



REsearch UPDATES

FOR THE LATEST IN WORLDWIDE INTEGRATIVE CANCER CARE

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IN THIS ISSUE: There were a number of studies that dealt with supplements and other complementary therapies. For instance, Cooney and colleagues found an association between low levels of Coenzyme Q10 and breast cancer in Chinese women. Also, Rostock and colleagues found black cohosh helped women with symptoms such as hot flashes, sweating, and anxiety that were being treated with Tamoxifen for breast cancer. Hu and associates reported that a diet low in trans fatty acids may prevent several different types of cancer. Pala et al. found that high yogurt consumption decreased the risk of colorectal cancer. Walter and associates reported that garlic and grape seed may reduce the risk of hematologic malignancies. Clement and colleagues reported that vitamin D helped decrease musculoskeletal pain in a man with multiple myeloma. Sato et al. found that brushing your teeth more than once per day may help prevent oral cancer. In other news, Wen and colleagues found that 15 minutes a day of moderate intensity exercise was associated with a lowered risk of

mortality when compared to people who didn't exercise. Zeliadt and associates found that healthcare providers were instrumental in facilitating shared decision-making for patients with prostate cancer and their partners, and that this was beneficial for both the patients and their partners. In our study of the month, Matousek and colleagues reported that women with breast cancer who participated in a Mindfulness-Based Stress Reduction (MBSR) program had changes in their cortisol levels, and consequently that the changes in cortisol levels might be useful biological markers of the disease.

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PROSTATE CANCER

Zeliadt, SB, D. F. Penson, C. M. Moinpour, et al.

Provider and Partner Interactions in the Treatment Decision-Making Process for Newly Diagnosed Localized Prostate Cancer.

BJU Int. 2011 discussion 856-7; Sep; 1086: 851-856.

OBJECTIVE: To evaluate the degree to which the partners of prostate cancer patients participate in the shared decision-making process with the patients' providers during the time between diagnosis and initiating treatment. **PATIENTS AND METHODS:** We recruited patients with newly diagnosed local-stage prostate cancer and their partners to complete take-home surveys after biopsy but before initiating treatment at urology practices in three states. We asked partners to describe their roles in the decision-making process, including participation in clinic visits, and perceptions of encouragement from providers to participate in the treatment decision-making process. We also asked partners to rate their satisfaction with the patients' providers.

RESULTS: Family members of 80% of newly diagnosed patients agreed to participate; most (93%) were partners (i.e. spouses or significant others). Most partners (93%) had direct contact with the patients' physicians. Among the partners who had contact with providers, most (67%) were very satisfied with the patients' providers and 80% indicated that the doctor encouraged them to participate in the treatment decision. Overall, 91% of partners reported very frequent discussions with their loved one about the pending treatment decision, and 69% reported that their role was to help the patient make a decision. In multivariate models, provider encouragement of partner participation was associated with higher partner



satisfaction (odds ratio 3.4, 95% CI 1.4-8.4) and an increased likelihood of partners reporting very frequent discussions with their loved one (odds ratio 6.1, 95% CI 1.3-27.7).

CONCLUSIONS: Partners often attended clinic visits and were very involved in discussions about treatment options with both loved ones and providers. Provider encouragement of participation by partners greatly facilitates shared decision-making between patients and partners.

BREAST CANCER

Cooney, RV, Q. Dai, Y. T. Gao, et al.

Low Plasma Coenzyme Q(10) Levels and Breast Cancer Risk in Chinese Women.

Cancer Epidemiology, Biomarkers & Prevention. 2011 Jun; 206: 1124-1130.

BACKGROUND: Low circulating levels of coenzyme Q(10) (CoQ(10)) have been associated with increased cancer incidence and poor prognosis for a number of cancer types, while a recent prospective study observed a positive association for CoQ(10) with breast cancer risk. **METHODS:** We prospectively examined the association of plasma CoQ(10) with breast cancer risk in a nested case-control study of Chinese women within the Shanghai Women's Health Study (SWHS). Prediagnostic plasma samples were obtained from 340 cases and 653 age-matched controls and analyzed for total CoQ(10).

RESULTS: A borderline significant inverse association for breast cancer incidence with plasma CoQ(10) level was observed by a conditional logistic regression model adjusted for age and age at first live birth, which became significant after elimination of cases diagnosed within 1 year of blood draw ($P(\text{trend}) = 0.03$). This association was independent of menopausal status. Plasma CoQ(10) levels were also observed to be significantly associated with circulating gamma-tocopherol ($r = 0.50$; $P < 0.0001$) and alpha-tocopherol ($r = 0.38$; $P < 0.0001$) levels.

