ABSTRACTS

CLINICAL NUTRITION

Impact of nutritional support that does and does not meet guideline standards on clinical outcome in surgical patients at nutritional risk: A prospective cohort study.

Sun D-L, Li W-M, Li S-M, et al. *Nutr J*. 2016; http://dx.doi.org/10.1186/s12937-016-0193-6.

The researchers compare the impact of nutritional support on clinical outcomes in patients at nutritional risk who underwent major abdominal surgery and received guideline-recommended support vs those who did not. A prospective cohort study was employed at the Second Affiliated Hospital of Kunming Medical University between February 2010 and June 2012. During the study, 525 patients determined to be at nutritional risk were enrolled in one of the two cohorts. The total group was 54.85% male with a mean age of 64.6 years. Inclusion criteria included: undergoing major abdominal surgery, partial gastrectomy, full stomach resection, colorectal resection, pancreaticojejunostomy, biliary-enteric anastomosis, hepatectomy, biliary exploratory surgery, duodenal resection, and small-bowel resection; age between 18 and 90 years; willingness to participate; capability of communicating with researchers; screened for nutritional risk via the Nutritional Risk Screening-2002 (NRS-2002) with a resulting risk under 3 points; and hospitalized for more than 7 days. Exclusionary criteria included: pregnancy; impaired cognitive function; absence of a face-to-face examination within 48 hours of admission; severe illness or transfer from the intensive care union; emergency surgery; receiving more calories or nitrogen than recommended by guidelines. Cohort 1 was determined to be patients who received nutritional support meeting the guideline standards (n=205), and Cohort 2 (n=320) included those who did not meet the standards. EpiData software 3.0 (2007) was used to establish a database, and Excel 2010 (Microsoft Corp) to organize data. Binary logistic regression analysis was used to analyze the risk factors (sex, age, body mass index, weight loss, reduced food intake, nutrition support, energy, and nitrogen). SPSS 18.0 (2009, SPSS Inc) was used for the statistical analysis.

COMMUNITY NUTRITION

Differences in fruit and vegetable intake by race/ethnicity and by Hispanic origin and nativity among women in the special supplemental nutrition program for women, infants, and children, 2015.

Di Noia J, Monica D, Cullen KW, et al. *Prev Chronic Dis*. 2016; http://dx.doi.org/10.5888/pcd13.160130.

The researchers explore the differences in fruit and vegetable intake among women within the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) along racial and ethnic lines. The exploratory study utilized a cross-sectional design as it examined baseline data from a randomized controlled trial conducted by WIC Fresh Start. The sample included 723 low-income women enrolled in the WIC. The mean age was 29 years, and 17% were pregnant at the time of the study with 22% breastfeeding. Of the group, 55% were deemed food insecure, 60% were Hispanic, 31% were non-Hispanic black, and 9% were non-Hispanic white or other. Of the Hispanics, 56% were born outside the United States and 50% of the sample reported having less than a high school or general equivalency degree. Eligibility criteria for the initial trial conducted by the WIC Fresh Start included: being pregnant, postpartum or female caregiver of an infant or child enrolled in WIC; no known dietary restrictions; not at high risk for nutritional or health problems as defined by WIC. Participants were recruited from a densely populated urban area of New Jersey and data were collected between June 1 and August 12, 2015. Participants were orally administered a questionnaire containing demographic information, food security status, and social desirability traits, along with the Behavioral Risk Factor Surveillance System fruit and vegetable module. Analyses were conducted with SPSS for Windows, version 23 (2015, IBM Inc).

NUTRITION SUPPORT

Fruit and vegetable consumption and risk of cholecystectomy: A prospective cohort study of women and men.

Nordenvall C, Oskarsson V, Wolk A. *Eur J Nutr*. 2016; http://dx.doi.org/10.1007/s00394-016-1298-6.

