P43 (continued)

intake analysis program that measure red and processed meat intake.

Description: As a first step for developing the program, portion-size analysis of frequently consumed red and processed meat among Koreans was conducted using the 2013-2014 Korea National Health and Nutrition Examination Survey data.

Evaluation: The data was analyzed on 13,460 persons aged 4 and over, and selected food items consumed based on the intake frequency of 30 or more by all participant. A total of 20 varieties of red and processed meat items and 87 varieties of dishes containing red and processed meat were selected. The portion size of red and processed meat and their dishes was set on the basis of the median amount in a single intake by one person. In the second step, photographs of portion size were taken to enhance individuals' estimates on the intake.

Conclusions and Implications: These established portion sizes and photo images of frequently consumed red and processed meat among Koreans can be used in an food intake analysis program based on smart device or Web.

Funding: MFDS

P44 Development of an 'At Risk for Metabolic Syndrome' Score

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Objective: Develop a score that evaluates individuals 'at risk of metabolic syndrome (metS)' in college-age students using risk factors in addition to the five components of metS (abnormal waist circumference, dyslipidemia, elevated blood pressure, and insulin resistance).

Rationale: MetS affects more than 20% of U.S. adults and was reported in 10% of male and 3% of female college students.

Description: Health and nutrition research professionals developed the scoring tool in September 2014. In addition to the five components, the tool considered nutritional status, physical inactivity, ethnicity, and family history. Thirty-seven young adults at West Virginia University (WVU) were evaluated using the 12 point scale.

Evaluation: Correlations were assessed between our tool and two validated tools of disease severity: West Virginia University School of Public Health MetS Severity Score (Gurka et al 2014) and the American Heart Association Score (AHA My Life Check® 2016). Pearson's correlation showed a significant association between our score and WVU's Public Health Z-score ($R = 0.049$ CI (0.19, 0.70)

$p=0.0024$) and the AHA Score ($R = -0.35$, CI (-0.60, -0.03) $p=0.03$).

Conclusions and Implications: To our knowledge, no instrument has been developed to assess 'at risk of developing metS'. Our instrument strongly correlates to the most validated tools that currently assess disease severity. Future analysis is being undertaken to evaluate our tool using a larger sample size. Development of this tool helps improve primary prevention intervention strategies on individuals at risk of MetS.

Funding: None

P45 Development of Evaluation Tools to Assess the Effectiveness of a Guided Grocery Store Tour Nutrition Education Program: A Pilot Study

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Objective: Evaluate the effectiveness of a guided grocery store tour to improve Nutrition Knowledge (NK) and Food Selection Behaviors (FSB) among low-income adults in Pitt County, North Carolina.

Study Design, Setting, Participants, Intervention: The study was conducted in collaboration with the Pitt County Health Department and used the national curriculum, Cooking Matters At The Store (CMATS). Local dietitians led each tour and focused on label reading, comparing unit prices, whole grains, and purchasing fruits/vegetables (fresh, frozen, canned). Each tour ended with a "\$10 Challenge" in which participants use knowledge learned to make a healthy meal with a budget. Participants made additional baskets if they did not meet the challenge on the first try.

Outcome Measures and Analysis: NK was evaluated with a 16-item pre/post survey. FSB were evaluated during the \$10 Challenge by photographing each meal created by participants. Descriptives and Wilcoxin-signed rank tests were used to analyze data.

Results: A total of 28 participants from 10 tours were included in the final sample. Participants were primarily female (98.6%) and were Black. NK significantly improved (82.81% (pre), 89.06% (post); $p=.03$). Approximately 69% of participants met the \$10 challenge on the first round. No significant differences were observed in calories or macronutrients between the first, and second or third challenge baskets created.

Conclusion and Implications: Overall, evaluation of the CMATS program demonstrated improvement in NK and FSB. Due to high pre-scores, the NK survey questions need revision. Future research will evaluate the program in a larger sample of low-income adults.

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