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PROSTATE CANCER

Davison, B.J. and E. Breckon.

Factors Influencing Treatment Decision Making and Information Preferences of Prostate Cancer Patients on Active Surveillance.


**OBJECTIVE:** To assess information and decision making preferences of patients on active surveillance (AS), and the factors influencing their decision. **METHODS:** A cross-sectional sample of 180 patients on AS for <10 years completed a survey exploring the role men assumed with their physician in treatment decision making (TDM), factors influencing their decision to go on AS, and information preferences. **RESULTS:** Thirty-five percent of patients reported assuming an active role in TDM, 38% a collaborative role and 27% a passive role. Results suggest that patients <60 years prefer to play an active role in TDM whereas, men >70 years prefer to play a passive role. Available treatment options, eating a ‘prostate friendly’ diet, and non-traditional therapies were identified as the top three information preferences. Patients with higher levels of anxiety wanted access to more information compared to those with lower levels of anxiety. The urologists’ recommendation was rated the most important factor influencing patients’ decisions to go on AS. **CONCLUSION:** The urologist’s recommendation for treatment continues to have the most influence on the decision to go on AS. Our results suggest that age has an impact on the role patients wish to assume in TDM. **PRACTICE IMPLICATIONS:** Assessments of patients’ information and decision preferences, and levels of anxiety are suggested for all prostate cancer patients considering AS. **INSPIREHEALTH’S INTERPRETATION:** Prostate cancer patients rely on their urologist’s recommendations, eating a ‘prostate friendly diet’ and other non-traditional therapies when deciding whether to go on active surveillance.

Keogh, J.W. and R. D. MacLeod.

Body Composition, Physical Fitness, Functional Performance, Quality of Life, and Fatigue Benefits of Exercise for Prostate Cancer Patients: A Systematic Review.


**CONTEXT:** Prostate cancer patients, especially those on androgen deprivation therapy (ADT), experience many symptoms that make it difficult to maintain their independence and quality of life. Because ADT acts by means of reducing testosterone
production, exercise may offset many of the ADT side effects and those of the cancer itself. **OBJECTIVES:** This systematic review of the literature evaluates whether exercise could reduce symptoms and improve quality of life for prostate cancer patients. **METHODS:** Using relevant databases and key words, 12 training studies were found meeting the inclusion and exclusion criteria. **RESULTS:** Grade A level evidence was observed for the benefits of exercise in improving muscular endurance, aerobic endurance, and overall quality of life, as well as reducing fatigue in prostate cancer patients. Grade B evidence also suggested that exercise may improve prostate cancer patients’ muscle mass, muscular strength, functional performance (walking and sitting to stand speed), as well as health-related, social and physical quality of life. These effects appeared greater for group-rather than home-based-exercise, especially if these programs included resistance training. **CONCLUSION:** It is recommended that prostate cancer patients be encouraged to exercise regularly by their clinicians and significant others. Where possible, this exercise should be group-based and include some resistance training. Future research in this area should directly compare group- and home-based, as well as resistance, aerobic, and combined resistance and aerobic training to better elucidate the most effective forms of exercise for this population and what factors affect initiation and adherence to such programs. **INSPIREHEALTH’S INTERPRETATION:** Prostate cancer patients should exercise regularly.

