P13 (continued)

consumption of vegetables has remained constant over time and below recommended levels.

Objective: The study purpose is to describe how willingness to try a new vegetable differs by place (friend's house, school, home) based on vegetable preference.

Study Design, Setting, Participants, Intervention: Baseline data were analyzed from the NU-HOME study, a randomized trial to prevent childhood obesity. Participants completed data collection in a rural Minnesota community (2017). Children ($n = 60$) were predominantly female (62%), with a mean age of 8.95 years ($SD = 0.89$). Four items from a vegetable neophobia scale were analyzed; one assessed how much the child likes vegetables, and three assessed willingness to try a new vegetable in three different locations. Liking vegetable variables was recoded as binary ("liked very much" vs. "liked a little/-didn't like at all").

Outcome Measures and Analysis: Chi-square and Fisher's exact test examined associations between liking vegetables, and willingness to try new vegetables in the three locations.

Results: Only 38% of children reported liking vegetables "very much" compared to fruit (87%); thus, analyses were limited to vegetable items only. Compared to children who reported liking vegetables, children who reported not liking vegetables were less likely to try a new vegetable at a friend's house (91% vs. 46%, $P = .003$), or at school (87% vs. 62%, $P = .028$). However, no significant difference was observed in willingness to try a new vegetable at home between children who like vegetables, and those who do not (87% vs. 73%, $P = .12$). There were no differences in associations by gender or age.

Conclusions and Implications: Children who reported not liking vegetables were more likely to try a new vegetable at home than other locations. Therefore, efforts to promote vegetables should target the home, and interventions promoting at-home cooking can optimize introduction of new vegetables.

Funding: NIH.

P14 Impact of Health at Every Size Curriculum Module on Weight Attitudes of College Students

Teresa Drake, PhD, RD, CHES, tdrake@fsmail.bradley.edu, Bradley University, 1501 W Bradley Avenue, Peoria, IL 61625; Roberta Ogletree, HSD, Southern Illinois University, Carbondale

Background (Background, Rationale, Prior Research, and/or Theory): Weight bias is pervasive in Western society. Health at Every Size (HAES) provides an alternative to weight-centric approaches and may help to alleviate weight stigma.

Objective: The purpose of this study was to evaluate whether a HAES curriculum module would impact weight attitudes of college students.

Study Design, Setting, Participants, Intervention: Quasi-experimental design using pre- and post-testing was

used to compare attitudes among students in a personal health course. Students in 11 sections of the course received the usual weight management module (comparison) while students in the other 11 sections received a 2-day HAES-focused module (intervention). The HAES module included information about HAES principles, mindful eating, comparison of dieting and non-dieting approaches to nutrition, and body positive self-talk.

Outcome Measures and Analysis: Attitudes were measured using the Health and Weight Attitudes Scale, an instrument measuring HAES attitudes. Independent t-tests were used to analyze differences in attitudes among the comparison and intervention groups, paired t-tests to analyze differences between pre- and post-tests, and ANOVA to analyze differences in gain scores among the groups.

Results: One hundred and ninety five college students participated in both pre- and post-tests. Attitudes at pre-test did not differ significantly between the intervention ($n = 109$) and comparison ($n = 86$) groups [$t(193) = -.08$, $P = .93$]. Comparison group scores did not change from pre- to post-test [$t(85) = .29$, $P = .77$] while the intervention group did have a significant change from pre- to post-test [$t(108) = -7.55$, $P < .001$]. At post-test, intervention group attitudes also differed significantly from the comparison group [$t(193) = -4.67$, $P < .001$]; the intervention group had significantly more positive attitudes at post-test [$F(1,193) = 32.43$, $P < .0001$].

Conclusions and Implications: Even a short, 2-day HAES curriculum module can increase positive attitudes of students toward HAES principles. Nutrition educators can optimize the impact of their instruction by incorporating HAES principles in their curriculum, even in small doses, to support body and size acceptance and improve attitudes about weight.

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P15 Modifiable Cardiovascular Risk Factors in a Population of University Undergraduates From South East, Nigeria

Patricia Ukegbu, PhD, adanna2025@yahoo.com, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria 11 Hoffman Street, Potchefstroom, North West Province 02520, South Africa; Chukwunonso Ejike, PhD; Chinyere Echendu, PhD; Julie Anyika-Elekeh, PhD, RD; Blessing Nwaofia, MSc; Chinwe Uzokwe, MSc; Awele Iwelumor, BS; Ada Uwaegbute, PhD, RD

Background (Background, Rationale, Prior Research, and/or Theory): Cardiovascular diseases (CVDs) are the leading cause of mortality and morbidity worldwide. The burden of the disease can be reduced by early identification and controlling of cardiovascular risk factors. Data on modifiable cardiovascular disease risk factors among young adult populations in Nigeria are scarce.

Objective: The study objective was to examine the prevalence of modifiable cardiovascular risk factors (MCRFs) among apparently healthy university undergraduates.

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Study Design, Setting, Participants, Intervention: A descriptive cross sectional survey was conducted among 1,610 undergraduates using multistage sampling in five universities, South East, Nigeria.