CONCLUSIONS: Circulating levels of CoQ(10) were generally low in this population and the observed association with breast cancer risk may be limited to those women with exceptionally low values.

IMPACT: This study reports an inverse relationship between circulating CoQ(10) and breast cancer risk, while the only other prospective study of CoQ(10) and breast cancer to date found a positive association. Lower levels of CoQ(10) in the SWHS population suggest that the 2 studies may not be contradictory and indicate a possible nonlinear (U-shaped) association of CoQ(10) with risk.



Rostock, M, J. Fischer, A. Mumm, et al.

Black Cohosh (Cimicifuga Racemosa) in Tamoxifen-Treated Breast Cancer Patients with Climacteric Complaints a Prospective Observational Study.

Gynecological Endocrinology. 2011 October 2011; 2710: 844-848.

OBJECTIVE: The antihormonal therapy of breast cancer patients with the antiestrogen tamoxifen often induces or aggravates menopausal complaints. As estrogen substitution is contraindicated, herbal alternatives, e.g. extracts of black cohosh are often used. **DESIGN:** A prospective observational study was carried out in 50 breast cancer patients with tamoxifen treatment. All patients had had surgery, most of them had undergone radiation therapy (87%) and approximately 50% had received chemotherapy. Every patient was treated with an isopropanolic extract of black cohosh (14 tablets, 2.5mg) for 6 months. Patients recorded their complaints before therapy and after 1, 3, and 6 months of therapy using the menopause rating scale (MRS II).

RESULTS: The reduction of the total MRS II score under black cohosh treatment from 17.6 to 13.6 was statistically significant. Hot flashes, sweating, sleep problems, and anxiety improved, whereas urogenital and musculoskeletal complaints did not change. In all, 22 patients reported adverse events, none of which were linked with the study medication; 90% reported the tolerability of the black cohosh extract as very good or good.

CONCLUSIONS: Black cohosh extract seems to be a reasonable treatment approach in tamoxifen treated breast cancer patients with predominantly psychovegetative symptoms.

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NUTRITION

Hu, J, C. L. Vecchia, M. De Groh, et al.

Dietary Transfatty Acids and Cancer Risk.

European Journal of Cancer Prevention. 2011 November 2011; 206: 530-538.

BACKGROUND: This study assesses the association between dietary trans fatty acid (TFA) intake and the risk of selected cancers. **METHODS:** Mailed questionnaires were completed between 1994 and 1997 in eight Canadian provinces by 1182 incident, histologically confirmed cases of the stomach, 1727 of the colon, 1447 of the rectum, 628 of the pancreas, 3341 of the lung, 2362 of the breast, 442 of the ovary, 1799 of the prostate, 686 of the testis, 1345 of the kidney, 1029 of the bladder, 1009 of the brain, 1666 non-Hodgkin's lymphomas, 1069 leukemias, and 5039 population controls. Information on dietary habits and nutrition intake was obtained using a food frequency questionnaire, which provided data on eating habits 2 years before the study. Odds ratios (OR) and 95% confidence intervals (CI) were derived by unconditional logistic regression to adjust for total energy intake and other potential confounding factors.

RESULTS: Dietary TFA were positively associated with the risk of cancers of the colon (OR: 1.38 for the highest vs. the lowest quartile), breast in premenopause (OR: 1.60), and prostate (OR: 1.42). There were a borderline association for pancreas cancer (OR: 1.38; P=0.06). No significant association was observed for cancers of the stomach, rectum, lung, ovary, testis, kidney, bladder, brain, non-Hodgkin's lymphomas, and leukemia, although the ORs for the highest quartile were above unity for all neoplasms considered, except testis.

CONCLUSION: Our findings add evidence that high TFA is associated with an increased risk of various cancers. Thus, a diet low in trans fat may play a role in the prevention of several cancers.

COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM)

Pala, V, S. Sieri, F. Berrino, et al.

Yogurt Consumption and Risk of Colorectal Cancer in the Italian European Prospective Investigation into Cancer and Nutrition Cohort.

International Journal of Cancer. 2011 01 Dec 2011; 12911: 2712-2719.