The researchers examine the relationship between fruit and vegetable consumption and the 14-year risk of symptomatic gallstone disease in both men and women of middle-age to senior years. A cohort study was utilized to examine the relationship. Two population-based cohorts were used which included 74,554 men and women born between 1914 and 1952. The first cohort—Swedish Mammography Cohort—contained 66,651 women aged 40 to 75 years at recruitment between 1987 and 1990. The second—Cohort of Swedish Men—contained 48,850 men between ages 45 and 79 years in 1997. Eligibility criteria included completion of a food frequency questionnaire in 1997. The questionnaire contained questions on education, smoking status, physical activity, use of aspirin, height, weight, hyperlipidemia, diabetes, use of oral contraceptives, and postmenopausal hormones. Body mass index was calculated as weight (kilograms) divided by height squared (meters). The fruit and vegetable consumption over a 1-year period was measured via the questionnaire using a 96-item food list. For each item, one of eight frequency responses could be chosen. At baseline, researchers excluded individuals without personal identity numbers, implausible energy intakes, histories of cancer or cholecystectomy, as well as those missing data regarding fruit or vegetable consumption. Exclusionary criteria also included those who developed cancer of the duodenum,

IN THIS ISSUE

liver, gallbladder, biliary ducts, or pancreas. Analyses were performed using Stata version 12 (2011, StataCorp).

PEDIATRIC

Lipid screening in childhood and adolescence for detection of multifactorial dyslipidemia: Evidence report and systematic review for the U.S. Preventative Services Task Force.

Lozana P, Henrikson N, Morrison C. *JAMA*. 2016;316(6):634-644.

The authors seek a systematic review of the evidence on the associated benefits and harms as they pertain to screening youth for multifactorial dyslipidemia. The authors employ a systematic review of the evidence on the topic. The initial search yielded 7,137 unique abstracts and 537 full-text articles, of which 16 articles were utilized. The articles utilized in the review included 8 articles screening studies, 5 articles using treatment studies, 5 articles using treatment harms, and 1 study on the association between intermediate and adult health outcomes. A literature search was conducted using MEDLINE, PubMEd, BMJ Clinical Evidence, Canadian Agency for Drugs and Technologies in Health, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects, Health Technology Assessment, Institute for Clinical Systems Improvement, Institute of Medicine, and National Institute for Health and Clinical Evidence. The search includes studies published January 1, 2005 or later. The population of interest was humans under age 20 years. Eligible screening interventions included a lipid panel delivered in a universal or selective screening strategy. No studies which excluded youth were included, nor were studies with modes not relevant to primary care practice. For the statistical analysis, summary tables of study characteristics, population characteristics, intervention characteristics, and outcomes were generated separately. For treatment studies, lipid concentrations were expressed as percent change or difference from baseline. Data were not combined across treatment studies.

PUBLIC HEALTH

Racial/ethnic disparities in meeting 5-2-1-0 recommendations among children and adolescents in the United States.

Haughton C, Wang M, Lemon S. *J Pediatr*. 2016; http://dx.doi.org/10.1016/j.jpeds.2016.03.055.

The researchers investigate the racial and ethnic disparities in meeting nutritional guidelines among children and adolescents as part of an effort to understand and reduce obesity. A cross-sectional analysis of the National Health and Nutrition Examination Survey (NHANES) 2011-2012 was undertaken to compare a sample of youth against the Maine Youth Overweight Collaborative "Let's Go! 5-2-1-0" youth obesity prevention program. The sample studied here included 1,954 American children aged 6 to 19 years. Four racial/ethnic categories were used: Hispanic (n=608, 31%), non-Hispanic black (n=609, 31%), Asian (n=253, 13%), non-Hispanic white (n=484, 25%). The sample was 47.5% female. Inclusionary criteria included participants who completed a household interview, mobile examination center interview, dietary recall questionnaire, completed their 5-2-1-0 participation information, and completed an NHANES questionnaire with a trained interviewer. The 5-2-1-0 program recommends more than five servings of fruits and vegetables per day, limiting screen time to under 2 hours a day, engaging in a minimum of 1 hour exercise per day, and consuming zero sugar-sweetened beverages per day. Adherence was measured by the surveys food frequency recalls and participation results from the 5-2-1-0 program. Covariates measured included body mass index, sex, parental marital status, household income-to-poverty ratio, and parental education level. Analyses were stratified by age range, and appropriate 2-year sample weights were applied in all analyses to account for the survey design and yield to a nationally representative sample. Frequency distributions of each variable were computed by race/ethnic group. Univariate and multivariate logistic regression models were also computed to evaluate the association of race/ethnicity with each target behavior. Multivariate models were adjusted to income-to-poverty ratio and not parental education due to parental education and household income-to-poverty being highly collinear.