Outcome Measures and Analysis: A self-administered lifestyle questionnaire was used to collect information on demographics and MCVRFs such as physical inactivity, alcohol intake, smoking and consumption of unhealthy foods (≥ 3 times a week). Other CVD risk factors such as waist circumference (WC), waist hip ratio (WHR) and blood pressure were assessed using standardized instruments. MCVRFs were defined as obesity (BMI ≥ 30 kg/m²), overweight (BMI 25–29.9 kg/m²), abdominal obesity using World Health Organisation (WHO) cut offs for WC ≥ 94 cm in men and ≥ 80 cm in women and WHR >0.90 in men and 0.85 in women and hypertension (systolic/diastolic blood pressure $\geq 140/90$ mmHg). Chi square was used for comparison of proportions between males and females.

Results: The age range was 18–22 years (51.9%). Prevalence of MCVRFs were obesity 20.6%, overweight 13.4%, WC 15.8%, WHR 8.9%, hypertension (SPB = 7.3%; DPB = 10.9%), consumption of unhealthy foods (≥ 3 times per week) (58.1%), low fruit and vegetable intake (73.8%), physical inactivity (40.2%), alcohol intake (48.9%) and smoking (47.6%). Diastolic blood pressure (55.7% vs. 44.3%; $P = .007$) and smoking (57.7% vs. 2.3%) were significantly higher in males. Females had significantly higher BMI (70.2% vs. 29.8%; $P = .001$), WC (94.% vs. 5.6%; $P = .001$), WHR (92.9% vs. 7.1%; $P = .001$) and consumption of unhealthy foods (57.5% vs. 42.5%; $P = 0.001$).

Conclusions and Implications: The high rate of MCVRFs among the undergraduates underscores the need for CVD prevention programs that focus on improving healthy lifestyle to reduce burden of the disease in later life.

Funding: None.

P16 Perception of Weight Status is Associated with Consumption of Fruits and Vegetables by Adolescents

Teresia Mbogori, PhD, tnmbogori@bsu.edu, Ball State University, 2000 W University Avenue, Muncie, IN 47306; Tya Arthur, PhD, MPH; Kylie Mennel, BS

Background (Background, Rationale, Prior Research, and/or Theory): Childhood obesity is a major concern in the United States with 20.6% of all children aged 12–19 years considered obese in 2017. Adequate consumption of fruits and vegetables is considered protective against childhood obesity.

Objective: To determine whether adolescents' perception of their weight status is associated with the frequency of consumption of fruits and vegetables.

Study Design, Setting, Participants, Intervention: A cross-sectional study was conducted with 1,072 adolescents (12–17 years) participating in the Family Life, Activity, Sun, Health, and Eating (FLASHE) Study, an internet-based survey study sponsored by the National Cancer Institute.

Outcome Measures and Analysis: Adolescents reported their perception of their weight status on a 5-point scale from “very overweight” to “very underweight”. In addition, the adolescents reported the frequency with which they consumed common fruits and vegetables in the seven days preceding the study on a 6-point scale ranging from “none in the seven days” to “more than 3 times a day.” Analysis of Variance (ANOVA) statistics were used to identify significant differences in the frequency of consumption of fruits and vegetables between the different weight categories. Significance was $P < .05$.

Results: Sixty-two point one percent of the adolescents reported perceiving their weight as “just right”, 9.6%, 22.4% and, 4.7% perceived their weight to be “underweight”, “a little overweight”, and “very overweight” respectively. Those who perceived their weight status as “just right” also reported consuming significantly more fruits and vegetables than those who perceived their weight as “underweight” or “overweight” (mean 2.45 ± 0.03 vs. 2.28 ± 0.06 in underweight and 2.26 ± 0.04 in overweight). The frequency of consumption for both underweight and overweight groups was not significantly different.

Conclusions and Implications: Although adolescents who perceived their weight to be “just right” consumed fruits and vegetables more frequently than their underweight and overweight counterparts, the average consumption was very low in all weight status groups. Interventions should focus on identifying and managing barriers to consumption of fruits and vegetables by adolescents regardless of the weight status.

Funding: None.

P17 Promoting Farmers' Markets with Limited-Resource Audiences: The Impact of a Social Marketing Campaign

Christopher Sneed, PhD, csneed@utk.edu, University of Tennessee Extension, 119 Morgan Hall, 2621 Morgan Circle, Knoxville, TN 37919; Karen Franck, PhD; Janie Burney, PhD, RD

Background (Background, Rationale, Prior Research, and/or Theory): Farmers' markets can increase access to locally-grown produce for limited-resource consumers. However, studies have identified several barriers for farmers' market patronage by these consumers. Social marketing campaigns have the potential to address these barriers. These campaigns are most effective when messages and materials are tailored to specific audiences.

Objective: To examine the impact of a farmers' market social marketing campaign on limited-resource consumers' intent to purchase and consume locally-grown produce and to examine potential differences in campaign impacts based on consumers' communities of residence (rural, suburban, urban).

Study Design, Setting, Participants, Intervention: In 2016, a farmers' market social marketing campaign was implemented in 33 counties at 39 farmers'

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