. We know of no studies in cancer populations.

Method: This study incorporates a review of medical records of patients treated through the psycho-oncology services at Westmead Hospital in Sydney over 1 year (1/1/2015 to 31/12/2015). Patients who were prescribed Quetiapine for treatment of symptoms of anxiety and insomnia form the study population.

Results: Dose, target symptoms and patient response will be extracted from outpatient files. Adverse effects will be identified, including those causing discontinuation. The history of other psychotropic medication will also be recorded, whether concurrent, or where quetiapine replaces another medication.

Conclusion: The results of this study will be used to develop a tool for prospectively recording and collating information about quetiapine prescribing as part of a quality improvement project. This will allow the service to develop policy for using quetiapine in a cancer clinic setting.

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A train the trainer program for healthcare professionals tasked with providing psychosocial support to breast cancer survivors

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Background/Purpose: The objective of this study is to develop, implement, and evaluate a training program for healthcare providers to improve ability to provide psychosocial support to breast cancer survivors in Korea.

Methods: Based on a needs assessment survey and in-depth interviews with breast cancer survivors, a multidisciplinary team developed a 2-day intensive training program as well as education materials and counseling notes. Participants' overall satisfaction was evaluated after the training.

Results: The training program included a total of 16 lectures held over the course of seven sessions. Forty-one nurses and three social workers participated in the training program. Mean age was 37.5 (±6.4) years, and on average, they had 11.1 (±5.6) years of experience. Participants' overall satisfaction was good as follows: program contents (4.04), trainee guidebook (3.82), location and environment (4.10), and program organization (4.19). Among the participants, 31 (70.4%) received certification after submitting real consultation cases after the training.

Conclusion: Two-day intensive training can provide a comprehensive and coordinated education to healthcare professionals for implementing survivorship care with an emphasis on psychosocial support. The program should resume as a periodic continuing education course for healthcare providers. Similar education for graduate students in oncology nursing would be beneficial.

438 Caring for Cervical Cancer Survivors – A Caregiver's Perspective

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Background: Overall survival among cervical cancer patients has increased over the years with advancements in treatment modalities as well as early detection. Caring for these survivors is an important aspect during survivorship. This study intends to explore the caregivers' perception on caring for cervical cancer survivors.

Methods: Twelve primary caregivers of cervical cancer survivors were interviewed using an in-depth interview method. The session was audio-recorded, transcribed and translated, following which framework analysis was done.

Results: Framework analysis revealed that sexual dysfunction of survivors resulted in frustration and anger at times in partners. The caregivers perceived that patients associated sex with fear and stigma of cancer spreading to family members. Though caring for the survivors gave immense pleasure and satisfaction to the caregivers, they were constantly facing physical and financial stress due to regular follow-ups. They also revealed that patients were fatigued for at least 24 hours after each follow-up, and the caregivers had to take care of the survivors, household and livelihood. In addition, caregivers reported that survivors' constant complaints of symptoms resulted in ignorance of their own physical and mental health. **Conclusions:** The main concerns of the caregivers pertained to sexual issues and the long waiting period during follow-ups leading to disruption in routines. Though caring for cervical cancer survivors was pleasurable and satisfying, caregivers were found to ignore their own well-being.

439 Psychosocial and Behavioral Challenges for Lung Cancer Survivors

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Introduction: Lung cancer is the leading cancer killer for both women and men. However, recent advances in screening, multimodality management, and palliative care are responsible for an estimated 384,000 survivors of lung cancer. Although only a small proportion of cases are diagnosed at an early stage each year, of the 225,000 people diagnosed annually with lung cancers, more than 32,000 will survive for at least 5 years. Lung cancer survivors face unique challenges, including stigma, risk of persistent smoking, and a dearth of specialized survivorship resources.

Methods: Here, we report on data from lung cancer survivors that address these concerns and provide guidance for future research and service. Each presentation addresses unique, yet interconnected themes, related to lung cancer survivorship.

Results: Dr Ostroff serves as the symposium chair and provides a foundation for the symposium. First, Dr Hamann describes a patient-focused process of developing a measure of lung cancer stigma. Second, Dr Park presents both short- and long-term smoking and cessation data from a national cohort of lung cancer survivors. Third, Dr Studts introduces a novel survivorship program aimed at the unique needs of individuals with lung cancer. Finally, Ms Rigney serves as a discussant and offers future directions for addressing the unmet needs of lung cancer survivors.

Discussion: Lung cancer survivors are a growing proportion of the overall cancer survivorship population with unique psychosocial and behavioral challenges. Increasing our focus on stigma, smoking cessation, and survivorship interventions represents crucial steps in addressing the needs of lung cancer survivors.

Development and Preliminary Psychometric Evaluation of a Patient-reported Outcome Measure for Lung Cancer Stigma: The Lung Cancer Stigma Inventory (LCSI).

440 Who Cares for the Carers? Schwartz Rounds: A First in Ireland

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Background: Schwartz Rounds were developed by the Schwartz Centre for Compassionate Healthcare in Boston, USA. The rounds are tightly structured, monthly meetings which provide an opportunity for all staff working in healthcare environments to reflect on the emotional aspects of their work.

Each round is based on a theme or patient story presented by two to three members of staff. This is followed by a facilitated discussion with the wider audience and an opportunity for all to reflect, share, listen and support.

The rounds have been shown to provide a framework which helps to improve staff well-being, resilience and team-working, which ultimately has a positive impact on person centred care.

Method: Blackrock Hospice is one of two sites piloting Schwartz Rounds for the first time in an Irish context in collaboration with the Quality Improvement Division, HSE and the Point of Care Foundation. Each round was evaluated by questionnaire directly after the intervention. The data submitted relates to a specialist palliative care centre which has 65 staff.

Results: Since January 2016, three Schwartz Rounds have been held. Data analysis of the first two rounds reveals 38 people have attended on each occasion.

Attendees report that they

- believe rounds are relevant to them,
- gained knowledge which will help them care for patients and work better with colleagues,

- gained insight into how others care for patients,
- plan to attend again, and
- will recommend rounds to colleagues.

Conclusion: Thus far, Schwartz Rounds appear to be suitable to the Irish healthcare setting.

442 Clipped Wings: Body Image and Sexuality in Women Treated for Gynaecological Cancer

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The aim of this symposium is to address sexuality and body image in women treated for gynaecological cancer and to present quantitative and qualitative findings from a randomised controlled trial comparing individual and group arts-based interventions. Research in the psychosocial aspects and consequences of women with gynaecologic cancer is clearly underrepresented. Gynaecological cancer, after breast cancer the most common cancer diagnosis for women, puts life and death in focus. Side effects of treatments involving varying degrees of bodily changes are common, as well as sexual difficulties together with changed body image and psychological functioning. According to NCI (National Cancer Institute) between 40 and 100% of all cancer patients will experience chronic sexual dysfunction after cancer treatment.

The study presented (a collaboration between Karolinska University Hospital, Karolinska Institute, Aalborg University, and Expressive Arts Institute) is an RCT ($n = 57$) embedded in a mixed method design aimed to collect, analyse and triangulate quantitative and qualitative data.

An arts-based intervention within a psychotherapeutic framework has been implemented to two treatment arms (individual and group therapy). The goal has been to measure effects and describe experiences of receptive music and expressive arts therapy on fear of recurrence, distorted body-image, dysfunctional sexuality, and existential questions. Four individual therapist and two group therapists have been assigned to the study.

The theory and approach of the interventions are based on humanistic philosophy, existential psychology, knowledge of; altered states of consciousness, psychodynamics, affect regulation theory, phenomenology, and theories of the arts as providers of meaning.

443 The art of practice in a world of science: The role of medical social workers concerning psychosocial care for gynaecological cancer patients in Dutch University Medical Centers

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Background/Purpose: In a hospital setting, social workers are most often the first professionals to assess the patient's psychosocial needs. This study aimed to provide an overview of the services and responsibilities of social workers working at gynaecologic oncology departments of the Dutch University Medical Centers (UMCs) and to examine if relevant guidelines concerning psychosocial oncological care are being followed.

Methods: Questionnaires have been sent to the social workers of the gynaecologic oncology departments of the eight Dutch UMCs, and interviews by telephone have taken place. The outcomes have been compared with three guidelines from the IKNL (Dutch quality institute for oncological care) concerning (psychosocial) oncological care.

Results: In total, $n = 8$ gynaecology departments responded (100% response rate) to the questionnaire, and their social workers were interviewed additionally. All eight UMCs provide stepped care in which a social worker is the first professional to assess the psychosocial needs of patients. Differences were found in patient numbers, job description, following (IKNL) guidelines, the considered significance of social work, organizational structures, available FTEs for social work and opportunities for professional development.

Conclusion: The guidelines recommend that psychosocial care should be offered from the beginning of the diagnostic phase, throughout the treatment and (max. 1 year) after treatment. Results of this study show that social workers are not able to follow these guidelines appropriately, mainly due to lack of time and organizational structures. By collaborating, the social workers might redefine their view on their responsibilities, exchange best practices and strengthen their position within the UMCs.

444 The study of The Biofeedback Therapy on Thyroid cancer patients with Radioiodine Therapy

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Hunan Cancer Hospital/The affiliated Cancer Hospital of Xiangya School of Medicine, Central South University, Changsha, China

Objective: Biofeedback interventions can improve not only the mental state but also the immune function and prognosis of cancer patients, the study explored biofeedback to improve thyroid cancer patients psychological and behavioral state.

Methods: The 200 thyroid cancer patients were randomly divided into two groups. The control group received 131I therapy, while the experimental group received 131I therapy and the biofeedback therapy. With EMG, ECG, SC, Temp, and heart rate variability, the difference was evaluated before and after the treatments in psychological and physiological reaction, which was using SAS, SDS scale, and third-party reviews. At the same time, it was observed with the gastrointestinal tract, gastrointestinal tract, salivary glands, taste disorders and other side effects.

Results: Before treatment, there were no significant differences in psychological scale between the two groups. After treatment, the score in SAS and SDS of experimental group (EG) was significantly lower than control group (CE) ($P < 0.05$), the indexes of electromyography (EMG) and skin potential activity (SC) of experimental group (EG) were significantly higher than control group (CE) ($P < 0.05$), the indexes of electroencephalogram (EEG) and skin temperature (Temp) were significantly lower than control group (CE) ($P < 0.05$), and there were significant differences in indexes of heart rate variability (LF/HF) and data of poisonous side effect between the two groups ($P < 0.05$).

Conclusions: From the study, biofeedback therapy can reduce the poisonous side effect so that improving lives and enhancing immunity for patients.

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Self-care for Clinicians – dealing with the ‘burden’ of care

Dr. Sue Morris

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Working within the field of death and dying presents a unique challenge for clinicians because it provides a skewed view of the world on a day-to-day basis that needs to be challenged. Clinicians need to pay attention to their own self-care, individually and as teams, throughout their careers; otherwise, over time, their work and personal lives are likely to be negatively impacted. In this presentation, the importance of self-care will be discussed from a psychological perspective. A self-care ‘tool box’ has been designed based on cognitive-behaviour therapy principles that helps clinicians identify barriers to their own self-care and develop coping strategies for dealing with the ‘burden’ of care on a regular basis. Strategies such as saying ‘goodbye’ to patients, setting realistic goals, developing a personal ‘coping statement’ and learning how to challenge your thinking about difficult situations will be outlined.

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Changing pattern of sexual function among breast cancer patients from diagnosis to 3-year follow-up: A prospective cohort study

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Background/Purpose: Breast cancer patients reported decreased sexual function after cancer resulting in poor quality of life. Yet there are some variances between patients. This study aimed to evaluate changing pattern of sexual function among breast cancer patients from diag-

nosis to 3-year follow-up and find factors associated with low or unrecovered sexual functioning.

Methods: Between July 2010 and July 2011, we recruited 432 stage 1 to 3 breast cancer patients at two university-based hospitals in Seoul, Korea. Sexual function (SF) was assessed using EORTC-BR 23 at diagnosis, 2 weeks, 3, 6, 12, 24 and 36 months after diagnosis. We also measured self-esteem, body image, appearance distress and reasons for sexual difficulties. Growth mixture models (GMM) were used to find distinct changing pattern of sexual function. Multivariate analysis was performed to find risk factors using STATA 13.

Result: Five distinct SF patterns were identified as follows: constantly high, 22.7%; constantly increase, 15.1%; decrease and recover, 22.8%; decreased, recovered and decreased (DRD), 16.5%; and constant low (CL), 22.9%. The CL was more likely to be older, post-menopause and had lower sexual desire. The DRD had high level of stressed and concern about altered appearance. Overall, SF was positively associated with self-esteem ($P < 0.001$) and body image ($P < 0.001$).

Conclusion: Patients with high altered appearance distress, poor body image, and low self-esteem were less likely to be sexually active after treatment. Appropriate education and supportive care related to altered appearance and self-esteem beyond treatment is necessary.

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Building the Case for a Value-based Integrated Mental Health Services Access and Financial Model for a Comprehensive Cancer Center

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Background/Purpose: Although MDACC has an integrated, multidisciplinary delivery model of care, the value and impact of psychosocial service provision on patient outcomes is unknown. Using a phased approach, our goal is to develop and adopt a model of care that will ensure access to affordable, high-quality psychosocial services for our patients and families, as well as set the standard and benchmark the integration of psychosocial services into cancer care delivery.

Methods: Phase I was accomplished by conducting an extensive literature review of the psychosocial cancer care landscape, reviewing current institutional policy and standard of practice regarding distress management, and evaluating stakeholder data from social work, nursing, psychiatry services, clinical operations, finance and sourcing and contract management. A summary of distress tool use and screening processes among our comprehensive cancer center counterparts was also compiled.

Results: Phase I resulted in the development of a conceptual framework for gaps and barriers to treatment and their impact on sustaining value-based care for our targeted stakeholders. With the lack of evidence to quantify the value, impact, or benefit of psychosocial services on cancer patient outcomes (sustainability), the unsustainable growth in the cost of cancer care (coverage), a lack of infrastructure to support service needs (services), and the inconsistent use of distress screening

processes and service resources (timeliness/workforce), our patient, family, provider and community needs will continue to go unmet.

Conclusions: The conceptual framework supports the need for developing a value-based integrated mental health services access and financial model for a comprehensive cancer center.

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Introducing the GAD-DSM. A new anxiety scale for measuring clinical anxiety after cancer. Initial semi-structured validation against the DSMIV criteria

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Background: Patients with cancer have an elevated rate of anxiety up to 5 years post-diagnosis. Few studies have examined which anxiety scales are optimal in clinical practice against core DSMIV and DSM5 criteria.

Methods: We conducted a diagnostic validation study using the DSMIV criteria for GAD as well as using the semi-structured MINI neuropsychiatric interview and the new GAD-DSM scales. Four researchers/students collected data from the Leicester Cancer Centre between 2013 and 2014. We examined 46 patients following their breast cancer diagnosis. The prevalence of Generalised Anxiety disorder (GAD) was 8.8% using DSM criteria and 19.6% using MINI-GAD module.

Results: Against the DSMIV criteria the MINI had an ROC area of 0.8 (95% CI = 0.549 to 1). Its sensitivity (95% CI) was 0.75 (0.194 to 0.993); specificity was 0.85 (0.701 to 0.942). The GAD-DSMIV clinician version was a perfect match against DSMIV, but using simple linear scoring, it had an ROC curve area of 0.993 (95% CI = 0.976426 to 1). The GAD-DSMIV self-report version was also perfect match against DSMIV; using simple linear scoring, it had an ROC curve area of 1.00 (sensitivity 100%; specificity 100%).

Conclusion: The GAD-DSMIV is a promising new scale to detect anxiety disorders with good accuracy. It is available in a self-report and non-self-report version from <http://www.anxietyyscale.co.uk/>

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Art therapy classes in the oncological treatment – case study

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Świętokrzyskie Centrum Onkologii, Kielce, Poland

This presentation is intended to show a manner in which the patients who are being treated in the Oncology Centre of the Świętokrzyskie in Kielce, Poland, during chemotherapy and radiotherapy are participating in art therapy classes. These classes and impacts in the Occupational Therapy Workshop allow to decrease tensions accompanying

treatment, and through relaxation to stimulate patient's personal resources, his or her creativity, sense of influence, and empowerment of motivation to recover.

At the art therapy classes, a disease integrates with a life in a natural way. The patients do not "postpone" their lives; they contact with things which are healthy and creative in their lives.

During classes, in contact with the art which creating becomes fun, the patient regains contact with his or her subjectivity. He or she is not only an object subjected to something but also a person who is doing something, is actively involved, and is deciding, choosing, excited and surprised.

Clinical cases shown in the presentation are an example how, through the art therapy techniques, it is possible to make a deep insight into patients minds without interpretation. Theoretical background of this study is Object Relations Theory – Donald Winnicott. An inspiring conjunction between psychoanalysis and psychooncology seems to be the way to meet an increasing significance of immuno-oncology.

An element of the presentation will be the 10-minute movie made during the art therapy lessons which shows the patients working, including their opinions and expression of emotions visible in their body language.

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Which self-report anxiety scale is optimal for measuring cancer-related anxiety? A comparison of GAD7, GAD-DSMIV, and ET Anxiety Thermometer vs semi-structured interview

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Background: Patients with cancer have an elevated rate of anxiety early after cancer, and this anxiety remains higher than in the general population for 2 to 5 years post-diagnosis. However, few studies have examined which anxiety scales are optimal in clinical practice.

Methods: We conducted a diagnostic validation study using the semi-structured MINI neuropsychiatric interview as the gold standard. Four researchers collected data from the Leicester Cancer Centre between 2013 and 2014. We examined 46 patients following their breast cancer diagnosis. The prevalence of Generalized Anxiety disorder (GAD) was 19.6%.

Results: The GAD-DSMIV self-report version had an ROC curve area of 0.806 (95% CI = 0.639 to 0.971). The optimal cut-off was >1. Sensitivity was 0.778 (0.399 to 0.972), and specificity (95% CI) was 0.805 (0.639 to 0.918).

The Anxiety thermometer from the Emotion Thermometer had an ROC curve area of 0.869 (95% CI = 0.767 to 0.971). Optimal cut-off was >2. Its sensitivity was 1 (0.663 to 1), and specificity was 0.675 (0.502 to 0.819).

The GAD7 had an ROC curve area of 0.821 (95% CI = 0.691 to 0.952). The optimal cut-off was >15. Sensitivity was 0.777 (0.400 to 0.971); specificity was 0.729 (0.558 to 0.862).

Conclusion: The optimal method to detect anxiety (GAD) after cancer appears to be the Anxiety thermometer from the Emotion Thermometers. This is also the briefest method.

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Validation of the PHQ2 and PHQ9 for depression and mood disorder using semi-structured interview in breast cancer

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Background: Several studies suggest the PHQ may be a useful screener for major depression although its accuracy is debated.

Methods: We conducted a diagnostic validation study using the semi-structured MINI neuropsychiatric interview for Major depression as the gold standard. Researchers/students collected data from the Leicester Cancer Centre between 2013 and 2014. We examined 46 patients following a breast cancer diagnosis (median stage =2).

Results: The prevalence of major depression was 12.5%, and it was 20.8% for mood disorder (which we defined as clinical depression or anxiety).

For depression, the PHQ2 had an AUC score of 0.891 (95% CI = 0.751418 to 1) and sensitivity of 0.667 (0.222 to 0.956) and specificity 0.95 (0.830 to 0.993) at a cut point >3.

The PHQ9 had an AUC score of 0.879 (95% CI = 0.740723 to 1) and sensitivity 0.667 (0.222 to 0.9567), specificity = 0.925 (0.796 to 0.984) at a cut point >10.

For mood disorder, the PHQ2 had an AUC score of 0.756 (95% CI = 0.583 to 0.930) and sensitivity of 0.9 (0.554 to 0.997) and specificity (95% CI) = 0.444 (0.279 to 0.619) at a cut point >1

The PHQ9 had an AUC score of 0.765 (95% CI = 0.573 to 0.956) and sensitivity 0.7 (0.347 to 0.933) and specificity (95% CI) = 0.75 (0.577 to 0.878) at a cut point >7.

Conclusion: Both the PHQ9 and PHQ2 perform equally well against major depression and for mood disorder, but their accuracy is best for major depression alone.

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Maximising the value of large scale surveys of cancer survivors

Professor Claire Foster

Macmillan Survivorship Research Group, Faculty Of Health Sciences, University Of Southampton, Southampton, United Kingdom

The number of cancer survivors is growing due to improved detection and treatment. Although work is progressing to understand the lives of survivors, many questions persist in relation to how people live with the consequences of cancer and its treatment. Large scale surveys of cancer survivors have been important in developing our understanding of cancer survivorship, short and long-term effects, recovery and

wellbeing after treatment. However, we need to better understand how we can maximise and consolidate what we can learn from these studies to ensure future research moves our understanding forward to inform the development of evidence-based interventions as well as health care and policy efforts.

This symposium will present examples of large scale surveys in the UK and USA, highlighting how they have helped advance our knowledge of survivorship, identified areas of assessment, explore theoretical underpinnings, informed the development interventions to support cancer survivors/caregivers, and identify future priority areas of research.

Chair: Claire Foster, Professor of Psychosocial Oncology and Director of Macmillan Survivorship Research Group, University of Southampton, UK.

Discussant: Professor Neil K. Aaronson, Senior Group Leader, Division of Psychosocial Research & Epidemiology, The Netherlands Cancer Institute/Professor, Department of Clinical Psychology, The University of Amsterdam. Neil is currently serving on the board of the International Psycho-Oncology Society. His primary research interests are in the development of methods for assessing health-related quality of life and other patient-reported outcomes, the integration of PRO assessments into clinical trials and practice, and development and testing of behavioral and psychosocial interventions in oncology.

Supporting Abstract 1:

Social Support and Survival: 20 years later

Susan LeRoy Stewart¹PhD; Ingrid Oakley-Girvan²PhD; Joan R. Bloom³PhD

¹University of California, Davis

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³University of California, Berkeley (presenter)

Background/Purpose: Maintaining a large cohort of cancer survivors provides the opportunity to determine factors affecting survival. This cohort of women age 50 or under at diagnosis has been evaluated at 5 and 10 years post-diagnosis. Stage of diagnosis and ethnicity were associated with early mortality; by 5 and 10 years, the effect of social support around the time of diagnosis on survival became evident. Our purpose is to determine if this continues as the women age.

Methods: Current vital status is captured annually by the California Cancer Registry, enabling analyses to determine factors associated with survival. Cox regression analysis will be used to estimate survival as a function of social support, disease severity, treatment, health status, socio-demographic factors, social connections and emotional support.

Results: In a population-based sample of 584 women, half were aged 45–50 at diagnosis; 81% were married; 29% were racial/ethnic minorities; 53% had a mastectomy, 68% received chemotherapy; 55% radiation and 29% had hormone therapy. During the first 10 years post-diagnosis, regional or remote disease stage, negative estrogen receptor status, and mastectomy were related to greater risk of dying, while survival was related to increased contact with friends/family post-diagnosis. We will describe the effects of social support at the time of diagnosis on long-term survival.

Conclusions: Social support may increase survival by enhancing coping skills, providing emotional support, and expanding opportunities for obtaining information, and this effect may persist long term.

Supporting Abstract 2:

The UK CREW (Colorectal Wellbeing) and HORIZONS programme of cohort studies

Claire Foster¹PhD; Joanne Haviland¹; Lynn Calman¹PhD

¹Macmillan Survivorship Research Group, University of Southampton, UK

Background/Purpose: We describe findings from the UK Colorectal Wellbeing (CREW) cohort study and how they have informed the development of the proposed cohort studies within the HORIZONS programme at the Macmillan Survivorship Research Group, University of Southampton, UK.

Methods: CREW recruited around 1,000 adults diagnosed with non-metastatic colorectal cancer at 29 UK centres from 2010 to 2012. Questionnaires were administered pre-surgery (baseline) and at 3, 9, 15, 24 months then annually to 60 months, including assessments of health-related quality of life (HRQoL), physical and psychological symptoms and psycho-social characteristics including self-efficacy and social support. The HORIZONS programme commencing mid-2016 plans to recruit three cohorts: (a) breast cancer in women aged <50, (b) non-Hodgkin Lymphoma, and (c) gynaecological cancers, using the CREW study design as a model.

