potential to reduce inflammation, modulate epigenetic changes and affect biological processes involved in the pathogenesis of symptoms. The objective of this study was to determine if pre-treatment dietary patterns are associated with the presence of symptoms 1-year after diagnosis. Methods: This was a longitudinal study of 295 newly diagnosed HNC patients. All patients completed a food frequency questionnaire and epidemiologic health survey. Self-reported symptoms were assessed pre-treatment and 1-year after diagnosis using a Likert scale ranging from "1: not at all bothered" by symptom to "5: extremely bothered". Symptom scores were dichotomized as "not at all" vs. "slight - extremely". Principal component analysis was used to derive pre-treatment dietary patterns. Multivariable logistic regression models examined the association of derived dietary patterns (fit by quartiles) and seven symptoms (trismus, xerostomia, dysphagia of liquids, dysphagia of solids, difficulty chewing, taste and mucositis). An overall symptom summary score was calculated (range 8–39) and dichotomized as <17 vs. $\geq$17. This cut-off was chosen by examining the distribution of scores and categorizing into two distinct subgroups naturally present in the data. Results: Two dietary patterns emerged: Prudent (high intakes of vegetables, fruit, fish, poultry, and whole grains) and Western (high intakes of red and processed meats, refined grains, potatoes, and French fries). After adjusting for age, baseline symptoms, tumor site, cancer stage, smoking, calories and HPV status, significant inverse associations were observed between pre-treatment Prudent pattern score and dysphagia of liquids ($P = 0.01$), dysphagia of solids ($P = 0.02$) and difficulty chewing ($P = 0.02$) at 1 year post- diagnosis. A statistically significant inverse association was observed between the overall symptom summary score and the Prudent pattern ($P < 0.001$). No significant associations were observed between the Western pattern and symptoms. Conclusion: Consumption of a pre-treatment Prudent diet may help reduce the risk of symptoms such as dysphagia and difficulty chewing 1-year after diagnosis in HNC survivors.

Sleep and Cancer Incidence in Alberta's Tomorrow Project Cohort

McNeil J, Barberio A, Friedenreich CM, Brenner DR

We aimed to investigate the association between self-reported sleep duration and sleep timing midpoint with all- and site-specific cancer incidence in Alberta's Tomorrow Project (ATP) cohort. Methods: The analysis for sleep duration included 46,300 Albertans aged 35–65 years at baseline from the ATP cohort recruited from 2001–2015. Sleep timing midpoint (wake-time – $\frac{1}{2}$ sleep duration) was assessed in a subset of ATP participants ($n = 19,820$). Cancer incidence was determined through record linkage with the Alberta Cancer Registry in December 2016. Cox proportional hazard regression models evaluated the effects of sleep duration and sleep timing midpoint categories on all- and site-specific (breast, colorectal, lung, prostate, endometrial and hematologic) cancer incidence. Models were adjusted for age, sex (non sex-specific cancers), highest level of education, total household income, marital status, alcohol intake, smoking status, body mass index, family history of cancer, presence of at least one medical condition/co-morbidity, menopausal status (female cancers only) and sleep duration (sleep timing midpoint analysis only). Results: By 2016, there were 3,034 incident cases of cancer in this cohort. A statistical trend was noted for an increased risk of all cancers in participants reporting > 9 hours of sleep/night compared to 7–9 hours of sleep/night (hazard ratio (HR) = 1.16, 95% confidence interval (CI): 0.98–1.36; $P = 0.08$). Reporting > 9 hours of sleep/night compared to 7–9 hours of sleep/night was also associated with an increased incidence of endometrial cancer (HR = 2.09, 95% CI: 1.16–3.76; $P = 0.01$). A later sleep timing midpoint (>4:08 AM) versus an intermediate sleep timing midpoint (3:47 AM–4:08 AM) was associated with an increased risk of all (HR = 1.19, 95% CI: 1.03–1.37; $P = 0.02$) and breast (HR = 1.64, 95% CI: 1.18–2.26; $P = 0.003$) cancer incidence. Conclusions: These novel findings provide evidence regarding the important role of sleep in cancer etiology. Interventions that put emphasis on proper sleep hygiene for cancer prevention are needed.

