



## RESEARCH UPDATES JULY 2012

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### FOR THE LATEST IN WORLDWIDE INTEGRATIVE CANCER CARE

**IN THIS ISSUE:** Richman and colleagues found that intake of cruciferous vegetables may reduce the risk of prostate cancer progression. Vandecasteele et al. found that *Salvia officinalis* was safe for the treatment of hot flashes in men with prostate cancer. Demetriou and associates reported that the Mediterranean diet decreased the risk of breast cancer. Pieters and colleagues demonstrated the importance of instrumental relating for women with breast cancer. Park and Hwang found that women with breast cancer who had fewer unmet needs had better long-term survival outcomes. Dag et al. reported that early postoperative feeding of colorectal cancer patients led to better outcomes than later postoperative feeding, both in terms of recovery of intestinal function and safety. Fakhri and colleagues found an association between vitamin D supplementation and chemotherapy in colorectal cancer patients. Shan and associates found that *Fructus bruceae* had a beneficial effect for patients with esophageal cancer. Serfaty et al. reported that cognitive behaviour therapy and aromatherapy massage were helpful for cancer patients experiencing emotional distress. Williams reported that patients who received stem cell transplantation experienced a positive transformation, both physically and personally. Brotto et al. concluded that a brief mindfulness-based intervention improved the sexual function of women treated for gynecological cancer. In our study of the month, Kligler and colleagues found that an integrative medicine approach (similar to that of InspireHealth) saved money for the hospitals that used it because of the reduced need for other medications.

## PROSTATE CANCER

Richman, EL, P. R. Carroll and J. M. Chan.

### Vegetable and Fruit Intake After Diagnosis and Risk of Prostate Cancer Progression.

*International Journal of Cancer.* 2012 01 Jul 2012; 1311: 201-210.

**BACKGROUND:** Cruciferous vegetables, tomato sauce and legumes have been associated with reduced risk of incident advanced prostate cancer. In vitro and animal studies suggest these foods may inhibit progression of prostate cancer, but there are limited data in men. **METHODS:** Therefore, we prospectively examined whether intake of total vegetables, and specifically cruciferous vegetables, tomato sauce and legumes, after diagnosis reduce risk of prostate cancer progression among 1,560 men diagnosed with non-metastatic prostate cancer and participating in the Cancer of the Prostate Strategic Urologic Research Endeavor, a United States prostate cancer registry. As a secondary analysis, we also examined other vegetable subgroups, total fruit and subgroups of fruits. The participants were diagnosed primarily at community-based clinics and followed from 2004 to 2009. We assessed vegetable and fruit intake via a semi-quantitative food frequency questionnaire, and ascertained prostate cancer outcomes via urologist report and medical records. **RESULTS:** We observed 134 events of progression (53 biochemical recurrences, 71 secondary treatments likely due to recurrence, 6 bone metastases and 4 prostate cancer deaths) during 3,171 person-years. Men in the fourth quartile of post-diagnostic cruciferous vegetable intake had a statistically significant 59% decreased risk of prostate cancer progression compared to men in the lowest quartile (hazard ratio (HR): 0.41; 95% confidence interval (CI): 0.22, 0.76; p-trend: 0.003). No other vegetable or fruit group was statistically significantly associated with risk of prostate cancer progression. **CONCLUSION:** In conclusion, cruciferous vegetable intake after diagnosis may reduce risk of prostate cancer progression. **INSPIREHEALTH'S INTERPRETATION:** Eating cruciferous vegetables (such as broccoli, cauliflower and cabbage) may reduce the risk of prostate cancer progression.

Vandecasteele, K, P. Ost, W. Oosterlinck, et al.

### Evaluation of the Efficacy and Safety of *Salvia officinalis* in Controlling Hot Flashes in Prostate Cancer Patients Treated with Androgen Deprivation.

*Phytotherapy Research.* 2012 Feb; 262: 208-213.

