

Human

U.S. Department of Agriculture <b>Accomplishments Report AD-421</b> U.S. Dept. of Agriculture, State Agricultural Experiment Stations and Other Institutions			Date (Month, Day, Year) 03/22/2012	
1. Accession 0216859	Agency Identification No. 2. CSREES 3. LA.B	5. Work Unit/Project No. LAB93951	6. Status Annual Report	
7. Title Use of NHANES Data to Assess Nutrient Intake and Health Outcomes in a Representative Population				
12. Investigator Name(s) (Last Name and Initials) ONeil, C. E.				
20. Termination Date 09/30/2013		40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011		
Outputs: Results from these studies were disseminated at national meetings and published in peer-reviewed journal; media presence at scientific meetings ensures transfer of information to the lay audience.				
Outcomes/Impacts: Consumption of 100% fruit juice (FJ) was associated with higher energy in 6-12 year-old, 13-18 year-old, and 19+ year-old participants. In addition, 100% FJ consumption was associated with higher total, saturated, and discretionary fats in 13-18 year-old participants; and the total HEI score was improved in all groups. The total and whole fruit consumption was increased, and the intake of added sugars (AS) decreased in all groups. The UI of 100% orange juice (OJ) consumers was 10.2 oz/day. Consumers had higher energy intakes. There were no differences in weight, BMI, or the risk of overweight/obesity in consumers and non-consumers. A higher percentage of consumers met the EAR for vitamins A and C, folate, and magnesium. The HEI was higher in consumers, and they had higher intakes of total fruit, FJ, and whole fruit. Moderate consumption of OJ should be encouraged in children as part of a healthy diet. In children and adolescents, the total candy consumption was 11.4g/13.0g, respectively. In the same groups, chocolate- and sugar-candy consumption was 4.8g/7.0g and 6.6g/5.9g. Total candy consumers had higher intakes of energy and AS than non-consumers. The mean HEI score was not different in total and sugar candy consumers, but it was significantly lower in chocolate-candy consumers. Weight, BMI, waist circumference, and BMI z-score were lower for candy consumers. Candy consumers were 22% (children) and 26% (adolescents) less likely to be overweight and obese. Blood pressure, lipid levels, and cardiovascular risk factors were not different between total, chocolate, and sugar candy consumers. Consumption did not adversely affect health risk markers. The mean daily per capita intake of total, chocolate, and sugar candy for adults was 9.0g, 5.7g, and 3.3g, respectively. Energy, SFA, and AS intakes were higher in candy consumers. BMI, waist circumference, and C-reactive protein levels were lower in candy consumers than non-consumers. Consumers had a 14% decreased risk of elevated diastolic blood pressure, and chocolate consumers had a 19% decreased risk of lower HDL-C and a 15% reduced risk of MetS. Candy consumption was not associated with health risks. The mean intake of AS was 23 tsp, accounting for 17% of total energy intake for both age groups. The percent variance in BMI z-scores was 3.9% in children and 6.5% in adolescents, with AS contributing only 0.03% and 0.18%, respectively. There were no significant associations between AS and weight/adiposity measures. Consumption of AS did not contribute significantly to BMI z-scores in children 6-18 years-old. Increasing dietary fiber (DF)-containing foods by 10, 25, 50, or 100% increased DF intake to 16.9, 18.9, 22.1, and 29.5g/day, respectively, with a concomitant increase in energy of 104, 260, 521, 1042 kcal/day, respectively. Adding 2.5 or 5.0g per serving of DF to low-DF grain foods resulted in DF intakes of 24.7 and 39.1g/day, respectively, without increased energy. Increasing consumption of whole grain foods increased DF intake to 25.3g/day but with an additional 1266 kcal/day. Adding DF to existing grain-based foods may be a reasonable approach to getting more DF without increasing energy.				
Publications: ONeil CE, Nicklas TA, Rampersaud GC, Fulgoni VL III. 2011. 100% Orange Juice Consumption is Associated with Better Diet Quality, Improved Nutrient Adequacy, and No Increased Risk for Overweight/Obesity in Children. Nutr Res. 2011;31:673-82. Nicklas TA, Karmally W, ONeil CE. 2011. Ethics in Action: Nutrition Professionals are Obligated to Follow Ethical Guidelines when Conducting Industry-Funded Research. J Am Diet Assoc. J Am Diet Assoc. 2011;111:1931-2. Bayham BE, Greenway FL, Bellanger DE, ONeil CE. 2011. Early Resolution of Type 2 Diabetes Seen after Roux-en-Y				

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Participants:

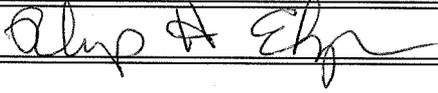
O'Neil, C.E. (PI), LSU AgCenter.

Target Audiences:

The principal target audience is professional or technical nutritionists.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date
		3-23-12