Poster Session: Clinical Care; Communications; Critical Thinking and Decision Making; Food, Nutrition and Dietetics and Physical Activity; Leadership and Advocacy

Determining Malnutrition Status in the Heart Failure Population

Author(s): H. Carey[1], R. Hand[2], M. McQuillen[3]; [1]Case Western Reserve University, University Hospitals Cleveland Medical Center, [2]Case Western Reserve University, [3]University Hospitals Cleveland Medical Center

Learning Outcome: Describe if there is congruence between serum albumin levels and malnutrition assessed using the six indicators of malnutrition in patients with end-stage HF.

Background: Heart failure (HF) requires a comprehensive nutrition assessment. Biochemical markers, including serum albumin, are particularly inadequate in this population due to confounding by fluid status and other factors. We assessed whether there is congruence between serum albumin levels and malnutrition assessed using the six indicators of malnutrition, in adult patients with end-stage HF who were hospitalized in the HF unit at University Hospitals Cleveland Medical Center.

Methods: We utilized a retrospective chart review. Patient data were abstracted from a single timepoint during the single most recent admission. We used chi-square tests to compare the proportion of responses with low versus normal albumin level based on presence or absence of malnutrition.

Results: Of the 46 total participants, 29 (68%) were female; the mean age was 60.8 ± 14.6 years. Edema was present in 31 (67.4%) patients on the day of nutrition assessment, with Lasix administered to 28 (60.9%). 33 patients were malnourished based on clinical indicators. There was no statistical difference in the proportion of patients with low albumin between the non-malnourished group (57.6%) and the malnourished group (69.2%) (p=0.75).

Conclusion/relevance: The lack of congruence between low albumin and malnutrition status further discourages the use of low albumin as a marker of malnutrition, particularly within HF patients. Rather, a more comprehensive nutrition assessment to identify malnutrition and appropriate treatment plan is needed. Further research should investigate additional, validated nutrition assessments in the HF population given the associated symptoms of fluid accumulation, systemic inflammation, hepatic congestion, which can confound currently available tools.

Funding source: None

Diet Patterns and Quality of Student Athletes at an HBCU

Author(s): H. Colleran, L. San Diego, E. Manning, T. Fuller, M. Cook; NC A&T SU

Learning Outcome: Describe diet patterns and diet quality of student-athletes in an HBCU

Background: Nutrition status for Student-Athletes (SA) is critical to optimal performance. However, data for SAs in Historically Black Colleges/Universities (HBCUs) are scarce. The purpose of this presentation is to describe diet patterns and quality of SA in an HBCU.

Methods: A convenience sample of 28 SAs (13 females, 15 males) provided three 24-hr recalls entered into Nutrition Data System for Research (NDSR 2019, UMinn). Diet quality was analyzed using the Healthy Eating Index (HEI) and compared to dietary guidelines according to sex.

Results: Recommended dairy servings were not met while vegetable servings exceeded recommendations. Female athletes met grain and protein recommendations; male athletes exceeded recommendations. Female athletes did not meet fruit recommendations, but male athletes did. Female athletes ate significantly fewer servings of grains (p<0.05) and proteins (p<0.01) but more snack grains (p<0.01) than males. Athletes surveyed had an average HEI score of 53.1 ± 14.5 which is lower than the average American adult. Female athletes had a higher HEI score than males (59.0 ± 17.2 vs. 48.1 ± 9.7), though this finding was only trending towards significance. Female athletes had significantly higher whole fruit and whole grain HEI scores than males (p<0.05).

Conclusion: The results of this analysis suggest that SAs in an HBCU may have different eating patterns and diet quality based on sex, though both groups may benefit from dairy nutrition education. Additional research may provide more insight into diet patterns and quality according to sport. Tailored nutrition education may increase diet quality and result in improved nutrition status to support athletic performance.

