P171 Evaluation of an Education Program for Improving Dietary Quality of the Elderly With Risk of Dysphagia in South Korea

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Objective: This study aimed to evaluate an education program for improving the dietary quality of community-dwelling elderly persons with risk of dysphagia in South Korea.

Design, Setting, and Participants: To evaluate the program, we conducted a test operation of an intervention program with 27 elderly persons with risk of dysphagia aged 65 years and older as experimental group (EG) and other 26 elderly persons with risk of dysphagia aged 65 years and older as control group (CG), during September 2015. A combined dietary and exercise program was applied to the EG for 6 weeks.

Outcome Measures and Analysis: We examined changes in the participants' knowledge level and attitude and dietary behavior score concerning dysphagia risk. The nutrition intake of the participants was measured before and after the intervention by using 24-hr dietary recall.

Results: A significant increase was found in knowledge level concerning dysphagia risk in the EG, which increased from 3.7 to 7.1 out of 10 points ($p < 0.001$). The attitude score of the EG increased significantly from 15.2 to 16.7 out of 20 points ($p = 0.016$). There was also significant increase in the dietary behavior score after the intervention, from 21.9 to 28.3 out of 36 points ($p < 0.001$) in the EG. However, there were no significant differences in the CG. In terms of nutrition intake, both EG and CG did not change.

Conclusions and Implications: These results suggest that the education program in this study could be helpful in reducing the risk of malnutrition that could be caused by the dysphagia that accompanies aging.

Funding: Ministry of Health & Welfare, Republic of Korea

P172 A Train-the-Trainer Nutrition Education Program for Improving Preschoolers' At-Home Diet

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Objective: To assess whether a train-the-trainer nutrition education program implemented in child-care centers is associated with healthy behavior changes among parents.

Target Audience: Parents of children enrolled in New York City (NYC) preschools serving low-income families.

Theory, Prior Research, Rationale: Child-care settings are ideal for educating families about nutrition. Sixty-one percent of preschool-aged children in the U.S. attend child-care programs and children's food preferences are influenced by caregivers. Informed by the Diffusion of Innovation theory, Growing Healthy Children (GHC) uses a train-the-trainer model to equip child-care staff to provide nutrition education to parents and children in child-care settings.

Description: Staff from child-care centers serving low-income families attended a 6-hour training to implement a nutrition education curriculum based on Eat Well Play Hard in Child-Care Settings. Participating centers received a toolkit and technical assistance to implement six child and six parent lessons. The program was implemented by the NYC Department of Health.

Evaluation: Pre- and post-surveys were administered to 1,238 parents at 17 intervention and 18 comparison centers to assess changes in knowledge, behaviors, and self-efficacy of parents. There were significant increases in the percentage of parents offering children fruits at least daily and vegetables at least daily in intervention centers relative to comparison centers ($p = 0.005$ and $p = .002$, respectively). In participating centers, the percentage of parents whose children helped them prepare meals increased by 9%, versus 2% in comparison centers ($p = .042$).

Conclusions and Implications: Findings provide support for the GHC model to improve healthy behaviors among parents of preschool-aged children.

Funding: USDA

P173 Undergraduate College Students' Perceptions of Effective Nutrition Education Interventions

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Objective: To examine college students' perceptions of the effectiveness of nutrition education interventions conducted as experiential learning experience for undergraduate course at New Jersey state university.

Target Audience: Over the past 3 years, 84 undergraduate nutrition and dietetics students have engaged in a nutrition education intervention as a required project in Nutrition Education Techniques course.

Theory, Prior Research, Rationale: The nutrition education intervention project is a form of experiential learning that entails conducting a comprehensive needs assessment of a specific target audience. This process is followed by the design and implementation of a lesson plan incorporating Bloom's taxonomy of learning objectives reflecting cognitive, affective, and psychomotor domains.

Description: A single nutrition education intervention (1-hour duration) was designed and implemented by students targeting diverse age groups ranging from pre-school

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children to older adults at educational and community-based settings. Intervention lesson plans reflected behaviorally-based approaches and information dissemination of nutrition-related concepts.