### BREAST CANCER

**Harris, HR, L. Bergkvist and A. Wolk.**

**Folate Intake and Breast Cancer Mortality in a Cohort of Swedish Women.**


**BACKGROUND:** Folate may influence breast cancer development and progression through its role in one-carbon metabolism. However, epidemiologic data on the relation between folate and breast cancer survival are limited. **METHODS:** We investigated whether dietary folate intake was associated with survival in 3,116 women diagnosed with breast cancer in the population-based Swedish Mammography Cohort. Participants completed a 67-item food frequency questionnaire in 1987. Cox proportional hazard models were used to calculate hazard ratios (HRs) and 95% confidence intervals (95% CIs) for death from breast cancer and death from any cause. **RESULTS:** During 25,716 person-years of follow-up from 1987 to 2008, there were 852 deaths with 381 breast cancer deaths. Dietary folate intake was inversely associated with breast cancer and overall mortality. Women in the highest quartile of folate intake had a multivariable HR (95% CI) of death from breast cancer of 0.78 (0.58-1.03) compared to those in the lowest quartile (P (trend) = 0.03). The corresponding HR (95% CI) for death from any cause was 0.79 (0.66-0.96; P (trend) = 0.004). The protective association between dietary folate intake and breast cancer death was strongest among those with ER-negative tumors (HR = 0.42; 95% = CI 0.22-0.79; P (trend) = 0.01) comparing the highest to lowest quartile. **CONCLUSIONS:** Our findings suggest that folate intake before breast cancer diagnosis may improve breast cancer and overall survival. While these findings need to be confirmed in future studies, they do offer assurance that dietary folate intake at the levels observed in our population does not unfavorably affect survival after breast cancer. **INSPIREHEALTH’S INTERPRETATION:** Folate can positively influence breast cancer survival.

**Hoffman, CJ, S. J. Ersser, J. B. Hopkinson, et al.**

**Effectiveness of Mindfulness-Based Stress Reduction in Mood, Breast- and Endocrine-Related Quality of Life, and Well-being in Stage 0 to III Breast Cancer: A Randomized, Controlled Trial.**

*Journal of Clinical Oncology.* 2012 Apr 20; 3012: 1335-1342.

**PURPOSE:** To assess the effectiveness of mindfulness-based stress reduction (MBSR) for mood, breast- and endocrine-specific quality of life, and well-being after hospital treatment in women with stage 0 to III breast cancer. **PATIENTS AND METHODS:** A randomized, wait-listed, controlled trial was carried out in 229 women after surgery, chemotherapy, and radiotherapy for breast cancer. Patients were randomly assigned to the 8-week MBSR program or standard care. Profile of Mood States (POMS; primary outcome), Functional Assessment of Cancer Therapy-Breast (FACT-B), Functional Assessment of Cancer Therapy-Endocrine Symptoms (FACT-ES) scales and the WHO five-item well-being questionnaire (WHO-5) evaluated mood, quality of life, and well-being at weeks 0, 8, and 12. For each outcome measure, a repeated-measures analysis of variance model, which incorporated week 0 measurements as a covariate, was used to compare treatment groups at 8 and 12 weeks. **RESULTS:** There were statistically significant improvements in outcome in the experimental group compared with control group at both 8 and 12 weeks (except as indicated) for POMS total mood disturbance (and its subscales of anxiety, depression [8 weeks only], anger [12 weeks only], vigor, fatigue, and confusion [8 weeks only]), FACT-B, FACT-ES, (and Functional Assessment of Cancer Therapy subscales of physical, social [8 weeks only], emotional, and functional well-being), and WHO-5. **CONCLUSION:** MSBR improved mood, breast- and endocrine-related quality of life, and well-being more effectively than standard care in women with stage 0 to III breast cancer, and these results persisted at three months. To our knowledge, this study provided novel evidence that MBSR can help alleviate long-term emotional and physical adverse effects of medical treatments, including endocrine treatments. MBSR is recommended to support survivors of breast cancer. **INSPIREHEALTH’S INTERPRETATION:** Mindfulness-based stress reduction is beneficial for breast cancer survivors.
HEPATOCELLULAR CARCINOMA

Consumption of n-3 Fatty Acids and Fish Reduces Risk of Hepatocellular Carcinoma.