Funding source: None

Dietary Inflammatory Index and Cardiometabolic Risk in Individuals with Coronary Artery Disease

Author(s): S. Herbert[1], L. Ganguzza[2], B. Shah[2], J. Newman[3], E. Gianos[4], S. Heffron[2], K. Woolf[1]; [1]New York University, [2]NYU School of Medicine, [3]New York University School of Medicine, [4]Lenox Hill Hospital, Northwell Health & Zucker School of Medicine

Learning Outcome: Articulate the relationship between an anti-inflammatory diet and cardiometabolic risk in patients with coronary artery disease.

Background: Inflammation increases the risk of adverse cardiovascular events. Since dietary choices may impact chronic inflammation, the Dietary Inflammatory Index (DII) was developed to assess the inflammatory potential of a diet. This study examines the association between diet, assessed using the DII, and cardiometabolic risk in patients with coronary artery disease (CAD).

Methods: DII scores were calculated for 100 participants from the EVADE-CAD trial using baseline four-day food records and baseline cardiometabolic assessments. Participants were dichotomized into an anti-inflammatory diet (AID; DII<0; n=54) or pro-inflammatory diet (PID: DII≥0; n=46) group. Cardiometabolic assessments included body weight, waist circumference, body mass index (BMI), fasting blood glucose, insulin, hemoglobin A1C (HbA1C), high-sensitivity C-reactive protein (hsCRP), and lipids (LDL-cholesterol, HDL-cholesterol, triglycerides). Independent sample t-tests assessed differences between groups.

Results: Participants were 85% male, 91% non-Hispanic, 86% white, and on average 61 ± 10 years of age. The AID group had a lower mean body weight (p=0.009), waist circumference (p=0.001), and BMI (p=0.004) compared to the PID group. Furthermore, the AID group had lower mean glucose (p=0.026), insulin (p=0.033), hsCRP (p=0.012), and triglyceride (p=0.004) concentrations, and a higher mean HDL-cholesterol (p=0.033) concentration than the PID group. There were no significant differences between groups for HbA1C or LDL-cholesterol concentrations.

Conclusion: Participants reporting a pro-inflammatory diet had a more unfavorable body composition and less desirable cardiometabolic risk. Additional research should examine the role of an AID, emphasizing whole grains, fruits, vegetables, fatty fish, nuts, and legumes, in disease management of CAD.

Dietary Intake Changes in College Students During the COVID-19 Pandemic

Author(s): A. Evenson[1], C. Doan[2], K. Johnson[3], B. Berens[3]; [1]College of Saint Benedict/Saint John's University, [2]Saint John's University, [3]College of Saint Benedict

Learning Outcome: Describe dietary changes in college students during the initial shut down period of the SARS-CoV2 pandemic.

Background: The COVID-19 pandemic resulted in stay at home orders for some states. Prolonged staying at home may impact dietary intake for a variety of reasons.

Objective: To determine dietary intake changes in college students during the COVID-19 pandemic.

Methods: Students (n=98) enrolled in introductory nutrition courses at a midwestern university completed 3-day food records before COVID-19 shutdowns and during stay at home orders in April 2020. After establishing interrater reliability (ICC>0.9), food records were entered into ESHA-Food processor by three dietetics research students and a faculty member who is a Registered Dietitian. Wilcoxon-signed rank test was used to determine changes in pre and during COVID-19 dietary consumption.

Results: In females, intake of carbohydrate (g) (p=.045); sodium (mg) (p=.034); and vegetable (cups) (p=.035) significantly decreased, while added sugar intake (g) increased (p=.004). In males, no significant differences were found for any dietary intake variable (p>0.05). For participants who moved home with family, added sugar (g) (p=.010); calcium (mg) (p=.024); and dairy (cups) (p =.023) intakes significantly increased. For participants living off-campus with a roommate, fiber (g) (p=.028) and fruit (cups) (p=.017) significantly increased while sodium (mg) intake (p=.007) significantly decreased.

Conclusions: Females exhibited more significant changes in dietary intake during the COVID-19 pandemic. No changes in dietary intake were found in males. Dietary intake changes were found for both students who moved home with family or continued to live off-campus with roommates. During a shelter-in-place order, dietary intake changed for a variety of nutrients and food groups.

Funding source: None