Results: The CREW participants were representative of the target population and comprised 78% of all those eligible. Questionnaire return rates have remained high, currently around 70% at 4 years. Analyses of HRQoL outcomes up to 2 years follow-up have shown that psycho-social characteristics including self-efficacy, anxiety and depression measured pre-surgery are important predictors of recovery, regardless of disease site, stage and treatment.

Conclusions: Current findings from CREW highlight the importance of psycho-social characteristics in recovery from colorectal cancer treatment. These factors are amenable to intervention and will be explored further in the HORIZONS cohorts, addressing the different disease and treatment pathways for the cancer types chosen.

Acknowledgements

CREW and HORIZONS are funded by Macmillan Cancer Support.

Supporting Abstract 3:

Lessons learned from the American Cancer Society' Studies of Cancer Survivors: Impact on implementation and dissemination of evidence-based programs

Kevin Stein¹PhD

¹Vice President of the Behavioral Research Center (BRC) for the American Cancer Society, Associate Professor in the Behavioral Sciences and Health Education Department of Emory University's Rollins School of Public Health

Background/Purpose: Numerous large-scale studies of cancer survivors have documented the impact of cancer and its treatment. Yet few community-based programs have been implemented to help the growing population of survivors and caregivers cope with the challenges of cancer.

Methods: The American Cancer Society (ACS) conducted a tri-part cancer survivorship research program, composed of three large-scale, nationwide, population-based studies, each assessing quality-of-life and health behaviors. The Study of Cancer Survivors-I is a longitudinal

study that prospectively followed 5,000 survivors of 10 prevalent cancers for over 10 years. The Study of Cancer Survivors-II is a cross-sectional study of 10,000 survivors who were 2, 5, or 10-year post-diagnosis. Finally, the Study of Cancer Caregivers is a longitudinal study of 1,500 caregivers.

Results: Combined, these studies have produced over 75 peer-reviewed publications and 150 presentations, enhancing our understanding of the challenges cancer survivors and caregivers face. Publications from these studies have identified survivors at risk for diminished physical and emotional functioning, highlighted areas for potential intervention, and documented measurement and methodological issues in cancer survivorship research.

Conclusions: Knowledge gained from this research has been translated into evidence-based program at ACS. Through the National Cancer Survivorship Resource Center, a collaboration with the GW Cancer Institute, ACS developed a suite of tools for cancer patients/caregivers, providers, and health systems, including an e-learning series for providers, post-treatment survivorship care guidelines, and web-based self-management. This presentation will discuss the conduct of these large-scale studies, translation of findings into evidence-based programs, and directions for future dissemination by community-based organizations.

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The role of psychological flexibility on quality of life in breast cancer patients

Dr. Giuseppe Deledda^{1*} | Dr. Sara Poli¹ | Dr. Matteo Giansante¹ | Dr. Monica Turazza² | Dr. Stefania Gori²

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Background: Surgery treatment in breast cancer can have a profound impact on both short and long term quality of life (QOL), altered body image, and may affect physical appearance satisfaction, sexuality and daily life. Little is known concerning the impact of specific psychological construct which predict better adaptation.

The aim of the present study is to explore the impact of the of the Acceptance and Commitment Therapy construct of psychological flexibility.

Background: Breast cancer patients were asked to complete questionnaires on clinical state (RSCL, PWBQ, GHQ-12, and DT) and psychological flexibility (AAQ-2, the body image acceptance (BIAAQ) and the Bull-eye).

Results: Fifty consecutive patients have completed the protocol. Significant inverse correlation was found between AAQ2 score and Psychological symptoms (RSCL) ($\rho = -0.265^*$, $p < 0.039$), between the body image acceptance (BIAAQ) and quality of life (RSCL) ($\rho = 0.262^*$, $p < 0.043$), and between the coherence with their own value (Bull-eye) and distress (DT) ($\rho = -0.340^*$, $p < 0.021$), GHQ-12 ($\rho = -0.359^*$, $p < 0.027$), Psychological symptoms (RSCL) ($\rho = -0.483^{**}$, $p < 0.000$), and quality of life (RSCL) ($\rho = 0.319^*$, $p < 0.026$).

Conclusion: The results show that psychological flexibility is a construct related to psychological distress and quality of life. Furthermore, it would seem that a tool like the Bull-eye can highlight the relationship between the inconsistency with its own values and the experiences of suffering.

For this purpose, the ACT could promote processes underlying for a more functional and adaptive recovery in the oncological disease contexts.

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The Irish Cancer Society's Night Nursing Service: An overview of the findings of a quality evaluation and clinical review

Prof. Josephine Hegarty^{1*} | Dr Mairin O'. Mahony¹ | Ms Mary Ferns² | Ms Joan Kelly² | Mr Donal Buggy² | Dr Margaret Landers¹ | Dr Frances J. Drummond¹ | Dr Patricia O'. Regan¹ | Dr Brendan Noonan¹ | Ms Ann McAuliffe¹

¹University College Cork, Cork, Ireland; ²Irish Cancer Society, Dublin, Ireland

Introduction: Home is consistently reported to be the preferred place for end of life care. The Irish Cancer Society Night Nursing Service (ICSNNS) facilitates end of life home-care.

Materials and Methods: The aim of this study was to conduct an evaluation of the ICSNNS which focused on systems structure, clinical governance, nursing processes, training and support, and the impact of the service.

A mixed methods approach was used; data was collected concurrently using three different approaches: focus group interviews ($n = 67$ participants); an online survey ($n = 198$ night nurses) and a postal survey of 159 family members.

Results and discussion: The ICSNNS is a distinctive service internationally as the nurses

- Work in isolation, solely at night time;
- Integrate into the family and build relationships quickly;
- Are with the patient and their family at a very vulnerable time in their lives; and
- Have 'time' with the family and patient to create a healing environment whereby comfort, dignity, and assistance are provided to support patients and families.

The need for more education around non-malignant conditions, symptom management, tracheostomy care, and care of subpopulations was recognised.

Night nurses are lone workers; therefore, recommendations to strengthen the clinical governance of the ICSNNS were made subsequent to the evaluation. In addition, the integration of the service into the wider palliative care services was recommended by participants.

Conclusion: The ICSNNS is a valuable feature of palliative care services nationally which needs to be protected into the future.

Acknowledgements: Funding from Irish Cancer Society.

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Quality of Life among Rectal Cancer Survivors in India

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Background: Incidence of rectal cancer has been increasing in India. There have been advancements in treatment modalities in order to preserve the sphincter, which has resulted in increased survival. This study aims to investigate the quality of life of rectal cancer survivors.

Methods: Rectal cancer survivors ($n = 109$), who were on regular follow-up, were assessed using EORTC-C30 and EORTC-CR29. **Correlation:** t-test and ANOVA were done using SPSS (version 20). **Results:** Of the 109 (61% males, 39% females) survivors, 78% had undergone colostomy closure. The mean age was 53.3 years with average survival period of 58 months. Majority of the survivors were found to have good global health status. Male and female survivors individually were found to differ in their physical functioning ($p = 0.004$), weight ($p = 0.02$) and constipation ($p = 0.033$) subscales of EORTC-C30 and EORTC-CR29, respectively. Age was found to be related to anxiety ($r = 0.267$, $p = 0.006$), and inversely related to fatigue ($r = -0.233$, $p = 0.017$) and financial difficulties ($r = -0.235$, $p = 0.017$). Presence of colostomy bag was related to pain ($r = 0.195$, $p = 0.05$). Survival period was related to urinary incontinence ($r = 0.246$, $p = 0.014$) and stoma care problems ($r = 0.403$, $p = 0.013$). Majority of the survivors had no body image issues irrespective of presence or absence of colostomy bag. **Conclusion:** Though survivors' concerns were mainly related to financial difficulties, fatigue, pain and bladder control, overall, their quality of life was good.

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Supporting parents with cancer who have dependent children

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Background: This study explores the needs of specialist staff working in acute cancer services and their experience and confidence in supporting parents with advanced cancer who have dependent children. Children with a parent with a life limiting illness can manifest significant distress, and the remaining parent may have conflicting needs such that recognising the needs of children is difficult.

Methods: Two focus groups were conducted in an acute oncology setting with specialist oncology and palliative care staff.

Results: Specialist staff described how they identify with their patients as a parent themselves, and this adds to the emotionally charged context of care and results in avoidance and distancing by staff of the troubling and emotionally loaded issue of how to communicate with and support children. Paradoxically participants described how it was easier to support terminally ill patients and their children rather than those newly diagnosed with cancer as further support could be accessed by referral to palliative care services.

Conclusion: Staff takes a reactive approach to family centred care, taking their cue from patients to initiate or request support for their children. Two specific training needs were identified for specialist staff: firstly, the need for guidance on children's developmental stages and how to communicate with children of different ages; and secondly, further guidance was needed on assessing family needs and access to up to date resources

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The acceptance of Self and the Other: an Acceptance and Commitment Therapy (ACT) protocol intervention group for women with breast cancer

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Aim: The Acceptance and Commitment Therapy (ACT) considers the psychological suffering as a result of the attempt to change the thoughts and feelings that create difficulty using strategies such as avoidance of the experience, the cognitive entanglement, attachment to a conceptualized self, loss of contact with the present and the resulting failure in taking action related to its values.

ACT does not focus on reducing symptoms, but offers useful strategies to increase psychological flexibility to promote contact with the present moment as a conscious human being in harmony with its own values.

The aim of this paper is to present an ACT protocol intervention group for women with breast cancer, focused at intrapersonal level (on the Self) and interpersonal level (on the Self-Other).

Method: The intervention consisted of six consecutive weekly sessions and four monthly follow-up sessions.

In the group, patients have reflected on the suffering linked to oncological disease, the side effects of therapy and the physical changes. Non-acceptance of the Self and the Other can become a trouble or may prevent to act consistently on each own values (e.g., act for health, act for a good relationship of love).

Results and Conclusions: We observed an increase in the acceptance of the Self as the context, despite the difficulty of patients to face the encounter with one's self, and the Other can become the mirror of the Self. Into the group, thought seems to move more freely, giving space to new and more functional repertoires.

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Predicting Patient Preferences for Individual Meaning-centered Psychotherapy

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Background/Purpose: Understanding patient preferences is critical for several reasons. There is literature to suggest that assigning patients to treatments that they prefer may lead to greater adherence to treatment and more positive clinical outcomes. In addition, a greater understanding of patient preferences may improve patient provider communication and conserve time and finances for both physicians and patients. The current study aims to identify whether specific demographic (age, education, socioeconomic status, gender and race), disease-related (cancer type), and psychological (spirituality and religiosity) variables predict patients' preference for Individual Meaning-centered Psychotherapy, an existentially based treatment that enhances a sense of meaning and purpose in life.

Methods: Data for these analyses will be drawn from a randomized controlled trial comparing the efficacy of Individual Meaning-centered Psychotherapy, Individual Supportive Psychotherapy, and Enhanced Usual Care in a sample of patients with advanced cancer. Patients' preference for psycho-therapeutic treatment, demographic information, and cancer type was assessed prior to randomization, and spirituality and religiosity were assessed prior to the first psychotherapy session. Three logistic regressions, one for each subset of variables, were used for these analyses.

Results: Results demonstrated that more educated patients were more likely to prefer Individual Meaning-centered Psychotherapy versus Supportive Psychotherapy ($p = 0.001$). No other variables significantly predicted treatment preference.

Conclusions: Meaning-centered Psychotherapy, as an existentially based psychotherapy, appears to appeal to a wide range of patients, but was more popular among patients with higher levels of education. Future research should focus on determining whether Meaning-centered Psychotherapy is also more effective in better educated patients.

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A Psychosocial Caring Experience of a Cancer Patient's Good-dying in Hospice Care

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A 72-year-old male patient with prostate cancer in third stage suffered by the tumor compression of the spine and had paralysis of limbs. He had poor family support and had no hope about life. The social worker of Hospice Care Team approached this patient with the narrative therapy, and assisted the patient to explain his own history of illness and finally reached the reconciliation with his family and himself, and accepted the end of life.

This patient was hospitalized during January 22 to March 1 and was cared by hospice share care team and then transferred to hospice ward. During this period of time, hospice team provided physical care and psychosocial care. At beginning, this patient talked about how acceptable he was to his illness. However, the contradictive behaviors were found by his complaints to nurses and the medical treatment, and his sad look was also observed occasionally.

The social worker of hospice team visited him eight times and did the life review. He was conceited and unsatisfied with everything and rejected any spiritual caring at initial. But after few weeks, he started to ask and question why he was still alive and was eager for death.

The social worker tried to guide him to think about the spiritual meaning of his life events and reframed his thoughts. And through this patient's family dynamics observation, the social worker contacted his son and finally facilitated a kind of conversation in spiritual between them. This patient passed away peacefully at the end.

462 Vaccine Conspiracy Beliefs: A Barrier to Cancer Prevention Efforts?

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Background/Purpose: The human papillomavirus (HPV) vaccine programs are crucial for cancer prevention efforts; however, optimal uptake rates are not consistently achieved. Parents' vaccine attitudes influence their decision to vaccinate their child. Qualitative research indicates that vaccine conspiracy belief may be an important contributor to the decision to vaccinate one's child with the HPV vaccine. The objective of this study was to develop and validate the Vaccine Conspiracy Beliefs Scale (VCBS) and determined whether this scale is associated with parents' willingness to vaccinate their son with the HPV vaccine.

Methods: Canadian parents completed an online survey where they responded to questions about their sons. Measures included socio-demographic variables, HPV knowledge, health care provider recommendation, the VCBS, and parents' willingness to vaccinate their son at two price points ('free' or '\$300'). These cost outcomes were chosen because in Canada, the vaccine is either provided for free in school-based programs, or the vaccine costs approximately \$300.

Results: One thousand four hundred twenty-seven Canadian parents completed the online survey. The VCBS was one-dimensional and demonstrated internal consistency ($\alpha = 0.937$). Hierarchical regression analyses revealed the VCBS is negatively related to parents' willingness to vaccinate their son with the HPV vaccine at both price points ('free' or '\$300').

Conclusions: Vaccine conspiracy beliefs emerged as an important correlate of parents' willingness to vaccinate their child with the HPV vaccine. This validated measurement tool could be used to advance our understanding of the impact of vaccine conspiracy beliefs on HPV vaccination, a pivotal pillar of cancer prevention.

463 Quality of life in childhood cancer survivors – comparing with their parents' view

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Background: Most studies show good quality of life in childhood cancer survivors (CCS), but the parent view might be different. Parents can often suffer due to their child illness more than the child itself, because they are worried about their child's welfare and satisfaction in future life. Current study aims to determine the differences between self-reported and parent-reported satisfaction with various aspects of life in CCS and also the differences in importance and satisfaction of these areas of life between age groups of CCS.

Methods: The study involved 157 CCS divided into three age groups (10–12 years, 13–14 years, and 15–18 years) and their parents. To assess the importance of and satisfaction with various aspects of quality of life, SQUALA was used (parents rated only the presumed satisfaction of their children with various aspects of life). Statistical analysis was performed using descriptive statistics methods, Wilcoxon signed rank test and ANOVA.

Results: The most divergent opinions on satisfaction with various aspects of life existed between parents and youngest children (10–12 years), where parents rated their children's satisfaction with various aspects of life worse than the children themselves. The youngest age group is the most satisfied of all age groups in almost every aspects of life measured.

Conclusion: Considerable differences in satisfaction rating across the age groups and between self and parent rating may indicate inadequate assessment of the quality of some aspects of life in younger CCS. Further research will be needed to verify this hypothesis.

465 The daunting impact of Cancer-related Fatigue on the lives of patients undergoing chemotherapy

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Background: Cancer-related fatigue (CRF) has a significant negative impact on patient's quality of life as they become too tired to fully participate and enjoy activities that make life meaningful. CRF has been associated with a myriad of psychosocial problems including anxiety, depression, distress and difficulty in coping with life events. The study aim is to explore the experiences of fatigue among a sample of patients with cancer (breast cancer, colorectal cancer, Hodgkin's and non-Hodgkin's lymphoma) receiving chemotherapy.

Methods: A qualitative descriptive study of patients ($n = 367$) experiences through open-ended questions and use of a diary ($n = 14$) was used.

Results: The analysis indicated that fatigue was very problematic and distressing causing participants to feel fed up, psychologically drained and was difficult to stay positive and cope emotionally. Four key categories emerged: the behavioural impact category included the impact on normal life and requiring more effort; affective impact composed of emotionally debilitating and mood changing; the sensory impact of fatigue which incorporated physical exhaustion and extreme tiredness; and the cognitive impact encompassed the effects on thought processes and concentration.

Discussion: The impact of CRF on pleasurable and social events was commonly reiterated. Many participants alluded to feeling too weak to go out socially and interact with others; the efforts made to retain social contacts and activities were perceived as often being futile. This added to feeling emotionally fraught, frustrated and isolated.

Conclusion: CRF impacts on people's ability to lead a normal life and to conduct interactions with others and presents many psychological challenges.

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Nurses and radiation therapists professional quality of life: comparisons of levels of compassion satisfaction and compassion fatigue

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Background/Purpose: Caring for patients with cancer is emotional and stressful work. Radiation therapists (RT) and nurses have reported work related burnout. However, the level of compassion satisfaction (CS) and risk of compassion fatigue (burnout and secondary traumatic stress: STS) is less well known particularly for RTs. The purpose of this study is to compare nurses and RTs levels of CS, burnout and STS.

Methods: This study is using a quantitative, descriptive, cross-sectional design. Ethical approval was obtained from the relevant research ethics committees. A non-probability, purposive sampling method is being used. Participants are being recruited in the Republic of Ireland ($n = 71$). Data is being collected using a demographic questionnaire and the Professional Quality of Life Scale. Statistical analyses used independent-samples t-tests and Mann-Whitney U tests.

Results: A significant difference ($p < 0.05$) was found between the mean CS scores for nurses ($M = 52.46$) and RTs ($M = 47.14$). This was a moderate difference (eta squared = 0.06). There was also a significant difference ($p < 0.05$) found in the burnout scores for nurses ($M = 46.71$) and RTs ($M = 52.9$). This was a moderate difference (eta squared = 0.09). There were no significant differences in levels of STS between the two groups.

Conclusions: Comparisons between the two groups indicated that nurses experience significantly higher CS while RTs may be at a higher risk of burnout. Such differences warrant further investigation to

determine the underlying causes, and the interventions required to increase levels of CS and reduce the risk of burnout, particularly in the RT group.

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Early Death in Oncology

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Background: Cancer is often seen as a life-threatening condition associating with high levels of distress and psychiatric symptoms. Literature data indicate to a suicide rate among cancer patients about two times higher than in the general population. The objective of this work is the review of data available in the literature on suicide in cancer patients, particularly about the specific factors to this population and the professional and psychological approach most appropriate to the cancer patient with suicidal ideation.

Methods: The authors conducted a literature review, using the following databases: Pubmed, Medline and ClinicalKey. Key-words were used as follows: "suicide", "cancer", "Patients" and "oncology".

Results: In addition to the suicide risk factors that sharing with the general population, the cancer patient has specific factors that put you in a higher risk position. The first year after the diagnosis of cancer is identified in the literature as the most critical period for the occurrence of suicidal behavior, particularly in advanced disease. The limitations in their functional life, the existence of physical, psychological and social consequences, the presence of uncontrolled pain and psychiatric comorbidities are also mentioned as potential suicide risk factors. Among the cancers, most often associated with these behaviors stand out carcinomas of the head and neck, prostate, gastrointestinal and lung.

Conclusions: The evaluation of suicidal ideation in cancer patients should be conducted throughout the disease process but also in survivors. It is important early detection of suicidal ideation and depressive symptoms since the early and overall psychiatric intervention with high-risk patients can avoid suicide.

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How I nearly kicked the bucket and stumbled into a new phenomenological understanding of the meaning of life: the consolation of philosophy, psychoanalysis and the arts

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Where is the meaning in illness? How can a realisation of my own mortality make life worth living?

My experience of surviving ALL, living with fatigue, compromised immunity and frequent illness has been difficult, physically, socially

and psychologically. Since retirement, I have struggled to find meaning in my life and experienced depression, anxiety and hopelessness.

Artists – writers, musicians, etc – have long contemplated these questions as have the great philosophers. They are a rich source of wisdom for the cancer survivor. From Tolstoy's 'The Death of Ivan Ilyich' to Alain de Botton's 'Status Anxiety', there is much consolation to be found.

Prof. Havi Carel's 'Illness: The Cry of the Flesh' (2013) uses phenomenology as a means of bridging the gap between philosophy and lived experience. In this book, she marries the rationality of philosophy with her own experience of serious illness and suggests a way for Medicine and the Humanities to learn from each other.

As a cancer survivor, I have found a renewed meaning of life in observing how the Humanities are gaining credibility within Medicine, and the potential benefits for the patient and the medic. Along with Sinead Dinneen – the visual artist – I have piloted a programme entitled 'Kicking the Bucket', a creative and thought-provoking seminar series on life and death. Kicking the Bucket will conclude with an exhibition in May, and my IPSOS presentation will report on the project and how experiences of illness, dying, death and grief were reflected in a public exhibition.

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Fear of Cancer Recurrence and Depression in Early Stage Cancer Survivors – Comparison Among Lung, Gynecological and Head and Neck Cancers

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Background: Fear of cancer recurrences (FCR) and depression are the two most common and severe psychological distresses experienced by most cancer patients. The purposes of this study were to examine and compare the levels of FCR and depression among three types of early stage cancer survivors, including lung cancer (LC), gynecological cancers (GYNC) and head and neck cancers (HNC).

Material and Methods: A cross-sectional survey with consecutive sampling was conducted to recruit eligible subjects in outpatient clinics in a medical center in Northern Taiwan. The Fear of Cancer Recurrence Inventory (FCRI) and depression subscale of HADS were used to assess patients. Institute review board (IRB) permission was obtained before data collection. Descriptive statistics and ANOVA were applied for data analyses.

Results: A total of 200 cancer survivors (HNC = 60, LC = 70, GYNC = 70) were recruited. Overall, the results showed that most patients experienced low to moderate levels of FCR and low level of depression. Early stage LC patients tend to have the highest level of FCR, then HNC and GYNC, respectively. Lung cancer patients and HNC patients had higher levels of depression than GYNC patients. There were 10–20% of patients reporting to have severe FCR, particularly in LC patients. Majority of patients used "stop thinking about it" to cope with FCR.

Conclusion: The results suggest that health care professionals should assess patients' FCR and depression and provide timely supports to help them deal with the fearful distress.

Research Support: Ministry of Science and Technology (MOST) and National Health Research Institute (NHRI) in Taiwan.

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Using Electronic Patient-reported Outcome Measures (e-PROMs) and Multifaceted Knowledge Translation Strategies to Improve Distress Management: A Multi-site Study in Ambulatory Cancer Care in Ontario and Quebec, Canada.

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Background: Systematic reviews show variable effects for distress screening programs on patient outcomes. The Improving Patient Experience and Health Outcomes Collaborative (iPEHOC) implemented e-PROMs for personalized tailoring of psychosocial care to improve the quality of distress management in six diverse cancer programs at varying stages of readiness. This presentation provides an overview of the iPEHOC innovation and its implementation in Quebec and Ontario, and implementation lessons learned.

Method: Electronic symptom screening with the ESAS-r was used to trigger e-PROM assessments for fatigue (CFS), pain (BPI-SF), depression (PHQ-9) and anxiety (GAD-7). The Knowledge-to-Action (KTA) framework was applied to facilitate use of e-PRO data for patient management. KTA strategies included participatory action, practice coaching, change facilitation, and activation of clinical teams and patients through education and skill building. Descriptive statistics were used to examine uptake (screening rates), symptom prevalence, and acceptability.

Results: Electronic PRO data revealed ESAS screening rates across iPEHOC clinics ranging from 51% to 95%. Averaged across all pilot sites, 42%, 32%, 59%, and 95% of patients scored within the moderate to severe range on e-PROMs for depression, anxiety, pain interference, and fatigue, respectively. Seventy-six percent of patients felt the questionnaires were important for communicating symptoms, 95% agreed they were not burdensome, and 46% felt the clinician teams used the reports to develop a plan of care.

Conclusions: Uptake of e-PROMs in typical "real-world" oncology practices and in diverse settings is complex. Improving quality of distress management requires application of KTA strategies tailored to local context and coaching for practice change.