**BACKGROUND:** The purpose of this pilot study was to evaluate the efficacy and safety of *Salvia officinalis* in controlling hot flashes in prostate cancer patients treated with androgen deprivation therapy (ADT). **METHODS:** Ten patients experiencing hot flashes were included in a single-centre prospective pilot study. Treatment consisted of 150 mg of *Salvia officinalis* extract taken orally three times

daily. A diary questionnaire scoring hot flashes, subjective side effects and quality of life (QOL) had to be completed. Clinical examination was performed at every visit and the concentration of ADT-linked hormones, haemoglobin and cholesterol was measured before, during and after ending treatment. Before the start of treatment, a 1 week baseline registration was performed. An analysis of variance with time of measurement as a within-subject factor was performed. RESULTS: When analysing the hot flashes score, one patient was excluded due to insufficient diary notes. The mean weekly score declined from 112 (SD=71) at baseline to 59 (SD=54) at the end of treatment ( $p=0.002$ ). Hot flashes diminished significantly from the first week up to and including week 3. This was maintained during treatment. There was no effect on QOL. There were no side effects. CONCLUSION: It is concluded that *Salvia officinalis* is efficient and safe in the treatment hot flashes, without improving QOL. INSPIREHEALTH'S INTERPRETATION: *Salvia officinalis* is safe for treating hot flashes in men with prostate cancer.

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## BREAST CANCER

Demetriou, CA, A. Hadjisavvas, M. A. Loizidou, et al.

### The Mediterranean Dietary Pattern and Breast Cancer Risk in Greek-Cypriot Women: A Case-Control Study.

*BMC Cancer*. 2012 23 Mar 2012; 12

BACKGROUND: Diet has long been suspected to impact on breast cancer risk. In this study we evaluated whether the degree of adherence to a Mediterranean diet pattern modifies breast cancer risk amongst Greek-Cypriot women. METHODS: Subjects included 935 cases and 817 controls, all participating in the MASTOS case-control study in Cyprus. The study was approved by the Cyprus National Bioethics Committee. Information on dietary intakes was collected using an interviewer administered 32-item Food Frequency Questionnaire. Information on demographic, anthropometric, lifestyle, and other confounding factors was also collected. Adherence to the Mediterranean Diet pattern was assessed using two a-priori defined diet scores. In addition, dietary patterns specific to our population were derived using Principal Component Analysis (PCA). Logistic regression models were used to assess the association between the dietary patterns and breast cancer risk. RESULTS: There was no association with breast cancer risk for either score, however, higher consumptions of vegetables, fish and olive oil, were independently associated with decreased risk. In addition, the PCA derived component which included vegetables, fruit, fish and legumes was shown to significantly reduce risk of breast cancer (ORs across quartiles of increasing levels of consumption: 0.89 95%CI: 0.65-1.22, 0.64 95%CI: 0.47-0.88, 0.67 95%CI: 0.49-0.92,  $P$  trend < 0.0001), even after adjustment for relevant confounders. CONCLUSIONS: Our results suggest that adherence to a diet pattern rich in vegetables, fish, legumes and olive oil may favorably influence the risk of breast cancer. This study is the first investigation of dietary effects on breast cancer risk in Cyprus, a country whose population has traditionally adhered to the Mediterranean diet. INSPIREHEALTH'S INTERPRETATION: The Mediterranean diet may reduce the risk of breast cancer.

Pieters, HC, M. V. Heilemann, S. Maliski, et al.

### Instrumental Relating and Treatment Decision Making among Older Women with Early-Stage Breast Cancer.

*Oncol Nurs Forum*. 2012 Jan; 39(1): E10-9.

