



ABSTRACTS

CLINICAL NUTRITION

Dietary intake of patients with moderate to severe COPD in relation to fat-free mass index: A cross-sectional study.

Yılmaz D, Çapan N, Canbakan S, Besler H. *Nutr J*. 2015; <http://dx.doi.org/10.1186/s12937-015-0020-5>.

Because fat-free mass (FFM) may be a more reliable predictor of mortality in patients with chronic obstructive pulmonary disease (COPD) than body mass index, the authors performed a cross-sectional study to assess the nutritional status and energy, micronutrient, and macronutrient intakes of men with moderate to severe COPD. Participants (n=65, 33 with moderate COPD, 32 with severe COPD) were recruited from an outpatient respiratory clinic in a Turkish hospital. Inclusion criteria were age 45 years or older, COPD diagnosis made by pulmonologist based on the American Thoracic Society and European Respiratory Society's Global Initiative for Chronic Obstructive Lung Disease, and being in stable condition without acute symptoms or modifications to therapy in the past 30 days before enrollment. Exclusions included presence of chronic kidney failure, malignancy, congestive heart failure, diabetes, or myocardial infarction in the previous 2 years. Self-reported demographic data—age, sex, education level, family income, time of diagnosis, and smoking status—were obtained by in-person interview. A dietitian administered a 54-item questionnaire regarding nutritional intake and typical food intake over the preceding 6 months and a physical activity recall. Intake values were calculated for energy; carbohydrate; protein; fat; fiber; vitamins A, E, C, and B-12; calcium; iron; zinc; and magnesium. Height, weight, mid-upper arm circumference, and waist circumference were obtained; body weight composition was assessed; and handgrip strength was evaluated. A computerized spirometer was used to determine disease severity. Fasting serum samples were used to evaluate total protein and serum albumin values. To compare general patient characteristics as well as the nutritional and anthropometric data across the low FFM and normal FFM groups, Student's *t* tests or Mann-Whitney U tests were used. Correlation of age, spirometry, handgrip strength, total energy expenditure, physical activity level, and serum albumin and protein levels with FFM

index was evaluated using Spearman correlation tests.

CULINARY

The effect of a low-fat spread with added plant sterols on vascular function markers: Results of the Investigating Vascular Function Effects of Plant Sterols (INVEST) study.

Ras RT, Fuchs D, Koppenol WP, et al. *Am J Clin Nutr*. 2015;101(4):733-741.

The primary goal of the Investigating Vascular Function Effects of Plant Sterols study was to estimate how a low-fat spread with added plant sterols would affect brachial artery flow-mediated dilation (FMD), specifically whether plant sterol consumption would have a negative impact on endothelial function and whether there is a small benefit to FMD when consuming plant sterols. Participants were recruited via advertisement in Berlin, Germany, in 2013. Eligibility criteria included being healthy men and postmenopausal women aged 40 to 65 years; with high or borderline high low-density lipoprotein cholesterol; body mass index between 18 and 30; and no presence of cardiovascular disease, systemic inflammation, conditions, or diabetes mellitus. Individuals were also excluded if they consumed lipid-lowering food or medications. Two screening visits included collection of data and measurements including medical history, medication use, physical examination, electrocardiogram, height, weight, vital signs, fasting blood samples, clinical chemistry, and blood lipid, as well as a cotinine test. Ultimately, 232 individuals completed this 12-week, single-center, randomized, double-blind, placebo-controlled parallel study. There were two treatment groups that consumed a low-fat spread—one group's spread had

22.8% added plant sterols, and the other group's spread did not have any added plant sterols. Participants consumed two 10-g portions of the spread daily. FMD of the brachial artery was measured using ultrasound and a forearm cuff inflated to suprasystolic pressure then deflated. At least two ateriograph measurements were performed. An analysis of covariance model was used to estimate change from baseline comparing intervention group from control.

DIABETES CARE

Association of maternal diabetes with autism in offspring.

Xiang AH, Wang X, Martinez MP, et al. *JAMA*. 2015;313(14):1425-1434.

To analyze the link between maternal diabetes—whether diagnosed before or during pregnancy—and risk of these mothers' children developing autism spectrum disorders (ASD), the authors performed a retrospective, longitudinal cohort study on data for 322,323 singleton newborns born at 28 to 44 weeks' gestation to 253,785 mothers (between 1995 and 2009) in a single California hospital system. Data were excluded if the mother had type 1 diabetes or the child was born with congenital anomaly. Data, including developmental delays obtained from a checklist screening performed between age 18 and 24 months, were obtained from electronic health records and birth certificate information. Exposure of offspring to type 2 diabetes or gestational diabetes mellitus was classified based on the 9th revision of the International Classification of Diseases, antidiabetes medication use, and glucose values obtained from glucose challenge and oral glucose tolerance tests. The monitoring of individual children terminated upon

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death due to any cause, termination of continuous membership in the health system's care plan, clinical ASD diagnosis, or the conclusion of the study period on the last day of 2012. The covariates to control for potential confounding variables included data such as age of mother at delivery, education, mother's self-reported race/ethnicity, comorbidity history, and child's sex; for the population with gestational diabetes mellitus exposure, an additional covariate was differences in diagnostic methodology. A χ^2 test was used for proportions and analysis of variance for means to compare maternal characteristic and obstetric and neonatal outcomes among groups with type 2 diabetes exposure, gestational diabetes exposure, and no exposure to diabetes. Kaplan-Meier methodology was used to estimate cumulative ASD incidence for each classification of exposure, and Cox regression models were used to determine hazard ratio to estimate relative ASD risk.