Evaluation: Upon completion of the intervention, students responded to an evaluation survey on demographic profile of target audience, teaching techniques employed, and factors affecting the effectiveness of achieving intervention goals and objectives. Effective strategies in addressing preschoolers and children included the use of engaging, interactive, multi-sensory activities. Themes of using dynamic visual aids and computer-generated learning modalities emerged for teenagers. Adults benefited from relevant, hands-on demonstrations, educational materials, and interactive discussions to address life stage issues.

Conclusions and Implications: This project serves as a medium for students to critically analyze the efficacy of nutrition education interventions addressing multiple age groups. Engaging and age-appropriate learning tools are perceived as fostering successful interventions.

Funding: None

P174 Designing Online Nutrition Education for Low Digital Literacy Populations: Insights From the EatFresh.org Mini Course

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Objective: To design a user-friendly, evidence-based online nutrition course and accompanying learning management system (LMS) for the SNAP population, many of whom have low digital literacy.

Target Audience: Adult (16+), low-income, English and Spanish-speaking participants.

Theory, Prior Research, Rationale: This course grew out of EatFresh.org, a recipe and nutrition website. Google Analytics and enthusiasm from partners validated the appropriateness of the website, though an impact evaluation was unable to demonstrate a dose/response relationship in knowledge, attitudes, and behaviors. This course added the capability to assess change on nutrition indicators.

Description: Course was developed in leading eLearning software with content management. A combination of in-house staff combined with outsourced engineering created 15 modules and evaluation tools, which were organized into three courses. Staff and contract engineers customized an open-source LMS to build the course. Our design process allowed us to iterate on the instructional strategies, content, and online course structure to create a usable product ready to scale.

Evaluation: Using a Reach Effectiveness Adoption Implementation Maintenance (RE-AIM) framework, we focused on Adoption, Implementation and Maintenance as part

of our evaluation. A survey of Eatfresh.org partners validated the existence of a vibrant ecosystem for dissemination. Agile design ensured the intervention could be delivered as intended. Software was chosen for content maintenance and sustainability.

Conclusions and Implications: The instructional strategies underwent considerable revisions during the first stage of testing leading to the adoption of an engaging narrative structure. Dedicating time to design a simple sign-in and streamlined user flow allowed the focus to be on the dynamic content, as opposed to the mechanics of taking the course.

Funding: Supplemental Nutrition Assistance Program - Education

P175 Food Pantries: A Promising Venue for Identifying Those at Risk for Pre-Diabetes

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Objective: The objective of this two-phase study was to screen food pantry clients for their risk of pre-diabetes.

Design, Setting, and Participants: Cross-sectional study with a non-probability convenience sample of adult pantry clients (n=69) were asked, while waiting in line for food, to voluntarily complete the 7-item Centers for Disease Control (CDC) pre-diabetes screening test to determine their risk for developing diabetes. Surveys were administered on tablets and were available in English and Spanish, with a translator.

Outcome and Measures: Participants' scores from the Screening Test were calculated and used to determine pre-diabetes risk level. A cut-off score of ≥ 9 was indicative of risk and those participants qualified to proceed to Phase II of the intervention phase; a 10-week lifestyle and nutrition education program.

Results: Sixty-nine pantry clients completed the CDC pre-diabetes screening survey (40 English- and 29 Spanish-speaking clients). 70% (n=48) were identified as at high risk for pre-diabetes, including 62.5% (n= 25) of the English participants and 79.3% (n=23) of the Spanish participants. Mean risk scores were 9.37 and 9.93 for English and Spanish participants, respectively. The total mean score was 9.61 (SD 3.64). Of those eligible for Phase II, 63% (n=39) enrolled.

Conclusions and Implications: This study is the first to use the CDC pre-diabetes screening test in a food pantry population and has several valuable implications. The majority of those surveyed were younger than age 45, getting little to no exercise in a typical day, and weighed more than the recommended weight for their height. Almost half of respondents reported a parent with diabetes. Findings suggest this population may be at an increased risk for developing diabetes, supporting the current food insecurity and diabetes literature; and are receptive to intervention.

Funding: Rotary Club of Elmhurst