BACKGROUND & AIMS: Fish is a rich source of n-3 polyunsaturated fatty acids (PUFAs), such as eicosapentaenoic acid (EPA), docosapentaenoic acid (DPA), and docosahexaenoic acid (DHA). Although consumption of fish and n-3 PUFA has been reported to protect against the development of some types of cancer, little is known about its association with hepatocellular carcinoma (HCC). METHODS: We investigated the association between fish and n-3 PUFA consumption and HCC incidence (n = 398) in a population-based prospective cohort study of 90,296 Japanese subjects (aged, 45-74 y). Hazard ratios and 95% confidence intervals (CIs) for the highest vs the lowest quintile were estimated from multivariable adjusted Cox proportional hazards regression models. We also conducted subanalyses of subjects with known hepatitis B virus (HBV) or hepatitis C virus (HCV) status, and of subjects who were anti-HCV and/or hepatitis B surface antigen positive. All tests of statistical significance were 2-sided. RESULTS: Among all subjects, consumption of n-3 PUFA-rich fish and individual n-3 PUFAs was associated inversely with HCC, in a dose-dependent manner. Hazard ratios for the highest vs lowest quintiles were 0.64 (95% CI, 0.42-0.96) for n-3 PUFA-rich fish, 0.56 (95% CI, 0.36-0.85) for EPA, 0.64 (95% CI, 0.41-0.98) for DPA, and 0.56 (95% CI, 0.35-0.87) for DHA. These inverse associations were similar irrespective of HCV or HBV status. CONCLUSIONS: Consumption of n-3 PUFA-rich fish or n-3 PUFAs, particularly EPA, DPA, and DHA, appears to protect against the development of HCC, even among subjects with HBV and/or HCV infection. INSPIREHEALTH’S INTERPRETATION: Consuming n-3 polyunsaturated fatty acids (from fish or individually) can protect against hepatocellular carcinoma.

EXERCISE


INTRODUCTION: Physical activity participation amongst cancer survivors is low. This potent modifiable host factor has been disregarded in the cancer treatment plan for decades, despite its role in cancer control. The purpose of this study was to explore perception of physical activity among women with breast cancer. METHODS: Focus group with purposive sampling methods were conducted on women at different cancer trajectory - i.e. completed treatment (n = 6) and undergoing treatment (n = 8). The taped discussions were transcribed verbatim and analyzed using a grounded theory approach. Concepts were identified as unique or shared between the two groups, and ordered into subcategories. RESULTS AND DISCUSSION: Three key categories on barriers to exercise; facilitator/motivator towards exercise; and myths around exercise were highlighted. There were more myths and reservations about physical activity in the UT (undergoing treatment) group, than in the CT (completed-treatment) group. Facilitators included positive experience from physical activity engagement, easy-access to facility, and good social support. CONCLUSIONS: Although both groups expressed difficulties in engaging in physical activity, the newly diagnosed have more negative perception of physical activity engagement. Both groups did not note the significant role of physical activity and cancer prevention/ recurrence, which is a key strategy to promote the uptake of exercise and acceptance of active lifestyle for cancer survivors. Health care clinicians like occupational therapists need to play greater public health role in educating and counseling lifestyle redesign for survivors living with cancer. INSPIREHEALTH’S INTERPRETATION: Breast cancer patients can benefit from exercising.

The Efficacy of Exercise in Reducing Depressive Symptoms among Cancer Survivors: A Meta-Analysis.

INTRODUCTION: The purpose of this meta-analysis was to examine the efficacy of exercise to reduce depressive symptoms among cancer survivors. In addition, we examined the extent to which exercise dose and clinical characteristics of cancer survivors influence the relationship between exercise and reductions in depressive symptoms. METHODS: We conducted a systematic search identifying randomized controlled trials of exercise interventions among adult cancer survivors, examining depressive symptoms as an outcome. We calculated effect sizes for each study and performed weighted multiple regression moderator analysis. RESULTS: We identified 40 exercise interventions including 2,929 cancer survivors. Diverse groups of cancer survivors were examined in seven exercise interventions; breast cancer survivors were examined in 26; prostate cancer, leukemia, and lymphoma were examined in two; and colorectal cancer in one. Cancer survivors who completed an exercise intervention reduced depression more than controls, d(+)=-0.13 (95% CI: -0.26, -0.01). Increases in weekly volume of aerobic
Decrease of Positive Cores at Repeat Biopsy in Subjects with Low-Risk Prostate Cancer