Abstract 1: Implementing an Electronic Platform for Distress Screening and Patient-reported Outcomes at the McGill/Rosby Cancer Network under the 'Improving Patient Experience and Health Outcomes Collaborative' (iPEHOC) Project: Initial Results and Implications

Marc Hamel PhD; Rosana Faria MA; Nancy Drummond MSc. N.; Karine Gimmig; Jeff Mangerpan; Benedict Romano; Scott Owen MD; Vivanne Amos; Bernard Larocque; Zeev Rosberger PhD

Background: Under the banner of McGill University/Rosby Cancer Network (RCN), the McGill University Health Center, Jewish General Hospital and St-Mary's Hospital have engaged in implementation of iPEHOC. We will present initial uptake results while carrying out this multi-site implementation project.

Methods: Once team consensus was achieved, iPads containing intelligently programmed screening and e-PROMs survey software were offered to patients at oncology clinics at each hospital. After patients completed the surveys, a summary output report (ESAS-r and if triggered by a threshold score, an e-PROM for fatigue, pain, anxiety, or depression) was printed and placed on the patient's chart for review by the health care team.

Results: Multiple challenges presented themselves throughout implementation of the program. Between October 2016 and March 2017, 502 unique patients completed the tool resulting in 993 completed surveys across all hospitals and varying diagnoses. Across the three hospitals, 57% to 68% of ESAS-r screens triggered at least one specific e-PROM, with approximately 8% triggering all four e-PROMs. Screening rates per clinic ranged from 38.1% to 95.4%. Fatigue was the most prevalent e-PROM triggered.

Conclusions: Screening rates were higher than initially expected, likely due to extensive education and preparation of staff. Furthermore, rates of e-PROMs triggered suggest that patients may be experiencing significant symptom burden and require more comprehensive evaluation and intervention.

Clinical Implications: Symptom burden may be higher than previously thought due to detection by the e-PROM screening tools. The success of this initial implementation has triggered interest in dissemination to additional tumor site teams.

Abstract 2: Screening for Distress, the 6th Vital Sign: Piloting Additional Electronic Patient Reported Outcome Measures in an Ambulatory Tertiary Cancer Centre in Northeastern Ontario

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Background: Since 2007, the Northeast Cancer Centre has screened cancer patients for distress to improve symptom management. The majority of patients complete the Edmonton Symptom Assessment System-revised (ESAS-r) scale and the Patient Reported Functional Status (PRFS) prior to their visit with a clinician.

Methods: From October 2015 to May 2016, additional electronic patient reported outcome measures (e-PROMs) for the symptoms of pain, fatigue, depression and anxiety were piloted on touch-screen computers and tablets. Additional e-PROMs were triggered based on how patients scored ESAS-r.

Results: For the first 5 months of the pilot project, a total of 496 patients completed 1066 screens. Median and mean completion times were 3.3 and 4.78 minutes, respectively (range: 33 seconds–32 minutes). The majority of screens (56.6%, $n = 604$) with ESAS-r did not trigger additional e-PROMs. Of the screens with additional e-PROMs ($n = 454$), one e-PROM was triggered most often (42.3%, $n = 192$), and only 13% percent of the screens ($n = 62$) had four additional e-PROMs triggered. Median and mean completion times with four additional e-PROMs were 11.3 and 13.3 minutes, respectively (range: 5.1–32.4 minutes).

Conclusions: e-PROMs provide more precise information to clinicians about the severity of symptoms triggered on ESAS-r from the patient's perspective. The amount of time some patients spend completing the e-PROMs may be a barrier, although in our experience, few patients expressed concerns and clinic flow was not interrupted. Clinicians stress the importance of response time and clear pathways to refer patients to various members of the interdisciplinary team for symptom management.

Abstract 3: Case-based Education to Foster Practice Change for Responding to Electronic Patient-reported Outcome Measures (e-PROMs): Building on Readiness to Change

M. Li; A. Macedo; J. Park; A. Bezjak; G. Liu; I. Tymoshyk; C. Zimmermann; T. Stuart-McEwan; D. Howell

Background: Princess Margaret Cancer Centre (PM) implemented electronic patient reported outcomes (e-PROMs) in 2012, maintaining screening rates for anxiety and depression in addition to the Edmonton Symptom Assessment System-revised (ESAS-r) > 70% for the last 3 years. With a high level of organizational readiness, the Improving Patient Experience and Health Outcomes Collaborative (iPEHOC) initiative was implemented in Lung and Sarcoma pilot sites.

Methods: To facilitate integration of e-PROMs and best practice interventions in routine care, education tools were created based on clinician input, and combined with the iPEHOC education modules. Informal case-based debriefs between clinicians were held in the clinic work space and facilitated by experts. Three main tools were utilized during these debriefs: 1) a quick tip sheet; 2) a patient-centred case debrief tool; and 3) an iPEHOC Dashboard, for audit and feedback.

Results: The educational tools and debriefs were met positively by staff. In the first month, ESAS-r electronic screening rates remained high (66% in Lung, 100% in Sarcoma), with 53% of Lung patients and 51% of Sarcoma patients completing additional e-PROMs. Electronic PROM completion rates varied from 89% to 98%, indicating minimal patient survey fatigue.

Conclusions: Overall, the interactive education, and audit and feedback tools served as catalysts to enhance staff engagement, increase inter-departmental communication, and foster local expertise. The enhanced engagement was fundamental to ensuring the maintenance of high screening rates.

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Does HPV vaccination impact sexual behaviour? A systematic literature review

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Background/Purpose: The Human Papillomavirus (HPV) vaccine is important for cancer prevention efforts; however, HPV vaccination rates remain suboptimal. One concern expressed by parents, religious officials, and the media is that vaccinating children with the HPV vaccine could increase risky sexual behaviours due to an inaccurate perception of enhanced protection from sexually transmitted infections. The objective of this study was to conduct a systematic literature review examining sexual behaviours and biological outcomes (e.g. sexually transmitted infections) post-HPV vaccination.

Methods: A systematic review of the literature was performed using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) protocol and searching the PubMed, CINAHL, and Embase databases from January 1, 2008 to June 30, 2015. Studies that reported behaviours post-vaccination and/or examined biological outcomes in males and females were included. Studies were reviewed by title and abstract, and relevant full-text articles were then examined.

Results: Two thousand five hundred three articles were identified, and 20 studies were retained after studies were reviewed. No study found evidence of riskier behaviours or higher rates of STIs after HPV vaccination. Instead, vaccinated compared with unvaccinated individuals were less likely to report vaginal intercourse without a condom (OR = 0.5; 95%CI = 0.4–0.6) and non-use of contraception (OR = 0.27; 95%CI = 0.15–0.48), and unvaccinated participants had higher rates of Chlamydia (OR = 2.3; 95%CI = 1.06–5.00).

Conclusions: No study found evidence of riskier sexual behaviour after HPV vaccination. Contrarily, vaccinated individuals were less likely to report risky sexual behaviour or have higher rates of biological outcomes. These findings could be used to ameliorate concerns that HPV vaccination impacts sexual behaviour.

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“Let's Talk about Sex; Looking at the moderators experience of facilitating an online support group for women experiencing psycho-sexual distress post treatment for gynecologic cancer”

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Most gynecologic cancers require invasive surgery with many subsequently requiring adjuvant treatments. The aftermath often leaves women feeling less feminine than their peers. The physical and psychological side effects can last a lifetime: vaginal stenosis, infertility, menopause and incontinence to name a few. Women in this situation are often in psychosexual distress, too embarrassed to talk about it and with limited supports available to them. This presentation will look at the role and experience of mental health professionals who moderated GyneGals, an online support group for gynecologic cancer patients experiencing psychosexual distress. The efficacy of GyneGals is currently being investigated in a randomized controlled multi-site trial involving up to 520 women. Women, no more than 5 years post-diagnosis and judged to be psychosexually distressed, are randomly assigned to either the immediate treatment condition or to a waitlist condition. GyneGals groups are closed with up to 20 women per group and utilize a discussion board that can be accessed at any time of the day or night. There are also two chat sessions that occur over the course of the 12-week intervention. Each week, a new topic is introduced, and women are free to bring up any topic they choose. To date, 312 women have been recruited into the study, and 16 groups have been run. The challenges and rewards of moderating these online groups will be described. This modality for patient psycho-sexual support is a worthwhile endeavor, providing a rewarding therapeutic environment for cancer survivor and therapist alike.

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Analysis of the quality of life and some of the psychosocial factors among adult, long-term cancer survivors

Ms. Magdalena Bury

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For many years, cancer has been the second major cause of deaths in Poland. Every year, about 96 000 people (25% of all deaths) die because of it. It is predicted that the overall number of people with cancer will constantly grow, and in the next decade, cancer will become the first major cause of death in case of individuals under 65 years of age – among men and women.

Greater efficiency of new forms of therapy contributed to an increase in the number of 'survivors', that is patients with at least 5-year experience of completed therapy. Survivors often have to deal with long-

term side effects of oncological diseases, such as cardiotoxicity, mood disorders, problems with the performance of existing social roles, and the dysfunctions of cognitive processes. Other long-term side effects may include the following: the increased susceptibility to cancer recurrence, metastasis, or the co-occurrence of other cancer types. These factors greatly impair the patients' daily functioning and have a destructive impact on the long-term recovery.

The aim of the study is to present the results of research conducted among adult 'survivors' with diverse types of cancer. The analysis includes the dimensions of the health locus of control, the occurrence of health-oriented behaviour, coping with the disease and its direct consequences, mood, and quality of life among patients after oncological treatment.

475 The Role of Emotional Support and Social Isolation in Adult Cancer Survivors' Quality of Life after Diagnosis and Treatment

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Dr. Louis Penner | Dr. Jennifer Beebe-Dimmer | Ms. Tara Baird |
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Positive support has been linked to positive adjustment in cancer patients. It is not known whether social isolation might attenuate these effects or vary by socio-demographics. This study examined (a) social isolation, and (b) gender, race/ethnicity, and age as moderators of the relationship between emotional support and quality of life (QOL).

Participants were identified through the Detroit SEER Registry. Off-treatment survivors ($N = 313$; 62.2% female; 63.1% black; average age = 61.29) had been diagnosed with breast (49.8%), lung (18.7%), or prostate (31.4%) cancer since January 2013. Survivors completed an online survey at study entry. Linear multiple regressions that included emotional support, social isolation, and patient socio-demographic characteristics (sex, age, and race/ethnicity) were used to predict QOL (controlling for cancer site).

There was a significant three-way interaction between emotional support, social isolation, and age, $F(1,311) = 3.90$, $p < 0.05$. For younger survivors, with both low and high social isolation, support was positively associated with QOL. For older survivors with low social isolation, there was no relationship between support and QOL; however, at high social isolation, QOL increased as support increased. There was also a direct effect of race (but not sex or cancer type); white survivors had higher QOL than black survivors.

Emotional support provides a uniform advantage to younger survivors regardless of social isolation. However, for older survivors, emotional support only significantly influences QOL when isolation is low. Thus, while interventions that focus on decreasing negative support and increasing positive support may benefit all survivors, younger survivors and black survivors may receive particular benefit from these interventions.

476 Lung cancer-related knowledge and smoking behavior among road traffic workers

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Background/Purpose: Lung cancer is an increasing cause of mortality. Little is known about lung cancer-related knowledge and smoking behavior among road traffic workers. This study examines lung cancer related knowledge and smoking behavior among road traffic workers in Ibadan. **Methods:** Survey research method was adopted for this study. A self-designed instrument assessing lung cancer related knowledge and smoking behavior was administered to 200 randomly selected road traffic workers from four different car parks in Ibadan North Local Government Area of Oyo State. Data were analyzed using simple percentages. **Results:** 72.5% of the respondents were between the ages of 20–40 years old, 95.5% were male, and 71.0% were married. The television (27.5%) and radio (21.5%) are the main sources of information for the 68.5% who have heard about lung cancer before. Four (2%) of the respondents indicated having a family history of lung cancer. The lung cancer related knowledge of about 70% of the road traffic workers was above average. Despite the high lung cancer-related knowledge, 22.5% indicated smoking daily for the past 6 months, 23% indicated smoking even if they were so ill that they were in bed most of the day, 63% liked sitting in the mist of smokers, and 27% have unsuccessfully tried to stop smoking before. **Conclusion:** Road traffic workers will benefit from psychological and health interventions that would help them translate their lung cancer-related knowledge into the performing less lung cancer risky behaviours.

478 A prospective analysis of quality of life (QoL), cognitive functions (CF) and psychological status (PSY) in glioblastoma (GBM) patients (PTS) treated with RT and Temozolomide (TMZ)

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Background: Glioblastoma patients can show changes in cognitive functions, QoL and PSY during standard treatment.

Materials: Patients with newly diagnosed glioblastoma treated with standard therapy at first-line and KPS ≥ 60 were enrolled. We assessed QoL using EORTC QLQ-C30 and BN20, CF with MMSE, and PSY with HADS test. Evaluations were performed at T0 (before treatment), T1 (1 month after radiotherapy) and every 3 months. We also evaluated the impact of gender, age ($<$ or ≥ 65), and side of hemisphere (L vs R).

Results: We enrolled 104 patients. Regarding physical, role, emotional, cognitive, social functioning and global health status, there are no significant differences over time. There was no significant difference

for gender and age. Role functioning significantly improved over time. Patients with left side lesion showed a significant worsening cognitive functioning and fatigue.

Anxiety and depression showed higher values at T4. On over time analysis, depression was higher in male, left side lesion (LSL) and $PTS < 65$; anxiety was higher in $PTS \geq 65$ ys, and with LSL.

MMSE score was similar at each point but was lower in $PTS \geq 65$ ys at T1 and in PTS with LSL at T0 and T1.

Conclusions: In our PTS standard treatment with did not worsened QoL, PSY and CF; even better, the role functioning was statistically improved during the treatment while no statistical change for physical, emotional, cognitive, social functioning and global health status was reported. Age, gender and site of lesion might impact on specific factors, and so, they should be evaluated to provide an adequate support.

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Acceptance and Commitment Therapy: A Novel Approach for Adherence to an Erectile Rehabilitation Program (ERP) After Radical Prostatectomy (RP)

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Background: Intracavernosal injection therapy (ICI) is central to erectile rehabilitation programs (ERP) but compliance is generally low. Men's frustration surrounding ED can lead to avoidance of sexual situations and negatively impact men's adherence to ERP. This RCT tested a novel psychological intervention based on Acceptance and Commitment Therapy (ACT) to help men overcome emotional barriers to using ICI.

Methods: Sixty-three men were recruited when starting ERP and randomized (ACT $n = 32$, EM $n = 31$) to ACT (7 sessions) or Enhanced Monitoring (EM; 7 calls from a nurse practitioner). Assessments were at baseline, 4 months, and 8 months. Primary outcomes were feasibility, number of penile injections/week (syringe count), and compliance (≥ 2 injections/week). Secondary outcomes were ED treatment satisfaction, sexual self-esteem, sexual bother, and prostate cancer treatment regret.

Results: The acceptance rate was 72%. The ACT group utilized more injections/week vs. the EM group (1.73 vs. 0.95, $p < 0.01$) at 4 m. The ACT group was more compliant with ICI vs. the EM group (50% vs. 10%, $p = 0.01$). The ACT group reported greater satisfaction with ED treatment ($d = 0.32$), sexual self-esteem ($d = 0.30$), and sexual confidence ($d = 0.47$). The ACT group also reported lower sexual bother ($d = 1.08$) and treatment regret ($d = 0.55$). Treatment techniques and implications will be discussed.

Conclusion: Data suggest ACT increased ICI use and ERP compliance by stopping the cycle of avoidance. ACT also increased sexual self-esteem, and reduced sexual bother and treatment regret. ACT may be an effective adjunctive intervention to help men reduce avoidance to penile injections and adhere to an ER program.

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Suicidal Ideation in Korean Breast Cancer Survivors and Possible Risk Factors

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Background: Although the suicide rate of cancer survivors is higher than that of the general population, few studies have examined the potential risk factors. Therefore, we assessed suicide ideation (SI) and investigated its correlates among survivors of breast cancer.

Methods: We enrolled a total of 280 Korean female breast cancer survivors who had been disease free for at least 5 years. All subjects were assessed using demographic questions, International Physical Activity Questionnaire (IPAQ), the Beck Anxiety Inventory(BAI), the Center for Epidemiological Studies-Depression (CES-D) and one question about SI. Blood samples of patients were also analyzed.

Results: We found that 32/280 breast cancer survivors (11.43 %) experienced SI. Univariate analyses showed that SI was significantly associated with marriage, IPAQ, BAI, CES-D, serum BUN and serum uric acid. Multivariate logistic regression confirmed that SI was independently associated with marriage (adjusted odds ratio (aOR) 4.10; 95 % confidence interval (CI) 1.11–15.08), CES-D (adjusted odds ratio (aOR) 6.43; 95 % confidence interval (CI) 2.21–18.70), BAI (adjusted odds ratio (aOR) 1.08; 95 % confidence interval (CI) 1.00–1.16), serum BUN (adjusted odds ratio (aOR) 0.80; 95 % confidence interval (CI) 0.66–0.97), and serum uric acid (adjusted odds ratio (aOR) 1.79; 95 % confidence interval (CI) 1.05–3.07).

Conclusions: Our findings demonstrate a high prevalence of SI among breast cancer survivors and suggest clinical characteristics such as marriage, physical activity, anxiety, depression and serum uric acid are important risk factors of SI.

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With whom do cancer patients want to talk about religious/spiritual themes in a clinical setting?

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Background: Research indicates that religiosity/spirituality (R/S) plays an important role in dealing with life-threatening diseases. Studies also show that cancer patients have spiritual needs and that they want to talk about R/S themes with their physicians. Little is known about this issue concerning cancer patients in Austria, a country where only 29.3% are without a religious denominational affiliation. The aim of this study is to investigate if cancer patients in Austria have a need to talk about (R/S) in a clinical setting, and if so, with whom?

Method: This study was conducted as a cross-sectional study at the Clinic for Haematology/Haemostaseology and Oncology of the Medical University of Vienna. Cancer patients were interviewed with standardized questionnaires based on the bio-psycho-social-spiritual model.

Results: Three hundred twelve cancer patients (54.8% women, 45.2% men) were included in this study. About 64.4% regard themselves as religious and/or spiritual. Family and friends were the most important source of strength and support. When it comes to talk about R/S themes, the majority wanted to address these issues with family/friends (64.4% partner, 60.7% friends). Contrary to our expectations, the participants were more likely to talk with their physicians (42.4%) about R/S in a clinical setting than with hospital chaplaincy (23.5%).

Conclusions: Most Austrian cancer patients are religious/spiritual. The most important source of support for cancer patients is family and friends, and they are the primary dialogue partners when it comes to R/S issues. Cancer patients of this study also want their physicians as dialogue partners in R/S themes.

484 The Relationship between Post-traumatic Stress and Post-traumatic Growth in Cancer Patients and Survivors: A Systematic Review and Meta-analysis

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Background/Purpose: Increased attention is now devoted to the potential for positive psychological outcomes related to cancer. Negative and positive outcomes are more often studied separately; however, research on the relationship between Post-traumatic Stress Disorder and Post-traumatic Growth in cancer populations is accumulating. The literature is mixed, with studies showing positive, negative, curvilinear, and no relationship between post-traumatic stress and growth.

Methods: Five bibliographic databases were searched using a combination of terms: post-traumatic stress, post-traumatic growth and cancer. Studies were included if they studied patients with a current or prior diagnosis of cancer, measured post-traumatic stress and post-traumatic growth and reported the relationship between them, were reported as a peer-reviewed journal article or a doctoral dissertation, and were written in/translated into English.

Results: Thirty-three studies were eligible. The meta-analysis yielded an aggregate effect size of $r = .07$, indicating a significant, weak, positive relationship between stress and growth, with significant heterogeneity among the effect sizes. Time since diagnosis significantly moderated the relationship between stress and growth, such that the relationship was stronger the longer the average time of the study sample was post-diagnosis.

Conclusions: Post-traumatic growth appears to be a long-term, dynamic process that may be more likely to emerge from stress with increased time, and potentially psychological distance, from the initiation of the trauma of diagnosis. Longitudinal research at the patient level is needed to gain a better understanding of this finding.

486 The Co-Ordination of a Survivorship Clinic in our Lady of Lourdes Hospital Drogheda Co. Louth Ireland the Challenges & Vision From a Nurses Perspective

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In taking over the role of coordinating the survivorship clinic 6 weeks ago, certain challenges and a vision for the future have been identified. In Ireland, there are over 120,000 cancer survivors currently. Survivorship includes living with, through and beyond the diagnosis of cancer. Issues for survivors vary greatly between cancer types and survivors themselves, each requiring different treatment and supportive care; (Carlson et al. Handbook of Communication in Oncology and Palliative Care, 2010; 16 177–190). The current model of survivorship surveillance in the hospital is Oncologist led, using NCCN guidelines.

In the literature, key issues for survivors are medical late effects, long-term effects and psychological challenges going far beyond the period of acute treatment. From a psychosocial perspective, survivors adjust to a 'new normal'. Survivorship care plans are now being recognised in Ireland as an important component of survivorship care.

Some of the immediate challenges identified at the survivorship clinic over the past 6 weeks include

- What do survivors know, need and want from the survivorship clinic
- How is it best to disseminate information to survivors and their families
- How to develop further support, empowerment and advocacy for survivors

The vision for the future to:

- continue to develop and deliver care according to best practise.
- carry out a survey of survivor needs in the immediate future to inform and guide quality improvement.
- implement the introduction of a survivorship care plan in the future. Good communication with all involved is imperative for success.

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With whom do cancer patients want to talk about religious/spiritual themes in a clinical setting?

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Background: Research indicates that religiosity/spirituality (R/S) plays an important role in dealing with life-threatening diseases. Studies also show that cancer patients have spiritual needs and that they want to talk about R/S themes with their physicians. Little is known about this issue concerning cancer patients in Austria, a country where only 29.3% are without a religious denominational affiliation. The aim of this study is to investigate if cancer patients in Austria have a need to talk about R/S in a clinical setting, and if so, with whom?

Method: This study was conducted as a cross-sectional study at the Clinic for Haematology/Haemaostaseology and Oncology of the Medical University of Vienna. Cancer patients were interviewed with standardized questionnaires based on the bio-psycho-social-spiritual model.

Results: Three hundred twelve cancer patients (54.8% women, 45.2% men) were included in this study. About 64.4% regard themselves as religious and/or spiritual. Family and friends were the most important source of strength and support. When it comes to talk about R/S themes, the majority wanted to address these issues with family/friends (64.4% partner, 60.7% friends). Contrary to our expectations, the participants were more likely to talk with their physicians (42.4%) about R/S in a clinical setting than with hospital chaplaincy (23.5%).

Conclusions: Most Austrian cancer patients are religious/spiritual. The most important source of support for cancer patients is family and friends, and they are the primary dialogue partners when it comes to R/S issues. Cancer patients of this study also want their physicians as dialogue partners in R/S themes.

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Psychological Differences and Request for Emotional Support in People with Pancreatic Cancer

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Pancreatic cancer is one of the main leading causes of cancer-related death (Cascinu et al., 2010). A diagnosis like this is often associated with a wide range of reactions such as shock, disbelief, anxiety, depression and guilt (Clark et al., 2010; Sugimoto et al., 2016). These aspects can be managed through a psychological support in order to facilitate illness adaptation and contain emotional distress. Based on these aspects, the study underlines psychological difference and request for emotional support in people with pancreatic cancer.

Differences between patients who request psychological support (PS) and who decide to not benefit from it (NPS) on coping strategies (MAC, Grassi & Watson, 1992) and on Quality of life (SF-36, Apolone, 1998) were evaluated through t-test analysis. The sample is composed of 43 patients treated at San Raffaele Hospital (Milan) (mean age = 63,21; s.d. = ±8): 22 of them are PS. Women represent 48,84% of the sample, whereas 51,16% are men.

Data show that PS has a lower level of Mental Health Index ($t = 6,476$; $p = ,000$), Avoidance Coping ($t = 2,056$; $p = ,046$), Fighting Spirit Coping ($t = 2,557$; $p = ,014$) and more Limitations due to Emotional Problems ($t = 4,927$; $p = ,000$) than NPS. Furthermore, PS shows a higher level of Helpless-Hopelessness ($t = -4,554$; $p = ,000$).

