



RESEARCH UPDATES SEPTEMBER 2013

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FOR THE LATEST IN WORLDWIDE INTEGRATIVE CANCER CARE

IN THIS ISSUE: Bourke et al. found that a lifestyle intervention was beneficial for men on androgen suppression therapy for prostate cancer who were otherwise not given any information from their standard care providers. Bradbury and colleagues reported about knowledge and perceptions of hereditary breast cancer risk in teenage girls and presented a call to action to promote preventive behaviours. Dobos and colleagues reported that evidence-based integrative oncology can improve the quality of care for women with breast cancer. Poole et al. found that post-treatment use of multivitamin supplements was not associated with an increased risk of breast cancer recurrence or death, and post-treatment antioxidants improved survival outcomes. Vidrine and colleagues reported that the majority of women who reported eating a healthy diet and exercising regularly to prevent cancer did not meet the minimum cancer prevention recommendations. Jahangard-Rafsanjani and colleagues found that selenium can decrease the duration and severity of oral mucositis in patients receiving high dose chemotherapy. Biswal and associates reported that Ashwagandha/Withania somnifera was helpful for breast cancer patients undergoing chemotherapy by decreasing cancer-related fatigue and improving quality of life. Ichikawa et al. found that oral administration of branched chain amino acids decreased the recurrence of hepatocellular carcinoma in their study group. Van Uden-Kraan et al. found that yoga is physically and psychologically beneficial for cancer patients. In our study of the month Vergnaud et al reported that adhering to the guidelines of the World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (AICR) can significantly increase longevity.

PROSTATE CANCER

Bourke, L, R. Sohanpal, V. Nanton, et al.

A Qualitative Study Evaluating Experiences of a Lifestyle Intervention in Men with Prostate Cancer Undergoing Androgen Suppression Therapy.

Trials. 2012 Nov 14; 13:208.

BACKGROUND: The severe iatrogenic hypogonadal state induced by medical castration used for treatment of prostate cancer is associated with adverse effects including fatigue, increased fracture risk, and a decrease in skeletal muscle function, which negatively impact quality of life. We have previously reported beneficial changes in healthy lifestyle behaviors, physical function and fatigue as a result of a novel combined exercise and dietary advice intervention (a lifestyle intervention) in men with prostate cancer on androgen suppression therapy (AST). The aim of this research was to conduct a qualitative evaluation of the lifestyle intervention in these men with advanced prostate cancer receiving androgen suppression therapy (AST). **METHODS:** Twelve men with prostate cancer on AST took part in three focus groups in a UK higher education institution following the 12 week intervention. Sessions lasted between 45 and 60 minutes in duration. All discussions were audio-taped and transcribed. A framework analysis approach was applied to the focus group data. An initial coding framework was developed from a priori issues listed in the topic guide and extended and refined following initial familiarization with the focus group transcripts. Line by line indexing of the transcripts was undertaken iteratively to allow for the incorporation of new codes. Coded sections of text were grouped together (charted) into themes and subthemes prior to a further process of comparison and interpretation.

RESULTS: None of the participants involved in the trial were provided with information on how lifestyle changes might be beneficial to men with prostate cancer during the course of their standard medical treatment. We present novel findings that this intervention was considered beneficial for reducing anxiety around treatment and fear of disease progression. Men were supportive of the benefits of the intervention over conventional cancer survival discussion group arrangements as it facilitated peer support in addition to physical rehabilitation. **CONCLUSIONS:** The benefits of lifestyle changes in men with prostate cancer are not well appreciated by care providers despite a range of benefits becoming apparent. Strategies to implement exercise and dietary interventions in standard care should be further evaluated. **TRIAL REGISTRATION:** Current Controlled Trials ISRCTN88605738.

INSPIREHEALTH'S INTERPRETATION: A lifestyle intervention including diet and exercise advice helped to decrease treatment anxiety and fear of disease progression in men with prostate cancer undergoing androgen suppression therapy. It would be beneficial if these interventions were incorporated into standard care.

