

**METHODS:** In the stepped wedge design, participating sites were randomly allocated from Control to Training then Intervention conditions. Thirty-seven health professionals completed manual-based training and skill development before delivering up to four therapy sessions to 70 patients with HADS scores of 8 to 21. The primary outcome was difference in HADS scores from baseline to 10-week follow-up. Secondary outcomes were quality of life (FACT-G; EQ-5D), supportive care needs (Supportive Care Needs Survey), and Demoralisation (Demoralisation Scale). **RESULTS:** Baseline measures were obtained for 469 patients. The majority were female (70%) and married, and 32.8% had advanced disease. Mean HADS scores were 8.8 (SD=6.30) and 8.6 (SD5.90) for Intervention and Control groups, respectively ( $p=0.59$ ). At follow-up, there was no significance difference in total HADS scores between Control and Intervention groups. Higher baseline depression score was predictive of improvement ( $p < 0.001$ ). Improvement in anxiety was predicted by higher baseline anxiety score ( $p < 0.001$ ) and lower FACT functional well-being score ( $p < 0.001$ ). Patients with advanced disease were more likely than those with early disease to experience reduction in supportive care needs. **CONCLUSIONS:** Frontline health professionals can provide psychosocial care, but interventions should target those most likely to benefit rather than being generically applied.

**Research Implications:** These results provide preliminary evidence of the characteristics of patients who are most likely to benefit from a brief psychosocial intervention integrated into clinical care. Further analysis is required of the specific types of therapy which are most likely to be of benefit for depressed cancer patients.

**Practice Implications:** Integration of psychosocial care into routine cancer care can be achieved through a model of care in which frontline health professionals who have participated in focused training and skill development provide brief tailored therapy.

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### J-3

#### Relations between depression and healthcare use in patients diagnosed with cancer

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**BACKGROUND/PURPOSE:** Depression in cancer patients may impact the course of care and health systems. Depression may increase 1-year healthcare costs by nearly 41% in medical patients by way of increased office visits, increased likelihood of visiting emergency rooms, and/or

readmissions within 30 days of discharge. The present study examined the increased risk that depression confers on healthcare use in cancer patients. **METHODS:** A retrospective chart review was done on 7332 University of California San Diego (UCSD) Healthcare System patients with a diagnosis of any cancer in 2011. Using ICD-9 codes, patients were coded as depressed ( $n=632$ ) or nondepressed ( $n=6700$ ). Total number of visits to the UCSD healthcare system for 2011 was calculated, and participants were coded as having an ER visit (yes/no) or 30-day readmission (yes/no) during 2011. A probabilistic index was computed to determine the probability that a randomly selected depressed patient had more visits than a randomly selected nondepressed patient. Odds ratios were computed for ER visits and 30-day readmissions. **RESULTS:** Results showed a 73% probability that depressed cancer patients had more healthcare visits than nondepressed patients ( $p < .001$ ). Depressed patients were more likely to visit the ER (OR=2.98; 95% CI=2.45–3.63) and experience a 30-day hospital readmission (OR=2.32; 95% CI=1.96–2.75) relative to nondepressed patients. **CONCLUSIONS:** Results suggest that depression among cancer patients confers a significant risk for greater healthcare use. Identification and treatment of depression may reduce overall healthcare costs and burden to healthcare systems.

**Research Implications:** Longitudinal studies are needed to determine if reduction of depressive symptoms, or remission of depression, reduces overall healthcare use and costs.

**Practice Implications:** Healthcare teams who treat cancer patients may wish to screen for depression and refer to psychosocial services to manage depressive symptoms and reduce overall healthcare costs.

**Acknowledgement of Funding:** None.

### J-4

#### Modality of exercise influences rate of decrease in depression for cancer survivors with elevated depressive symptomatology