Results suggest the importance of providing hospital psychological support. Being able to respond immediately could be relevant in order to improve mental well-being, prevent limitations due to emotional problems and promoting more adaptive coping strategies. Indeed patients with pancreatic cancer must deal with one of the most life-threatening cancer that can reveal heavy psychological suffering.

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The Experience of Caregiving: A Study on a Sample of Caregivers of Cancer Patient

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The relatives' care often results in caregivers experiencing elevated levels of emotional distress (Cameron et al., 2002). Caregiver and patient represent a dyad in which suffering and distress influence their emotions mutually. Supporting caregivers so they can deal with their relatives' cancerous condition is useful to improve both patient care and collaboration with medical teams. This study is still in progress and researches the impact of the disease on the quality of life of caregivers, on their perceived emotional burden, on coping strategies and changes to some aspects of their life due to patient care.

The test battery is composed ad hoc of a particular registry paper, SF-36, ZBI, COPE. The preliminary sample is made up 68 caregivers (M = 36,76%; W = 63,24%) (mean age = 52,72; s.d. = ±15,06): 42,64% of them are patient's partner, 30,88% are son/daughter, 3,35% are parent. 63,23% have changes in their life (LC).

Preliminary data show that caregivers have a low level of Mental Health Index (MHI) ($m = 38,54$; $d.s. = 12,14$) and mild level of Burden (B) ($m = 21,78$; $d.s. = 13,7$). B is linked with avoidant-coping ($r = ,488$; $p < ,000$), positive reinterpretation ($r = ,396$; $p < ,000$), and problem-focus coping ($r = ,329$; $p < ,000$). MHI is linked with avoidant-coping ($r = -,429$; $p < ,000$) and problem-focus ($r = -,462$; $p < ,000$). LC have lower MHI ($t = 2,015$; $p = ,048$) and higher B ($t = -4,533$; $p = ,000$) than those who have no changes.

Although these are still partial results, they show caregivers' suffering, the need of support and their coping strategies to deal with patient cancer conditions. The final aim is increasing the knowledge about specific oncological caregivers' needs, in order to improve psychological interventions.

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Evaluation of a therapeutic game for children and adolescents with cancer

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Background/Purpose: Shop Talk is a therapeutic board game, developed in the US and translated in Italian. Seven-to-16-year-old oncological patients can benefit from Shop Talk as it induces them to talk about their emotions by answering questions while playing.

The aim of this study is to assess patients and parents' perception of Shop Talk's acceptability and feasibility of use, and measure possible influences of game session on affect.

Methods: Since February 2016, 12 patients were recruited and played with a psychologist (50%) or one parent (50%).

Before (T0) and after (T1) game session, PANAS-C and PANAS (if parent participated) were administered and affect scores were compared. At T1, participants completed a specifically designed questionnaire, evaluating acceptability (involvement, relevance, comprehensibility) and feasibility (adequacy, utility, barriers), measured on a 4 points Likert scale (from 1 = "not at all" to 4 = "a lot") or Yes/No answers.

Results: Patients average age 13, 4 boys, 8 girls; parents average age 39.3, 6 mothers.

Most patients (83.3%) and all parents (100%) declared Shop Talk is acceptable; all patients (100%) and all parents (100%) reported that Shop Talk use is feasible.

T-test used to confront patients and parents' positive affect and negative affect scores at T0 and T1 showed a statistically significant difference only for patients' positive affect, higher at post-session.

Conclusions: The use of Shop Talk with paediatric cancer patients and their parents has demonstrated to be adequate in terms of acceptability and feasibility. Furthermore, game session showed a positive impact on patients' affect, improving positive affect.

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The Influence of Time from the Diagnosis on Some Psychological Variables: A Multicenter Study on a Sample of Cancer Patients in Different Italian Hospitals

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The diagnosis of cancer represents a crisis condition that could induce psychological effects like depression, anxiety and quality of life, influencing the possibility to cope with the disease (Weisman & Worden, 1984; Grassi et al., 2003; Krebber et al., 2014; Kulpa et al., 2014). This multicenter study is made by the S. Raffaele Hospital and Hospital in Saronno, to research some psychological implications related to the time from the diagnosis, with the final clinical purpose. The test battery is composed on purpose of a particular registry paper, SF-36, MAC, BDI-II, STAI-Y. The sample is made up of 221 patients ($M = 41,67\%$; $W = 58,37\%$) (mean age = 60,75; $s.d. = \pm 12,42$), heterogeneous oncological illness characteristics, different illness status and medical treatments. About 26,4% of the sample had received the diagnosis since less than 3 months (D3), 17,19% from 3 to 6 month (D3-6), 19% from 6 to 12 month (D6-12) and 34,84% over 12 months (D12).

Data show that D3 have significantly higher levels of depression ($F(8;193) = 2,88$; $p = ,005$) and anxiety ($F(8;189) = 2,43$; $p = ,016$) than other periods. This tendency is confirmed by the difference in mental health ($F(8;186) = 2,12$; $p = ,036$). Furthermore, D3, D3-6, D6-12, and D12 have significantly different levels of Fighting Spirit ($F(8;186) = 2,95$; $p = ,004$); more specifically, post-hoc tests shows less score in D3 compared to D3-6 ($p < ,05$).

The results show that the period close to the diagnosis has important psychological implications. It suggests the need of particular attention by clinicians and psychological interventions towards the patients that had recently been diagnosed to reduce the possibility of developing relevant levels of depression and anxiety, improving the quality of life.

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Depression and Survival in a Nationwide Cohort of Women Treated for Primary Breast Cancer

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Purpose: To prospectively assess the association of depression with survival in a large nationwide cohort when adjusted for important confounders.

Methods: A total of 3257 Danish women (26–70 yrs.) diagnosed with primary breast cancer completed Beck's Depression Inventory (BDI) and health behaviour measures, 3 and 15 months post-surgery (n = 2895). Follow-up time was up to 13 yrs. Eligible women had no recurrent or new cancer. Data on clinical variables, comorbidity, cause of death, and psychiatric history were obtained from the Danish Breast Cancer Cooperative Group, surgical departments, and national longitudinal registries. Cox models were used to estimate hazard ratios for mortality.

Results: At 15-month follow-up, 340 women (11.7%) had BDI scores ≥ 17 indicating Major Depression whereof 92 (27.1%) died compared to 501 (19.6%) with BDI < 17 (age-adjusted RR = 1.54, 95% CI [1.23–1.92]). Spline analyses indicated linear relationships between mortality and depressive symptoms. Adjusted for tumor variables, treatment, comorbidity, BMI, alcohol and smoking, each one-point BDI-increase corresponded to 1.5% increased all-cause mortality risk (RR = 1.015, 95% CI [1.005–1.026]). Ratios for cancer (RR = 1.019, 95% CI [1.006–1.031]), and breast cancer (RR = 1.020, 95% CI [1.007–1.034]) were slightly higher. Results were not attenuated by additional adjustment for psychiatric history. Depression at 3-month follow up was not associated with mortality in the adjusted analyses.

Conclusions: Depression at 15, but not at 3 months post-surgery, predicted increased mortality independent of confounders and psychiatric history. Our results indicate that adjustment to breast cancer in terms of depressive symptoms evolving in the year following breast cancer is an independent prognostic factor. Early interventions targeting depressive symptoms may have a positive influence on survival in primary breast cancer.

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Empowerment-based holistic cancer care

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Background: At least 30% of patients with cancer have used complementary alternative medicine (CAM) since their diagnosis. Complementary therapies are used in addition to conventional treatment and include supportive approaches that treat symptoms and enhance well-being.

Purpose: The aim of this study was to investigate CAM use among women with breast cancer (BC) in Ireland.

Methods: A mixed methods approach using a sequential explanatory design was employed. The "Use of Complementary and Alternative Therapies Survey" questionnaire (UCATS) was used to survey a consecutive sample of 406 women with BC at 3 acute hospitals. Semi-structured interviews were conducted with oncology professionals (n = 20), CAM practitioners (n = 20) and women with BC (n = 31).

Results: Overall, CAM was perceived as playing a supportive role. Over 50% of patients surveyed (n = 226) used some form of CAM since diagnosis and just over 90% of those indicated satisfaction with the therapies used. Relaxation and psychological therapies were primarily used to decrease psychological stress while biologically based therapies were primarily used to relieve symptoms/side effects and to a lesser extent to gain a feeling of control over their health. The interviews and survey findings suggested that communication around CAM use is limited (non-disclosure rate for the most frequently used therapies ranged from 38–68%).

Conclusion: CAM therapies are used by many women with BC to feel well; however, communication around CAM use is limited. Given that good communication is essential for effective patient-centred care and patient empowerment, improved communication around CAM use in the oncology setting is critical.

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Systematic Light Exposure to Treat Negative Sequela of Cancer and its Treatment

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Cancer and its treatments are associated with a variety of negative sequela, including fatigue, depression, sleep problems and cognitive impairment. These problems can begin before the initiation of treatment and continue after all medical treatment has ended. Mounting evidence suggests that disruption of circadian rhythms (CRs) may be instrumental in such problems. This symposium will present recent research from the US and Europe on the use of systematic light exposure (sLE, like that used to treat seasonal affective disorder (SAD)) to control/diminish such negative sequela. It is hypothesized that sLE entrains CRs and thereby reduces fatigue, depression and sleep problems. Redd will present background research on CR disruption associated with cancer treatment. He will present clinical evidence showing a connection between light deprivation among cancer patients and quality of life problems. Valdimarsdottir will present results from a recent randomized clinical trial showing significant declines in symptoms of depression and improvements in the robustness of CRS among survivors following sLE. Wu will present randomized clinical trial results testing sLE to improve sleep quality among cancer survivors. Amidi will discuss sLE as a potential treatment for cancer-related cognitive impairment and describe the mechanisms (e.g., inflammatory, neurophysiological, and behavioral) whereby sLE affects cognitive functioning. Finally, Ancoli-Israel, a pioneer in the study of sLE to treat cancer-related negative sequela, will discuss the four presentations. This new area of supportive care research holds promise for reducing suffering among cancer patients/survivors. Indeed, sLE is a low patient burden intervention that is easy to deliver and inexpensive.

Supporting Abstract 1:

Systematic Light Exposure Improves Depression and Circadian Activity Rhythms among Cancer Survivors

Background: Depression is one of the biggest challenges faced by cancer survivors even 10 years after all treatment has ended. Survivors might benefit from systematic light exposure (sLE) using bright white light (BWL) as it has been found to be effective in reducing depression among other populations suffering from depression. sLE has also been found to normalize circadian activity rhythms (CAR), which are disrupted both among cancer patients/survivors and depressed individuals. The present study examined the effectiveness of sLE in reducing depression and restoring CAR among cancer survivors.

Methods: Fifty-four cancer survivors were randomized to either a BWL (n = 28) or a standard comparison group – dim red light (DRL) (n = 26). Participants self-administered the light, using Litebook®, for 30 minutes every morning throughout the four-week intervention period. Depression and CAR were assessed at Baseline, 2-weeks into the intervention, at the end of the intervention, and three weeks after the completion of the intervention.

Results: A Linear Mixed Model analysis of depression revealed that depression was significantly lower in the BWL group compared to the DRL group at the end of the intervention and at the final assessment [F(3,44) = 3.43; p = 0.025]. Similarly, overall rhythmicity (f-statistic) was significantly improved in the BWL group compared to the DRL group at the final assessment [F(3,43) = 5.39; p = 0.0031].

Conclusion: Providing sLE via BWL may provide a non-invasive, innovative way to decrease depression among cancer survivors and normalize circadian rhythms, which are vital for health and well-being.

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Supporting Abstract 2:

The effects of systematic light exposure on sleep quality in cancer survivors

Introduction: Sleep disturbances are reported by cancer patients at a significantly higher rate than in the general population and are associated with fatigue and poor quality of life. The purpose of this analysis was to examine the effectiveness of systematic light exposure (sLE) to improve sleep quality among cancer survivors.

Methods: Fifty-four breast, gynecologic, and hematologic cancer survivors who were participating in a study investigating the effects of sLE on cancer-related fatigue were examined. Participants reporting clinically significant fatigue were randomized to a bright white light

(BWL) or comparison dim red light (DRL) group and instructed to self-administer their respective light box for 30 minutes/morning for 4 weeks. Participants completed the Pittsburgh Sleep Quality Index (PSQI) one week prior to sLE (T1), during the second week of sLE (T2), at the end of the fourth week of sLE (T3), and three weeks post-sLE.

Results: Linear mixed model was employed using baseline PSQI scores as a covariate. There were no significant differences between the two treatment groups at T2 (BWL: Mean PSQI = 8.20; DRL: Mean PSQI = 9.27). At T3, the BWL group improved from T2 more than the DRL group (BWL: Mean PSQI = 7.74; DRL: Mean PSQI = 9.91; Tukey-adjusted t(53) = -3.14; p = 0.0315). However, at three weeks post-sLE, the two groups were essentially equal in sleep quality.

Conclusion: Results provide preliminary evidence for the benefits of sLE to improve sleep quality in cancer survivors. As expected, the benefits to sleep quality diminished upon sLE discontinuation. Longer, larger studies are needed to replicate these findings.

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Supporting Abstract 3:

Systematic Light Exposure as a Potential Treatment for Cancer-related Cognitive Impairment

Background: Cancer-related cognitive impairment (CRCI) due to cancer or its treatment has been well-documented. Unfortunately, there are currently no standard treatments available, and efforts to ameliorate CRCI have generally shown limited effectiveness or require significant clinician involvement. Converging evidence indicates that bright light is a modulator of alertness and research with various populations suggest that systematic light exposure (sLE) may lead to improvements in cognitive functioning. Despite such emerging evidence, sLE has not yet been tested to treat CRCI.

Methods: The sLE research protocol for our research group involves self-administration of either bright white light (BWL) or dim red light (DRL) from a light box for 30 minutes/day for 4 weeks with assessments of outcomes at baseline, during, and at the end of treatment. Outcomes include assessments of neurocognition, and potential mediators (i.e. brain morphology, inflammatory markers, endocrine function).

Results: A small pilot study (excluding biomarkers) has shown promise for sLE in treating CRCI in cancer patients. Prof. Ancoli-Israel randomized 10 breast cancer patients undergoing chemotherapy to either BWL or DRL, and found cognitive functioning to be improved in the BWL condition only.

Discussion: This presentation will describe potential mechanisms of the hypothesized effect of sLE on cognitive functioning including

endocrine, inflammatory, neurophysiological, and behavioral mechanisms. Furthermore, procedural elements of two ongoing randomized controlled trials investigating sLE as a treatment for CRCI will be presented. sLE, a less burdensome and easily disseminable intervention, may present patients and clinicians with a new way to treat CRCI.

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Volunteer-based baseline distress screening among individuals newly diagnosed with cancer

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Background/Purpose: Over 14 million new cancer diagnoses occur worldwide each year (Globocan, 2012), and almost half of Canadians will develop cancer in their lifetime (Canadian Cancer Statistics, 2015). Despite improvements in early diagnosis, treatment, and follow up, an estimated 35 to 45% of patients report significant cancer-related distress (Canadian Cancer Society, 2013), with distress defined as an emotionally unpleasant psychological, social, and/or spiritual experience that interferes with a patient's ability to more effectively cope with cancer. Distress screening is rapidly becoming a gold standard in health care, but widespread implementation has been met with significant challenges due, in part, to budgetary and personnel constraints. This study reports on the innovative use of volunteers for initial distress screening of patients.

Methods: Trained volunteers administered the distress thermometer to newly diagnosed patients (N = 710) attending a large cancer centre and an affiliated wellness centre in Montreal, Québec, Canada.

Results: Both patients and volunteers found the screening process timely and relevant. Distress scores ranged from 0 to 10 (M = 3.6, SD = 2.6) with higher scores found in skin, endocrine, and bone cancers/sarcomas ($p < .01$). Those reporting moderate to high distress (4 or higher; $n = 344$) were referred to professional psychosocial oncology services.

Conclusions: Screening for distress by trained volunteers appears to be an effective and sustainable strategy to reach out to an increasing number of affected patients. Our ongoing pilot work testing a readily transferable model relies on volunteers and mobile-health tools to screen and provide timely support to those in need.

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Barriers and Facilitators to smoking cessation: A qualitative study of patients', family members' and professionals' views in a cancer context

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Background: Smoking after a diagnosis of cancer is associated with poorer outcomes, but studies show that a significant proportion of patients continue to smoke. This suggests that the opportunity for positive behaviour change, presented by a life-threatening diagnosis, is not fully utilised. There is evidence that the smoking beliefs and behaviours of family members are important, but current interventions are primarily targeted towards individuals. This study explored health professionals', patients' and families' views of smoking cessation in the context of a recent diagnosis of cancer, to determine how best to encourage and support cessation.

Methods: Semi-structured interviews were conducted with recently diagnosed cancer patients ($n = 29$), family members ($n = 14$) and health professionals ($n = 24$) from oncology, primary care and smoking cessation services. Interviews were analysed using the framework approach.

Results: Patients' and family members' continued smoking appeared to be explained by four key factors, which present barriers to smoking cessation: the stress accompanying a diagnosis; desire to maintain personal control; lack of coherence in relation to smoking, cancer and future health; self-perceptions as a smoker. Interviews with clinicians revealed that efforts to promote a positive patient-professional relationship could inhibit discussions about smoking and smoking cessation. Findings suggested that smoking cessation messages were not sufficiently co-ordinated or meaningful within the cancer context.

Conclusions: The barriers identified in this study have a number of implications for more effective integration of smoking cessation services into oncology care. Enabling and normalising communication strategies are required, alongside approaches that emphasise future health benefits for cancer survivors.

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Men's journey through diagnosis and treatment for prostate cancer in Trinidad and Tobago

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Background: Prostate cancer is the most common cancer and the leading cause of death among men in Trinidad and Tobago (T&T). It has been found that men from T&T present late with advanced stages of the disease such as blood in urine, severe back pain and erectile dysfunction. This paper explores Tobago men's journey through diagnosis and treatment of prostate cancer from a cultural perspective.

Methods: A grounded theory approach was utilized. Semi-structured face-to-face interviews were conducted with 25 Afro-Caribbean men from Tobago that were newly diagnosed with prostate cancer. Men were recruited from the urology/oncology clinic.

Results: Nobody told me was generated from findings, which was related to uncertainty throughout all pathways to treatment for prostate cancer. Tobago men felt they lacked empowerment towards understanding and interpreting their bodily changes, and not knowing who to turn to for help. They describe feeling alone as they journeyed through public and private health systems in their quest for seeking answers. Some men turned to herbs and spirituality as a means of coping. Men that were guided by friends and family that were Health Care Providers received a diagnosis early in their pathway and commenced treatment in a timely manner.

Conclusion: A better understanding of men's experiences can unearth barriers and facilitators to timely diagnosis and treatment of prostate cancer. This can in turn target specific public health messages to address men's late presentation of advanced prostate disease. The role of social capital has implications for health policy development.

498 Sexual Health and Rehabilitation eClinic (SHAReClinic): A Movember TrueNTH Canadian Solution

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Background: Sexual dysfunction as a consequence of treatments for prostate cancer has the single greatest negative impact on patient (and their partners) health-related quality of life; yet, few patients and partners receive sexual health programming. Utilizing online platforms may offer an effective and cost-efficient way of closing that gap in comprehensive cancer care. The objective of the TrueNTH Canadian Sexual Health solution is to establish a national prostate cancer specific and facilitated online Sexual Health and Rehabilitation Clinic (SHAReClinic) for patients and their partners. The development of the SHAReClinic is described.

Methods: A pan-Canadian, multidisciplinary team of experts was established to develop an online intervention with personalization based on treatment received, sexual orientation, and relationship

status. The combination of a multi-disciplinary expert consensus was used to produce an interactive and personalized SHAReClinic.

Results: The SHAReClinic is a national web-based platform that offers patients (and their partners) a biopsychosocial approach to sexual health after treatment for prostate cancer by supporting them in pro-erectile therapy use, in maintaining intimacy, and in re-engaging in regular satisfying sexual activity. Content presented is personalized, structured, and facilitated by personalized health coaches.

Conclusions: The SHAReClinic offers equal access to comprehensive and personalized cancer care to Canadian prostate cancer patients, and their partners in order to improve sexual function and to support the maintenance of intimacy following treatment. The platform and feasibility research design will be presented.

499 Knowledge of Human Papillomavirus (HPV) infection and its Prevention among Canadian Parents of Sons: The Influence of Socio-demographics

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Background: Human papillomavirus (HPV)-related cancers account for 4.8% of the worldwide burden. Worldwide, HPV vaccination programs are expanding to include school-aged boys. As HPV vaccine uptake rates for males are low, there is a need to understand what influences parents' HPV vaccination decision-making for their sons. One important factor influencing HPV vaccination acceptance is knowledge.

Purpose: This study aimed to measure HPV and HPV vaccine knowledge and assess correlates of HPV knowledge among Canadian parents of sons.

Methods: Data was collected through an online questionnaire in February (T1=3117) and November (T2=1427) 2014 from a nationally representative sample of English and French-speaking Canadians parents of 9–16-year-old sons. Validated HPV and HPV-vaccination knowledge scales were used. The influence of correlates on knowledge was calculated using linear regressions. Model fit was analyzed based on normal distribution of residuals, linearity of relation between the outcome and predictors, heteroscedasticity and multicollinearity.

Results: At T1, being female, having completed university, having an income >80,000 per year and discussions with a health care provider (compared to no discussion) about the HPV vaccine were strongly associated with increased HPV general knowledge and HPV vaccination knowledge ($p < 0.001$). At T2, being female and having discussed with the health care provider about the HPV vaccine remained strongly associated with knowledge ($p < 0.001$).

Conclusion: Increasing HPV and HPV vaccination knowledge in parents of boys is necessary. Interventions should specifically target fathers and individuals with lower socio-economic status. It is also important to facilitate HPV-related conversations between parents and health care providers.

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Psychosocial Oncology and Palliative Care: Combining two models of care and two departments

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Background/Purpose: Patients with advanced cancer are living months or years longer due to advances in cancer care. Alongside extended life, they also experience additional burden including psychosocial stressors that can negatively impact quality of life. In Calgary, Canada, excellent inpatient and outpatient palliative care is available for these needs although specialized psychological care is missing from these teams. As of September 2015, a collaboration between palliative care and the Department of Psychosocial Oncology has been piloted. The current evaluation aims to describe the existing utilization of psychosocial support.

Methods: Psychology has been integrated into the available inpatient and outpatient palliative care teams, allowing patients to access specialized psychotherapy. Presenting concerns are being recorded at initiation of psychotherapy for those who chose to engage. Psychosocial needs are being assessed across all patients using the Screening for Distress Toolkit (ESAS and Canadian Problem Checklist) at admission and at discharge from both teams.

Results: Presenting psychotherapy problems for 14 outpatients include anxiety (n = 8), depression (n = 5), grief (n = 5), interpersonal and communication skills (n = 3), and pain management (n = 4; patients may have multiple presenting problems). For 31 inpatients, presenting problems have been anxiety (n = 11), grief (n = 6), adjustment to illness (n = 5), depression (n = 5), family conflict (n = 5), need for family support (n = 3), pain (n = 1), and monitoring suicidal ideation (n = 1). Updated results will be presented.

Conclusions: Specialized psychotherapy is being utilized amongst palliative inpatients and outpatients, indicating that a need likely exists. Further conclusions will be drawn with additional data collection.

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Dual role as a promoting factor in oncology work engagement - a beneficial effect of a psychosocial focus

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Purpose: The aim of this study is to compare burnout between dual-role oncologists (oncologists who also do psychosocial work) and single-role oncologists, to explore if dual-roles are promoting or hindering factor for work engagement.

Methods: Dual-role oncologists (n = 131) and single-role oncologists (n = 168) were recruited via the Chinese Psychosocial Oncology Society (CPOS). Participants completed an anonymous online questionnaire, which included measures of demographic and work characteristics, Utrecht Work Engagement Scale (UWES), The Short Version Effort-Reward Inventory (ERI-S), the Job Demands-Resources Scales (JD-R), and Work and Meaning Inventory (WAMI).