OBJECTIVES: The objective of the study was to determine whether vitamin D(3) supplementation at 4000 IU/d for 1 yr is safe and would result in a decrease in serum levels of prostate-specific antigen (PSA) or in the rate of progression. DESIGN: In this open-label clinical trial (Investigational New Drug 77,839), subjects were followed up until repeat biopsy. SETTING: All subjects were enrolled through the Medical University of South Carolina and the Ralph H. Johnson Veterans Affairs Medical Center, both in Charleston, SC. PATIENTS AND OTHER PARTICIPANTS: All subjects had a diagnosis of low-risk prostate cancer. Fifty-two subjects were enrolled in the study, 48 completed 1 yr of supplementation, and 44 could be analyzed for both safety and efficacy objectives. INTERVENTION: The intervention included vitamin D(3) soft gels (4000 IU). MAIN OUTCOME MEASURES: Adverse events were monitored throughout the study. PSA serum levels were measured at entry and every 2 months for 1 yr. Biopsy procedures were performed before enrollment (for eligibility) and after 1 yr of supplementation. RESULTS: No adverse events associated with vitamin D(3) supplementation were observed. No significant changes in PSA levels were observed. However, 24 of 44 subjects (55%) showed decreases in PSA levels. CONCLUSION: This pilot study suggests that vitamin D(3) supplementation at 4000 IU/d for 1 yr is safe and may be associated with a decrease in PSA levels in subjects with low-risk prostate cancer.

**Complementary and Alternative Medicine**

Chan, A, T.H. Lin, V. Shih, et al.

Clinical Outcomes for Cancer Patients using Complementary and Alternative Medicine.

*Altern Ther Health Med.* 2012 Jan-Feb; 181: 12-17.

**CONTEXT:** Over half of cancer patients in Singapore use some form of complementary or alternative medicine (CAM) to improve their immunity and general health status. The effectiveness of CAM, however, in reducing acute complications is currently unknown. Concerns also exist as to whether CAM may cause toxic effects in patients with cancer. **OBJECTIVE:** To investigate the changes in general health status, immunity, and organ function over a 6-month period in CAM and non-CAM users with cancer. **DESIGN:** The authors designed a single-center, retrospective cohort study. The patients had participated previously in a cross-sectional prevalence survey about the types of oral CAM they were using in addition to chemotherapy. The authors used the data from the survey and clinical and medication-use information from patients’ medical and pharmaceutical records to complete the current study. **SETTING:** The study occurred at the National Cancer Centre Singapore (NCCS), which is the largest ambulatory cancer center in Singapore and treats two-thirds of the solid-tumor patients in Singapore. The study excluded patients if their medical records were incomplete and/or if the patients had not received any cytotoxic or targeted therapies at the time of survey. **PARTICIPANTS:** The authors reviewed the records of a total of 403 patients and excluded 46 patients because their records were missing (n=20) or because they had not received any form of anticancer treatment at the time of survey (n=26). They included 357 patients in the current study. The authors did not contact patients for this follow-up study. **OUTCOME MEASURES:** The authors collected data on clinical characteristics for each patient and assessed the differences between each characteristic at baseline (at the time of the survey) and at 6 months after baseline measurement. The authors evaluated clinical characteristics using the National Cancer Institute’s Common Terminology Criteria for Adverse Events version 3. **RESULTS:** As a whole, CAM use provided an absolute reduction of infection episodes by 11.9% (P=.045) and of antibiotic use by 10.3% (P=.022). Subgroup analysis showed a reduction of documented infection by 17.9% (P=.02) and a 13% decrease in hospitalizations due to infections (P=.043) among metastatic cancer patients who used CAM. CAM usage was not associated with significant changes of hepatic and renal function. **CONCLUSION:** CAM use in patients with cancer was associated with a reduction in hospitalizations and requirements for antibiotics. CAM use was not associated with significant changes in hepatic and renal function. There is a need for well-designed, prospective clinical studies to confirm these findings. **INTERPRETATION:** Complementary and alternative medicine can help cancer patients by reducing the need for hospitalization and antibiotics.

**Vitamin D**


Vitamin D3 Supplementation at 4000 International Units Per Day for One Year Results in a Decrease of Positive Cores at Repeat Biopsy in Subjects with Low-Risk Prostate Cancer Under Active Surveillance.