BREAST CANCER

Bradbury, AR, L. Patrick-Miller, B. Egleston, et al.

Perceptions of Breast Cancer Risk, Psychological Adjustment and Behaviors in Adolescent Girls at High-Risk and Population-Risk for Breast Cancer.

Cancer Res. 2012. 15 Dec 2012; 72 (24 SUPPL. 3)

BACKGROUND: Preliminary evidence suggests that many girls from breast cancer (BC) families are aware of their increased risk for BC. How this awareness impacts their psychosocial adjustment and health behaviors remains unknown. **METHODS:** 11-19 YO girls at high-risk (HR) or population-risk (PR) for BC completed self-administered quantitative surveys informed by the Self-Regulation Theory of Health Behavior. Girls with a first or second-degree relative with BC were classified as HR. For hypothesis testing, we used simple linear and logistic regressions. To account for correlation of responses within families, we used robust (cluster-corrected) standard errors or Generalized Estimating Equations. **RESULTS:** 47 PR and 89 HR girls have completed surveys. Age did not differ between groups (Mage = 15.6; SD=2.4). 30% of HR girls have a mother with BC. 67% of HR girls vs. 30% of PR girls reported self-perceived risk for adult BC to be “higher than other girls my age,” ($p = <0.01$, Table 1). Perceived risk was associated with an increasing number of first and second-degree relatives with BC ($p = 0.002$) and older age ($p = 0.01$). There was no evidence that the relationship between perceived risk and age was moderated by risk status ($p = 0.740$ for interaction terms). The majority of both HR and PR girls reported that there are things women and girls their age can do to prevent BC. (table 1) Perceived controllability of BC did not differ significantly by age or risk status. HR girls reported higher general anxiety ($p = 0.07$), but not depression than PR girls. HR girls more frequently reported tobacco use than PR girls ($p = 0.05$). HR girls also reported greater alcohol use, more frequent performance of self-breast exams and less frequent physical activity than PR girls, although these differences were not significant. **CONCLUSION:** Girls from BC families are more likely to perceive themselves to be at increased risk for BC, to experience more general anxiety, and to have engaged more frequently in risk behaviors, particularly tobacco use. The majority of girls perceive BC to be preventable both for women in general and for themselves, suggesting a potential “teachable moment” among adolescents that might be sustainable across the lifespan. Further research evaluating knowledge and perceptions of breast cancer risk throughout adolescent development and differences among subgroups could inform strategies to optimize adolescent psychosocial responses to hereditary cancer risk and promote preventive health behaviors among both HR and PR girls.

INSPIREHEALTH’S INTERPRETATION: Girls with a high risk of familial breast cancer are aware of the increased risk and can benefit from lifestyle education to correct risky behaviours and prevent cancer.

Dobos, GJ, P. Voiss, I. Schwidde, et al.

Integrative Oncology for Breast Cancer Patients: Introduction of an Expert-Based Model.

BMC Cancer. 2012 12539.

