Beverage Intake Differs by Food Security Status in Adult Males but Not Females

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Learning Outcome: The participant will be able to state the relationship between gender, food security status, and beverage intake in adults.

Introduction: Household food insecurity has been linked with inadequate nutrient intakes and overweight, especially in adult women. The purpose of this study is to investigate the relationship between household food security status and beverage intake in adult men and women.

Methods: A sample of 1873 adults (998 men and 875 women), between 20 and 50 years of age, who completed food security questions and two twenty-four hour recalls were selected from the 2005-2006 National Health and Nutrition Examination Survey (NHANES). Household food security status was described as food secure, marginally food secure, low food security, and very low food security. Beverage intake was measured in grams, averaged over the two days, and grouped into five main categories: fluid milk, 100% fruit juice, water, sugar-sweetened beverages, and diet beverages. Linear regression models were used to test for differences in intake by household food security status while controlling for race-ethnicity and education status.

Results: Males living in households with marginal food security consume significantly more sugar-sweetened beverages than their food secure counterparts ($p=0.03$). Food secure males also consume more diet beverages than males living in very low food secure households ($p<0.01$). Among the male respondents, intakes of milk, 100% fruit juice, and water do not differ across the four food security categories. Among females, beverage intake does not differ by food security status.

Conclusion: Beverage intake in males is related to food security status; however, for females, level of education and cultural norms may have a greater impact.

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Ready-to-Eat Cereal Consumption and Whole Grain Intake at School Breakfast- Results from the Third School Nutrition Dietary Assessment Study

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Learning Outcome: The participant will recognize the contribution of ready-to-eat cereal breakfast consumption to daily intake of whole grain foods among students in the Third School Nutrition Dietary Assessment Study.

Objective: To assess the contribution of ready-to-eat (RTE) cereal consumption to daily intake of whole grain foods.

Background: Increased consumption of whole grains has been associated with reduced risk of chronic disease and weight maintenance. Despite national recommendations of ≥ 3 servings whole grain foods/day, most school age children consume <1 serving/day.

Methods: Secondary data analysis using 24-hour recalls of the Third School Nutrition Dietary Assessment Study (SNDA-III) participants ($n=2,298$; grades 1-12). Each student was categorized in one of five "breakfast groups": skipped breakfast; ate breakfast with RTE cereal (in vs. outside school); or ate other breakfast (in vs. outside school). Analyses estimated average total daily intake of whole grain foods by breakfast group, controlling for confounders (demographics, school nutrition program participation).

Results: RTE cereal breakfast was associated with the highest total daily whole grain intake. Students who ate cereal breakfast outside of school consumed significantly more whole grains than did students who skipped breakfast or those who ate non-cereal breakfast (in or outside of school). For middle/high school students, those who ate school cereal breakfast consumed more whole grains than did breakfast skippers or students who ate non-cereal breakfast (in or outside of school). Among elementary students, the only significant difference was between students who ate cereal breakfast in school and breakfast skippers.

Conclusion: Whole grain intake was greatest for students who ate RTE cereal breakfast. Food and nutrition professionals should continue to educate students and their parents on the important contribution of RTE cereal to whole grain intake.

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Feeding from Exceeding Foodservice Meals

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Learning Outcome: To recognize food donation to charity not only as social responsibility, providing meals to the needy, but as a way of instructing these institutions how to safely handle meals as well.

Thinking about low income people who lack food, the foodservice department staff of the University of São Paulo, Brazil, serving 10,000 meals/day to the local community (students, teachers and employees) planned an innovative way of providing food for the charity, developing the program "Feeding from Exceeding Foodservice Meals". The objective was to provide the donation of safely prepared meals, exceeding the local customer's consumption. The focus was to train these institutions how to collect, transport and consume safe meals. Before this program, the exceeding meals were destined to be thrown away. Dietetics undergraduates participated under dietitians' supervision. The institutions personnel were monthly trained on food safety (hygiene, time and temperature control, reheating processes and food handling practices). In the second semester of 2008, this program evaluated the four participating institutions, comparing results, through the adequacy percentage to food safety standards, obtained from a checklist. The results showed: meals temperature control (75% of adequacy in July and in December/2008); meals collection procedures and utilization of the meals (100% of adequacy in July and in December/2008); hygiene in the donation reception (50% of adequacy in July and 75% in December/2008); collection hygiene (75% of adequacy in July and 100% in December/2008). The implemented program succeeded, highlighting the social responsibility. Thus, the foodservice department helped low income individuals to meet their nutrition needs, and institutions to safely handle meals. Additionally, the program provides key resources to be expanded, by encouraging further foodservices to start moving toward similar attitudes.

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Ready-to-Adopt-and-Implement Curriculum to Enhance Supplemental Nutrition Assistance Program Education (SNAP-Ed) Reach in Pennsylvania Middle Schools

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Learning Outcome: Participants will be able to describe components of TRAILS for Bones, targeted audience and results of formative testing.

Pennsylvania Nutrition Education Tracks (TRACKS) delivers SNAP-Ed in partnership with local agencies. TRACKS Ready to Adopt & Implement Learning Structure (TRAILS) - repurposed and repackaged extant nutrition education materials in a ready-to-use format - was designed to minimize administrative burden for potential partners, thereby enhancing reach, especially to un-served rural schools. TRAILS prototype development began with needs assessment. Evaluation in 2009 indicated low milk intake among youth in TRACKS-participating schools; 70.2% of 8th graders ($n=785$) reported drinking ≤ 1 glass of milk per day in the past week. TRAILS For Bones (TFB), a 4 lesson series, was compiled to inform 11-14 year old students about calcium and its relationship to health. Intended for delivery by school teachers in 45-minute classroom sessions, TFB includes all necessary items for implementation: teacher guide, student materials, shelf-stable foods for tastings, and paper products. A middle school teacher from an unserved Pennsylvania county provided input on lesson activity feasibility. A nutrition curriculum expert aligned lessons with state academic standards. Eleven middle school teachers examined materials for face and content validity. Five lesson activities were assessed; 36 of 52 responses (69.2%) indicated difficulty level was age-congruent. Weight bearing activities were denoted appropriate in 32 of 42 (76.2%) responses. Taste test appeal for all 4 foods was high for 29 of 44 responses (65.9%). Expert input informed TFB revision and readied the intervention for pilot testing by middle school teachers.

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