Results: Group analysis revealed single-role participants' scores indicated significantly poorer performance than dual-role participants for UWES, work-family conflict (WFC, JD-R demands scale) and decision authority (DA, JD-R resources scale). Higher reward predicted greater work engagement in single-role and pooled participants, and WFC was negative associated with work engagement in single-role and pooled participants. Higher WAMI predicted greater work engagement in dual-role and pooled participants. Higher decision authority (DA) was independently associated with greater work engagement in pooled participants.

Conclusion: Differences in work engagement scores between dual- and single-role oncologists suggests a promoting effect of a psychosocial orientation in oncologists.

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Persistent post-operative pain in breast cancer survivors: a survey of survivors experience

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Background: Patients undergoing breast cancer surgery may develop persistent pain, affecting quality of life, self-esteem and can lead to anxiety and depression. Studies show the severity of post-operative pain predicts the development of persistent pain and rates range from 10-50%

Methods: Over a 4-month period, patients from follow-up clinics were invited to complete a short survey. All patients were at least one year post-surgery with no evidence of recurrence. The survey covered information about incidence and location of pain, type of surgery, analgesia and if any pre/peri-operative pain management information had been provided. Patients were also invited to indicate if they would be interested in participating in future studies of persistent post-surgical pain.

Results: A sample of 119 was achieved. Nearly half the sample (55 (46.2%)) reported persistent pain. Of these, 55, 43 (78%) said they would be interested in participating in future studies. Persistent pain occurred in various types of surgery including axillary node clearance (ANC), sentinel lymph node biopsy (SLNB), breast reconstruction and breast only surgery. Breast conservation (wide local excision - WLE)

was the main type of surgery in both patients with and without pain.
Conclusion: Persistent pain was a common occurrence in this group of breast cancer survivors, and the results have informed a current NIHR Clinical Doctoral study to develop an interactive electronic platform to improve the post-operative pain experience and reduce the incidence of persistent pain in breast cancer survivors

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Exploring Distinct Longitudinal Trajectories of Mental and Physical Adjustment Among Long-Term Breast Cancer Survivors

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Background: Little is known about the patterns and predictors of adjustment to breast cancer over time. To address this issue, this longitudinal study sought to 1) identify distinct trajectories of mental and physical adjustment among breast cancer survivors (BCS) and 2) identify socio-demographic, clinical, and psychosocial predictors of assignment to each trajectory.

Methods: The American Cancer Society's Study of Cancer Survivors-I (SCS-I) prospectively surveyed a nationwide, population-based sample of 1,443 BCS at 1, 2, and 9 years after diagnosis. Mental and physical health were assessed using the MOS-SF-36/12.

Results: The final Latent Class Growth Model (LCGM) for mental health (Δ BIC = 14.0) identified four trajectories. BCS with trajectory 1 (n = 756, 59.5%) demonstrated good mental health throughout their survivorship experience. Those with trajectory 2 (n = 302, 22.6%) showed notable improvement over time while mental health of BCS with trajectory 3 (n = 156, 11.7%) deteriorated over time. Those with trajectory 4 (n = 83, 6.2%) showed poor mental health throughout the cancer experience. A separate final LCGM for physical health (Δ BIC = 28.8) also identified four distinct but similar trajectories: trajectory 1, n = 735, 55.0%; trajectory 2, n = 238, 17.8%; trajectory 3, n = 139, 10.4%; trajectory 4, n = 225, 16.9%. The LCGMs identified the following predictors of mental and/or physical health trajectory assignment: age, stage, education, psychological distress, and social support.

Conclusions: Findings identified distinct mental and physical health trajectories of adjustment among BCS, highlighting the need for early risk stratification to identify and intervene appropriately with individuals at risk for poorer adjustment. Identified predictors suggest variables that may be useful for risk stratification.

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Health Literacy in HNC Patients and Carers: A potential barrier to adequate informational support?

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Background: Appropriate information improves patients' understanding of their condition, increases participation in decision-making, coping, and facilitates timely admission to services. While Head and Neck cancer (HNC) patients and carers have higher informational needs than most other cancer patients due to the functional and psychological impact of HNC and complexity of care involved, research suggests many are dissatisfied with information received. The ability to obtain, process, and understand basic health information needed to make appropriate health decisions is strongly influenced by 'health literacy'. This study provides baseline data on Irish HNC patients/carers' health literacy, a previously unexplored area.

Methods: Participants (n = 58) completed a Health Literacy Questionnaire (HLQ) based on Irish National Adult Literacy Survey, 2007, as part of a larger mixed-methods study exploring Irish HNC patients/carers information needs/preferences. Basic demographic and socio-economic information including educational/employment status were recorded. Full ethical approval was obtained. Data analysis used SPSS.

Results: The sample was quite representative, covering most primary HNC sites and ranging 1–20 years post-diagnosis. All patients had completed therapy, 78% experiencing multiple modalities. While 70.7% were very confident they understood all information related by HCP, hospital signage (70%) and understanding medication (86.2%), only 24% answered all questions on basic medical terminology correctly; many exhibited poor understanding of common terms e.g. diagnosis, prognosis, positive/negative biopsy, disease progression, palliative care.

Conclusions: Study provides baseline data on health literacy levels in HNC patients/carers and suggests that experience may breed confidence, but not necessarily competence. Areas of potential confusion are highlighted to assist HCPs caring for this population.

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What do parents know about the Human Papillomavirus (HPV) and the HPV vaccine for their sons? An examination of HPV Knowledge across the stages of vaccination decision-making

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Background: HPV has traditionally been viewed as a female disease, but also poses a significant cancer burden for males, and causes cervical, penile, vaginal, anal and oropharyngeal cancers. Knowing about HPV and the benefits of vaccination is essential. We measured HPV knowledge of Canadian parents of boys to

better understand how this varies across the different stages of vaccination decision-making.

Methods: Using an online survey, we collected data from Canadian parents of boys aged 9–16 at baseline (T1 = 3117) and after 9 months (T2 = 1427). Analyses were guided by the Precaution Adoption Process Model (PAPM).

Results: The mean scores for HPV knowledge were 8.56 at T1 and 10.06 at T2 ($p < 0.01$). The mean scores for HPV vaccination knowledge were 3.35 at T1 and 3.93 at T2 ($p < 0.01$). Parents answered 51.8% and 60.8% correct at T1 and T2, ($p < 0.01$), 11.1% and 11.6% as incorrect, at T1 and T2, ($p = 0.02$) and 37.1% and 27.6% as 'don't know' at T1 and T2 ($p < 0.01$). Most parents did not know about how prevalent HPV is, what protection the vaccine offers and information about when and how to get vaccinated. At T1 and T2, HPV and HPV vaccination knowledge were lower among the "unaware" parents compared to parents in PAPM stages 2–6 ($p < 0.01$). Parents who were planning to vaccinate their sons or had vaccinated their sons had the highest knowledge scores.

Conclusions: HPV knowledge among parents of boys was poor. Essential items with low HPV knowledge have been identified. Knowledge interventions should target parents unaware that the HPV vaccine is recommended for males.

513 Cancer Suffering and Death: A Family's Legacy and Resilience Across Generations

Dr. Carolyn Messner

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Background/Purpose: A diagnosis of cancer affects the person with cancer and their family. The ripple effect of one person's suffering and death influences many lives. Psycho-oncology professionals play a strategic role in the science and art of the narrative stories of patient/family resilience. The learning is a two-way street, as patients and families learn, so do their clinicians. Although attention has been paid to the existential despair of patients, caregivers and their oncology team, less has been documented about their memorable resilience and creativity observed by clinicians. This abstract is an effort to shine a light on reflective practice, resilience and its role across generations.

Methods: The case study involves a patient and her spouse, who are the adult children of elderly Holocaust survivors and their young children. The patient and spouse chronicled their experiences coping with a rare and fatal cancer with monthly published editorials.

Results: The Holocaust served as an ever-present backdrop, legacy and metaphor to their resilience and the healthy survival of their children. Psychoeducational psychotherapy, practical problem solving, grief work and reflective practice enabled this family to maximize living in the face of death. This case study required the psycho-oncology clinician to bridge the gap between professional knowledge and the art and science of real world practice.

Conclusions: The author will include qualitative vignettes from this family's lived experiences, the impact of this family's intergenerational journey upon the clinician, relevant literature review and implications for future research.

514 Assessing Adolescent and Young Adult Acceptability of a Preliminary Instrument Measuring Readiness to Engage in End-of-Life Discussions within Clinical Settings

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Background/Purpose: Adolescents and young adults (AYA) living with advanced cancer incur significant physical and psychosocial burden. Providers are uniquely positioned to offer support and guidance through ongoing communication, yet struggle with how and when to initiate end-of-life (EOL) conversations. The purpose of this study is to assess AYA acceptability of a preliminary readiness instrument that may be useful in facilitating EOL conversations within a curative setting.

Methods: A conceptual model of readiness (awareness, acceptance, and willingness) was theoretically derived using case study methodology and guides this work. Qualitative data extracted from previous AYA interviews generated sixty-three readiness items. Content validity was established with interdisciplinary pediatric palliative care experts. We deleted eight items with a content validity index (CVI) below 0.78. Scale CVIs: Awareness (0.91), Acceptance (0.94), and Willingness (0.96) were calculated with average congruency percentage. Nine (African-American, Caucasian, and Asian-American) AYAs (15 to 25 years) living with advanced cancer from 2 children's hospitals participated in cognitive interviews to assess acceptability using a think aloud approach.

Results: Problems were identified with underlying assumptions (2 items), clarity (2 items) and sensitivity (12 items). New items were suggested related to friends/family. Rich data were elicited detailing AYA's perceived role in family, meaning of cancer experience, importance of friendships, family, life, hope and faith. AYAs acknowledged uncertainty and dynamism of readiness to talk. AYAs (100%) expressed desire to participate in future communication research studies.

Conclusions: Preliminary instrument shows evidence of item acceptability, and may help clinicians with difficult EOL conversations within a clinical setting.

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The Comparison of Effectiveness of Cognitive Behavior Stress Management with Mindfulness-based Cognitive Therapy on Improving of Coping Strategies of Women suffering from Breast Cancer

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Background: The aim of the present semi-experimental study was to determine and compare the efficacy of cognitive behavioral stress management and mindfulness -based cognitive therapy on improving of coping strategies in women with leukemia.

Methods: 30 women suffered from leukemia were divided into two experimental groups and one control group. Coping Strategies Questionnaire was administered to members of two groups before and after therapy. The gathering data were analyzed through analysis of covariance.

Results: The F proportion was statistically significant and show that both methods, cognitive behavioral stress management treatment and mindfulness -based cognitive therapy, had a great effect on an increase of using problem -focused coping and a decrease of using affect-focused coping strategy and the effectiveness of both were the same.

Furthermore, compare to mindfulness -based cognitive therapy, cognitive behavioral stress management treatment led to the increased use of coping strategies, seeking social support, re-evaluating , and reducing the use of confrontation and restraint and escape - avoidance. . In addition, none of these interventions had an effect on the use of problem-solving coping strategies ..

Conclusion: Both methods, cognitive behavioral stress management and mindfulness -based cognitive were effective to improve coping strategies of the women with leukemia . But according to these findings it can be resulted that cognitive behavioral stress management intervention appears to be more effective for them.

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Couples coping with cancer: A couples-based skills intervention for breast cancer patients and their partners

Prof. Tanja Zimmermann^{1*} | Prof. Nina Heinrichs²

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A cancer diagnosis is a stressful event that poses formidable and enduring challenges to the women and to their intimate partners. A conjoint process of mutual support has been suggested to be an effective coping strategy for patients who are in committed relationships. The primary aim of this study was to gather data on the potential benefits of a brief psychological intervention ("Side by Side") designed to assist women and their partners to cope with breast cancer.

Two randomized-controlled studies were conducted at two different time points. Study I: N = 72 couples were randomly assigned to either the couples' component ("Side by Side"), or an information component directly after the diagnosis, whereas in study II, N = 46 couples were randomly assigned to "Side by Side" or relaxation after completing the medical treatment. Results of study I suggest that women receiving Side by Side showed larger reductions in cancer-related distress and fear of progression post-intervention compared to women in control group. Furthermore, couples in the Side by Side intervention showed less avoidance in dealing with the cancer, more posttraumatic growth, and better communication skills and dyadic coping relative to the control group. Study II showed a reduction of cancer-related distress in both groups but only in the Side by Side group improvements of relationship satisfaction occurred. Short-term changes in cancer-related functioning may be improved by enhancing couples' dyadic coping skills. The findings highlighted the importance of helping both, the woman and her partner, to effectively cope with cancer.

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Stress Vulnerability and Quality of Life in Healthcare Workers

Prof. Shulamith Kreitler^{1*} | Prof Amos Tore¹ | Dr Frida Barak²

¹Sheba Medical Center, Tel Hashomer, Israel; ²Barzilai Medical Center, Ashkelon, Israel

Healthcare workers were found to suffer from stress that is mostly attributed to work conditions and affects adversely their quality of life (QOL). The objective was to test the impact of a personality factor such as stress vulnerability on the QOL of healthcare workers. Stress vulnerability was conceptualized in terms of the cognitive orientation (CO) theory as a motivational disposition responsible for individual differences in reactivity to stressors. The subjects were 120 healthcare workers in public hospitals. They were administered the CO questionnaire of stress vulnerability (Kreitler), the perceived stress scale

(Cohen), the Multidimensional Inventory of QOL (Kreitler & Kreitler), and a questionnaire of demographic and occupational information. The results showed that the CO of stress vulnerability correlated significantly with perceived stress and QOL (overall score and subscales, e.g., negative emotions, functioning at work). Structural equation modeling showed that the effect of CO of stress vulnerability on QOL was mediated by perceived stress, with control over gender, profession and seniority. The major themes of stress vulnerability were taking on responsibility, perfectionism, focus on using time effectively, and avoidance of getting help. The conclusion is that stress vulnerability accounts for a significant part of the variance in stress and affects QOL via perceived stress.

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Meeting the Psychosocial Needs of Cancer Survivors' Families and Caregivers

Dr. Maria Die Trill

Cancer affects not only the quality of life of those diagnosed with the disease but also that of their family members. Current chronicity of cancer has resulted in numerous survivors living with significant limitations and changes in their lives. Meeting the survivors' multidimensional needs is not always an easy task.

The goal of the proposed symposium is to explore the difficulties families and caregivers of cancer survivors confront and suggest ways to help them better.

We will discuss the meaning of survivorship for families and caregivers, the difficulties families and caregivers confront, and what the impact of the disease has been on their lives. We will define the association between family relationships and levels of psychiatric morbidity and social adaptation of family members; we will attempt to identify who the families of cancer survivors are and what they need across different cultures. We will emphasize the need of identifying families and caregivers in order to design interventions that decrease the burden of care. This symposium attempts to provide an in-depth reflection on caregiving during cancer survivorship.

Chair: Maria Die Trill

Discussant: Lea Baider

Speakers: David Kissane, Maria Die Trill, Daisuke Fujisawa, Julia Rowland

Supporting Abstract 1:

Title: Predictors of Family Adjustment during Survivorship

Abstract authors: TA Schuler¹, TI Zaider¹, Y Li¹

Presenter: DW Kissane^{1,2}

Affiliations: ¹Department of Psychiatry and Behavioural Sciences, Memorial Sloan-Kettering Cancer Center, New York, USA and ²Department of Psychiatry, Monash University, Victoria, Australia.

Background: Distress from a diagnosis of cancer reverberates through the family. Clinical services often privilege the patient and partner, and can neglect the needs of the whole family. Assessment of family functioning is one method to recognise families in need. Level of family functioning is hypothesized to predict poorer adjustment or greater psychosocial morbidity in families.

Methods: Subjects involved 620 individuals from 170 families, where an identified patient had cancer and "at-risk" families agreed to take part in a randomized controlled trial of family therapy as a form of support during cancer treatment. Subjects completed the Family Relationships Index to assess family functioning, Brief Symptom Inventory to assess distress, Beck Depression Inventory-II to assess depression, and Social Adjustment Scale to assess adjustment. Mixed-effects modelling used fixed (group average) effects, random (within individual variability) effects and a covariate reflecting correlated family data to compare baseline data with perceptions of family functioning.

Results: The pattern of family functioning revealed 30% as low communicating, 50.5% as less involved and 18.7% as conflictual. Family type significantly predicted depression and social adjustment. Post hoc analyses revealed higher BDI means in conflictual ($M = 15.98$) than less involved ($M = 13.7$) and low-communicating (12.06) families. Controlling for depression, conflictual and less involved families had poorer social adjustment, including poorer relationships with partner, immediate and extended family, and reduced recreational functioning ($p = 0.043$).

Conclusions: Family relationships predict levels of psychiatric morbidity and social adaptation, thus helping identify families with unmet needs for family-centered care.

Supporting Abstract 2:

Title: Who are the Families of Cancer Survivors? The Weakness of Strength

Maria Die Trill (1), Javier Monsalvo (2), Cristina Delgado (1)

Presenter: Maria Die Trill

Affiliations: (1) ATRIUM: Psycho-Oncology and Clinical Psychology; (2) Fundación Jimenez Díaz, Madrid, Spain

Cancer survivorship imposes great demands on patients who now must learn to live with physical limitations and emotional and existential concerns that were probably absent from their lives prior to the disease. Families of cancer survivors are usually confronted with important issues as well, once treatment has ended. They tend to have the expectation that the patient will not need further assistance or support after cancer treatment. This idea usually clashes with the survivors' need of care during prolonged periods of time after treatments. It adds on to the sense of tiredness family members experience after having cared for a loved one with cancer, as well as on to their own personal issues that are brought into the disease process and into the relationship with the survivor

An ongoing review of 80 family members of cancer survivors will be presented. Fifty-six percent of families were seen in Psycho-Oncology at their own request after the patient had been referred to the Unit. Forty-two percent reported depressive symptoms, and over 50% of the family members considered the survivor was not in need of additional help to recover from cancer and its treatments. Demographic and personal profiles, and the complex psychological issues that arise in their relationship with the survivor during the chronic disease process will be discussed. Suggestions for successful clinical interventions with families of cancer survivors will be described.

Supporting Abstract 3:

Title: Illness perception and quality of life in families of cancer patients

Abstract author: Daisuke Fujisawa, MD, PhD.

Affiliation: Keio University School of Medicine, Department of Neuropsychiatry and Palliative Care Center, Tokyo, Japan

Presenter: Daisuke Fujisawa

Background: Understanding of illness and prognosis is a key element of the decision-making process in the course of cancer survivorship. It may have significant influence on the psychological wellbeing of cancer patients. The same can be said about illness understanding of family caregivers. The influence of family on patients' decision-making is quite substantial, especially in Eastern culture. Discrepancies in illness understanding between patients and their caregivers can complicate their decision-making processes.

We investigated illness understanding of cancer patients and their family caregivers, and examined its associated factors.

Methods: In a sample of 156 pairs of newly diagnosed advanced lung cancer patients and their family caregivers, we investigated their illness understanding, perceptions of prognosis and goals of therapy. We also examined their associations with their quality of life and psychological distress.

Results: About 19.2% of the pairs displayed discrepancy in perceptions of prognosis and 16.4% concerning the goal of therapy. Caregivers' anxiety and depression were significantly higher among those who responded that the complete cure was difficult. Misperception on illness curability was observed among families of patients who were younger, cohabiting, still at work, and with better performance status. Caregivers' accurate understanding of curability was associated with lower emotional well-being and higher psychological distress of the patients.

Conclusions: A substantial portion of the patient-caregiver dyad displayed discrepancy in the understanding of illness and treatment status. Family caregivers' psychological status was associated with their illness understanding, which is further affected by the characteristics of the patients. This implies those at higher risk of illness misunderstanding and psychological distress.

Supporting Abstract 4:

Abstract title: Informal Cancer Caregiving: Who Cares?

Abstract authors: Erin Kent,¹ Julia Rowland²

Presenter: JH Rowland

Affiliations: 1 Outcomes Research Branch, Healthcare Delivery Research Program and 2 Office of Cancer Survivorship, Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD, USA

Background: Advances in early detection and treatment efficacy, along with the aging of the population, are leading to rapid growth in the number of cancer survivors worldwide. As care for these individuals is delivered primarily in the home and outpatient settings, the number of informal caregivers will also climb steadily. While the importance of their role in survivors' outcomes is broadly recognized, understanding the characteristics of caregivers and their unique needs remains a challenge.

Methods: Information from two large data sets, the Cancer Care Outcomes Research and Surveillance Consortium (CanCORS) and the Caregiving in the U.S. 2015 National Report from the National Alliance for Caregiving, will be used to describe the sociodemographic characteristics of U.S. cancer caregivers and the care they deliver.

Results: CanCORS caregivers (N = 1500) were mostly female (76%), typically spouses (63%), often older (44% age 60+), lived with the survivor (73%), and reported working full or part-time (50%). A significant number (20%) reported providing >35h/wk of care and limited training for their roles. Alliance data (N = 1164) suggest there are > 2.8 million Americans providing care to an adult family member or friend due to cancer. Group characteristics and additional caregiving details will be compared across data sets and implications for research and care discussed.

Conclusion: Finding ways to systematically identify and track the health and well-being of informal cancer caregivers is critical for developing and delivering psychosocial and behavioural interventions designed to reduce the burden of cancer on families.

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Perfectionism and its Association with Gender Socialization – Risk Factors for Body Image Disturbance in Women with Breast Cancer?

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Purpose: The diagnosis of breast cancer and its subsequent treatment can have a profound impact on body image and sexual functioning. Surgical treatments alter one's sense of body image and negatively impact breast sensitivity. Chemotherapy can lead to premature menopause and hormonal treatments can worsen menopausal symptoms, such as vaginal dryness and dyspareunia. Breast-conserving surgery or reconstruction may not be associated with high satisfaction.

Methods: This study reports on 198 women at baseline who participated in a randomized trial of a group intervention on Body Image concerns. Standardized questionnaires included: Perfectionism Scale, Objectified Body Consciousness Scale, the Gender Socialization Scale, as well as Body Image after Breast Cancer Questionnaire and the Body Image Scale. As predicted, significant correlations were found between gender socialization indicating internalization of gender messaging/roles and perfectionism. These measures were also significantly associated with objectified body consciousness, in particular body surveillance and higher levels of body image disturbance.

Conclusion: BS Perfectionism and high self expectations, as well as internalization of gender-proscribed themes may be important risk factors for body image disturbance following breast cancer treatment. Early identification and targeted interventions can be employed to assist these women in their adjustment in order to maintain their quality of life following breast cancer.

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Integration of Psycho-oncology Care Competencies For the Health Professions-de Souza Institute Model

Dr. Mary Jane Esplen^{1,10*} | Susan Blacker² | Esther Green³ | Jonathon Hunter⁴ | Christine Maheu⁵ | Kim Miller⁶ | Zeev Rosberger⁷ | Scott Secord⁸ | Brenda Toner⁹ | Jiahui Wong^{9,10}

¹University Health Network, Toronto, Canada; ²St. Michael's Hospital, Toronto, Canada; ³Canadian Partnership Against Cancer, Toronto, Canada; ⁴Mount Sinai Hospital, Toronto, Canada; ⁵McGill University, Montreal, Canada; ⁶Princess Margaret Cancer Centre; ⁷Sir Mortimer B Davis-Jewish General Hospital; ⁸Brant Community Health Care System; ⁹University of Toronto, Toronto, Canada; ¹⁰De Souza Institute

Background: An effective interdisciplinary health profession education requires competencies for various levels of learning with relevance across health professional disciplines (Frenk et al. 2010).

Method: The de Souza Institute provides standardized curriculum in oncology to support generalists and specialists. All curricula embed competencies in psychosocial oncology, ranging from distress screening to psychological interventions that target varying distress levels and psychosocial problems. An interdisciplinary working group developed an education framework to select a set of shared competencies relevant across disciplines. Progress along the learning pathway includes attaining increasing levels of knowledge, skill, and attitudes within physical, psychological, cultural, and spiritual oncology domains, as well as in interprofessional team collaboration. Core competencies are arranged via increasing level of specialization using a novice to expert learning pathway. Furthermore, shared competencies are used to inform the new "de Souza Health professional" designations, denoting cancer specialists within their own professions.