BACKGROUND: Fermented dairy products like yogurt have been suggested to protect against colorectal cancer (CRC). **METHODS:** We conducted a prospective study on 45,241 (14,178 men; 31,063 women) volunteers of the EPIC-Italy cohort who completed a dietary questionnaire including specific questions on yogurt intake. During 12 years of follow-up, 289 volunteers were diagnosed with CRC. Hazard ratios (HRs) for the disease and 95% confidence intervals (CIs) were estimated by Cox proportional hazard models, stratified by dietary questionnaire and adjusted for energy intake and other potential confounders.

RESULTS: Yogurt intake was inversely associated with CRC risk. For the energy-adjusted model, HR for CRC in the highest versus lowest tertile of yogurt intake was 0.62 (95% CI, 0.46-0.83). In the full model adjusted for energy, simple sugar, calcium, fiber, animal fat, alcohol and red meat intake, as well as body mass index, smoking, education and physical activity, HR was 0.65 (95% CI, 0.48-0.89) in the highest versus lowest tertile. The protective effect of yogurt was evident in the entire cohort, but was stronger in men, although there was no interaction of sex with the yogurt-CRC association (p_{interaction} 0.20, fully adjusted model).

CONCLUSION: In our prospective study, high yogurt intake was significantly associated with decreased CRC risk, suggesting that yogurt should be part of a diet to prevent the disease. Investigation of larger cohorts is necessary to reveal any residual confounding of the association of yogurt intake with CRC risk.

Walter, RB, T. M. Brasky, F. Milano et al.

Vitamin, Mineral, and Specialty Supplements and Risk of Hematologic Malignancies in the Prospective VITamins and Lifestyle (VITAL) Study.

Cancer Epidemiology Biomarkers and Prevention. 2011 October 2011; 2010: 2298-2308.

BACKGROUND: Increasing evidence suggests that nutrients from fruits and vegetables have chemoprotective effects on various cancers including hematologic malignancies, but the effects of nutritional supplements are poorly examined. **METHODS:** Herein, we prospectively evaluated the





association of vitamin, mineral, and specialty supplements with incident hematologic malignancies in 66,227 men and women aged 50 to 76 years from Washington State recruited from year 2000 to 2002 to the VITamins And Lifestyle (VITAL) cohort study. Hematologic malignancies cases (n = 588) were identified through December 2008 by linkage to the Surveillance, Epidemiology, and End Results (SEER) cancer registry. HRs and 95% CIs associated with supplement use were estimated with Cox proportional hazards models.

RESULTS: After adjustment, high use of garlic supplements [≥ 4 days per week for ≥ 3 years; HR = 0.55 (95% CI = 0.34-0.87); $P_{\text{trend}} = 0.028$] and ever use of grape seed supplements [HR = 0.57 (95% CI = 0.37-0.88)] were inversely associated with hematologic malignancies in our models. In addition, high use (8-10 pill-years) of multivitamins was suggestive of an inverse association [HR = 0.80 (95% CI = 0.64-1.01)]. In contrast, no associations were observed for the remaining supplements.

CONCLUSIONS: These data indicate that the use of garlic and grape seed may be associated with reduced risk of hematologic malignancies.

IMPACT: This is the first cohort study to suggest a possible role of these supplements in the chemoprevention of hematologic malignancies.

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Clement, Z, M. Ashford and S. Sivakumaran.

Vitamin D Deficiency in a Man with Multiple Myeloma.

North American Journal of Medical Sciences. 2011 October 2011; 310: 469-471.

CONTEXT: Vitamin D deficiency is extremely common in multiple myeloma, and it represents a surrogate for clinical multiple myeloma disease status. Patients may complain of dull, persistent, generalized musculoskeletal aches and pains with fatigue or decrease in muscle strength. **CASE REPORT:** A 63 year old

male with multiple myeloma on Bortezomib presented with worsening generalized musculoskeletal pain, weakness, and multiple falls. On initial examination he was pale with a depressed affect. He had resting tremor, generalized bony tenderness, worse on movement and weight bearing, muscle weakness, and a waddling gait. His bone studies showed features of osteomalacia with a very low Vitamin D level of less than 20 nmol/L. He was treated with 3000 units of Vitamin D daily and physiotherapy. After 4 months, although his multiple myeloma deteriorated, there was a significant decrease in his generalized musculoskeletal pain.

CONCLUSIONS: This case highlights that vitamin D deficiency is common in patients with multiple myeloma, and can cause generalized musculoskeletal pain and increase the risk of falls, yet it often goes unrecognized. In patients with non-specific musculoskeletal pain, and inadequate sun-exposure medical practitioners must have a high index of suspicion for vitamin D deficiency.

ORAL HYGIENE

Sato, F, I. Oze, D. Kawakita, et al.