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**BACKGROUND/PURPOSE:** This feasibility study aimed to identify whether different types of exercise provide similar reductions in depression symptoms to cancer survivors with elevated depression, compared to control. **METHODS:** 32 participants ( $58.9 \pm 9.4$  years) were allocated to a 12-week clinic-based, supervised exercise group ( $n=10$ ), an unsupervised, home-based exercise group ( $n=8$ ), or a usual care control group ( $n=14$ ). The

supervised group performed two combined resistance and aerobic sessions weekly. Home-based participants were provided with printed material about benefits of exercise and were encouraged to complete 150 min of exercise weekly. Controls received no exercise or printed material and were encouraged to maintain usual activity. **RESULTS:** Both home-based ( $6.4 \pm 5.3$  to  $2.2 \pm 2.9$ ,  $p = .006$ ) and supervised ( $6.9 \pm 4.2$  to  $4.0 \pm 2.4$ ,  $p = .021$ ) interventions effectively reduced HADS-D scores compared to control ( $7.2 \pm 2.5$  to  $7.7 \pm 3.6$ ). Not only did the home-based group decrease depression to a greater extent but also more rapidly. HADS-D scores at week 6 were  $3.4 \pm 3.5$  and  $6.1 \pm 4.2$  for the home-based and supervised groups, respectively ( $d = 0.50$ ). **CONCLUSIONS:** The rate of exercise-related reductions in depression was influenced by the modality of exercise. Psychological mechanisms such as mastery and distraction may have accounted for initial rapid improvements in the home-based group. However, increasing the duration of the programme appeared to diminish the favourable short-term response to self-managed exercise.

**Research Implications:** The findings of this research suggest that exercise for depression in cancer is beneficial. However, more information is required to understand the optimal prescriptive factors that influence mood. The shift in rate of response should be examined in more detail including adherence.

As this was a feasibility study, a larger randomised trial should be conducted to confirm the findings.

**Practice Implications:** Comorbid depression negatively impacts on the quality of life of cancer survivors. Rates of clinically disruptive depression are reportedly three times higher than the noncancer population. Therefore, there is a need to treat or manage depression. Exercise appears to be an effective alternative to pharmacotherapy or psychological counselling. This additional therapy may be more suitable for some patients.

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## K-1

### When ethical dilemmas split teams: case studies of fertility preservation in the context of metastatic cancer

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**BACKGROUND/PURPOSE:** In recent years, the American Society for Clinical Oncology and the American Society of Reproductive Medicine have recommended that the impact of cancer treatment on fertility should be discussed with all cancer patients of reproductive age and that fertility preservation options should be offered

routinely.<sup>1-2</sup> While fertility preservation options such as oocyte or embryo cryopreservation with or without gestational surrogacy have made it possible for cancer patients to become parents, the associated decision-making process can involve significant ethical dilemmas.<sup>3</sup> The potential dissonance involved in confronting a life-threatening diagnosis while simultaneously considering the deeply human desire to have a child presents a struggle for cancer patients and clinicians.<sup>4</sup> This struggle intensifies when the patient has metastatic cancer and a genetic mutation. We present several cases raising significant questions as to whether current informed consent processes and legal safeguards adequately address the ethical quandaries inherent in oncofertility preservation. **METHODS:** Case report describing patients with metastatic leiomyosarcoma and BRCA positive metastatic breast cancer who pursued fertility preservation. **RESULTS:** We present two cases:

Case 1: 52-year-old engaged woman with metastatic leiomyosarcoma to lung on oral chemotherapy and s/p mastectomy involving total removal of left scapula considering gestational surrogacy with donor egg and sperm provided by 65-year-old fiancé.

Case 2: 35-year-old single woman with a medical history of triple-negative breast cancer and a psychiatric history significant for panic disorder and possible histrionic traits. She underwent genetic testing and was found to have a BRCA1 mutation. At the time of her diagnosis, she was 6 months into a new relationship. She underwent neoadjuvant chemotherapy followed by bilateral mastectomies and radiation therapy. She recurred with metastatic disease to lung 3 months after completing treatment. At that time, she requested a consult with the hospital's reproductive medicine specialist, supported by her medical oncologist. The patient then underwent embryo cryopreservation utilizing her boyfriend's sperm and selected a gestational carrier, the young fiancé of her boyfriend's cousin. In individual sessions with her social work therapist, the patient conveyed a strong desire for childbearing yet also expressed concerns about her prognosis and the impact that her death might have on a child. Several team members raised concerns about the ethical dilemmas inherent in an embryo transfer and sought a formal ethics consultation. It was ultimately decided that the patient might benefit from a meeting with her medical oncologist where she could ask direct questions about her prognosis prior to proceeding with the embryo transfer. The patient elected not to have her boyfriend present for these discussions, resulting in concerns about his understanding of her prognosis and ability to make an informed decision regarding the embryo transfer. Ultimately, the transfer (without pre-implantation genetic diagnosis despite her BRCA positivity) occurred and resulted in a pregnancy. The patient's cancer continued to progress, and she ultimately died within a month of her baby's birth.