Results: The institute has delivered curriculum offerings to more than 8000 learners, in urban and rural settings. Courses demonstrate significant improvements ($p < 0.01$) in knowledge and confidence in screening and methods to address emotional care needs. Positive feedback suggests success in incorporating psychosocial care within other foundational courses, such as those focusing on medical oncology and treatments. Health care providers also demonstrate interest in the notion of a "cancer specialist" designation, including among nurses, psychologists and other professions.

Conclusions: A shared competency framework may assist in further integration of psychosocial oncology guidelines within current models of oncology care.

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Pediatric head brain tumors: the aims and the targets of the psychological supportive care and rehabilitation

Yulia Malova

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Background: There are numerous undesirable consequences of pediatric head brain tumors. The follow-up study of the brain functioning, the counseling in the field of education as well as psychological support in both – surviving children and their families – should be provided. The family functioning during and between the courses of pediatric head brain tumors needs the special study and supportive care.

Method: Forty children with the head brain tumors in the age 6–12 y.o. and their mothers were tested during the treatment course in Russian Scientific Center of Radiology. In children, we tested verbal memory and visual-spatial functions and evaluated their learning abilities. Also, we analysed the behavioral patterns of the high anxiety scores. In parents, we considered their evaluation of the children's learning abilities and predisposition towards children's involvement into systematic learning. Also, the level of anxiety was defined in parents.

Results: There is evidence of positive correlation ($p < 0,05$) between parents' level of anxiety and behavioral patterns of anxiety in children. The parents' evaluation of children's learning abilities and parents' predisposition towards children's learning have no correlation with the children's scores of verbal memory, but have got negative correlation with the parent's anxiety.

Two to three sessions of supportive psychotherapy (imago-relaxation) for parents benefit in the better adjustment in children, such as increase of appetite, more motivation to play games and communicate.

Conclusions: Psychological care in pediatric oncology should be more focused on the psychological support in mothers of the survivors.

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The implementation and evaluation of the effectiveness of the Chronic Disease Self-Management Programme on physical and psychological well-being in a group of female adult breast cancer patients

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Background: Cancer as a chronic illness makes new demands on cancer survivors as they learn to manage the side effects of their diagnosis and treatment. As relatively little is known about self-management in cancer survivorship, this study set out to evaluate the impact of the Chronic Disease Self-Management Programme (CDSMP; Lorig et al., 1999) on physical and psychological well-being in a group of female breast cancer patients, following their primary treatment.

Methods: Patients diagnosed with breast cancer ($n = 40$) who had completed primary treatment for early stage breast cancer were systematically assigned (2:1 ratio) to an Intervention or Comparison group. The primary outcome measure of distress (PHQ-8) was

assessed at three different time points: (i) pre-intervention, (ii) post-intervention delivery, and (iii) 4-weeks follow up. The secondary outcomes of fatigue and self-efficacy (measured with CDSMP subscales) and distress (measured with the DT) were assessed in the Intervention Group only at pre and post-intervention.

Results: There was no significant interaction between the Time and Group using the PHQ-8 for distress [$F(2) = 3.454, p = 0.640$, partial eta squared = 0.018]. A significant reduction in distress using the DT [$X^2(2, n = 17) = 10.48, p < .05$] and a significant improvement in self-efficacy [$t(21) = -2.35, p \leq .05$ (two-tailed)] but not in fatigue post-intervention delivery was also found.

Conclusions: Participation in the CDSMP for women following treatment for breast cancer indicated some improvements in distress and self-efficacy. A large RCT study is required to support this finding.

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Title Exploring Cancer Information Service Nurse's experience of Implementing Distress Screening on callers to the National Cancer Helpline

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Background/Purpose: The Cancer Information Service Nurses (CIS) of the Irish National Cancer Helpline are in the important position of delivering universal psychosocial care to callers impacted by a cancer diagnosis but do not use standardized assessment tools.

The purpose of this research is to evaluate the acceptability of the Distress Screening Thermometer (DST) to CIS nurses to ascertain callers' level of distress.

Methods: CIS nurses were trained to use and implement the DST. The nurse's recorded their experience. CIS nurses were asked to complete a questionnaire regarding their experience of utilizing the DST.

Results: CIS nurses valued DST as an effective screening tool for distress screening.

Conclusions: Their role in the provision of psychosocial care was supported by the evidence of the level of distress of callers. Previously, there was no data to demonstrate the acuity of distress of the enquirers

Research Implications: The main concern raised was the availability of Psychooncology support services for distressed callers. This creates future opportunity for research.

Practice implications: CIS Nurses agreed that DST is an acceptable tool and enhances the quality of the service. Nurses also suggested more training to help them navigate those psychological issues that emerge in the calls.

Acknowledgement of funding: No funding was provided.

Learning Objective: The CIS will be able to gather quantitative information regarding distress levels of callers to the service. Helpline nurses will be able to explore the enquirer's level of distress and provide a standardized level of psychosocial support and referral to onward services

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Mantra Chanting: 45 Th Shloka which states it is cure for incurable disease of Jain Bhaktamar (Bhakt= Devotee, Amar= Immortal) an effective tool to prevent double mastectomy in Breast cancer patients

Sonia Jain | Dr. Manju Jain*

Background: Mastectomy is routinely found effective in breast cancer patients; however, A study at Brigham and Women's hospital in Boston, USA, studied 500,000 breast cancer patients for 8 and a half years and that there had been no change in survival rates when women surgically have their breast removed as a preventive measure, published in annals of surgery posted in News-Health Mastectomy, United Kingdom. Health care providers are to counsel women with potential risk of CPM on prolonged recovery time, increased risk of operative complications, cost and the possible need for repeated surgery. Dr. Golshan states that understanding women anxiety and ensuring peace of mind may create opportunities for drugless therapy.

Purpose: Rationale-Mantra Chanting on terminally ill cancer patients showed improvement +14 in quality of life of these patients (Poster Presentation at APOS 2015 Washington D.C); therefore, we wanted to study the feasibility of 45th Shloka of Bhaktamar mantra chanting in breast cancer patients to prevent double mastectomy.

Method: All diagnosed (initial stage or 1st stage) breast cancer patients underwent single mastectomy at Central India Cancer Research Institute (100 patients +400 patients at RAJEEV Gandhi Cancer institute Delhi under Dr. Geeta) during the period from September 2015 to August 2016.

They will be administered EORTC QLQ-C30 questionnaire for assessing their quality of life. They will be advised to chant 45th Shloka for 9 times and its mantra 108 times everyday for 21 days.

Implications: Those patients who cannot chant can listen to audios available on YouTube.

Assessment: The same EORTC questionnaire will be readministered after 21 days of mantra chanting. Effect assessment improvement in quality of life.

Results: The results are being awaited as data collection and analysis is to be done in the month of September 2016.

Conclusion: It is expected that the positive approach through mantra chanting will reduce anxiety and tension in breast cancer patients, thereby enhancing the effects of the prescribed treatment.

Significance and Relevance: This is a preventive medicine strategy when other treatment modalities like double mastectomy are not much useful in improving survival of these breast cancer patients.

Recommendation: This study should be replicated in a larger setting so that the 6th element i.e. spirituality can be spread to general public; it is cost free and its side effect is tranquillity.

541 Coping strategies in patients with hematological malignancies

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Background: Coping strategies largely determine patient's attitude to disease, its prognosis and outcome of treatment.

Material and methods: The study involved 102 patients with various hematological malignancies. Statistical analysis of the survey results was carried out using a licensed program "Statistic for Windows 5.5".

Results: The study of coping strategies in patients with different forms of hematological malignancies was provided. The first phase of the study used the adapted version of the "Mental Adjustment to Cancer" questionnaire. As an outcome of statistical processing of the study results was highlighted, five factors were later determined as coping strategies. Among these were the struggle, optimism, denial, avoidance, helplessness/fatalism.

At the second stage of the study of coping strategies, analysis was conducted in patients with some specific forms of hematological malignancies. So in AML the dominant coping strategy was "a struggle" ($p < 0.02$), in CML it was the absence of "the struggle" ($p < 0.03$), with HD it was the absence of "avoidance" ($p < 0.01$), in AML it was the absence of "optimism" ($p < 0.01$), and with AA it was (<0.01) the absence of "optimism" too.

Conclusions: In the types of active coping pole recommended expository work to modify incorrect from a medical point of view of the representations of the disease, destruction of the exaggerated view of the possibility of independent control of the symptoms of the disease. In the types of passive coping pole recommended expository work for modification catastrophic representation of disease, with attempts to form active patient position with participation in the treatment process.

542 Cancer survivorship for Palestinian women- what it means to them and their families and how a local NGO can positively impact their care

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Background: Stigma is associated with a cancer diagnosis in Palestine. Cancer is not a well-understood disease, so most people associate it with death; in fact, at least 60–70% of all patients with cancer present with late stage disease. Patients can usually access routine diagnostics and treatments but psychosocial support in resource-poor Palestine is sadly lacking.

Methods: In 2000, we established a programme to offer women diagnosed with cancer group support. It was a first in Palestine. Our NGO facilitates meetings and activities and provides care. In 2011, we expanded our services and opened another branch in the largest populated city in the country. Through community-based health education, leaflets, communications, and social media, we have been able to attract women from the age of 30–75 years to join.

Results: The support group is a successful model of care. More than 100 women have signed up for counseling, information, advice, treatment or just to attend social gatherings. In addition, our organization is a member of Reach to Recovery International where survivors are trained in peer support. This is an important development in communities where people are afraid or reluctant to even mention the word 'cancer'. Trained survivors are empowered and make great inroads in breaking down barriers such as confusion and fear. We also provide support for patient's families who are often overlooked or neglected.

Conclusions: Education, training and psycho-social support are key to break down barriers.

545 Gender Differences: Quality of Life (QL), Social Support (SS) and Global Health (GH) in Cancer Patients in Treatment for Pain

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Background: The objective is to know whether cancer patients in treatment for pain perceive QL, SS, GH differently by gender.

Methods: This is a cross-sectional, prospective, non-blind study. Subjects were outpatients of different types of cancer with pain.

Instruments: Social Support Questionnaire (SSQ), Functional Assessment of Cancer Therapy - General (FACT-G) and European Organization for Research and Treatment of Cancer - Quality of Life Questionnaire (EORTC-QLQ30).

Results: There were 122 women and 28 men, from 20 to 80 years old (mean 58 SD \pm 14.56). Women showed a higher correlation between QL and SS ($r = .650$) and a low one with the quantity of caregivers ($r = .278$); QL was also correlated with fatigue ($r = .618$), physical function ($r = .735$), health ($r = .660$), social and emotional function ($r = .646$, $.553$), nausea and vomit ($r = .634$), and, in a lower degree, salary ($r = .275$). Women had a higher correlation in physical functionality with role function and fatigue ($r = .813$ and $.741$). In men, correlations with QL were found with social function, age and salary ($r = .643$, $.608$ and $.485$), and with GH and fatigue ($r = .798$). In both genders,

perceived health is associated with SS ($r = .648$), and QL with social and emotional function ($r = .642$ and $.649$). Although males reported fewer caregivers (mean 2.53 vs 3.32), showed more satisfaction (79.81 vs 77.73) with SS.

Conclusions: Palliative care workers should take these differences in the interest of the well-being of the patients and their families.

546 Perceived Quality of Life (QL), Support Network and Cancer Pain.

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Aim: To know whether quality of life (QL) is associated with social support perception and quality, the number of caregivers or different symptoms in patients with chronic cancer pain.

Methods: Descriptive, observational, cross-sectional, prospective, non-blind study in patients with various types of cancer associated with chronic pain at an outpatient Pain Clinic at the Oncology Service of a general hospital. Subjects completed a semi-structured interview including: Sarason Social Support Questionnaire (SSQ), Functional Assessment of Cancer Therapy - General (FACT-G) and European Organization for Research and Treatment of Cancer - Quality of Life Questionnaire (EORTC-QLQ30).

Results: The social support satisfaction index had a high linear correlation ($r = .640$) with the QL index, whereas the number of caregivers showed a low correlation with QL ($r = .278$). The QL index had a high negative linear correlation ($r = -.618$) with the fatigue index, the most frequent symptom with the higher correlations with variables such as physical function ($r = -.735$), role function ($r = -.728$), overall health status ($r = -.660$), social function ($r = -.646$), nausea and vomit ($r = -.634$) and emotional function ($r = -.553$). Pain was correlated with all variables except the cognitive index.

Conclusions: The perceived social support satisfaction is a factor associated with QL; nevertheless, the number of caregivers is not. There was no relationship between the size of the network and the satisfaction with it. Symptoms affect QL, identity, and social and role functionality.

547 Psychosocial Issues among Gestacional Breast Cancer Patients: An Exploratory Study

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Background/Purpose: Cancer during pregnancy can present complex and traumatic concerns. Little research has explored the impact of these two major life-changing events. We sought to explore the experience of gestational breast cancer patients (GBCP) and identify unique challenges GBCP are facing, compared to not pregnant breast cancer patients (BCP).

Methods: A cohort study compared data from GBCP ($n = 6$) and BCP ($n = 46$), undergoing the same treatment at a Brazilian public hospital. Measures included the DT, HADS and FACT-G. GBCP also completed a semistructured interview.

Results: GBCP reported lower levels of distress, anxiety/depression and better QoL than BCP. The content analyses revealed that GBCP discovered their pregnancy weeks after their diagnosis. Fears were related to risk of miscarriage or potential harm of treatment to the unborn baby. Ultrasonography helped to monitor baby's health and to lessen anxiety. After the first chemotherapy infusion, 83.3% turned their focus to their baby. One patient reported increased distress associated with smoking cessation efforts. Other preferred to minimize social contact and avoided celebrations until their baby's healthy birth. Health care providers were essential and helped them to address issues regarding baby's health and well-being.

Conclusions: Unexpectedly, our preliminary findings suggest that GBCP experience less psychological turmoil than BC. It is possible that pregnancy provides a sense of meaning and a broader perspective for women diagnosed with cancer, possibly through the focus given to ensuring the health of their unborn child. Future studies should explore the long-term impact of GBCP.

548 Through the balance of cancer survivorship: a review of "cancer survivor" definitions

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Purpose: The term "cancer survivor" still lacks unanimous definition, although it is commonly used by different people, clinical institutions and academic bodies. Our aim was to conduct a systematic review of published definitions of "cancer survivor".

Methods: Utilizing a systematic search strategy with different occurrences of “cancer survivor” term, we probed the following databases: Medline (June 1975–June 2015), Scopus (all the years), Web of Science (all years), Google Scholar (all the years), and ERIC (all the years).

Results: Although the most widely used definition sees cancer survivorship as a process that begins at the moment of diagnosis and continues through the balance of life, there is no consensus about who is a “cancer survivor.” Both the care providers and patients do not have a shared definition because everyone gives a definition based on personal life experience. Consequently, the definition varies among countries and in each of them there are people who prefer to split the fight against cancer in different periods, each with its own name, and who, instead, see illness experience as a continuous process. This definition highlights patient's psychological and legal needs, as well as medical ones, to receive care and assistance from the beginning, and it establishes valid criteria for making scientific and statistical sampling research.

Conclusions: This compendium of proposed definitions may invite a reflection about establishment of a shared definition that could satisfy both clinical and research aspects and may improve communication among patients and patient's organizations.

549 Coping With Cancer - A Support Session

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Coping with Cancer - A Support Session

Background/Purpose: Following an initial pilot phase (June–November '13) the Coping with Cancer support session has been run in the Mater Hospital from January 2014 to date. The session is aimed at patients who are commencing treatment following a cancer diagnosis. It looks at the emotional and practical impact of diagnosis, ways of coping, support systems, the importance of communication and strategies to deal with the inherent uncertainty that patients face. The aim of the session is to empower patients at the beginning of their treatment, helping them to identify the coping skills and supports they already possess that will help them through their cancer journey.

Methods: Referrals are received from the clinical nurse specialist's. Once a referral is received, patients are then invited via letter and a follow-up phone call to the next monthly session being run.

Results: The feedback from patient's following the session has been very positive. Patients have advised that they have found the session ‘very helpful’, ‘a great support’ and ‘very informative’. The number of patients attending the session increased by 62% from 2014 to 2015, and the number of relative attendees increased by 79% during the same period.

Conclusions: Group has been felt by the facilitators to be a successful and sustainable project. As the group has become more established, the number of referrals to the group has increased.

550 Factors related to posttraumatic stress symptoms and quality of life of children when a parent has cancer

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Background: Cancer has a profound effect on patients and their family members. Children, for example, are at a greater risk of internalizing problems when a parent is diagnosed with cancer compared with reference groups. From the viewpoint of holistic care of cancer patients, the psychosocial health of such children should also be taken into account. This study investigated factors related to the quality of life (QOL) of such children. We also examined the agreement between parents and their children of ratings of children's QOL.

Methods: Cancer patients with children <18 years were recruited from four cancer care hospitals in Japan. In total, 76 patients (73 females; mean age = 43.55 years; SD = 4.09) and 115 children (69 females; mean age = 11.25 years; SD = 3.25) completed a questionnaire.

Results: Stepwise multiple regression analyses revealed that parental posttraumatic stress symptoms due to cancer diagnosis, parental perceptions of spousal support, marital status, employment status, and children's gender are significantly associated with children's QOL. Additionally, intraclass correlation coefficients were calculated to assess the agreement between parents and children of ratings of children's QOL. Of the four QOL subscales, physical and emotional QOL showed low agreement.

Conclusions: In order to achieve holistic care of cancer patients and their children, psychological, emotional, and economic support for parents with cancer is crucial. Additionally, medical staff need to collaborate to more accurately assess children's QOL, since parental evaluations of children's QOL are likely to mismatch children's own ratings, especially regarding physical and psychological conditions.

551 Usability testing of an online symptom report and management system in radical prostate radiotherapy (RT) patients: preliminary findings of the eRAPID RT programme

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Background/Purpose: Prostate cancer patients with localised disease have a good prognosis but experience acute and long-term effects of radiotherapy (up to 20% gastrointestinal problems, and 30–45% post-radiotherapy sexual dysfunction). The true extent is undoubtedly underestimated, as adverse events (AE) are rarely systematically recorded and under-reported in clinician assessments. We have proposed a feasible cost-effective model allowing remote measurement of radiotherapy AE. eRAPID is a web-based electronic patient reporting system including severity linked notifications/self-management advice (an RCT assessing feasibility in systemic therapy is underway). An eRAPID system for patients undergoing pelvic radiotherapy is being developed in St James's Institute of Oncology, Leeds and the Christie Hospital, Manchester.

Methods: N = 10 prostate cancer patients completed weekly online symptom reports (or when unwell) via eRAPID during radical radiotherapy. To assess usability and engagement with eRAPID, patients completed the System Usability Scale and took part in an end-of-study audio-recorded interview.

Results: Patients were recruited over a 6-week period (Mean age 70 range 63–84), and compliance for weekly completion was 100%. All patients 'strongly agreed' that the system was easy to use and 90% patients 'agreed or strongly agreed' they had confidence in using the system. In interviews, patients described eRAPID to be 'a reassuring tool' giving them 'peace of mind'.

Conclusions: Patients found the system easy to use and a beneficial adjunct to usual care despite daily visits to the RT department. A multi-site randomised pilot study is planned with 168 prostate, gynaecological, anal and rectal patients in Leeds and Manchester.

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Acute and late adverse events associated with radical prostate cancer treatment: A systematic review of clinician and patient toxicity reporting in randomised controlled trials (RCT).

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Background: Curative radiotherapy for non-metastatic prostate cancer involves balancing radiotherapy regimens and concomitant treatments against adverse event (AE) risk. In clinical practice, AEs are rarely systematically recorded. Information technology allows remote follow-up using patient-reported outcomes (PROs). A comprehensive questionnaire for electronic self-reporting is essential for patient engagement and safety. This review aimed to determine the clinician and PRO instruments currently used in RCT to report acute and late AEs; to review the methodological quality of PRO reporting; and to report the prevalence of acute and late AEs.

Methods: MEDLINE, EMBASE and COCHRANE databases were searched (April–August 2014) according to the Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) statement. Identified reports were reviewed according to the PRO Consolidated Standards of Reporting Trials (CONSORT) guidelines and the COCHRANE Risk of Bias tool. A total of 1149 records were screened and 21 papers included PROSPERO registration-CRD42014009223.

Results: We determined the acute and late AE for 9,040 patients enrolled in 15 different RCTs. Only clinician-reported instruments were used to report acute AE < 3 months (e.g. RTOG & CTCAE). For late clinician reporting, LENT-SOMA & RTOG were used and often augmented with additional items to provide comprehensive coverage of sexual functioning and anorectal symptoms. Some late AE were reported (48% papers) using PROs (ULCA-PCI, FACT-G & P, EORTC QLQC-30 +PR25) although a 'preferred' instrument was not evident.

Conclusion: Patient reporting of acute and late AEs is under-represented in radiotherapy trials. We recommend working towards a consistent approach to PRO assessment of radiotherapy related AEs.

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Prevalence and predictors of fear of cancer recurrence 7–9 years post-surgery in a nationwide cohort of women treated for early stage breast cancer

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Background: Most studies of determinants of fear of cancer recurrence (FCR) are cross-sectional, include small sample sizes or have short follow-up periods. The present study aims to identify prevalence and predictors of FCR in a prospective nationwide cohort of breast cancer survivors at 7–9 years post-surgery.

Methods: Data were collected from 1,890 disease-free Danish breast cancer survivors aged 18–70 yrs. The primary outcome was the

validated CARQ-3 completed at 7–9 years post-surgery. Clinical data were obtained from the Danish Breast Cancer Cooperative Group and surgical departments. Socio-demographic information and psychiatric history were obtained from national registries. Questionnaires including psychosocial measures were completed at 3 months post-surgery. Hierarchical multiple linear regression analysis was used to identify determinants of FCR with socio-demographic, clinical, health-related, and psychological variables as predictors.

Results: Seven to 9 years post-surgery, 191 (24.3%) premenopausal ($n = 784$) and 193 (17.5%) post-menopausal ($n = 1106$) women had CARQ-3 scores (≥ 10) indicating high FCR. In pre-menopausal women, cancer-related post-traumatic stress symptoms (IES) ($\beta = .29$, $p < .001$), number of cigarettes smoked ($\beta = .10$, $p = .005$), depressive symptoms ($\beta = .10$, $p = .014$), and younger age ($\beta = -.08$, $p = .016$) were significant predictors of higher FCR. For post-menopausal women, IES ($\beta = .33$, $p < .001$) and trait anxiety ($\beta = .14$, $p = .001$) were significant predictors of FCR 7–9 years post-surgery.

Conclusions: Approximately 1 in 5 disease-free women had CARQ-3 scores indicating high FCR at 7–9 years post-surgery. Results support cognitive behavioural models of FCR and help identify vulnerable sub-groups who may benefit from new evidence-based interventions for FCR.

555 It's not that bad, is it? Cancer-specific burden in older persons in Luxembourg

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Background/Purpose: The majority of cancer patients in Luxembourg are 65 years or older. However, little is known about the psychosocial situation in this large and growing population. The present study aims to explore cancer-specific burdens and to identify unmet needs in older cancer patients.

Methods: Data from wave 5 of the Survey of Health, Ageing and Retirement in Europe (SHARE) were analysed. Out of the Luxembourgish population aged 65 or older ($N = 697$), subsamples of persons reporting a cancer diagnosis ($n = 44$), a heart attack ($n = 46$) or no medical diagnosis ($n = 51$) at age 65 or above were compared using parametric and non-parametric tests. Outcome measures included self-reported indicators of physical, mental, and cognitive health, utilization of health services, as well as social, financial, and personal resources (e.g. spirituality or leisure activities).

Results: No differences were found between both patient groups. Both patient groups reported significantly higher burden in most indicators of physical health, more frequent utilization of health services, and more depressive symptoms than healthy persons. The three groups did not differ in reported life satisfaction, cognitive health, social support, and financial and personal resources.

Conclusions: The situation of older persons with different health status did not differ regarding life satisfaction and resources. Chronic disease in old age was related to increased physical burden and depressive symptoms. However, we did not find any indicators of cancer-

specific burden in old age. Findings are discussed with respect to disease-specific and general indicators of burden and distress and their implication for psychosocial interventions.

556 Validation of the Dutch version of the Fear of Cancer Recurrence Inventory

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Purpose/Background: Fear of cancer recurrence (FCR) is one of the most prominent psychosocial concerns of cancer survivors. The Fear of Cancer Recurrence Inventory (FCRI) is a multi-dimensional measure of FCR empirically validated in French and English. The aim of the present study was to validate the Dutch version of the FCRI.