Inverse Association between Toothbrushing and Upper Aerodigestive Tract Cancer Risk in a Japanese Population.

Head and Neck. 2011 November 2011; 33(11): 1628-1637.

BACKGROUND: Oral hygiene is attracting increasing attention as a potential risk factor for cancers. To investigate the association between toothbrushing frequency and upper aerodigestive tract (UADT) cancer, the authors conducted a large-scale case-control study. **METHODS:** A total of 856 UADT cancer case participants and 2696 age- and sex-matched control subjects without cancer were included. Edentulous or participants with unknown frequency of toothbrushing or number of remaining teeth were excluded. Associations were assessed by odds ratios and 95% confidence intervals in logistic regression models with adjustment for potential confounders.

RESULTS: Compared with toothbrushing once per day, the adjusted odds ratio for brushing twice or more was 0.82 (95% confidence interval: 0.68, 0.99) whereas that for not brushing was 1.79 (0.79, 4.05). This association was observed especially in subjects who had a history of heavy smoking or drinking.

CONCLUSIONS: The authors suggest that toothbrushing could have a protective effect for UADT cancer.

EXERCISE

Wen, CP, J. P. Wai, M. K. Tsai, et al.

Minimum Amount of Physical Activity for Reduced Mortality and Extended Life Expectancy: A Prospective Cohort Study.

Lancet. 2011 Oct 1; 378(9798): 1244-1253.

BACKGROUND: The health benefits of leisure-time physical activity are well known, but whether less exercise than the recommended 150 min a week can have life expectancy benefits is unclear. We assessed the health benefits of a range of volumes of physical activity in a Taiwanese population. **METHODS:** In this prospective cohort study, 416,175 individuals (199,265 men and 216,910 women) participated in a standard medical screening programme in Taiwan between 1996 and 2008, with an average follow-up of 8.05 years (SD 4.21). On the basis of the amount of weekly exercise indicated in a self-administered questionnaire, participants were placed into one of five categories of exercise volumes: inactive, or low, medium, high, or very high activity. We calculated hazard ratios (HR) for mortality risks for every group compared with the inactive group, and calculated life expectancy for every group.

FINDINGS: Compared with individuals in the inactive group, those in the low-volume activity group, who exercised for an average of 92 min per week (95% CI 71-112) or 15 min a day (SD 1.8), had a 14% reduced risk of all-cause mortality (0.86, 0.81-0.91), and had a 3 year longer life expectancy. Every additional 15 min of daily exercise beyond the minimum amount of 15 min a day further reduced all-cause mortality by 4% (95% CI 2.5-7.0) and all-cancer mortality by 1% (0.3-4.5). These benefits were applicable to all age groups and both sexes, and to those with cardiovascular disease risks. Individuals who were inactive had a 17% (HR 1.17, 95% CI 1.10-1.24) increased risk of mortality compared with individuals in the low-volume group.

INTERPRETATION: 15 min a day or 90 min a week of moderate-intensity exercise might be of benefit, even for individuals at risk of cardiovascular disease. **FUNDING:** Taiwan Department of Health Clinical Trial and Research Center of Excellence and National Health Research Institutes.



STUDY OF THE MONTH

Matousek, RH, J. C. Pruessner and P. L. Dobkin.

Changes in the Cortisol Awakening Response (CAR) Following Participation in Mindfulness-Based Stress Reduction in Women Who Completed Treatment for Breast Cancer.

Complementary Therapies in Clinical Practice. 2011 May; 172:65-70.

BACKGROUND: Changes in the cortisol awakening response (CAR) were studied in women participating in a Mindfulness-Based Stress Reduction (MBSR) program after completion of their medical treatment for breast cancer. **METHOD:** Thirty-three women completed questionnaires pre- and post-MBSR pertaining to: stress, depressive symptomatology, and medical symptoms. The CAR was assessed on 3 days pre- and 3 days post-MBSR as a biological marker of stress.

RESULTS: A significant effect on the CAR was found, with cortisol levels showing a prolonged increase after awakening at the post-MBSR assessment period. This was accompanied by significant improvements in self-reported stress levels, depressive symptomatology, and medical symptoms. Furthermore, the change in medical symptoms was negatively correlated with the area under the curve (AUC) at study onset ($r = -.52$, $p < .002$); i.e., the greater the AUC of the CAR before MBSR, the greater the reduction in medical symptoms after the program.

CONCLUSIONS: These results suggest the potential usefulness of employing the CAR as a biological marker in women with breast cancer participating in an MBSR program.