RESEARCH

Effect of whey protein on blood lipid profiles: A meta-analysis of randomized controlled trials.

Zhang J-W, Tong X, Wan Z, et al. *Eur J Clin Nutr*. 2016; http://dx.doi.org/10.1038/ejcn.2016.39.

The authors examine whether the supplementation of whey and whey-related peptides has beneficial effects on lipid metabolism-related markers including triaclglycerol, total cholesterol, low-density lipoprotein (LDL) cholesterol and high-density lipoprotein (HDL) cholesterol. The authors employ a meta-analysis of randomized control trials (RCTs) using the preferred reporting items for systematic reviews and meta-analysis (PRISMA) guidelines. The meta-analysis ultimately contained 13 randomized control trials, all published between 2007 and 2014, 4 of which were conducted in the United States, 3 in Germany, 2 in Australia, 1 in Sweden, 1 in Russia, 1 in Iran, and 1 in The Netherlands. A parallel design was used in all trials, and seven were double-blinded. Sample sizes varied from 18 to 190, with a total of 390 in intervention groups and 448 in control. Inclusionary criteria required the studies be: randomized control trials of whey protein or its derivatives; utilize human adults over the age 18, with participants treated for more than 4 weeks; include a control or comparison group; and report the net changes in lipid profiles (serum or plasma triglycerides, total cholesterol, LDL cholesterol, or HDL cholesterol) and their corresponding standard deviation to calculate values. The systematic literature search was performed on PubMed, Web of Science, and Cochrane library up to the end of March 2015 using the terms: *whey* or *milk* or *dairy*, in combination with *triaclglycerol* or *triglyceride* or *cholesterol* or *lipoprotein* or *lipid*. All analyses were conducted using STATA version 12.0 (2011, StataCorp).

SCHOOL NUTRITION

Marketing vegetables in elementary school cafeterias to increase uptake.

Hanks A, Just D, Brumberg A. *Pediatrics*. 2016; http://dx.doi.org/10.1542/peds.2015-1720.

Researchers studied the impact marketing media using branded vegetable characters has on fruit and vegetable uptake in elementary school cafeterias, with a secondary aim of determining the difference student sex plays. The randomized control study utilized students from 10 elementary schools in an urban school district in the northeast United States. The study collected 22,206 student-day observations for the experiment. The schools are located in a district with median household income under $52,000 and 82% of the students receiving free/reduced lunch. The 6-week study was conducted between April 8 and May 24, 2013. Schools were randomly assigned into a control condition (n=2) or one of three treatment conditions: vinyl banners (n=2), television segments (n=3), or vinyl banners and television segments (n=3). Vinyl banners with vegetable characters across the front and television segments featuring vegetable characters delivering nutritional messages were displayed on flat screens. Banners were attached to the cafeteria salad bar and the screens were affixed to tables nearby. Students in the schools were blinded to the study. The researchers proposed three hypotheses: children in schools with vinyl banners will select more vegetables; children in schools with television segments will select more vegetables; or children in schools using both simultaneously will select more vegetables, although the effect will not be additive. Food records were collected from the schools, reporting the volume taken for each food item as well as the number of children receiving lunch. Trained observers