Methods: The FCRI was translated using a standardized forward-backward procedure. A sample of 913 prostate ($n = 252$), breast ($n = 412$), and colorectal ($n = 196$) cancer survivors and sarcoma patients with gastro-intestinal stromal tumors ($n = 53$) completed the FCRI. Confirmatory factor analysis (CFA) was performed to evaluate the 7-factor structure of the FCRI. Cronbach's alpha was calculated to assess internal consistency reliability. Hypotheses on the direction and magnitude of Pearson's correlations with psychological and physical outcome measures were formulated and tested to examine convergent validity, based on previous validation studies.

Results: The seven-factor structure of the FCRI was supported ($\chi^2(798) = 4943.35$ ($p < 0.001$), CFI = 0.95, TLI = 0.94 and RMSEA = 0.075). The Dutch version of the FCRI had high internal consistency ($\alpha = 0.83$ for the total scale and 0.71–0.78 for the subscales). Overall construct validity was supported by convergent validity ($r = 0.79$), concurrent validity ($r = 0.38$ –0.65) and divergent validity ($r = -0.38$ –0.33), confirming study hypotheses.

Conclusions: The Dutch version of the FCRI is a valid and reliable measure of FCR suitable for use in Dutch-speaking cancer survivors of various cancer types. Its multi-dimensional nature makes it a useful research instrument and use of the Dutch FCRI in clinical settings will enhance our understanding of FCR.

557 Cancer's Experience in Children and Teenagers through the Use of Art

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The verbal expression of the experience of cancer on children and teenagers is not easy. Art could be used as an evaluation tool that uses images to facilitate the communication in therapeutic settings. The purpose of this qualitative study was to understand the experience of disease in children and teenagers with cancer through the use of art. The needs, experiences and the interaction mechanisms of 15 patients (6–17 years) diagnosed with cancer were identified and assessed through projective tests (the human figure drawing and the family drawing test) together with the use of art as an assessment tool. A total of 52 artistic productions and the reports of each patient about the meaning of the artwork were analyzed using the Atlas.ti software.

Results: Needs: need for control, need for protection of the external environment, need to be strong, need for leisure, need to follow the treatment, need for a united family, need to be close of a parental figure, need to be with family, need for resuming their life, desire to be with friends and to achieve their goals in life. Experience was associated to: a threatening situation, emotional and physical pain, anxiety sadness, wishes for recovery, awareness about illness, sense of lost, hospitalization and painful medical procedures rejection, side effects, physical symptoms of the disease, health evaluation outcomes, positive and warm relationship with healthcare personnel. Interaction Mechanisms: Avoiding, Break-ups, Defensive and Coping. This study showed how using art could help children to express and process their cancer's experiences.

558 Drawing as an Evaluation Tool in Children and Teenagers with Cancer

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Cancer is a complex disease where it is not often easy to identify its impact in the lives of young patients since they do not tend to verbally express themselves. The use of drawing as a tool for therapeutic evaluation may allow a better understanding of the worrying issues associated to the disease. This study aimed to examine the children/teenagers thematic drawings and the psychological indicators present on these drawings. The drawings were sorted in categories on the basis of content and the psychological characteristics showed through them. Participants included 15 patients ages 6 to 17 years, at Hospital de Especialidades Pediatricas, Maracaibo, Venezuela. A qualitative method applying The Human Figure drawing test and the Family drawing test was used. A total of 25 drawings and the children/teenagers verbal discussion about their drawings were analyzed using the Atlas.ti software. A total of 95 emotional indicators were established based on specific characteristics showed on the drawings. The emotional indicators that showed the highest incidence were associated with aggression, threat feeling, corporal sensibility, impulsivity, sadness, immaturity, insecurity and social defensive contact. The children/teenagers thematic were related to family union, parents as a protection figures, desires to be with family, needs for leisure,

healing need and needs for achieving life goals. Drawing could be a useful evaluation tool in three ways: 1) by itself as an expression of patient inner world, 2) to promote the spontaneous conversation regarding the cancer disease and 3) as a "facilitator tool" during the psychotherapeutic interview.

559 Symptom Severity and Fear of Cancer Recurrence in Post-operative Gastric Cancer Patients

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Background: Most of patients are under psychological stress because of numerous of gastrointestinal symptoms after surgery and high rate of gastric cancer recurrence.

Purpose: The aim of this study was to explore the relationships of symptom severity and fear of cancer recurrence (FCR) in post-operative gastric cancer patients.

Method: This cross-sectional study recruited 78 post-operative gastric cancer patients at Surgical Outpatient Center in Northern Taiwan. The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Stomach (EORTC QLQ-STO22) and 7-item Fear of Recurrence questionnaire (7-item FOR questionnaire, range: 7–35) were applied in the research.

Results: The results showed that 82.1% of the participants had FCR and the average score was 13.9 (SD = 6.2). The patients were female, lower education level, employment, with total gastrectomy and the reconstruction of Roux-en-Y, and treatment combine with chemotherapy had higher FCR total score but had no statistically significant difference. The FCR total score was significantly related to the age ($p < 0.05$), cancer stage ($p < 0.05$) and symptom severity ($p < 0.01$). Our result suggested that after control age and cancer stage, symptom severity accounted for 28% of the variance for FCR after surgery in gastric cancer patients.

Conclusion: More than half of gastric cancer patients still suffered from FCR especially when the patients had more gastrointestinal symptoms after surgery. Psychological interventions and symptom management might be required and more effective to post-operative gastric cancer patients to reduce FCR and symptom severity in future study.

Keywords: Gastric cancer, Symptom Severity, Fear of Recurrence

560 Psychiatric consultation and management as part of standard care for women at increased risk of hereditary breast cancer considering prophylactic mastectomy

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It has been recommended that women at genetic risk of breast cancer and who are considering risk-reducing surgery have access to specialist psychological assessment and treatment as part of their standard care. So far, little has been published about this aspect of care.

The Familial Cancer Centre (FCC) at the Peter MacCallum Cancer Centre is an Australian tertiary referral hospital and has developed a specialised supportive care service. The service provides both routine psychiatric consultations for women considering risk-reducing surgery as well as more intensive psychological support to patients who are experiencing difficulty following a diagnosis of a hereditary cancer syndrome.

All women were seen by a psychiatrist either during or after their genetic counselling and/or in the pre and post-operative period.

A retrospective audit of 160 patients who attended the service at the FCC between January 2012 and June 2016 is being undertaken. This audit will examine the type of referrals and patient demographics including psychiatric diagnoses or psychiatric treatment.

Patient notes and consultation summaries will be used to identify common themes addressed for patients accessing routine SCC consultations following the diagnosis of a hereditary cancer condition. This data will help build our understanding of the short- and long-term psychological, physical and social impacts of living with a hereditary cancer syndrome and/or risk reducing surgery itself. In addition, examining psychiatric consultations may provide us with a greater understanding of the personal impact a hereditary cancer syndrome has on the woman's family and wider social sphere.

561 Wellbeing and quality of life improvement in female cancer patients

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Background/Purpose: "Health in the Mirror" is a psychosocial program for cancer patients, whose aim is to improve overall wellbeing and quality of life. Its focus is the realization of group sessions during which a team of aesthetic consultants illustrate strategies to manage the side effects of the disease and its treatment (alopecia, pale skin tone...). After the "beauty treatment," patients are involved in groups led by psychologists, as the program is considered to be part of a wider psychological supportive care.

Methods: Thus far, 58 patients undergoing chemotherapy (plus radiotherapy and/or surgery) at San Raffaele Hospital (Milan, Italy) have participated in the program. The following questionnaires were administered before participation (t0), during the last session (t1) and three months after the program (t2): EORTC QLQ-C30, State-Trait

Anxiety Inventory-Y Form, Beck Depression Inventory-II, Body Image Scale, Rosenberg Self-Esteem Scale.

Results: Patients showed a significant reduction in depression ($p < .01$) and anxiety, and a significant improvement in body image ($p < .01$) both at t1 and t2. The results also indicated a significant improvement in quality of life and self-esteem ($p < .05$) at t2. Relapse determines a deterioration ($p < .05$) in all variables, except anxiety. Furthermore, an improvement in all psychological variables occurred, irrespective of a worsening or an improvement in the disease condition at the three-month follow-up.

Conclusion: This study confirms that participating in this program helps to improve patients' psychological wellbeing. This suggests the importance of implementing psychosocial support interventions alongside conventional therapies, to promote patients' adaptation.

566 What Now? Life after Treatment – a peer group intervention for patients making the transition to survivorship

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Background: Distress following completion of cancer treatment is common. Patients struggle with adjustment and feelings of isolation. A group programme was developed that aimed to reduce psychological distress and normalise responses through peer support and psycho-education.

Method: A closed group programme of 2-hour sessions for six weeks was offered to cancer patients who had completed treatment within the previous six months. Recruitment was through self-referral following publicity around the hospital. A collaborative agenda included sexuality, relationships, stress and fatigue. Sessions were facilitated by a counsellor, mental health nurse and OT with guest speakers. The Hospital Anxiety and Depression Scale (HADS) was administered at weeks 1 and 6 with follow-up between 3 and 16 months later. A qualitative questionnaire was completed at week 6.

Results: Four groups over a 13-month period were attended by a total of 26 participants. Nineteen participants completed all six weeks. Group mean HADS scores (cut off 8) for anxiety were 9.1 pre and 7.1 post (22% reduction) and for depression 8.4 pre and 6.2 post (26% reduction). Scores were maintained on follow-up for completed questionnaires with a response rate of 33%. The overarching qualitative themes were that patients valued peer support and that psycho-educational topics generated more discussion and opportunity for group cohesion.

Conclusions: Results indicate that a peer group intervention using psycho-education was beneficial in reducing symptoms of anxiety and depression. A more detailed thematic analysis is planned to identify the most helpful elements of the programme. Future programmes will address follow-up response rate.

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Defining the Value of Psychiatric Care

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Background/Purpose: The value of psychosocial services for cancer care patients is unknown for an integrated, multidisciplinary delivery model of care.

Methods: In a phased approach, a literature review of psychosocial cancer care standard of practice and institutional policies was conducted to summarize the use of distress tools and screening processes. Then, a retrospective study of patients with psychosocial distress who did or did not receive psychiatric services from 2014 to 2015 was analyzed. The patients' total costs and charges, distress scores, tumor site characteristics, and cost drivers (emergency room visits, in-patient length of stay, etc.) were included in the analysis.

Results: Phase I resulted in development of a conceptual framework for gaps and barriers to treatment and their impact on sustaining value-based care for our targeted stakeholders. Phase II resulted in descriptive statistics and regression analysis of distressed patients. Preliminary findings found that patients who received psychiatric services (N = 362) had a statistically significant improvement in distress scores from first to last screening, using a Wilcoxon Sign Rank Test ($p = 0.01$). Therefore, psychiatry services were associated with improving psychosocial distress. Based on a linear regression of cost and charges on tumor characteristics and cost drivers, we found that length of inpatient stay ($p = 0.004$), vital status ($P < 0.001$), gender ($p = 0.01$), and tumor type ($p = 0.02$) were statistically significant. Further analysis will be conducted assessing the value of psychosocial cancer care delivery.

Conclusions: The conceptual framework supports the need for developing a value-based integrated mental health services model for comprehensive cancer centers.

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Evaluation of a Sustainable Intervention using Exercise - for Cancer Fatigue (ESIE-CF Trial)

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Background: Cancer-related fatigue (CRF) is the most debilitating and persistent side effect reported among cancer survivors. The purpose of this pilot study was to develop and evaluate a sustainable semi-supervised exercise training programme to reduce CRF in survivors with documented fatigue and compare changes to those of a health education comparison group.

Method: In this first recruitment phase of this ongoing study 14 post-treatment breast cancer survivors with documented fatigue were randomly assigned to an exercise (N = 7) or health education (N = 7) group. Exercisers met twice weekly for the first 5 weeks reducing to once per week for the remaining weeks enabling sustainability of exercise on intervention completion. Classes were one-hour sessions including brisk walking, circuits, flexibility and mobility. The health education group met once per week for 10 weeks. One-hour sessions focused on strategies other than exercise to manage fatigue. The primary outcome fatigue was assessed using the FACT-F Scale.

Results: Fatigue significantly reduced in the exercise group ($p < 0.05$) but not in the health education group ($p = 0.037$ for group by time interaction). There were also increases in moderate to vigorous physical activity, 6-min walk test distance, sit and reach and 30-sec sit to stand scores in the exercise group relative to the health education group ($p < 0.05$ for interaction). There was a 100% retention rate and no adverse events reported in either group.

Conclusion: Preliminary results suggest that exercise has beneficial effects on CRF and physical fitness in survivors with documented fatigue, compared to a non-exercise health education intervention.

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The Psychosocial Impact of Donating Haematopoietic Stem Cells on Adult Sibling Donors

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Background/Purpose: Investigation into the psychosocial impact of donating haematopoietic stem cells (HSCs) for adult sibling donors is limited. Clinical experience suggests a wide range of psychosocial complications. The nature and extent of these complications is largely dependent on the recipient's outcomes, the donor's psychological characteristics and influenced by the pragmatic aspects of donation. While World Marrow Donor Association Standards ensure consistency in the assessment and care of unrelated donors, no such criteria exist for sibling donors. This study aims to provide the evidence needed to inform ways to protect sibling donor satisfaction and potential psychosocial harm.

Methods: Participants are adults undergoing HSC donation for a sibling recipient at the RBWH and Westmead Hospital, Sydney. Donors will provide 3 samples of saliva (as a biomarker of psychological stress) and complete 3 interviews: (1) 2 weeks pre-stem cell collection; (2) 24 hrs post-stem cell collection and; (3) 30 days post-stem cell collection. An interview with BMT Coordinators will explore the aspects of psychosocial care that they provide and the systems and processes in place to respond to donor distress.

Results: Based on previous research on adult kidney donors and related paediatric HSC donors, we hypothesize that

- Donor ambivalence correlates with post-donation reactions
- Recipient health, donor psychological factors and pragmatic aspects of donation (e.g. perceived adequacy of preparation/emotional support) correlate with post-donation reactions.

Conclusions: The results will provide the evidence needed to inform the development of an interactive website platform that seeks to facilitate the mental preparation and expectations of sibling donors.

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Exercise and partner characteristic preferences of participants enrolled in an exercise partner matching website for women cancer survivors

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Background/Purpose: Physical activity (PA) is associated with improved psychological and physical well-being. Yet, as many as 90% of cancer survivors report not being active enough in order to gain health benefits. Specifically, women cancer survivors often report not having an exercise partner as a salient barrier to PA. As a result, an online exercise partner matching service for women cancer survivors was developed (www.activematch.ca). The purpose of this study was to identify the preferences of the women cancer survivors who are currently activematch.

Methods: Women cancer survivors from Toronto, Canada (N = 80) have signed up for the exercise partner matching service with interest from n = 165 women across Canada. Women completed an online profile with their PA and partner characteristic preferences. Preferences were coded and analyzed descriptively.

Results: Women were M = 47 (SD = 10) years old, mostly breast cancer survivors (70%), had completed treatment (35%), were currently working (35%) and Caucasian (95%). Members of the service had identified as currently being a little active (42%). Women had joined the service to lose weight (58%) and for emotional health (53%). Those using the service preferred walking over any other activity (90%), preferred exercising outdoors (53%) and in the morning (38%). Finally, they wanted one exercise partner (95%) and preferred to exercise in a small group (38%).

Conclusions: These preferences will guide further development of the service to meet the needs of its members. Additionally, these preferences can be used to inform peer-mentoring programs and other PA initiatives for women cancer survivors.

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A sexual rehabilitation programme for gynaecological cancer patients after radiation therapy: Final results of a pilot-study

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Background: Although vaginal dilator use after combined pelvic radiation therapy and brachytherapy (RT/BT) is recommended to prevent vaginal shortening and stenosis, women fail to use them and experience sexual problems. A nurse-led sexual rehabilitation programme targeting these issues was developed and pilot-tested.

Methods: Feasibility of the program was investigated among 20 gynaecological cancer patients treated with RT/BT using i) questionnaires on frequency of dilator use, sexual functioning and sexual, psychological, and relational distress; ii) semi-structured interviews; and iii) consultation recordings. Four oncology nurses were specifically trained to conduct the programme consisting of 5 consultations after RT/BT.

Results: Participants were 26–71 years old (mean = 40). Eight participants discontinued participation after 3 to 9 months. At 6 months, 14 out of 16 (88%) and at 12 months 9 out of 12 (75%) participants dilated regularly, either by having sexual intercourse or by using dilators. Sexual functioning significantly improved between 1 (mean = 9.71 ± 8.44) and 6 months (17.69 ± 8.13) after RT, with further improvement up to 12 months (23.28 ± 8.58). Sexual distress remained increased at 12 months compared to before treatment, while there was a trend that depression and relationship dissatisfaction were reduced after 12 months. Anxiety levels did not change over time. Most participants reported the programme to be helpful and the nurses reported to have sufficient expertise and skills.

Conclusions: The programme was feasible and promising for sexual rehabilitation and regular dilator use after RT. Its (cost-)effectiveness will be investigated in a randomised controlled trial.

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Developing and Validating a Theoretical Measure of Modifiable Influences on Hormonal Therapy Medication Taking Behaviour

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Background: Taking adjuvant hormonal therapy for five to ten years is recommended to prevent breast cancer recurrence. Despite the proven clinical efficacy of hormonal therapy, many women do not take their treatment as prescribed. Little is known about what influences hormonal therapy medication-taking behaviour (MTB). This study reports the development and initial validation of a questionnaire measuring modifiable influences on adjuvant hormonal therapy MTB based on the Theoretical Domains Framework (TDF).

Methods: Women with Stage I–III breast cancer (N = 223) completed the questionnaire based on the TDF. The TDF is an integrative framework consisting of 14 domains of behavioural change to inform intervention design. Questionnaire items were developed from previous research, in depth patient interviews and consultation with health professionals. Confirmatory factor analysis (CFA) was undertaken to generate the model of best fit.

Results: The final questionnaire consisted of 8 domains, and CFA produced a reasonable fit ($\chi^2 = 942$, $df = 810$, $p < 0.001$; RMSEA = 0.03; CFI = 0.93 and WRMR = 0.91) as well as internal consistency ($r = 0.16$ to 0.64). There were adequate levels of discriminant validity for the majority of the TDF domains.

Conclusions: A theoretically based measure of modifiable influences on hormonal therapy MTB was developed. Further work is necessary to confirm the reliability and validity of this measure for MTB.

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Addressing inequity in psychosocial care in London: the development of a new cancer psychological support service in South West London integrating counselling, clinical psychology and liaison psychiatry

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Background: Whilst the development of psychosocial care in the UK is well established, steps have recently been taken regionally to address inequity in access to psychological support for cancer patients. A scoping exercise from the London Cancer Alliance identified a particular lack of appropriate services in South West London.

Method: An 18-month pilot project was funded by the cancer charity, Macmillan, to set up a Psychological Support multidisciplinary team to act as a hub of psychological support services at St George's University Hospitals NHS Foundation Trust, a large NHS Trust covering South West London. The envisaged model also provides high-level support to two neighbouring trusts.

Results: Along with the successful launch of the service, clear monitoring and performance criteria have been developed for the service to be evaluated, identifying how it has 'added value' to cancer services. Key criteria have included (i) Mapping & Engagement, (ii) Service Design & Specification, (iii) Referral Management, (iv) Clinical Interventions, (v) Staff Supervision & Training, (vi) Consultation, (vii) Evaluation & Research and (viii) Needs Assessment & Business Case Development.

We have also identified opportunities for inter-professional working across our counselling, clinical psychology and liaison psychiatry resource.

Conclusions: In a financially challenged NHS, it has been possible to successfully develop a Cancer Psychological Support Team across three large NHS Trusts in London. The robust evaluation structure capitalises on the strengths of three disciplines and holds quality and clinical governance at its heart to make it as accountable as all clinical teams in cancer services.

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Use of Virtual Reality (VR) with Mindfulness to Reduce Anticipatory Chemotherapy-induced Anxiety

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Background: Chemotherapy has been found the most feared cancer treatment for patients. This is mainly due to hard side effect that may lead to anticipate anxiety. Our work is devoted to introduce a VR program that may help patients.

Methods: A convenient sample of 52 recently diagnosed cancer patients was randomly assigned to the usual program of psychological support to reduce anxiety previous to chemotherapy or to a VR program. Thirty-eight patients were assigned to RV program, which consists of the use of mindfulness and distraction techniques. Anxiety was assessed by means of HAD. This program is applied in 3 sessions. This is an ongoing study; we present the results of the treatment group.

Results: Mean age is 52 (Sd = 11); most are women (85 %) with breast cancer (53%). HAD anxiety punctuations are normally distributed so we can use parametric tests (npar-tests $p < 0,005$). It was reduced significantly ($p < 0,0005$), HAD anxiety means in every session is: 17,50, S. d. = 2,17; 16,16; S.d. = 2,16; 13,13; S.d. = 2,45.

Conclusions: This is a pilot study that yields significant results related to a VR program to reduce anticipatory anxiety related to chemotherapy. Patients may be less anxious in relation to chemotherapy using the VR program designed ad hoc for this purpose. This may lead to a better adjustment to treatment.

Research Implications: This is an e-health tool that may be usefulness to help cancer patients. It opens a very interesting area of research in Psychooncology.

581 Chemotherapy-related cognitive impairment in adults with colorectal cancer: preliminary data exploring perceived impairment in relation to fatigue, anxiety, and low mood.

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Background: Perceived cognitive impairment (PCI) is frequently reported by breast cancer patients receiving adjuvant chemotherapy and is often observed to have significant associations with fatigue, anxiety, and depression. This study focuses on the experience of PCI in colorectal cancer (CRC) patients, exploring whether there are similar links to fatigue and psychological status during treatment.

Methods: Post-surgery CRC patients due to receive adjuvant chemotherapy (n = 48) completed the FACT-Cognitive Scale, FACIT-Fatigue Scale, and the Hospital Anxiety and Depression Scale prior to starting treatment (T1) and again 12 weeks later (T2). Surgery-only controls (n = 22) were assessed at comparative time-points.

Results: At T1 no significant differences were found between groups on any measure; however, at T2, chemotherapy patients reported significantly greater fatigue (t[42] = 2.49, p = .02) and depression (t [42] = -2.11, p = .04). There were no significant changes in PCI, fatigue, anxiety, or depression between T1/T2 for either group, though a non-significant trend towards greater PCI at T2 for chemotherapy patients was observed (M = 53.55, SD = 15.26 at T1, M = 50.32, SD = 15.18 at T2). At T2, there were significant relationships between PCI and fatigue (r[29] = .68, p ≤ .01), anxiety (r[29] = -.69, p ≤ .01), and depression (r[29] = -.57, p = .01) for chemotherapy patients; whilst PCI scores significantly correlated with fatigue only (r[3] = .67, p = .01) for controls.

Conclusions: The non-significant trend towards greater PCI during adjuvant treatment for CRC will be explored further in this ongoing longitudinal study. At present, it is evident that patients receiving chemotherapy experience significantly greater fatigue, which is associated with higher levels of PCI. It remains feasible that PCI is part of a wider experience of central fatigue and/or psychological response to treatment in CRC.

583 Identifying Factors Related to Distress in a Nationally Representative Sample of U.S. Cancer Survivors

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Background/Purpose: Cancer survivors are living much longer and often co-manage other demanding chronic conditions, like diabetes,

that may exacerbate distress across the cancer care experience and care settings. This study aims to determine factors associated with general distress in a nationally representative sample of cancer survivors.

Methods: A cross-sectional study using Medical Expenditures Panel Survey (MEPS) Household Component Data, including the Experiences with Cancer Survivorship Supplement from 2011. The Kessler Index was used to assess factors associated with non-specific psychological distress such as patient characteristics, health characteristics (including diabetic status), cancer-related psychosocial and survivorship care factors in a sample of 1008 cancer survivors in the U.S.