BACKGROUND: To determine whether breast cancer survivors (BCSs) who received an Malignant breast neoplasms are among the most frequent forms of cancer in the Western world. Conventional treatment of breast cancer may include surgery, hormonal therapy, chemotherapy, radiation and/or immunotherapy, all of which are often accompanied by severe side effects. Complementary and alternative medicine (CAM) treatments have been shown to be effective in alleviating those symptoms. Furthermore, with patient survival rates increasing, oncologists, psychologists and other therapists have to become more sensitive to the needs of cancer survivors that go beyond than the mere alleviation of symptoms. Many CAM methods are geared to treat the patient in a holistic manner and thus are also concerned with the patient’s psychological and spiritual needs. **DISCUSSION:** The use of certain CAM methods may become problematic when, as frequently occurs, patients use them indiscriminately and without informing their oncologists. Herbal medicines and dietary supplements, especially, may interfere with primary cancer treatments or have other detrimental effects. Thus, expertise in this highly specialized field of integrative medicine should be available to patients so that they can be advised about the benefits and negative effects of such preparations and practices. Being a beneficial combination of conventional and CAM care, integrative oncology makes possible the holistic approach to cancer care. The concept of integrative oncology for breast cancer is jointly practiced by the Department of Internal and Integrative Medicine, Kliniken Essen-Mitte, academic teaching hospital of the University of Duisburg-Essen, and the Breast Center at Kliniken Essen-Mitte in Germany. This model is introduced here; its scope is reviewed, and its possible implications for the practice of integrative medicine are discussed. **SUMMARY:** Evidence-based integrative care is crucial to the field of oncology in establishing state-of-the-art care for breast cancer patients.

INSPIREHEALTH’S INTERPRETATION: Uninformed use of CAM therapies may be detrimental to breast cancer patients who use them indiscriminately. Evidence-based integrative care (such as that provided by InspireHealth) is therefore necessary for breast cancer patients wishing to make informed decisions about CAM therapies.

Poole, EM, X. Shu, B. J. Caan, et al.

Postdiagnosis Supplement use and Breast Cancer Prognosis in the After Breast Cancer Pooling Project.

Breast Cancer Res Treat. 2013 June 2013; 139(2): 529-537.

BACKGROUND: Vitamin supplement use after breast cancer diagnosis is common, but little is known about long-term effects on recurrence and survival. **METHODS:** We examined postdiagnosis supplement use and risk of death or recurrence in the After Breast Cancer Pooling Project, a consortium of four cohorts of 12,019 breast cancer survivors from the United States and China. Post-treatment supplement use (vitamins A, B, C, D, E, and multivitamins) was assessed 1-5 years postdiagnosis. Associations with risk of recurrence, breast cancer-specific mortality, or total mortality were analyzed in Cox proportional hazards models separately by cohort. Individual cohort results were combined using random effects meta-analysis. Interactions with smoking, treatment, and hormonal status were examined. **RESULTS:** In multivariate models, vitamin E was associated with a decreased risk of recurrence (RR: 0.88; 95 % CI 0.79-0.99), and vitamin C with decreased risk of death (RR: 0.81; 95 % CI 0.72-0.92). However, when supplements were mutually adjusted, all associations were attenuated. There were no statistically significant associations with breast cancer mortality. The use of antioxidant supplements (multivitamins, vitamin C, or E) was not associated with recurrence, but was associated with a 16 % decreased risk of death (95 % CI 0.72-0.99). In addition, vitamin D was associated with decreased risk of recurrence among ER positive, but not ER negative tumors (p-interaction = 0.01). **CONCLUSIONS:** In this large consortium of breast cancer survivors, post-treatment use of vitamin supplements was not associated with increased risk of recurrence or death. Post-treatment use of antioxidant supplements was associated with improved survival, but the associations with individual supplement were difficult to determine. Stratification by ER status and considering antioxidants as a group may be more clinically relevant when evaluating associations with cancer risk and mortality.

INSPIREHEALTH'S INTERPRETATION: Post-treatment use of vitamin supplements and antioxidants was not associated with risk of recurrence or death, but the effect of individual supplements was difficult to determine.

LIFESTYLE

Vidrine, JI, D. W. Stewart, S. C. Stuyck, et al.

Lifestyle and Cancer Prevention in Women: Knowledge, Perceptions, and Compliance with Recommended Guidelines.

J Womens Health (Larchmt). 2013 01 Jun 2013; 22(6): 487-493.