Empowering Latinas to Obtain Breast Cancer Screenings: Comparing Intervention Effects, Part 2

Molina Y, San Miguel LG, Tamayo L, Sanchez-Diaz C, Robledo C, Peña K, Lucio A, Hernandez O, Arroyo J, Medina M, Coronado N, Irma V

We compare the effects of breast cancer education and empowerment approaches on non-adherent Latinas' breast health behaviors and dissemination of health information. Methods: The setting for this ongoing, quasi-experimental trial is two Latino, lower income communities in Chicago. Women were recruited via two community-based organizations and snowball sampling. Eligibility criteria were: 1) age of 52–74; 2) lack of screening within past 2 years; 3) no previous breast cancer diagnosis; and, 4) no health volunteerism experience. Women were assigned to a three week group intervention (3 2 hour sessions). The education intervention is administered in East Side/South Chicago and the empowerment intervention is administered in Pilsen/Little Village to avoid contamination effects. The education intervention has 3 sessions focused on early detection and prevention (diet, physical activity). The empowerment intervention has 3 sessions focused on early detection, sharing information with family/friends, and health volunteerism. Navigation is provided if women wish to obtain mammograms. Three questionnaires are given at baseline, post-intervention, and a 6 month follow-up. Results: Among our 68 participants (34 education; 34 empowerment), 87% were born in Mexico; 59% had <9th grade education; 52% had a median household income of <$10K; and, 51% were uninsured. The average age was 61.21 (SD = 6.20). Relative to education participants, more empowerment participants have scheduled mammograms (94% vs. 74%; $P = 0.05$) and obtained mammograms (77% vs. 38%, $P = 0.001$). Empowerment participant also spoke to more individuals about breast health relative to education participants (M = 6.24, SD = 5.30 vs. M = 3.00, SD = 3.04, $P = 0.003$). A greater proportion of engagement participants also spoke about specific types of breast cancer screening (58% vs. 38%, $P = 0.01$) and discussed breast cancer across multiple settings (58% vs. 24%, $P = 0.003$). Discussion: The empowerment approach may be particularly effective in

changing non-adherent Latinas' screening behaviors and promoting them to become agents of change in their communities. Limitations concern generalizability due a non-probability based sample, and limited ability for causal inferences due to a lack of randomization.

Using Social Media to Reduce Multiple Risk Factors for CRC in Rural Appalachians: #CRCFREE

Voigts K, Adegboyega A, Bush H, Hatcher J

Purpose: To examine the efficacy, acceptability, feasibility, and applicability of a Facebook (FB) intervention designed to reduce multiple colorectal cancer (CRC) risk factors in older adults residing in rural Appalachian Kentucky. Methods: We piloted a 12 week FB intervention culturally tailored for older adults residing in rural Eastern Kentucky to impact CRC risk factors, including: nutrition, physical activity, and screening. Participants were aged 50+, had internet access, and were at risk for CRC. During the 12 week study, the participants received three daily posts via secret FB group regarding CRC risk factors. Demographics, dietary measures, body mass index (BMI), and CRC screening were assessed at baseline and post intervention. FB engagement and physical activity were tracked throughout the intervention. Dietary measures included the Healthy Eating Index (HEI) and Dietary Inflammatory Index (DII). Physical activity was tracked using Fitbits. Post-intervention focus group interviews were conducted to assess feasibility and acceptability. Results: Participants ($n = 57$) were Caucasian, aged 58 ± 6 years, predominately female (67%), and the majority reported at least a high school education (77%). Post intervention, participants experienced significant increase in HEI scores (49.94 ± 9.84 vs. 58.60 ± 12.06, $P = < 0.01$). DII scores significantly decreased (2.44 ± 1.12 vs. 1.60 ± 1.63, $P = 0.003$). There was no significant change in physical activity, BMI, or screening status. Participants, on average, viewed more than half of the posts. Focus group participants found FB posts to be useful and motivating. They reported that FB posts were educational and motivational. Conclusion: This pilot study shows promising preliminary data to support using a FB intervention in rural Appalachian older adults to decrease CRC risks. Participants were receptive to FB intervention, and FB provides a unique and accessible method for health promotion in hard to reach populations.