PURPOSE/OBJECTIVES: To understand how women aged 70 years and older who had recently undergone treatment for early-stage breast cancer experienced treatment decision making. RESEARCH APPROACH: Qualitative, descriptive study guided by grounded theory. SETTING: Participants' houses and apartments in southern California. PARTICIPANTS: 18 women, aged 70-94 years, who completed treatment for primary, early-stage breast cancer 3-15 months prior ( $X = 8.5$  months). METHODOLOGIC APPROACH: Twenty-eight semistructured personal interviews that lasted, on average, 104 minutes. Data were collected and analyzed using constructivist grounded theory. MAIN RESEARCH VARIABLES: Gero-oncology perspective of treatment decision making. FINDINGS: A major finding was that the power of relating spontaneously was used as a vehicle to connect with others. That process, which the authors called "instrumental relating," was grounded in a foundation of mutual caring for themselves and others. Within that mutual caring, the women participated in three ways of relating to share in treatment decision making: obtaining information, interpreting healthcare providers, and determining the trustworthiness of their providers. Those ways of relating were effortlessly and simultaneously employed. CONCLUSIONS: The women used their expert abilities of relating to get the factual and emotional information that they needed. That information supported what the women perceived to be decisions that were shared and effective. INTERPRETATION: The findings are the first evidence of the importance of relating as a key factor in decision making from the personal perspective of older women with early-stage breast cancer. This work serves as a springboard for future clinical interventions and research opportunities to individualize communication and enhance effective decision making for older patients who wish to participate in their cancer care. INSPIREHEALTH'S INTERPRETATION: Relating to one another helps with the decision-making process in breast cancer.

Park, BW and S. Y. Hwang.

### **Unmet Needs of Breast Cancer Patients Relative to Survival Duration.**

*Yonsei Med J.* 2012 Jan; 531: 118-125.

**PURPOSE:** The present study aims to evaluate the prevalence of unmet needs among breast cancer survivors, to assess the relationships between unmet needs and depression and quality of life, and to explore the extent to which unmet needs of breast cancer patients relate to the time elapsed since surgery. **MATERIALS AND METHODS:** Among 1,250 eligible patients who participated in the study, 1,084 cases (86.7%) were used for analysis. Clinicopathological and social parameters were reviewed and the Supportive Care Needs Survey, Functional Assessment of Cancer Therapy- Breast cancer instrument, and Beck Depression Inventory were administered. The frequency of unmet needs, the association between unmet needs and depression and/or quality of life (QOL) and the impact of the time elapsed since surgery on the patients' unmet needs were analyzed. **RESULTS:** The highest levels of unmet needs were found to be in the health system and information domain. Patients with a survival duration of less than 1 year since surgery showed significantly higher unmet needs in all need domains except the sexuality domain (p5 years). In addition, unmet needs were significantly associated with depression (p<0.001) and QOL (p<0.001). **CONCLUSION:** The present study demonstrated that long-term breast cancer survivors had a significantly lower level of unmet needs than patients with survival duration of less than 3 years after surgery and patients with survival duration of less than 1 year since surgery suffered the greatest unmet needs. QOL might be enhanced if interventions are made for specific unmet needs of each patient group. **INSPIREHEALTH'S INTERPRETATION:** Breast cancer patients with fewer unmet needs had better survival outcomes than those with more unmet needs.

## **COLORECTAL CANCER**

Dag, A, T. Colak, O. Turkmenoglu, et al.

### **A Randomized Controlled Trial Evaluating Early Versus Traditional Oral Feeding After Colorectal Surgery.**

*Clinics (Sao Paulo, Brazil).* 2011 6612: 2001-2005.

