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ABSTRACTS

BEHAVIORAL HEALTH

Discrete strategies to reduce intake of discretionary food choices: A scoping review.

Kwon S, Janz K, Letuchy E, et al. *Int J Behav Nutr Phys Act*. 2016; http://dx.doi.org/10.1186/s12966-016-0380-z.

The authors seek to identify dietary intervention strategies with the potential to reduce discretionary dietary choices pertinent to obesity. The study also sought to identify the targeted health and nutrition effects of these strategies. The authors employed a scoping review with the goal of mapping the available literature on key discrete dietary intervention strategies and their impact on health effects within the human population aged 2 to 65 years. A total of 3,283 studies were identified, of which 44 were selected for the review. The search was performed electronically within the Cochrane Library, Ovid (Medline and Embase), and EbscoHost (CINAHL). Studies published in English, released up to and including July 20, 2015, were included. Studies were assessed for inclusion by primary author and duplicates were removed, with an examination of titles and abstracts used as well as full-text appraisals during the screening. Inclusion criteria included randomized controlled trials or comparator group studies which evaluate strategies to reduce discretionary food intake with the aim of improved nutrition and health as a goal. Chronic and acute studies were included as were those concerning strategies including dietary reformulation, substitution, restriction/elimination, and supplementation. Exclusion criteria included studies involving pregnant or lactating women or clinical populations that require strictly modified diets, studies related to eating disorders, studies assessing results of only an intervention or comparator group following the randomized control trial as a follow-up, studies assessing labeling and advertising, and those studies which did not report nutritional intake or body weight. The 44 studies selected included 13 that assess reformation strategies, 5 assessing substitution strategies, 9 assessing restriction/elimination strategies, 13 assessing supplementation strategies, and 4 assessing nutrition education/messaging strategies. Statistical analysis was generated and presented in a narrative format, per the scoping review strategy. Data were extracted from the selected study in terms of aims, interventions, outcome measurements, and primary results. The produced narratives encapsulate the common theme emerging from identified strategies mapped back to the initial aim.

CLINICAL NUTRITION

How does nutritional state change during a subacute admission? Findings and implications for practice.

Collins J, Porter J, Truby H, Huggins C. *Eur J Clin Nutr*. 2016; http://dx.doi.org/10.1038/ejcn.2016.2.

The authors examine how the nutritional state of patients in subacute care changes between admission and discharge, while investigating individual characteristics of those patients as potential predictors of that change. The longitudinal observation study utilized prospective cross-sectional data. The study sampled 248 patients consecutively admitted to three subacute wards (rehabilitation, geriatric evaluation, management) at a single public metropolitan subacute care facility in Victoria, Australia, between October and December 2012. Exclusionary criteria included inability to provide consent, having implanted electrical devices, having obstructing orthotic devices, or receiving intravenous fluids. Median age of participants was 80 years, 36.7% were male, and median length of stay was 17 days. Change in classification (malnourished, at risk of malnutrition, well-nourished) between admission and discharge was the primary outcome. Body weight and mid-arm and calf circumference were secondary outcomes, with hand grip strength and fat-free mass also considered. Demographic information considered included age, sex, Major Disease Classification, type of diet, cognitive status, preadmission residence, Functional Independence Measure score, length of stay, and number of prior admissions within the year. Statistical analysis was performed with IBM SPSS Statistics (version 20, 2011). Demographic data were compared between groups using independent samples. The relationship between changes in nutritional status was examined with Pearson's correlation. Binary logistic regression modeling was used to determine whether participant characteristics were predictive of improvement.

CULINARY

Is consuming yogurt associated with weight management outcomes? Results from a systematic review.

Eales J, Lenoir-Wijnkoop I, King S, et al. *Int J Obes*. 2015; http://dx.doi.org/10.1038/ijo.2015.202.

The authors investigate the effectiveness of standard yogurt on a range of weight-related outcomes in adults, with a secondary objective of identifying its use in prescribed subgroups including ethnic populations and those with diabetes. A systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Systematic review methods employed included systematic and transparent identification, selection, extraction and synthesis of relevant studies. A total of 13,631 records were initially identified in the search undertaken in October 2014, spanning 39 databases and websites. A total of 22 studies were selected for the review, of which 6 were randomized control trials, 1 controlled trial, 2 cross-over studies, 1 prospective cohort study, 5 retrospective population-based cohort studies, and

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7 cross-sectional studies. The studies ranged in date of publication between 1979 and September 2010. Studies conducted in the United States numbered 14, with 2 in Canada, and 1 each from Korea, Malaysia, Spain, Australia, France, and 1 that did not report location. Studies not assessing adults aged 18 to 65 years were excluded, as were those involving populations with insulin resistance, diabetes, or with a body mass index (BMI) of 30 or higher. Yogurt was defined to include that with symbiotic cultures *Streptococcus thermophiles, salivarius, Lactobacillus delbruekii,* and *bulgaricus.* Studies involving yogurt mixed with other substances or supplementation were not eligible, nor were those concerning probiotic yogurt, fermented milk, formula, kefir, or kumys. Eligible studies had to compare yogurt with at least one of the following: low or no yogurt consumption, a placebo, nonyogurt, or non-yogurt interventions. Inclusion criteria also required that the studies assess the interventions in relation to at least one weight-related outcome: body weight, body mass index, body fat percentage, lean body mass percentage, waist circumference, or a composite of those. Unpublished studies and those published as abstracts or as conference presentations were also excluded. Researchers extracted data and study information and input into Excel (Microsoft). Quality assessment of the internal and external validity was undertaken using the Cochrane Risk of Bias Tool, the Centre for Reviews and Dissemination Tool, and the Newcastle-Ottawa Quality Assessment Scale. Meta-analysis was conducted using a random-effects model. All analyses were conducted using Review Manager (RevMan) version 5.3 (Copenhagen, Denmark: The Nordic Cochrane Centre, The Cochrane Collaboration, 2014).