*J Clin Endocrinol Metab.* 2012 Apr 16; [Epub ahead of print]

**CONTEXT:** We wanted to investigate vitamin D in low-risk prostate cancer. **OBJECTIVES:** The objective of the study was to determine whether vitamin D(3) supplementation at 4000 IU/d for 1 yr is safe and would result in a decrease in serum levels of prostate-specific antigen (PSA) or in the rate of progression. **DESIGN:** In this open-label clinical trial (Investigational New Drug 77,839), subjects were followed up until repeat biopsy. **SETTING:** All subjects were enrolled through the Medical University of South Carolina and the Ralph H. Johnson Veterans Affairs Medical Center, both in Charleston, SC. **PATIENTS AND OTHER PARTICIPANTS:** All subjects had a diagnosis of low-risk prostate cancer. Fifty-two subjects were enrolled in the study, 48 completed 1 yr of supplementation, and 44 could be analyzed for both safety and efficacy objectives. **INTERVENTION:** The intervention included vitamin D(3) soft gels (4000 IU). **MAIN OUTCOME MEASURES:** Adverse events were monitored throughout the study. PSA serum levels were measured at entry and every 2 months for 1 yr. Biopsy procedures were performed before enrollment (for eligibility) and after 1 yr of supplementation. **RESULTS:** No adverse events associated with vitamin D(3) supplementation were observed. No significant changes in PSA levels were observed. However, 24 of 44 subjects (55%) showed decreases in PSA levels.
a decrease in the number of positive cores or decrease in Gleason score; five subjects (11%) showed no change; 15 subjects (34%) showed an increase in the number of positive cores or Gleason score. **CONCLUSION:** Patients with low-risk prostate cancer under active surveillance may benefit from vitamin D(3) supplementation at 4000 IU/d. **INSPIREHEALTH’S INTERPRETATION:** Prostate cancer patients should take supplementary vitamin D.

**STUDY OF THE MONTH**


**Soy Food Intake After Diagnosis of Breast Cancer and Survival: An in-Depth Analysis of Combined Evidence from Cohort Studies of US and Chinese Women.**

*Am J Clin Nutr.* 2012 May 30; [Epub ahead of print]

**BACKGROUND:** Soy isoflavones have antiestrogenic and anticancer properties but also possess estrogen-like properties, which has raised concern about soy food consumption among breast cancer survivors. **OBJECTIVE:** We prospectively evaluated the association between postdiagnosis soy food consumption and breast cancer outcomes among US and Chinese women by using data from the After Breast Cancer Pooling Project. **DESIGN:** The analysis included 9514 breast cancer survivors with a diagnosis of invasive breast cancer between 1991 and 2006 from 2 US cohorts and 1 Chinese cohort. Soy isoflavone intake (mg/d) was measured with validated food-frequency questionnaires. HRs and 95% CIs were estimated by using delayed-entry Cox regression models, adjusted for sociodemographic, clinical, and lifestyle factors. **RESULTS:** After a mean follow-up of 7.4 y, we identified 1171 total deaths (881 from breast cancer) and 1348 recurrences. Despite large differences in soy isoflavone intake by country, isoflavone consumption was inversely associated with recurrence among both US and Chinese women, regardless of whether data were analyzed separately by country or combined. No heterogeneity was observed. In the pooled analysis, consumption of ≥10 mg isoflavones/d was associated with a nonsignificant reduced risk of all-cause (HR: 0.87; 95% CI: 0.70, 1.10) and breast cancer-specific (HR: 0.83; 95% CI: 0.64, 1.07) mortality and a statistically significant reduced risk of recurrence (HR: 0.75; 95% CI: 0.61, 0.92). **CONCLUSION:** In this large study of combined data on US and Chinese women, postdiagnosis soy food consumption of ≥10 mg isoflavones/d was associated with a nonsignificant reduced risk of breast cancer-specific mortality and a statistically significant reduced risk of recurrence. One of studies included in the After Breast Cancer Pooling Project, the Women’s Healthy Eating & Living Study, was registered at clinicaltrials.gov as NCT00003787. **INSPIREHEALTH’S INTERPRETATION:** Consumption of soy isoflavones reduced the risk of death and recurrence in breast cancer patients.