**OBJECTIVE:** This prospective randomized clinical study was conducted to evaluate the safety and tolerability of early oral feeding after colorectal operations. **METHODS:** A total of 199 patients underwent colorectal surgery and were randomly assigned to early feeding (n = 99) or a regular diet (n = 100). Patients' characteristics, diagnoses, surgical procedures, comorbidity, bowel movements, defecation, nasogastric tube reinsertion, time of tolerance of solid diet, complications, and length of hospitalization were assessed. **RESULTS:** The two groups were similar in terms of gender, age, diagnosis, surgical procedures, and comorbidity. In the early feeding group, 85.9% of patients tolerated the early feeding schedule. Bowel movements (1.7+/-0.89 vs. 3.27+/-1.3), defecation (3.4+/-0.77 vs. 4.38+/-1.18) and time of tolerance of solid diet (2.48+/-0.85 vs. 4.77+/-1.81) were significantly earlier in the early feeding group. There was no change between the groups in terms of nasogastric tube reinsertion, overall complication or anastomotic leakage. Hospitalization (5.55+/-2.35 vs. 9.0+/-6.5) was shorter in the early feeding group. **CONCLUSIONS:** The present study indicated that early oral feeding after elective colorectal surgery was not only well tolerated by patients but also affected the postoperative outcomes positively. Early postoperative feeding is safe and leads to the early recovery of gastrointestinal functions. **INSPIREHEALTH'S INTERPRETATION:** Early oral feeding helps with the recovery from colorectal cancer surgery.

Fakih, M, C. Andrews, J. McMahon et al.

### **A Prospective Clinical Trial of Cholecalciferol 2000 IU/day in Colorectal Cancer Patients: Evidence of a Chemotherapy-Response Interaction.**

*Anticancer Res.* 2012 April 2012; 324: 1333-1338.

**BACKGROUND:** We have previously reported a negative correlation between the effect of chemotherapy and 25-hydroxy vitamin D3 (25-D3) levels in patients with colorectal cancer. Based on this finding, we hypothesized that the response to vitamin D3 supplementation may be attenuated in patients with colorectal cancer. **AIM:** To determine 25-D 3 response to 2000 IU/day vitamin D3 supplementation in patients with colorectal cancer. **MATERIALS AND METHODS:** Fifty evaluable colorectal cancer patients were treated with vitamin D3 at 2000 IU/day for 6 months. Serum 25-D3 levels were measured at baseline, 3, and 6 months of supplementation. **RESULTS:** The mean 25-D3 level was 17.5 ng/ml at baseline, 31.6 ng/ml at 3 months, and 33.8 ng/ml at 6 months. The most important factor in determining 25-D3 response was chemotherapy status. A rise in 25-D3 of  $\geq 10$  ng/ml at the 3-month interval was observed in 92% of chemotherapy-free patients vs. 39% of chemotherapy patients. Similar differences in response were noted at the 6-month interval. **CONCLUSION:** Depressed 25-D3 levels are common in patients with colorectal cancer. Active chemotherapy is associated with an attenuated response to 2000 IU of D3 supplementation in this patient population. Alternative vitamin D3 dosing schedules need further investigation in colorectal cancer patients undergoing chemotherapy. **INSPIREHEALTH'S INTERPRETATION:** The timing of vitamin D supplementation and chemotherapy is important.

## OTHER CAM THERAPIES

Serfaty, M, S. Wilkinson, C. Freeman, et al.

### **The ToT Study: Helping with Touch Or Talk (ToT): A Pilot Randomised Controlled Trial to Examine the Clinical Effectiveness of Aromatherapy Massage Versus Cognitive Behaviour Therapy for Emotional Distress in Patients in cancer/palliative Care.**

*Psychooncology*. 2012 May 2012; 215: 563-569.