Prevalence and Characteristics of Liver Fibrosis Detected by Elastography: Results from the Cameron County Hispanic Cohort

Watt GP, Lee M, Pan JJ, Fallon MB, McCormick JP, Fisher-Hoch SP

Mexican Americans in south Texas have among highest rates of hepatocellular carcinoma (HCC) in the US. Non-invasive measures of liver fibrosis are needed to identify those at high risk of HCC. The purpose of the study was to determine the prevalence of and factors associated with liver fibrosis using acoustic radiation force impulse (ARFI) elastography, an accurate and non-invasive modality, in the Cameron County Hispanic Cohort (CCHC). Methods. The CCHC is a well characterized population-based cohort in south Texas. Liver stiffness was measured by ARFI in 404 participants in the CCHC by two separate operators. Median liver stiffness > 1.34 m/s was considered significant (F2-F4) fibrosis. Ultrasound was used to determine presence of steatosis. Absence of HCV and HBsAg antigen, and absence of heavy drinking, was considered non-alcoholic fatty liver disease (NAFLD). We calculated design-based prevalence of fibrosis and determined clinical associations with (1) significant fibrosis and (2) simple steatosis using multinomial logistic regression. Results. Mean age was 51.1 years, 44.6% were male, and 29.1% had diabetes. The prevalence of significant fibrosis was 16.5%. In the fibrosis group, most (47/57, 84%) had NAFLD. We excluded participants with etiologies other than NAFLD for further analyses. After adjustment for age and sex, hypertension [Odds Ratio (OR) 3.0, 95% confidence interval (CI) 1.1–8.1], platelet count (OR 0.6, 95% CI, 0.5–1.0), and potassium level (OR 1.5, 95% CI, 1.1–2.0) were significantly associated with fibrosis, but not steatosis. HDL cholesterol (OR 0.5, 95% CI, 0.4–0.7), obesity (OR 2.2, 95% CI, 1.2–4.0) and insulin level (OR 2.1, 95% CI, 1.2–3.7) were significantly associated with steatosis, but not fibrosis. Elevated fasting glucose, diabetes, and elevated ALT levels were significantly associated with both steatosis and fibrosis. Conclusion. This is the first population-based application of liver elastography in the US. We find a high prevalence of fibrosis in Mexican Americans, dominated by NAFLD. Our results indicate a higher burden of fibrosis than population-based studies of liver fibrosis conducted elsewhere. We urge community intervention for the early detection of liver disease and prevention of NAFLD-related HCC.

Assessing the Feasibility of a Mentored Home-Based Vegetable Gardening Intervention among Breast Cancer Survivors in the Deep South

Bail JR, Frugé AD, Cases MG, Smith KP, Cantor AB, De Los Santos J, Locher JL, Cohen HJ, Demark-Wahnefried W

To assess the feasibility of a mentored home-based vegetable gardening intervention among Breast Cancer Survivors (BCS) residing in the Birmingham, Alabama metropolitan area. Methods: Using a wait-list control design, BCS were randomized to either a year-long vegetable gardening intervention or a wait-list control. Intervention participants were provided with necessary supplies and paired with a Master Gardener from the Cooperative Extension. Master Gardeners mentored participants in planning, planting, and maintaining 3 seasonal gardens over 12 months, conducted monthly home-visits, and checked in bi-weekly via telephone or email. Feasibility assessment criteria consisted of participant accrual, retention, and satisfaction rates of ≥80%. Target participant accrual was 100. Participant satisfaction data were collected after study completion via structured telephone debriefing. Descriptive statistics were conducted using SPSS V24.

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Y Molina, LG San Miguel, L Tamayo, et al.

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