GERONTOLOGY

Tailored nutritional guidance for home-dwelling AD families: The feasibility of and elements promoting positive changes in diet (NuAD-trial).

Puranen TM, Pitkala KH, Suominen MH. *J Nutr*. 2015;19(4):454-459.

Because home-dwelling families with a member who has Alzheimer's disease (AD) are at risk for poor nutrient intakes, poor nutritional status, and unintended weight loss, the authors conducted a randomized, controlled trial to determine how tailored nutrition intervention affects nutrient intakes and quality of life in this population as well as how much it helped in fall prevention in the individual with AD. Participants were recruited between 2010 and 2011 from Finland's Social Insurance Institution's drug reimbursement registry. Before assignment to control or intervention group, participants completed both a Mini-Nutritional Assessment and Mini-Mental State Examination and caregivers maintained 3-day food diaries. The MNA and food diaries, along with personal assessments obtained during home visits, were used to tailor the 1-year intervention (the focus of this particular article, as details about study design, baseline results, and study effectiveness have been published elsewhere), which was delivered to 40 pairs (mean age of persons with AD=78±6 years standard deviation [SD], mean age of spouses=77±6 SD; 76% of persons with AD in the intervention group were male). The intervention included home visits (four to eight throughout the year), a personalized nutrition care plan (one page that included positive diet feedback, information, and practical recommendations), discussions, booklets

with information about nutrition for older adults, brochures about how to obtain specific nutrients, and provision of oral nutrition supplements as needed; targets of the intervention included unintended weight loss, sufficient energy and nutrient intake, vitamin D supplementation, exercise, and housekeeping and cooking. This participant-centered guidance focused on caregivers, as they were most likely responsible for meals. Field notes on housekeeping, appetite, eating habits, signs and symptoms, relevant life events, and participant opinions were taken during each visit. Participants had opportunity to respond anonymously to a questionnaire at the end of the intervention. Key points from field notes and anonymous feedback were coded, grouped into categories, and compared to classify the data analytically.

NUTRITION SUPPORT

Clinical outcomes related to protein delivery in a critically ill population: A multicenter, multinational observation study.

Nicolo M, Heyland DK, Chittams J, et al. *JPEN J Parenter Enteral Nutr*. 2015; <http://dx.doi.org/10.1177/0148607115583675>.

This retrospective analysis examined existing data from the 2013 Improving Nutrition Practices in the Critically Ill International Nutrition Surveys to study the effect of protein delivery on mortality and time to discharge alive patients who are critically ill. Subjects in this study were 4,040 patients from 202 intensive care units (ICU) with at least nine beds that offered adult care. At each facility, 20 eligible patients (mechanically ventilated within 48 hours of ICU admission remained in ICU for at least 4 days) were enrolled consecutively at each institution. Demographic variables tracked included scores from Acute Physiology and Chronic Health Evaluation II, Sequential Organ Failure Assessment, and Nutrition Risk in the Critically Ill calculated at admission; age; sex; whether medical vs surgical ICU; and geographic locale of the ICU. Height and weight upon admission were also recorded. Nutrition intake variables tracked included mean daily energy and protein delivery from all sources—enteral, parenteral, protein supplement, and medications containing energy. Logistic regression with protein intake or threshold protein intake as the continuous variable to determine the mortality odds ratio and 95% confidence interval. Multiple logistic regression model was used to assess the percentage of protein delivery's relative strength. Cox proportional hazards model was used to compare time to discharge alive by target protein delivery.

PEDIATRIC

Esophageal eosinophilia in pediatric patients with celiac disease: Is it a causal or an incidental association?

Ahmed OI, Qasem SA, Abdulsattar JA, et al. *J Pediatr Gastroenterol Nutr*. 2015;60(4):493-497.

A potential association between esophageal eosinophilia (EE) and celiac disease (CD) has been posited, necessitating routine esophageal biopsy in CD patients, so the authors of this study sought to determine whether this association was identified in pediatric patients. Patients were selected from a CD database at a North Carolina university medical center and pediatric hospital and a pathology information system with data on pediatric endoscopic biopsy specimens from 2007 to 2012. Data—including serology, symptoms, and therapy response—for all patients younger than 21 who had endoscopic procedures when CD was suspected were collected. Control group patients were those who had undergone upper endoscopy during the study period but in whom CD was not clinically suspected. There were 120 patients (77 girls, 43 boys) in the study group with clinical suspicion of CD; the control group included 100 patients. Pathologists blinded to the clinical results examined the hematoxylin and eosin-stained slides for the control and study groups for determination of positive, suspicious, or negative duodenal biopsy. Esophageal biopsies were studied to determine presence or absence of EE.

WEIGHT MANAGEMENT

Healthcare utilization associated with obesity and physical disabilities.

Peterson MD, Mahmoudi E. *Am J Prev Med*. 2015;48(4):426-435.

Using data from the Household Component of the 2002-2011 Medical Expenditure Panel Survey, the authors investigated the use of health care services and impact of combined costs among individuals with physical disability and obesity as well as estimate differences related to chronic comorbidities resulting from obesity in individuals who have physical disabilities compared with those who do not. Individuals younger than 18 years and with a body mass index below 18.5, as well as those with incomplete data, were excluded from analysis, yielding a final data sample of 215,107 individuals (36,349 with moderate to severe physical disability). A series of questions regarding physical function limitations were used to identify physical disability. Questions about annual health care costs, physician visits in the past year, and hospital stay were used to evaluate use and costs health care

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