**BACKGROUND:** Distress associated with cancer often presents with symptoms of depression and/or anxiety. Cognitive Behaviour Therapy (CBT) is one of the most effective psychological treatments. Complementary therapies, especially aromatherapy massage (AM), are also popular and alleviate anxiety. No studies have directly compared these two treatments. **AIMS:** The aim of this study is to (1) test the feasibility of recruitment into a randomised controlled trial of AM versus CBT in patients with cancer; (2) test and modify the intervention; (3) determine whether changes in outcomes were consistent with published data. **METHODS:** Patients at all stages of cancer, recruited from oncology outpatient clinics and screening eight or more for anxiety and/or depression on the HADS, were randomised to Treatment as Usual (TAU) plus up to eight sessions weekly of either AM or CBT, offered within 3 months. The POMS was collected at baseline and 3 and 6 months post baseline. **RESULTS:** Of those suitable, over 60% (39/63) participated (AM, n = 20; CBT, n = 19) and over 90% (36/39) were followed up. Both packages were well received. The preference was for AM, with more sessions were taken up; (Mean number sessions AM = 7.2 (SD 2.0) and CBT = 5.4 (SD 3.1);  $P < 0.05$ ). Significant improvements in POMS (Total Mood, depression and anxiety scores) occurred with both interventions. Between-group comparison showed a non-significant trend towards greater improvement in depression with CBT. **CONCLUSIONS:** Recruitment was feasible; the interventions acceptable and engagement with treatment was high. Improvements with both interventions were observed. The beneficial effects on depression with CBT appeared to be sustained. **INSPIREHEALTH'S INTERPRETATION:** Cognitive Behaviour Therapy and aromatherapy massage were helpful for cancer patients experiencing emotional distress.

Shan, GY, S. Zhang, G. W. Li, et al.

### **Clinical Evaluation of Oral Fructus Bruceae Oil Combined with Radiotherapy for the Treatment of Esophageal Cancer.**

*Chinese Journal of Integrative Medicine*. 2011 Dec; 1712: 933-936.

**OBJECTIVE:** To evaluate the therapeutic efficacy and side effects of oral Fructus bruceae oil combined with radiotherapy in the treatment of esophageal cancer. **METHODS:** A total of 80 patients with esophageal cancer were equally and randomly divided into two groups. The patients in Group A were treated with radiotherapy (60-65 Gy, 6-7 weeks) and oral Fructus bruceae oil (20 mL, 3 times per day for 12 weeks), while the patients in Group B were treated with radiotherapy alone. The short-term effect was evaluated by Response Evaluation Criteria in Solid Tumors (RECIST) and quality of life (QOL) was evaluated by the Karnofsky scoring (KFS). The outcome measures included complete remission (CR) rate, partial remission (PR) rate, effective rate as CR+PR, patients' QOL and adverse effects. **RESULTS:** After 12-week treatment, the CR and CR+PR were significantly higher in Group A than those in Group B ( $P < 0.05$ ). There was an improvement in esophageal obstruction of 87.5% and 60.0%, respectively, and in KFS of 84.6% and 43.9%, respectively, in Groups A and B. **CONCLUSION:** Oral medication with oral Fructus bruceae oil could effectively improve the efficacy of radiotherapy in esophageal cancer, including a reduction in esophageal obstruction, and also reduce the side effects of radiotherapy; thus it would be very promising for clinical application. **INSPIREHEALTH'S INTERPRETATION:** Fructus bruceae improved the effectiveness of radiotherapy in patients with esophageal cancer.

Williams, BJ

### **Self-Transcendence in Stem Cell Transplantation Recipients: A Phenomenologic Inquiry.**

*Oncol Nurs Forum*. 2012 Jan; 391: E41-8.

**PURPOSE/OBJECTIVES:** To understand the meaning of self-transcendence, or the ability to go beyond the self, for patients who have had a stem cell transplantation. **RESEARCH APPROACH:** A phenomenologic investigation guided by the interpretive philosophy of Heidegger. **SETTING:** A cancer center in a major urban academic medical center. **PARTICIPANTS:** 4 men and 4 women ages 45-63 who had received a stem cell transplantation in the previous year. **METHODOLOGIC APPROACH:** Two or three unstructured, open-ended interviews were conducted with each participant. Data were extracted, analyzed, and interpreted according to the Colaizzi method. **MAIN RESEARCH VARIABLES:** Self-transcendence. **FINDINGS:** Self-transcendence emerged as a process that was triggered by the suffering the participants experienced as they lived through the physical effects of the treatment, faced death, drew strength from within themselves, and perceived a spiritually influenced turning point. The experience of a human connection lessened their feelings of vulnerability in the process. As the participants recovered, they described being transformed both physically and personally. **CONCLUSIONS:** The findings from this study highlight the power inherent in patients to not only meet the challenges they face, but to grow from their experiences. The findings also highlight patients' deep need for a human connection and the power that nurses and other healthcare professionals have to provide that connection. **INTERPRETATION:** The caring connections established by health-care professionals can ease the ability of patients to access the inner resource of self-transcendence and reduce their feelings of vulnerability. **INSPIREHEALTH'S INTERPRETATION:** Patients who are given the right healing environment can go within to reduce their feelings of vulnerability and help themselves heal.