Results: Protective factors from non-specific distress were age ($\beta = -0.05$, $p < 0.001$), better physical health ($\beta = -0.12$, $p < 0.001$) and all higher levels of income ($p < 0.05$) compared to those living in poverty. Survivors in the middle and highest income brackets were associated with a -1.88 and -1.80 decrease on the emotional distress scale ($p < 0.001$), respectively, when compared to survivors living in poverty. Higher levels of general distress were associated with survivors who reported frequent recurrence fears ($\beta = 0.82$, $p = 0.04$), those who believe they have a high chance of recurrence in next 10 years ($\beta = 1.11$, $p = 0.02$), and survivors who could not remember if cancer-related follow-up was discussed with their provider ($\beta = 1.56$, $p < 0.004$).

Conclusions: Findings support evidence that lack of financial resources exacerbate the post-cancer distress experience. Further, improving provider communication about needed follow-up may improve distress among survivors particularly around worries about and appraisals of cancer recurrence risk.

584 South African Women's Experiences of Breast Cancer: An Interpretative Phenomenological Analysis

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Background: Breast cancer (BC) patients have unique psychological and social experiences. Currently, South Africa has limited resources in dealing with the psychosocial aspect of breast cancer care. Therefore, many South African BC treatment centers lack counseling services despite the need for patients to access psychosocial support.

Method: We conducted in-depth, semi-structured interviews with seven women attending a public BC clinic at a major tertiary hospital in Cape Town, South Africa. Participants were interviewed to elicit information about their psychosocial experiences pertaining to diagnosis and treatment and how they constructed meaning of the experience. We are conducting an Interpretative Phenomenological Analysis (IPA) of the interviews. IPA is a dynamic process emphasizing the importance of the researcher as active interpreter of the interpretations of the participants. IPA gives experience primacy. We are using IPA to understand how participants made sense of their experiences of BC.

Results: In our presentation, we will provide a detailed report on participants' constructions of their breast cancer experience, highlighting aspects that are unique to their context.

Conclusion: One in 35 South African women is susceptible to breast cancer in their lifetime, of which an estimated 80% will attend a public health care facility. Taking into account socio-economic variables, the findings will highlight the complexity and ideographic experiences of BC in women in receiving treatment at a public hospital in South Africa.

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Needs assessment for implementing a communication skills training at five university clinics in Germany

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Background: Up to now, there is a lack of sufficiently trained oncologists in communication skills. To implement a CST for oncologists at five university clinics, a needs assessment was done.

Methods: A written questionnaire was sent to 300 oncologists working at the five university clinics to assess attitudes and needs for CTS.

Results: Two hundred six oncologists completed the questionnaire. Most of them rated communication as very important for their clinical work. There was a high acceptance for CTS. Less experienced physicians had a lower acceptance. Most preferred half to one day trainings in their regular working time. Most important themes were breaking bad news, dealing with difficult emotions and death and dying. A relevant barrier for participation was time pressure.

Conclusion: Short, modular organized trainings that are well implemented in daily routine have a high acceptance. Even breaking bad news is a core learning objective in undergraduate communication skills trainings; for oncologists, it is still a major challenge. The barriers for participation (hidden curriculum) need to be addressed in a qualitative study.

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The MeCHanic Study: Can an electronic survey be used to investigate the effect of low health literacy on the engagement of men with cancer prevention information?

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Background: Incidence and mortality is higher among men than women for all cancers in Ireland. It is estimated that 41% of cancer deaths in men are attributable to potentially modifiable risk factors, compared to 27% in women. Low health literacy is associated with less information seeking and lower likelihood of screening attendance. The aim of the MeCHanic study was to investigate the effect of low health literacy on men's engagement with cancer prevention information.

Methods: Using a mixed-methods approach, we developed an online questionnaire that included a Cancer Information Seeking Behaviours tool, Berrenberg's Cancer Attitude Inventory, the Cancer Message Literacy Test, and health literacy reading and numeracy screening questions. It was converted into plain text through collaboration with the National Adult Literacy Agency. The questionnaire was pre-tested for its cognitive load, face validity and acceptability with 12 men. The final questionnaire was posted on several websites including the Men's Groups of Ireland, Men's Health Forum, Irish Cancer Society and Facebook in June 2016. A printed version was posted to literacy agencies and other organisations.

Results: To date, we have received 43 complete and 25 partially complete online questionnaires from men with a mean age of 48.82 years. In the preliminary group analysis, the prevalence of low health literacy was 12%, and 7% had incorrectly reported disease risk. Almost 26% of men had looked for information from the Irish Cancer Society.

Conclusions: Findings will inform recommendations on how the Irish Cancer Society can tailor their information to this cohort of men.

[Correction added on 19 December 2016, after first online publication on 14 October 2016: Authors list and affiliations list reordered for Abstract 588.]

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We can cure, but can we care? Favourable-risk disease ≠ favourable psychological wellbeing in men recently diagnosed with PCa: Baseline findings from a prospective, longitudinal study

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Background/Purpose: Despite the medical benefits of Active Surveillance (AS), living with untreated cancer may create a significant emotional burden for patients. The present paper reports preliminary findings from a longitudinal study assessing psychological wellbeing in men with favourable-risk Prostate Cancer (PCa) from diagnosis to 12 months post-diagnosis.

Methods: The aim was to determine baseline/pre-treatment differences in psychological wellbeing in recently diagnosed men eligible for AS (n = 40) immediately post-diagnosis (i.e. within 4 weeks of diagnosis, and prior to treatment decision making). General anxiety (STAI-6), PCa-specific anxiety (MAX-PC), and depression (CES-D) were assessed at diagnosis. Scores were compared once patients made their treatment decision (AS or AT).

Results: No significant differences in general anxiety or depression were observed at time of diagnosis. PCa-specific anxiety was approaching significance, with AS patients reporting higher PCa-specific anxiety than patients opting for AT. Gleason score at diagnosis (i.e. Gleason 6 or Gleason 7) was significantly associated with PCa-specific anxiety; Gleason 6 patients reported higher PCa-specific anxiety and fear of recurrence (MAX-PC subscales) at diagnosis in comparison to Gleason 7 patients.

Conclusions: To our knowledge, this is the first study to utilise early baseline measures i.e. immediately post-diagnosis and pre-treatment decision making. Interestingly, findings suggest that patients' with lower-risk disease have higher PCa-specific anxiety than those who, from a medical perspective, are at increased risk of progression. There are a number of possible explanations for this, one of which may be related to how diagnosis information and treatment options are presented by health care professionals.

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Narrative Palliative Care: A Method for Building Empathy

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Background: The palliative care team requires a deep understanding of the needs and the social contexts of the patients. The purpose of this review is to provide basic information about narratives of patients and caregivers in palliative care.

Methods: A literature review took place in the electronic database "Pubmed" and "Google Scholar" during the period of 2010 to 2016 to provide the most comprehensive review for use and effect of storytelling patients and caregivers in palliative care. Criteria for the exclusion of articles were languages different from English and Greek, as well as articles in which there was no full access. Finally, sixty-two (62) articles (qualitative, quantitative researches and systematic reviews) were included.

Results: Stories may reveal personal, family, or larger collectives including goals, ideals, and cultural beliefs. The palliative care team can support people receiving palliative treatment by diversifying avenues for their personal growth, thus helping them manage their existential uncertainty and gravitate towards greater existential certainty. Narratives can be used to objectify and escape from problems in order to gain understanding, establish meaning, develop greater self-knowledge and decrease emotional distress. Through each telling and listening, the palliative care team honor and validate the experience of suffering. Finally, individual's stories, history, and

character are a key component of the ethical decision-making process.

Conclusions: Narratives can capture the wholes of experiences that are of central importance to the palliative care team seeking, above all, to understand the whole person in his/her history and social environment. Narrative competence and skills of attention are required.

[Correction added on 19 December 2016, after first online publication on 14 October 2016: Authors "Dr Stylianos Katsaragakis" and "Dr Foteini Tzavella" and their affiliation, "University of Peloponnese, Nursing Faculty, Sparta, Greece", have been added to the authors list and affiliations list of Abstract 593.]

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Lifestyle Health Behavior Interventions among Long Term Cancer Survivors

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Background/Purpose: Of the 14.5 million cancer survivors in the US, 64% will survive beyond 5 years. However, the aggressive therapeutic regimens enhancing survival cause significant morbidity as time since diagnosis increases. Long-term survivors, defined as individuals surviving 5 or more years beyond their initial cancer diagnoses, are especially vulnerable to adverse health outcomes and chronic comorbidities. Lifestyle health behavior interventions may ameliorate such adverse outcomes in this population.

Methods: In order to examine the number, impact, and characteristics of interventions among long-term survivors, we conducted a detailed literature review utilizing Medline of all such published studies over the past 10 years (2006–2016).

Results: Interventions identified included physical activity, weight loss, diet, and smoking cessation. Only 9 (of 162) papers met our eligibility criteria initially. Article reference lists yielded 7 more papers and a final sample of 16. Surprisingly, 10 of the 16 papers emanated from 3 studies! To maximize inclusivity, all 16 eligible papers were examined because they represented new analyses. Published papers presenting interventions targeting long-term survivors are rare (16/162, or only 5.55%). Most interventions (13/16) were successful, but only among better functioning or physically active survivors, or those with better overall health.

Conclusions: Continuing gaps in research include interventions addressing poorly functioning survivors, understudied cancer sites, and ethnoculturally diverse groups. Research is needed to elucidate the optimal timing, setting, intensity, barriers, and facilitators of interventions, and whether long-term survivors may benefit more from less intense, home-based interventions when health status is compromised.

595 Psycho-oncological Challenges: Cancer, Fertility and Pregnancy

Dr. Maggie Watson* | Snezana Mijalkovic* | Joachim Weis* |
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Supporting Abstract 1:

Challenges of Cancer and Fertility from a Systemic Perspective

Dr. Snezana Mijalkovic, M.Sc., ECP

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Nowadays, a lot is known about the physical changes caused by cancer and its medical treatment. One of them can be decreased fertility in premenopausal woman. This challenge, in addition to cancer itself, can be emotionally very distressing for these women and their partners/families and can have a negative impact on their quality of life.

It is important for clinicians to have an awareness of how important fertility issues are for these patients and to be able to extend empathy and comfort in discussing these issues. This may sometimes be a challenge because the patient's existential issues may trigger clinicians to question their own life priorities and what they require for a good quality of life. In addition, their life perspective sometimes may differ from their clients.

These are some of the challenges that both clients and clinicians face in making decisions about medical treatment, the preservation of fertility and dealing with grief over their overt or hidden losses caused by cancer-related infertility.

It is important that clinicians use a systemic approach when asking clients about these challenges, in discussing fertility preservation and in helping clients find meaning in coping with these life events. The therapeutic goal we should aspire to is to empower women diagnosed with cancer and their partners/families during this delicate time and help them overcome these life challenges through self-development and growth.

Supporting Abstract 2:

Psychological Aspects of Cancer in Pregnancy

Tineke Vandenbroucke, MSc

University of Leuven, Department of Oncology; University Hospitals Leuven, Department of Obstetrics and Gynecology, Leuven, Belgium
One in 1000 to 2000 pregnant women is diagnosed with cancer. A cancer diagnosis during pregnancy may be considered as an emotional challenge for pregnant women and their partners. Emotions of joy,

happiness, hope and expectation become intertwined with distress, concerns, worries and questions. Standard treatment with surgery, chemotherapy and/or radiotherapy during pregnancy is often indicated. For these women, the pregnancy period is characterized by uncertainty about their own health and that of the baby. However, termination of pregnancy induces additional psychological challenges for the patient and the partner. Besides grief about losing health and perspectives for the future, these couples also experience grief about the loss of their child. The postpartum period is usually a difficult period for the patients and their partner. Fear of recurrence, continuation of treatment after delivery or a poor treatment response in combination with the normal postpartum difficulties like sleep deprivation and baby blues makes these women extremely vulnerable in the postpartum period. Moreover, some children are born preterm and need intensive care at a neonatal intensive care unit. In some cases, this may complicate the development of bonding and attachment to the new-born, as mother-infant interactions may be more restricted due to the risk of infections for both the mother and the baby. A thorough examination and follow-up of the distress, concerns, coping strategies and social network by a psychologist and a social worker are therefore recommended.

Supporting Abstract 3:

Development of an EORTC quality of life questionnaire to assess fertility related issues

J. Weis, E. Greimel, V. Kesic, R. Schwab, A. Hasenburg

Due to improving survival rates, the subject of fertility and quality of life in young cancer patients is becoming increasingly important. In most cancer types, there is decrease of fertility or complete loss of fertility due diagnosis or cancer treatment. Therefore, fertility is an important problem for many young cancer patients, which influences various aspects of their quality of life. In clinical practice, fertility issues require adequate patient-oriented counselling and shared decision-making in the fertility-preserving treatment options. Against this background, in collaboration of EORTC Quality of Life Group and ESGO, an international validated instrument will be developed to measure the individual psychosocial aspects of fertility and patient care needs. The questionnaire is covering fertility-related aspects in all cancer diagnoses (male and female) and in all medical treatments (surgery, chemotherapy, radiotherapy, stem cell transplantation etc.). Preliminary qualitative interviews with patients and experts detected the following aspects as important topics: information needs, shared decision making, wish for children (before and after diagnoses), partnership issues, doctor-patient communication, psychological issues of fertility and psychosocial support.

Supporting Abstract 4

Psychosocial distress and supportive care needs in partners of women with breast cancer

A. Mehnert, J. Meise, A. Höcker

For many women with breast cancer, being in a functioning relationship represents an important resource for coping with cancer-related stress. Breast cancer has a similarly distressing effect on both patients and their partners. In return, the distress that patients' partners experience has a large impact on patients' distress levels as well as the risk of suffering from anxiety and depression. The purpose of this study was to (a) assess the scope of psychosocial distress and symptom

burden in partners of women with breast cancer; (b) explore how patients and partners assess not only their own psychosocial distress (self-report) but also that experienced by their partners; and (c) assess partners' supportive care needs and finding predictors for their need of counselling. We assessed 102 women with breast cancer treated in oncological outpatient facilities as well as their partners with standardized questionnaires. We found that anxiety, depressive symptoms, anger and need for support were equally high in patients and partners, and psychosocial distress was higher in partners than in patients. Patients' evaluation of their partners' mental wellbeing was consistent with the partners' self-report, but patients' partners tended to overestimate the patients' level of distress. Partners reported the strongest supportive care needs regarding 'health care system and information' followed by 'psychological issues'. More than three out of four partners (77.5%) reported unmet supportive care needs, and these were positively associated with psychosocial distress and can be predicted by levels of anxiety.

596 Multi-disciplinary Care in Prostate Cancer Units: European Guidelines and Beyond

Prof. Riccardo Valdagni* | Prof. Maggie Watson*

The symposium brings together leading experts in oncology, psycho-oncology and nursing to share and discuss with the audience the implementation of the new European Prostate Cancer Unit [PCU] Guidelines and Targets for future multi-disciplinary care.

Chairs: Professor Riccardo Valdagni & Professor Maggie Watson

Speaker Affiliations:

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Supporting Abstract 1:

European Prostate Cancer Unit Guidelines: Targets for Future Multi-disciplinary Care

Speaker: Professor Riccardo Valdagni, Italy

The aim is to share and discuss with the audience the implementation of the new European Prostate Cancer Unit [PCU] Guidelines and Targets for future multi-disciplinary care. This symposium provides an opportunity to disseminate further the new European PCU Guidelines and ensure comprehensive care for prostate cancer patients is successfully integrated into accepted gold standard care.

Supporting Abstract 2:

Psychosocial Care for Men with Prostate Cancer: Where do we need to be?

Speaker: Professor Suzanne Chambers, Australia

After a diagnosis of prostate cancer, 10% to 23% of men report high psychological distress; eight years after diagnosis, 30–40% have persistent health-related distress; and risk of suicide is increased. Problematically, men are reluctant users of psychological support services after cancer and less likely than women to discuss these concerns with their healthcare providers. In the absence of a systematic approach to care, men's distress remains unnoticed and untreated. Our Prostate Cancer Survivorship Research Centre is applying a strategy of integrating expert opinion, systematic evidence review guided by clinical and practical relevance, and the modelling of outcome data to develop an evidence-based approach to psychosocial care for men with prostate cancer and their partners. To enhance diffusion into clinical practice, we have developed a user-led approach for both the content and method of dissemination; a national consumer advocacy strategy with community-based support groups across the country; and an opinion leader interface with key clinical bodies. Outcomes to date will be presented along with a proposed model of psychosocial care for men with prostate cancer.

Supporting Abstract 3:

Building Capacity in Supportive Care: A Nursing Perspective

Speaker: Professor Sara Faithfull, UK

Nurses have been recognised as playing an essential role in the support of men with prostate cancer and are acknowledged as a key worker in the multi-disciplinary team to provide quality care. However, unlike breast cancer specialist nurses, there is no EU directive to include nurses in the provision of urology services so the development of the prostate cancer unit is an opportunity to address the support men require and how nurses can be best mobilised in such a service. Critical to future capacity building is understanding that not all men will have easy access to nurses and supportive care; they may have consequences of cancer treatment, be older men with comorbidities and that those most at risk of aggressive disease may need more support and management. Despite improvements in treatment and management 81% of men still have high unmet supportive care needs with them requiring assistance for psychological, sexual and health system and information needs. Unmet need is related not only to disease and treatment factors but is significantly associated with receiving advice and support from nurses.¹

This presentation explores the current evidence base for the therapeutic role of the prostate cancer specialist nurse and explores what services have been empirically tested.

Future health care services must address variable service provision for men with prostate cancer and challenge the barriers to multi-disciplinary working. We need to consider "touchpoints" through the prostate cancer pathway where nursing can assess and address men's specific needs and identify a more targeted approach to provision of supportive care. This presentation questions what evidence do we really have for the prostate specialist nurses and how nurses contribute to supportive care for men with prostate cancer across the diagnostic and treatment pathway. Cultural issues across Europe influence the autonomy of the nurse and scale of clinical decision-making. Despite

this we still need a plan to address supportive care and build the health economics model to build nurse capacity in supporting men with prostate cancer.

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Multi-disciplinary Care of Patients with Melanoma: New Frontiers

Prof. Professor Jeff Dunn* | Prof. Maggie Watson*

Chairs: Professor Jeff Dunn [Cancer Council Queensland, Australia] and Professor Maggie Watson [Royal Marsden Hospital, UK]

Speaker: Jeff Dunn, Australia

Speaker: Melissa Hyde, Australia

Supporting Abstract 1:

Psychosocial outcomes for patients with advanced melanoma: Systematic review

Jeff Dunn¹⁻⁴, Maggie Watson⁵⁻⁶, Joanne F. Aitken^{1-2,7}, Melissa K. Hyde¹⁻²

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5. Pastoral and Psychological Care, Royal Marsden Hospital, Sutton, Surrey, UK
6. Research Department of Clinical, Health and Educational Psychology, University College London, UK
7. School of Public Health and Social Work, Queensland University of Technology, Brisbane, Queensland, Australia

New therapies for advanced melanoma (≥ 2011) have improved progression-free and overall survival, offering new hope for advanced melanoma patients. However, although patients are living longer, the impact of these new therapies on the ongoing quality of survivorship is unclear. We systematically reviewed existing literature to identify and synthesise the quantitative and qualitative evidence about psychosocial outcomes for patients with AJCC stage III or IV melanoma. Five databases were searched (01/01/1980 to 31/01/2016). Inclusion criteria: advanced melanoma patients or an advanced melanoma sub-group analysis; assessed psychosocial outcomes (psychological and/or social); published in English. Fifty-three studies met review criteria. These studies suggested that advanced melanoma patients may experience high psychological distress with more unmet supportive care needs than patients with localised disease. Contributors to distress were largely unexplored. Limitations: lack of theoretical underpinnings guiding study design; inconsistent measurement

approaches; small sample sizes and non-representative sampling; and cross-sectional design. Quality evidence from therapeutic trials for advanced melanoma is needed to clarify the impact of treatment advances for this disease, and associated improved survival rates, on the psychosocial wellbeing of patients. Survivorship research and subsequent translation of that knowledge into programs and services currently lags behind gains in the medical treatment of advanced melanoma, a troubling circumstance that requires immediate and focussed attention.

Supporting Abstract 2:

Supportive care needs and services for melanoma patients

Melissa K. Hyde¹⁻², Jeff Dunn¹⁻⁴, Maggie Watson⁵⁻⁶, Joanne F. Aitken^{1-2,7}

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Melanoma patients face challenges unique to both the type and course of their disease. Patients are at an increased risk of developing new occurrences or recurrence of melanoma and require ongoing follow-up and monitoring as well as limiting UV exposure. These requirements may be associated with anxiety, fear of cancer recurrence, limited daily activities and quality of life. Concerns about elevated risk of melanoma for first-degree relatives may also be prevalent. Melanoma treatment such as surgery may raise fears about bodily disfigurement or scarring and have ongoing effects on self-identity, esteem, social interactions, and adjustment in survivorship. These concerns may differ over time or for patients with localised disease compared to regional or distant metastases, making it important to consider the unique challenges faced by patients in different disease trajectories. Common concerns and supportive care needs for melanoma patients overall and according to disease stage will be considered, as well as an overview of the support available via community organisations and networks in the Australian context. Recent interventions in international settings to address unmet supportive care needs for melanoma patients with localised and advanced disease will also be discussed.

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Psychological assessment in management of quality of life (QOL) in patients undergoing brachytherapy treatment after hysterectomy. From "acceptable" chronic toxicity of physician to the requirements of support of the patients

Dr. Fabrizio Piro¹ | dr.ssa Adele Massenzo¹ | dr.ssa Angela Piattelli¹ | dr.ssa Antonietta Martilotta¹ | dr. Pierfrancesco Indrieri¹ | dr.ssa Alessandra Dieni¹ | dr.ssa Mariadomenica Iuvaro¹ | dr. Luigi Marafioti¹

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Purpose: To evaluate psychological impact of chronic toxicity of exclusive brachytherapy (BRT) of vagina in patients affected by endometrial cancer.

Materials and Methods: January 2010 to December 2014 we recruited 96 patients. Considering that BRT induces fibrosis with stenosis of vagina, we evaluated QOL and sexual activity after BRT. Despite same recommended instruments of self-assessment of sexual function and side effects in gynecological cancers, we cannot translate these into our reality. Psychologist designed interview comparable to instruments mentioned to investigate following areas: 1) social relations and personal emotions, 2) couple intimacy and sexuality, 3) impact of treatment on sexuality and doctor-patient relationship. Questionnaire consisted: multiple-choice and short answer. Questions 1-2 investigated first area; 3-5 second area; 6-10 third area. Informed consent required.

Results: Evaluation on 69 patients (Median age 61 range 44-71), 27 not sexual active. In first area 33% resulted change of social relations judged with value "from much up to very much", while in half of respondents, same value in personal sphere. Second area 71% had change, 81% reported decrease of sexual desire. Third area 50% informed about impact of BRT on sexual life evaluating changes induced " from much up to very much"; 71% been recommended have therapeutic relationships, 73% reported painful intercourse and 91% found it unsatisfactory. 13%, not required, wanted psychological support.

Conclusion: Data show area of large and wide need across emotional sphere. Since these women can live long, we should support them towards better QOL from their traumatic experience through specialist psychological support.

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The development of a psycho-emotional and family resilience assessment within an eHealth platform

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Background: As cancer survival increases, a new partnership model that empowers patients and caregivers and promotes self-management of the disease is needed. The H2020 iManageCancer project aims to respond to the aforementioned needs with a cancer specific personalized platform. This abstract describes the development of two tools to: 1) monitor the psycho-emotional status of the patients, and 2) evaluate family resilience in cancer, as part of the activities for the project.

Methods: To identify the requirements for the tools, a review on patient empowerment, psycho-cognitive constructs relevant in cancer treatments, and family resilience in (cancer) disease was performed, together with an analysis based on patients' interviews. Additionally, an online survey was promoted to the cancer community. On this basis, two use case scenarios were created for the tools.

Results: A complex structure emerged as relevant in the assessment of the psycho-emotional status of cancer patients: psychosocial and cognitive aspects, perceived health state, decisional preferences and role, perceived control of the disease, emotional profile, and patient engagement. For the assessment of family resilience, communication and problem solving, social and economic resources, connectedness, and reappraisal emerged as important aspects.

Conclusions: To the best of our knowledge, these tools within the broader iManageCancer platform represent the first approach combining psycho-emotional and resilience monitoring of the individual patient and his family, to enable patient empowerment and strengthen patient-doctor communication.

The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 643529