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Impact of a high school mentoring program on nutritional knowledge and healthy habits of elementary school students

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Impact of a High School Mentoring Program on Nutritional Knowledge and Healthy Habits of Elementary School Students

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Learning Outcome: Participants will examine if a multidimensional nutrition education program with teenage mentors is effective in increasing knowledge and changing attitudes and behaviors of elementary school children.

Objective: To examine if a multidimensional nutrition education program with teenage mentors is effective in increasing knowledge and changing attitudes and behaviors of elementary school children.

Design: Pretest-posttest design.

Setting: After-school program at San Miguel Elementary School in Sunnyvale, CA.

Participants: Seven mentors from Fremont High School and 15 4th and 5th grade students participated in the intervention. Students were chosen based on attendance in an after-school program and parental consent.

Intervention: An 8-week Social Cognitive Theory-based curriculum including seminars, snack making and physical activity for 1 hour/week.
Variables Measured: Nutritional knowledge, attitude, and healthy behaviors.

Analysis: Analysis of variance (ANOVA) was used to test the effect of the intervention on knowledge changes, and chi-square test of independence assessed changes in attitudes and behaviors.

Results: Overall knowledge changed significantly for both students and mentors ($F(1,20) = 23.50$, $P < .001$), but knowledge changes varied for specific nutrition topics. No significant change in attitude or behavior was noted.

Conclusions and Implications: This intervention was effective in increasing knowledge, but not attitudes or behaviors. Longer-duration interventions, with increased mentor-student interaction, may be needed to promote significant attitude and behavioral changes.

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Does Educational Signage Improve the Usage of Plastic Bags by Consumers for Raw Poultry?

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Learning Outcome: Attendees will be able to describe consumers' usage of plastic bags for raw poultry and their perceptions of the importance of doing so.

Background: Thousands of cases of foodborne illness are reported each year. With the consumer as the last defense, it is important that they follow safe food handling practices. An earlier study reported the use of plastic bags provided by grocers helps eliminate cross-contamination during transport and storage of raw chicken. This project examined the impact of an educational message on shoppers' use of plastic bags when purchasing raw poultry.

Methods: Consumer's use of bags provided was observed in two stores. Following initial observation, a large sign with the message "For your safety and convenience bag your meat" was displayed. After posting, 100 shoppers who purchased poultry were observed and another 100 were surveyed concerning their use of bags and the potential impact of the sign.

Results: Half of those surveyed reported they used bags for raw poultry in the past, but only 9 used bags on the day surveyed. Reasons for not using the bags included: not noticing them, they were not necessary, and they are too much trouble. Forty-one shoppers noticed the sign displayed; however, most could not remember the displayed message. Few shoppers were observed placing raw poultry in bags before the sign was posted. None of the observed shoppers used bags after posting the sign.

Conclusion: Consumers should be made aware of the increased risk of foodborne illness when not using bags for their raw poultry. Further research is needed to assess the effectiveness of different messages presented in various settings and formats in grocery stores.

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Importance of Mathematics Practice in Food and Nutrition Science Education

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Learning Outcome: The participants will be able to discuss the importance of emphasizing mathematics as a key component of food and nutrition knowledge and the significance of adequate mathematic application and practice in the undergraduate nutrition curriculum.

Mathematics is a key component of the foundational knowledge needed to meet the competency standards of a successful food and nutrition professional. A researcher developed questionnaire was administered to senior-level nutrition science students (N=34) assessing mathematics operations related to food and nutrition science. Students answered 20 multiple choice questions selected from widely utilized academic textbooks in the field of nutrition science under the categories of percentages, food labels, formulas, graphs, and cost-control. At least 80% of students correctly answered questions pertaining to percentages, food labels, and graphs. One question pertaining to formulas presented the students with difficulty and less than 80% of students answered questions within the cost-control section correctly. Low performance in the areas of cost-control and formulas may be a result of student inability to apply mathematics knowledge to these concepts. Lack of necessary content covered later in Medical Nutrition Therapy II explains low performance on the formula question. Individuals that answered the question correctly likely used deductive reasoning or previously acquired knowledge of the conversion factors to select the correct answer. Difficulty with cost-control items can be explained by the newness of applying mathematics operations relating to cost-control, and practice is essential to improve student understanding and performance. Regular assessment of mathematics knowledge and skills is important for undergraduate nutrition science programs. Mathematics skills are often assumed and/or expected of students. Placing more emphasis on mathematics practice in the undergraduate nutrition science curriculum can serve to fine tune mathematics application skills and improve subsequent workplace performance.

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Improving Food Choices and Nutrient Adequacy in Adolescents/Young Adults with Developmental Disabilities

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Learning Outcome: Participants will be able to identify educational strategies that are most effective in meeting the social, cognitive, and dietary needs of persons with intellectual and developmental disabilities, assisting them in the development of programs.

There has been a dramatic increase over the past two decades in the prevalence of overweight and obesity in the United States. Persons with intellectual and developmental disabilities (ID/DD) have higher incidences of overweight and obesity than the general population, and are currently underserved in health promotion programs. The purpose of the study, using a triangulation design, was to investigate if implementation of an appropriately planned nutrition program administered to young adults with ID/DD resulted in changes in food choices and specific nutrients that may be influential in preventing overweight and obesity, and to answer the research question: What educational strategies in providing nutrition education are most effective in meeting the social, cognitive, and dietary needs of persons with ID/DD? A two- part Home Food Behavior Questionnaire was used to assess the nutritional needs of participants, and to evaluate program reception appropriateness. Weekly group discussions were held with parents/caregivers of participants, followed by nutrition lessons for participants during a 6-week period. Analysis of the data was used in developing educational strategies that best fit the needs of the ID/DD population. Three-day food logs were collected pre-study and post-intervention, and analyzed using the National Cancer Institute's ASA24 nutrient analysis program, measuring nutrient changes. Nutrients analyzed included fat, saturated fat, cholesterol, sodium, sugar, fiber, and Vitamins, A, C, and D. Qualitative data indicated sessions were appropriately planned and well received. Changes were seen in nutrient intake, but were insignificant, indicating the need for further research in this area.

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