BACKGROUND: Most women in the United States do not meet minimum recommendations for physical activity or fruit/vegetable consumption. Thus, many are overweight/obese and are at increased risk for cancer morbidity and mortality. This study investigated women's perceptions about the importance of physical activity and a healthy diet in preventing cancer, perceptions of engaging in these behaviors, and whether or not the behaviors met cancer prevention recommendations. **METHOD:** A cross-sectional, national, random-digit-dialed telephone survey was conducted with 800 women, ages 18 and older. The response rate was 24.5%. Measures assessed demographics, perceived health status, beliefs about the role of physical activity and diet in cancer prevention, perceived engagement in these behaviors, and actual behaviors. **RESULTS:** Only 9.9% of women who reported eating a healthy diet met minimum fruit and vegetable recommendations; 39.7% of women who reported regular physical activity met the minimum recommendation. Analyses adjusted for demographics indicated that low education was associated with reporting regular physical activity to prevent cancer, yet failing to meet the minimum recommendation (odds ratio [OR]=0.90, 95% confidence interval [CI]: 0.82-0.98, p=0.01). Racial/ethnic minority status was marginally significantly associated with reporting eating a healthy diet to prevent cancer, yet failing to consume sufficient fruits and vegetables (OR=2.94, 95% CI: 0.99-8.71, p=0.05). **CONCLUSIONS:** Most women who reported eating a healthy diet and being physically active to prevent cancer failed to meet the minimum cancer prevention recommendations. Furthermore, low socioeconomic status and racial/ethnic minority women may be particularly vulnerable to discrepancies between beliefs and behavior.

INSPIREHEALTH'S INTERPRETATION: Most of the women in this study, particularly those with low socioeconomic status and among the ethnic minority, failed to meet minimum requirements for cancer prevention although they reported eating a healthy diet and exercising regularly

OTHER CAM THERAPIES

Jahangard-Rafsanjani, Z, K. Gholami, M. Hadjibabaie, et al.

The Efficacy of Selenium in Prevention of Oral Mucositis in Patients Undergoing Hematopoietic SCT: A Randomized Clinical Trial.

Bone Marrow Transplant. 2013 June 2013; 48(6): 832-836.

BACKGROUND: Oral mucositis (OM) is a complication of high-dose chemotherapy (HDC) followed by hematopoietic SCT (HSCT) with few effective treatments. Selenium has a cytoprotective role via the glutathione peroxidase (Glu.Px) enzyme and prevents chemotherapy-induced toxicities. **METHODS:** We performed a double-blind, randomized, placebo-controlled study

to evaluate the efficacy of selenium on the prevention of OM in 77 patients with leukemia, undergoing allogeneic HSCT. Thirty-seven patients received oral selenium tablets (200 mcg twice daily) from the starting day of HDC to 14 days after transplantation. OM was evaluated daily for 21 days after transplantation according to World Health Organization oral toxicity scale. **RESULTS:** The incidence of severe OM (grades 3-4) was significantly lower in the selenium group (10.8% vs 35.1%, $P < 0.05$). We noted that the duration of objective OM (grades 2-4), excluding patient's self-declaration (grade 1), was significantly shorter in the selenium group (3.6 ± 1.84 vs 5.3 ± 2.2 days, $P = 0.014$). Significant elevations in serum selenium level and plasma Glu.Px activity were observed 7 and 14 days after transplantation compared with baseline in the selenium group. **CONCLUSION:** We conclude that selenium can reduce the duration and severity of OM after HDC. Clinicaltrial.org ID: NCT01432873. **INSPIREHEALTH'S INTERPRETATION:** Oral selenium supplementation twice a day was helpful in reducing oral mucositis in patients with leukemia undergoing high dose chemotherapy and blood stem cell transplantation.

Biswal, BM, S. A. Sulaiman, H. C. Ismail, et al.

Effect of Withania Somnifera (Ashwagandha) on the Development of Chemotherapy-Induced Fatigue and Quality of Life in Breast Cancer Patients.

Integr Cancer Ther. 2013 July 2013; 124: 312-322.