Brotto, LA, Y. Erskine, M. Carey, et al.

### **A Brief Mindfulness-Based Cognitive Behavioral Intervention Improves Sexual Functioning Versus Wait-List Control in Women Treated for Gynecologic Cancer.**

*Gynecol Oncol.* 2012 May 2012; 125(2): 320-325.

**GOAL:** The goal of this study was to evaluate a mindfulness-based cognitive behavioral intervention for sexual dysfunction in gynecologic cancer survivors compared to a wait-list control group. **METHODS:** Thirty-one survivors of endometrial or cervical cancer (mean age 54.0, range 31-64) who self-reported significant and distressing sexual desire and/or sexual arousal concerns were assigned either to three, 90-minute mindfulness-based cognitive behavior therapy sessions or two months of wait-list control prior to entering the treatment arm. Validated measures of sexual response, sexual distress, and mood, as well as laboratory-evoked physiological and subjective sexual arousal were assessed at pre-, one month post-, and 6-months following treatment. **RESULTS:** There were no significant effects of the wait-list condition on any measure. Treatment led to significant improvements in all domains of sexual response, and a trend towards significance for reducing sexual distress. Perception of genital arousal during an erotic film was also significantly increased following the intervention despite no change in physiologically-measured sexual arousal. **CONCLUSIONS:** A brief mindfulness-based intervention was effective for improving sexual functioning. Geographic restrictions permitted only a select sample of survivors to participate, thus, the generalizability of the findings is limited. Future studies should aim to develop online modalities for treatment administration to overcome this limitation. **INSPIREHEALTH'S INTERPRETATION:** Mindfulness-based cognitive behavioral therapy improved sexual function in women with gynecological cancer.

## **STUDY OF THE MONTH**

Kigler, B, P. Homel, L. B. Harrison, et al.

### **Cost Savings in Inpatient Oncology through an Integrative Medicine Approach.**

*Am J Manag Care.* 2011 Dec; 17(12): 779-784.

**OBJECTIVES:** To evaluate the cost impact of an integrative medicine intervention on an inpatient oncology service. **STUDY DESIGN:** This study used nonrandomized, nonequivalent groups. A baseline sample of inpatient oncology patients at Beth Israel Medical Center admitted to the medical oncology unit before implementation of the Urban Zen Initiative were compared with patients admitted after the Urban Zen Initiative was in place. **METHODS:** The Urban Zen Initiative incorporated yoga therapy, holistic nursing techniques, and a "healing environment" into routine inpatient oncology care. Length of stay and medication use data were extracted from Beth Israel's decision support electronic database. We compared length of stay, total medication costs, and costs of as-needed medications for both groups: the baseline sample of inpatient oncology patients and patients exposed to the Urban Zen healing environment initiative. **RESULTS:** We had complete cost data on 85 patients in our baseline group and 72 in our intervention group. We found no difference in length of stay between the 2 groups. We found a significant decrease in use of antiemetic, anxiolytic, and hypnotic medication costs as well as a decrease in total medication costs in the Urban Zen sample compared with the baseline group. **CONCLUSIONS:** An integrative medicine approach including yoga therapy, holistic nursing, and a healing environment in the inpatient setting can decrease use of medications, resulting in substantial cost savings for hospitals in the care of oncology patients. **INSPIREHEALTH'S INTERPRETATION:** An integrative medicine approach and healing environment (such as InspireHealth) can help cancer patients, decrease the need for medications and save healthcare dollars.

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