FOR FURTHER READING ON THE WEB:

BREAST CANCER

Pan, SY, J. Zhou, L. Gibbons, H. et al.

Antioxidants and Breast Cancer Risk- a Population-Based Case-Control Study in Canada.

BMC Cancer. 2011 24 Aug 2011; 11

BACKGROUND: The effect of antioxidants on breast cancer is still controversial. Our objective was to assess the association between antioxidants and breast cancer risk in a large population-based case-control study. **METHODS:** The study population included 2,362 cases with pathologically confirmed incident breast cancer (866 premenopausal and 1,496 postmenopausal) and 2,462 controls in Canada. Intakes of antioxidants from diet and from supplementation as well as other potential risk factors for breast cancer were collected by a self-reported questionnaire.

RESULTS: Compared with subjects with no supplementation, 10 years or longer supplementation of zinc had multivariable-adjusted odds ratios (OR) and 95% confidence intervals (CI) of 0.46 (0.25-0.85) for premenopausal women, while supplementation of 10 years or longer of multiple vitamin, beta-carotene, vitamin C, vitamin E and zinc had multivariable-adjusted ORs (95% CIs) of 0.74 (0.59, 0.92), 0.58 (0.36, 0.95), 0.79 (0.63-0.99), 0.75 (0.58, 0.97), and 0.47 (0.28-0.78), respectively, for postmenopausal women. No significant effect of antioxidants from dietary sources (including beta-carotene, alpha-carotene, lycopene, lutein and zeaxanthin, vitamin C, vitamin E, selenium and zinc) or from supplementation less than 10 years was observed.

CONCLUSIONS: This study suggests that supplementation of zinc in premenopausal women, and supplementation of multiple vitamin, beta-carotene, vitamin C, vitamin E and zinc in postmenopausal women for 10 or more years may protect women from developing breast cancer. However, we were unable to determine the overall effect of total dose or intake from both diet and supplement.

Setoyama, Y, Y. Yamazaki and K. Nakayama.

Comparing Support to Breast Cancer Patients from Online Communities and Face-to-Face Support Groups.

Patient Educ Couns. 2011 November 2011; 852: e95-e100.

OBJECTIVE: To compare support for three groups by considering usage patterns with regard to two peer support resources, online communities, and face-to-face support groups, among patients with breast



cancer in Japan. **METHODS:** We conducted a cross-sectional survey of 1039 breast cancer patients.

RESULTS: Factor analysis indicated that all groups show the five aspects of support: "Emotional support/Helper therapy," "Emotional expression," "Conflict," "Advice," and "Insight/Universality." Within the group using two support resources, the support scores of "Emotional expression" and "Advice" were higher for the online community, and those of "Emotional support/Helper therapy," and "Insight/Universality" were higher for the face-to-face support group. Among the three groups, the members who received the most peer support were those who used both an online community and a face-to-face support group.

CONCLUSION: Patients who received the most social support from peers were in the group using both online communities and face-to-face support groups.

PRACTICE IMPLICATIONS: Healthcare providers should provide information about peer support through not only traditional face-to-face support groups but also online communities.

COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM)

Aromasticks in Cancer Care: An Innovation Not to be Sniffed At.

Complementary Therapies in Clinical Practice. 2011 May; 172: 116-121.

AIM: To evaluate the effects of a new aromatherapy intervention introduced within an acute cancer care setting in the UK. **BACKGROUND:** Aromatherapy is a popular complementary therapy within oncology settings and is known to help relieve patients' anxiety. A new method of delivering aromatherapy to patients was adopted by a complementary therapy service at a UK hospital; aromasticks are similar in design to the Vicks® Vapour Inhaler®, with the intention of helping patients manage anxiety, nausea and sleep disturbance. **DESIGN:** A retrospective service evaluation. **METHOD:** Patients referred to the complementary therapy service were, if appropriate, offered an aromastick. If the offer was accepted patients' details were captured on an evaluation form. One week later the patients were followed up by a different therapist. Frequency of using the aromastick and perceived benefits were documented. A total of 160 patients were included in this evaluation.

RESULTS: 77% (n = 123) of all patients reported deriving at least one benefit from the aromastick. In anxious patients, 65% reported feeling more relaxed and 51% felt less stress. 47% of nauseous patients said that the aromastick had settled their nausea and 55% of those experiencing sleep disturbances felt that aromastick helped them sleep. The results also suggest that the effects of the aromastick may be directly proportional to the frequency of their use.

