P196 Farm to Summer Meal Program: Building Healthier School and Day Care Environments in Alaska

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Objective: To increase acceptance of fruits, vegetables, and local seafood, to raise awareness of the importance of a healthy diet, and to increase student participation in making healthier foods available.

Theory, Prior Research, Rationale: A 2010 Women, Infants, and Children study found 41% of two to four year olds in Alaska were overweight or obese. Feeding America determined the food insecurity rate of children in Alaska to be 20.4%. A 2009 study published in Health Promotion Practice showed students who participated in garden-based learning significantly increased preference for school grown vegetables and increased willingness to try and consume locally grown food.

Description: The target audience was Alaskan children and youth enrolled at eligible sites during the 2016 and 2017 summers. Healthier environments are developed by engaging children with interactive nutrition education specific to their local food system, including growing, harvesting, and/or procuring, supported by mini-grants, VISTA service, technical assistance, and professional evaluation.

Evaluation: Evaluation efforts build off pre/post surveys conducted in the previous grant cycle. Questions were taken from validated questionnaires within the National Farm to School Network Evaluation Toolkit.

Conclusions and Implications: From the sixteen mini-grant recipients whom successfully completed the program, \$19,000 was funded, 772 children were directly impacted, 815 children were indirectly impacted, approximately 785 pounds of fresh produce was grown, about 945 pounds of fresh produce was purchased locally or at stores for taste-testing activities and for recipe development, and all sites reported either “meeting” or “exceeding” project goals. Most site contact in 2016 was remote, which will be compared to a more hands-on approach planned for the 2017 cycle.

Funding: USDA Team Nutrition

P197 Food Insecurity is Associated with Higher than Normal Serum Copper Status

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Objective: Serum copper concentration was assessed to ascertain associations with adult food security status.

Study Design: Food insecurity alters food habit for food sources that can be detrimental to health,

including risk of copper toxicity. A main concern of copper toxicity is decreased detoxification function of the liver. The phlebotomy sample from the United States National Health and Nutrition Examination Survey (NHANES) 2011 2014 was analyzed for this study. The NHANES applies multistage probability cluster sampling design to collect cross-sectional data from the non-institutionalized United States population. A total of 3,904 participants who had serum copper and adult food security information were included in this study.

Analysis: Participants were put in three food security categories: food secure, marginal food security, and food insecure. Participants were deemed to be at risk of copper toxicity if they had serum copper level above the upper limit of the normal range, 140.12 $\mu\text{g/dl}$. Multivariate regression models were used to study associations with food security status while controlling for age, BMI, ethnicity, and education level.

Results: Overall, 18.3% of the participants had above normal serum copper level. Greater proportions of the marginal food security ($p=0.02$), and food insecure (<0.001) adults had serum copper levels higher than normal. Marginal food security (OR: 1.55, $p=0.01$), and food insecurity (OR: 1.41, $p=0.04$) associated with risk of copper toxicity.

Conclusion and Implications: Food insecurity associates with risk of copper toxicity. Nutrition education should include copper sources and how to avoid excess copper intake.

Funding: None

P198 Greening the Thrifty Food Plan - How Adding a Sustainability Constraint Effects Price, Availability and Composition

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Objective: The USDA Thrifty Food Plan (TFP) specifies types and amounts of foods for a minimal cost, nutritionally adequate diet and provides the basis for maximum Supplemental Nutrition Assistance Program benefits. The TFP meets several constraints, including: cost, energy, nutrient and MyPlate recommendations. The objective was to assess cost impact on the TFP of a sustainability constraint.

Study Design, Setting, Participants: Using existing sustainable dietary guidelines and organic certification and seasonality as proxies, we developed food lists reflecting the TFP. Food stores representing a range of retail for formats were selected: supercenters, full-service supermarkets, independent grocers, and discount grocery stores. Food price data were collected and recorded at three time points in five different retail food stores in one metropolitan low-income area of Central New York State (CNY).

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