HYPOTHESIS: Withania somnifera is an herb with antioxidant, anti-inflammatory, anticancer, antistress, and adaptogenic properties. Previous studies have shown its antistress effects in animals. Traditional Indian medicine has used it for centuries to alleviate fatigue and improve general well-being. **METHODS:** This is an open-label prospective nonrandomized comparative trial on 100 patients with breast cancer in all stages undergoing either a combination of chemotherapy with oral Withania somnifera or chemotherapy alone. The chemotherapy regimens were either taxotere, adriamycin, and cyclophosphamide or 5-fluorouracil, epirubicin, and cyclophosphamide. Withania somnifera root extract was administered to patients in the study group at a dose of 2 g every 8 hours, throughout the course of chemotherapy. The quality-of-life and fatigue scores were evaluated before, during, and on the last cycles of chemotherapy using the EORTC QLQ-C30 (Version 3), Piper Fatigue Scale (PFS), and Schwartz Cancer Fatigue Scale (SCFS-6). **RESULTS:** The median age distributions in the study and control arm were 51 years (range = 36-70) and 50.5 years (range = 32-71), respectively. The majority (77%) of patients had stage II and III disease. Patients in the control arm experienced statistically significant higher estimated marginal means of fatigue score compared with the study group ($P < .001$ PFS, $P < .003$ SCFS-6). Furthermore, various symptom scales of the EORTC QLQ-C30 were statistically significant in 7 out of 18 symptoms in the intervention group compared with the control group ($P < .001$). The 24-month overall survival for all stages in study and control group patients were 72% versus 56%, respectively; however, the result was not significant ($P = .176$), at a median follow-up duration of 26 months. **CONCLUSIONS:** Withania somnifera has potential against cancer-related fatigue, in addition to improving the quality of life. However, further study with a larger sample size in a randomized trial is warranted to validate our findings.

INSPIREHEALTH'S INTERPRETATION: The adaptogenic herb Ashwagandha/Withania somnifera can reduce cancer-related fatigue and improve quality of life in breast cancer patients undergoing chemotherapy.

Ichikawa, K, T. Okabayashi, H. Maeda, et al.

Oral Supplementation of Branched-Chain Amino Acids Reduces Early Recurrence After Hepatic Resection in Patients with Hepatocellular Carcinoma: A Prospective Study.

Surg Today. 2013 July 2013; 437: 720-726.

PURPOSES: The long-term outcomes of branched-chain amino acids (BCAA) administration after hepatic resection in patients with hepatocellular carcinoma (HCC) remain unclear. This study assessed the effect of oral supplementation with BCAA on the development of liver tumorigenesis after hepatic resection in HCC patients. **METHODS:** Fifty-six patients were randomly assigned to receive either BCAA supplementation (Livact group, $n = 26$) or a conventional diet (Control group, $n = 30$). Twenty-six patients in the BCAA group were treated orally for 2 weeks before and 6 months after hepatic resection. Postoperative tumor recurrence was continuously evaluated in all patients by measuring various clinical parameters. **RESULTS:** There was no significant difference in the overall survival rate between the two patient groups; however, the recurrence rate at 30 months after surgery was significantly better in the Livact group in comparison to the Control group. Interestingly, the tumor markers, such as AFP and PIVKA-II, significantly decreased at 36 months after liver resection in the Livact group in comparison to the Control group. **CONCLUSIONS:** Oral supplementation of BCAA reduces early recurrence after hepatic resection in patients with HCC. This treatment regimen offers potential benefits for clinical use in such patients, even in cases with a well-preserved preoperative liver function.

INSPIREHEALTH'S INTERPRETATION: Supplementation with the branched-chain amino acid formula Livact can help prevent early recurrence of hepatocellular carcinoma after liver resection surgery.

E-VERSION EXTRA GASTROINTESTINAL RESECTION

Peixe-Machado, PA, B. D. de Oliveira, D. B. Dock-Nascimento, et al.