RELEVANCE TO CLINICAL PRACTICE: Evidence demonstrating physiological changes associated with aroma inhalation plus the data presented in this paper highlight the potential for aromasticks within the clinical setting. Although the results of this evaluation of patient perspectives are not controlled, the data does underline the worth of further investigation. Future research is needed to show that aromasticks represent a tool patients can use to self-manage their own symptoms and help them retain an internal locus of control.

OVARIAN CANCER

Newton, MJ, S. C. Hayes, M. Janda, et al.

Safety, Feasibility and Effects of an Individualised Walking Intervention for Women Undergoing Chemotherapy for Ovarian Cancer: A Pilot Study.

BMC Cancer. 2011 08 Sep 2011; 11

BACKGROUND: Exercise interventions during adjuvant cancer therapy have been shown to increase functional capacity, relieve fatigue and distress and may assist rates of chemotherapy completion. These studies have been limited to breast, gastric and mixed cancer groups and it is not yet known if a similar intervention is even feasible among women with ovarian cancer. We aimed to assess safety, feasibility and potential effect of a walking intervention in women undergoing chemotherapy for ovarian cancer. **METHODS:** Women newly diagnosed with ovarian cancer were recruited to participate in an individualised walking intervention throughout chemotherapy and were assessed pre- and post-intervention. Feasibility measures included session adherence, compliance with exercise physiologist prescribed walking targets and self-reported program acceptability. Changes in objective physical functioning (6-minute walk test), self-reported distress (Hospital Anxiety and Depression Scale), symptoms (Memorial Symptom Assessment Scale - Physical) and quality of life (Functional Assessment of Cancer Therapy - Ovarian) were calculated, and chemotherapy completion and adverse intervention effects recorded.

RESULTS: Seventeen women were enrolled (63% recruitment rate). Mean age was 60 years (SD = 8 years), 88% were diagnosed with FIGO stage III or IV disease, 14 women underwent adjuvant and three neo-adjuvant chemotherapy. On average, women adhered to > 80% of their intervention sessions and complied with 76% of their walking targets, with the majority walking four days a week at moderate intensity for 30 minutes per session. Meaningful improvements were found in physical functioning, physical symptoms, physical well-being and ovarian cancer-specific quality of life. Most women (76%) completed $\geq 85\%$ of their planned chemotherapy dose. There were no withdrawals or serious adverse events and all women reported the program as being helpful.

CONCLUSIONS: These positive preliminary results suggest that this walking intervention for women receiving chemotherapy for ovarian cancer is safe, feasible and acceptable and could be used in development of future work.

SPIRITUAL WELL-BEING

Kim, Y, C. S. Carver, R. L. Spillers, et al.

Individual and Dyadic Relations between Spiritual Well-being and Quality of Life among Cancer Survivors and their Spousal Caregivers.

Psychooncology. 2011 Jul; 207: 762-770.

OBJECTIVES: There is evidence that cancer generates existential and spiritual concerns for both survivors and caregivers, and that the survivor's spiritual well-being (SWB) is related to his/her own quality of life (QOL). Yet the degree to which the SWB of each member of the couple has an independent association with the partner's QOL is unknown. Thus, this study examined individual and dyadic associations of SWB with the QOL of couples dealing with cancer. **METHODS:** A total of 361 married survivor-caregiver dyads participating in the American Cancer Society's Study of Cancer Survivors-I and Quality of Life Survey for Caregivers provided complete data for the study variables. SWB was measured using 12-item Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (assessing faith, meaning, and peace) and QOL was measured using Medical Outcomes Study 36-Item Short Form Health Survey.

RESULTS: Actor and Partner Interdependence Model analyses revealed that each person's SWB was the strongest correlate of his or her own mental health (higher SWB, better mental health). Each person's SWB was also positively related to his or her partner's physical health.

CONCLUSIONS: Results suggest that the ability to find meaning and peace may be an important part of overall well-being during the cancer experience for both survivors and caregivers. Interventions designed to assist survivors and caregivers to enhance their ability to find meaning and peace in the cancer experience may help them improve mental health of their own and the physical health of partners when they are dealing with cancer beyond the initial phase of the illness trajectory.



We are grateful to the Prostate Cancer Foundation BC and the Canadian Breast Cancer Foundation (BC/Yukon) for their generous support of *Research Updates*.



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For more information, email library@inspirehealth.ca

200-1330 West 8th Avenue, Vancouver, BC, Canada V6H 4A6

Tel: 604.734.7125 | info@inspirehealth.ca | www.inspirehealth.ca