DIABETES CARE

Association between serum selenium level and type 2 diabetes mellitus: A non-linear dose-response meta-analysis of observational studies.

Wang X, Yang T, Wei J, Lei G, Zeng C. *Nutr J.* 2016; http://dx.doi.org/10.1186/s12937-016-0169-6.

The authors investigate the relationship between serum selenium levels and type 2 diabetes mellitus. The body of literature contains different ideas as to the nature of this relationship, as different studies suggest both a negative and positive association between blood selenium levels and type 2 diabetes. The authors hypothesize that the relationship might not be linear, and the variance in selenium intake across cultures might produce inconsistencies in data. To investigate this, the authors performed a systematic

review and nonlinear dose−response meta-analysis of observational studies. A total of five studies were selected from a total pool of 1,404 identified in the search conducted in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The electronic search was conducted in September 2015 in MEDLINE and EMBASE databases using keywords *diabetes mellitus, T2DM, NIDDM,* and *selenium.* Inclusion criteria included: observational comparative studies relating to blood selenium levels and type 2 diabetes mellitus, patients confirmed to have type 2 diabetes mellitus, exposure of interest was serum selenium levels with at least three quantitative categories classified, selenium level for each category able to be calculated, and the study reporting number of cases and controls for each serum selenium category. Studies not published as full research articles were excluded as were those concerning type 1 diabetes mellitus or gestational diabetes, randomized controlled trials concerning the effect of selenium supplementation on type 2 diabetes, and in vitro or animal studies. The five studies selected for analysis were published between 1998 and 2015 and included 13,460 total participants. Two were conducted in the United States, 2 in Sweden, 1 in Italy. Two studies were cross-sectional, with 3 classified as longitudinal but considered cross-sectional because data were extracted at baseline. The association between blood selenium levels and type 2 diabetes mellitus were evaluated using pooled variance and related 95% CI for type 2 diabetes between the highest and lowest selenium category. For potential nonlinear dose−response relationship between blood selenium level and type 2 diabetes mellitus, a two-stage, random effects, dose−response meta-analysis was conducted. Statistical analyses were performed using STATA version 11.0 (2009, StataCorp LP).

PEDIATRICS

Effects of nutritional intake on disease severity in children with sickle cell disease.

Mandese V, Marotti F, Bedetti L, et al. *Nutr J.* 2016; http://dx.doi.org/10.1186/s12937-016-0159-8.

The authors examine the impact of impaired growth and nutritional intake on children with sickle cell disease (SCD). The prospective cohort study observed 29 pediatric patients of a single clinic with SCD over 6 months. Mean participant age was 9.95 years, 48.3% were male. Inclusion criteria included age between 6 months and 18 years and a diagnosis of SCD. Exclusionary criteria included comorbidities and those patients who transferred to other clinics or providers

during the 6-month observation period. Mean body weight was 32.93 kg, height 135.55 cm, and body mass index 17.11. Indices of severity included average of total hemoglobin, fetal hemoglobin, and lactate dehydrogenase over 6 months, as well as average number of hospitalizations, days of hospitalization and total number of lifetime acute chest syndrome episodes. Nutritional intake was assessed with 24-hour food recall questionnaires and reported average weekly consumption of major food categories (meats, fish, eggs, cheese, milk, fruits, vegetables, grains, legumes, sugary beverages). The software package La dieta del Sole was used to calculate total calories and macronutrient and micronutrient consumption. This was compared to the recommended daily requirement of the same based on each participant's age, sex, height, weight, and activity level using Level Assumption Recommended Nutrients (SINU, 3rd edition).

PUBLIC HEALTH

What rural woman want the public health community to know about access to healthful food: A qualitative study, 2011.

Carnahan L, Zimmerman K, Peacock N. *Prev Chronic Dis.* 2016; http://dx.doi.org/10.5888/pcd13.150583.

The authors seek to identify solutions to food access problems faced by women in rural Illinois. Whereas existing literature primarily addresses the barriers themselves and what solutions are offered most often focus on urban communities, this study strives to outline specific resources available to women in rural food deserts. The qualitative study utilized an assets-focused strategy to analyze input obtained through targeted focus groups in the seven southernmost rural counties of Illinois known as the S7 Region (Alexander, Johnson, Massac, Pope, Hardin, Pulaski, and Union counties). Participants for 14 separate focus groups were recruited as part of a comprehensive community health assessment examining women's health issues in the region. Women were recruited by way of community flyers, announcements in church bulletins, community newsletters, and newspaper advertisements. Participants were given a $15 gift card as incentive. The focus groups contained a total of 110 women: 71.8% white, 28.2% black, 1.8% Hispanic. By age grouping, 23.6% of the participants were aged 18 to 30 years, 21.8% 31 to 50 years, 24.6% 51 to 70 years, and 30% over 70 years. Focus group sessions lasted 1 hour and were facilitated by trained interviewers who used scripted, open-ended, questions. The questions were designed to foster discussion around the questions