Shrinking Preoperative Fast Time with Maltodextrin and Protein Hydrolysate in Gastrointestinal Resections due to Cancer.

Nutrition. 2013 July 2013; 297-8: 1054-1059.

OBJECTIVE: Prolonged preoperative fasting increases postoperative hospital length of stay and current evidence recommends patients drink a carbohydrate-based liquid drink 2 h before surgery. The aim of this study was to investigate whether the addition of hydrolyzed protein to a carbohydrate-based drink would reduce both the inflammatory response and hospital length of stay. **METHODS:** We evaluated 22 patients of both sexes, undergoing gastrointestinal resection due to cancer. Patients were randomized into two groups: control group (n = 12; 6-8 h fast) and the intervention group (n = 10; fasted to solids for 6 h; and given a beverage containing 11% pea protein hydrolysate and 89% carbohydrates (79% maltodextrin and 21% sucrose), 400 mL the night before and 200 mL 3 h before surgery. Blood samples were collected the morning before surgery and on postoperative day 2. **RESULTS:** Overall mortality was 4.5% (one case, control group). The duration of postoperative hospital stay was twofold longer in the control group (P = 0.04). A significant increase of serum C-reactive protein/albumin ratio was observed in controls compared with the intervention group (P = 0.04). **CONCLUSION:** The abbreviation of preoperative fasting time to 3 h using a solution containing carbohydrates and hydrolyzed pea proteins reduces the acute-phase inflammatory response and decreases the postoperative length of stay in patients undergoing major surgery for a malignancy.

INSPIREHEALTH'S INTERPRETATION: A beverage containing hydrolyzed pea protein and carbohydrate can help decrease inflammation and therefore the length of hospital stay in patients undergoing cancer-related surgery.

YOGA

Van Uden-Kraan, CF, M. J. M. Chinapaw, C. H. C. Drossaert, et al.

Cancer Patients' Experiences with and Perceived Outcomes of Yoga: Results from Focus Groups.

Support Care Cancer. 2013 July 2013; 217: 1861-1870.

PURPOSE: Yoga is a "mind-body" exercise, a combination of physical poses with breathing and meditation, and may have beneficial effects on physical and psychosocial symptoms. We aimed to explore cancer patients' motives for practicing yoga, experiences of practicing yoga, and perceived physical and psychosocial outcomes. **METHODS:** Participants (n = 45) following yoga classes for cancer patients were asked to participate in focus group interviews, of whom 29 participated. The focus groups (n = 5) were audio taped with prior consent and transcribed verbatim. Data were analyzed by two coders and independently coded into key issues and themes. **RESULTS:** Mean age of the participants was 53.8 (SD 10.8) years, of whom 25 were women, and 18 were diagnosed with breast cancer. Motives for participation in yoga were relaxation, the will to be physically active, the wish to pay more attention to one's body, coping with psychosocial symptoms, contributing to their cancer rehabilitation process, and combing physical and mental processes. Main physical and psychosocial experiences of yoga mentioned by patients were regaining body awareness, raising attention to the inner self, learning how to relax, enjoyment, and finding recognition and understanding. Increased physical fitness and function, mental strength and resilience, increased coping, being more relaxed, and happiness were frequently mentioned experiences of patients. **CONCLUSIONS:** Patients with different types of cancer perceived several benefits on physical and psychosocial outcomes by practicing yoga. Therefore, yoga can be a valuable form of supportive care for cancer patients.

INSPIREHEALTH'S INTERPRETATION: The main benefits reported by cancer patients following the practice of yoga include regained body awareness and connection with their inner selves, learning to relax, and increasing physical fitness, mental strength, coping, and happiness.

E-VERSION EXTRA RELIGION

Ravishankar, N

Religion and Brain Tumour Patients: A Qualitative Study.

Canadian Journal of Neurological Sciences. 0614 Conference Start: 20130612 Conference End: 2013; Conference: 48th Annual Congress of the Canadian Neurological Sciences Federation Montreal, QC Canadaonferene Pubaton: (ar.agngs). 40 (3 SUPP. 1) (S36).

BACKGROUND: As the focus on modern neurosurgery has shifted to the realm of technological advancement, some patients and their loved ones still hold a strong faith in their religion to guide them through the process. This study aimed to determine whether religion as a coping mechanism was beneficial for patients before, during and after craniotomy. **METHOD:** qualitative case study methodology was used. Semi-structured interviews were conducted with 36 adult patients who underwent surgery for a benign or malignant brain tumour. Interviews were audio recorded and transcribed, and the data subjected to thematic analysis. **RESULTS:** Four overarching themes emerged from the data: 1) neurosurgical patients said to have significantly

benefitted from religion; 2) patients did not require a dedicated religious room in the hospital; 3) patients required religious resources such as leaders and/or groups; and 4) patients were not in favour of their physician engaging in the religious ritual. **CONCLUSIONS:** Most patients found religion to be an effective coping mechanism, offering them strength, comfort and hope through the surgery. The findings from this study emphasise the need for including a “religious time-out” before and after surgery and the inclusion of religious leaders/groups for those in favour to ensure quality care and patient satisfaction.

INSPIREHEALTH'S INTERPRETATION: Most brain tumour patients in this small study found religion to be beneficial in coping with surgery, and provision of resources such as religious leaders and/or groups could improve patient care and well-being.

STUDY OF THE MONTH

Vergnaud, AC, D. Romaguera, P. H. Peeters, et al.

Adherence to the World Cancer Research Fund/American Institute for Cancer Research Guidelines and Risk of Death in Europe: Results from the European Prospective Investigation into Nutrition and Cancer Cohort study^{1,4}.

Am J Clin Nutr. 2013 May; 975: 1107-1120.

BACKGROUND: In 2007, the World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (AICR) issued recommendations on diet, physical activity, and weight management for cancer prevention on the basis of the most comprehensive collection of available evidence. **OBJECTIVE:** We investigated whether concordance with WCRF/AICR recommendations is related to risk of death. **DESIGN:** The current study included 378,864 participants from 9 European countries enrolled in the European Prospective Investigation into Cancer and Nutrition study. At recruitment (1992-1998), dietary, anthropometric, and lifestyle information was collected. A WCRF/AICR score, which incorporated 6 of the WCRF/AICR recommendations for men [regarding body fatness, physical activity, foods and drinks that promote weight gain, plant foods, animal foods, and alcoholic drinks (score range: 0-6)] and 7 WCRF/AICR recommendations for women [plus breastfeeding (score range: 0-7)], was constructed. Higher scores indicated greater concordance with WCRF/AICR recommendations. Associations between the WCRF/AICR score and risks of total and cause-specific death were estimated by using Cox regression analysis. **RESULTS:** After a median follow-up time of 12.8 y, 23,828 deaths were identified. Participants within the highest category of the WCRF/AICR score (5-6 points in men; 6-7 points in women) had a 34% lower hazard of death (95% CI: 0.59, 0.75) compared with participants within the lowest category of the WCRF/AICR score (0-2 points in men; 0-3 points in women). Significant inverse associations were observed in all countries. The WCRF/AICR score was also significantly associated with a lower hazard of dying from cancer, circulatory disease, and respiratory disease. **CONCLUSION:** Results of this study suggest that following WCRF/AICR recommendations could significantly increase longevity.

INSPIREHEALTH'S INTERPRETATION: Many cancer patients do not meet the minimal requirements of a healthy lifestyle. This important study reveals that adhering to the WCRF/AICR recommendations on diet, physical activity, and weight management could increase survival from cancer and other chronic diseases.

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Canadian Breast Cancer Foundation BC • YUKON



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www.cbcbf.org

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