

P33 From Start to Finish: Developing a ReFresh-ing Curriculum for 4th and 5th Grades

Carol Miller, RD, MEd, LDN, cmiller3@umd.edu,
University of Maryland Extension - FSNE Program, 10632
Little Patuxent Parkway, Suite 435, Columbia, MD 21075;
E. Braunscheidel, RD, MHS, LDN

Objective: To develop and pilot a nutrition education curriculum for 4th and 5th graders that reinforces concepts from several elementary school content areas and is aligned with Maryland Common Core Standards.

Target audience: 4th and 5th grade students, teachers and school community.

Theory, Prior Research, Rationale: Theory of Planned Behavior.

Description: ReRefresh curriculum focuses on encouraging students to consume more fruits, vegetables and whole grains and become more physically active through interactive experiences, food demonstrations and tastings. Each of the 8 monthly units include(s) lessons that link to common 4th and 5th grade curriculum themes, and seasons throughout the year. Units include an overview with teacher tips to link to the Common Core, pre-teaching activities, an introductory lesson with food tasting and associated hand-outs, materials list, reinforcement lessons, student journal, morning announcements, parent newsletter and optional activities to reinforce the nutrition education messages. Send-home materials are translated into Spanish. Pilot curriculum was developed and adopted in 14 schools throughout the state during the 2011 school year.

Evaluation: Standardized evaluation form was developed and used during telephone interviews providing feedback from instructors. Curriculum revisions included input on application for classroom use by elementary school teachers and incorporation of evaluation comments.

Conclusions and Implications: Revised curriculum includes change in graphic design and format for ease of use by FSNE educators and classroom teachers. During 2012-2013 school-year the program has expanded to after-school programs. Program re-evaluation will occur Summer 2013.

Funding: Supplemental Nutrition Assistance Program - Education.

P34 Expanding Online Guidance: Creating a Consumer-oriented Website with Practical Solutions for Healthy Eating on a Budget

Elizabeth Rahavi, RD, elizabeth.rahavi@cnpp.usda.gov,
Center for Nutrition Policy & Promotion, 3101 Park
Center Drive, 10th Floor, Alexandria, VA 22302;
L. Muras, RD; M. Lino, PhD; P. Brittan, PhD;
C. Rihane, MS, RD

Objective: To provide practical guidance for following a nutritious diet while on a limited food budget using web-based information and tools.

Target audience: Low-income families; also the general public and nutrition educators.

Theory, Prior Research, Rationale: N/A.

Description: USDA's Center for Nutrition Policy & Promotion (CNPP) demonstrated that online applications can successfully impart dietary guidance to a large audience at a lower cost through its ChooseMyPlate.gov website and SuperTracker food and activity tracking tool. Creation of a consumer-oriented website focused on how to make healthy food choices on a finite budget expands and complements current CNPP online offerings. The website covers 3 themes: Get Started, Go Shopping, and Dine Healthy. Users are able to explore a number of topic areas under each theme, including meal planning and shopping strategies; low-cost, nutritious recipes; and basic cooking instructions. Content was developed for a low health-literacy population, with liberal use of itemized lists and/or bullets; positive, action-oriented language; little or no technical jargon; and a 6th to 8th grade readability level.

Evaluation: Prior to launch, a content evaluation by external nutrition education experts and a usability test with a sample of the target population were completed. Website content was revised to reflect comments from peer evaluators and feedback from the usability testing.

Conclusions and Implications: Access to the Internet is becoming less of a barrier, with 50 to 75% of low-income households now reporting Internet access. This project builds on that transformation by providing practical guidance regarding healthy eating on a budget. This information will benefit both educators and consumers, and has the potential for further expansion.

Funding: USDA.

P35 Food, Health & Choices: Using the DESIGN Stepwise Procedure to Develop a Childhood Obesity Prevention Program

Emily Abrams, MS, RD, eea2117@tc.columbia.edu,
Teachers College, Columbia University, 525 West 120th
Street, Russell Hall 414, New York, NY 10027;
P. Koch, EdD, RD; I. R. Contento, PhD, CDN; L. Mull, MS;
H. Lee, PhD, RD; J. DiNoia, PhD, LCSW, William Paterson
University; M. Burgermaster, MA, MS, Teachers College,
Columbia University

Objective: To address the high rates of childhood obesity, well designed, behaviorally focused, theory-based programs are needed. This project used the DESIGN Stepwise Procedure of Contento to develop an innovative program, Food, Health & Choices.

Target audience: Upper elementary students.

Theory, Prior Research, Rationale: DESIGN is based on the integration of behavioral theory with educational design principles.

Description: Followed the DESIGN process: 1) Decide issue (obesity prevention) and behaviors (choose more

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fruits and vegetables and physical activity; and choose less sweetened beverages, processed packaged snacks, fast food and recreational screentime); 2) Explore determinants/mediators (identified appropriate mediators for group based on literature and audience assessment); 3) Select theory and philosophy (combination of social cognitive theory and self-determination theory with a philosophy that takes a system-blame approach); 4) Indicate objectives (general objectives for each theory-based mediator and specific objectives for lesson activities); 5) Generate plans (23 lesson plans); 6) Nail down evaluation (developed protocol for measuring height, weight, and percent body fat, and instruments to measure changes in the targeted behaviors and theory-based mediators).

Evaluation: The DESIGN procedure resulted in a curriculum that, according to process evaluation data, had positive reviews by teachers and actively engaged students. Formative student pre to post data (n=146) showed positive outcomes on anthropometric, behavioral, and theory-based psychosocial mediators.

Conclusions and Implications: The value of systematic program development is often underestimated. Using a systematic process, such as the user-friendly DESIGN Stepwise Procedure, can lead to curricula that are tailored to the intended audience, theory-based, and more likely to be effective at changing behaviors.

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P36 Spilling the Beans: A Preschool Gardening and Nutrition Education Curriculum to Increase the Use of Dry Edible Beans

Julie Garden-Robinson, PhD, RD, LRD, julie.

garden-robinson@ndsu.edu, North Dakota State University, Department of Health, Nutrition and Exercise Science, EML 351 - Department 7270, Box 6050, Fargo, ND 58108-6050; L. Whigham, USDA Human Nutrition Research Center; S. Wang, RD, LRD, North Dakota State University

Objective: To increase children's knowledge of gardening, MyPlate concepts, and different varieties of dry edible beans; to improve knowledge of the health benefits associated with beans among parents or caregivers; and to improve the families' consumption of beans.

Target audience: Forty seven preschool children and their families in 2 preschool centers participated in the pilot project.

Theory, Prior Research, Rationale: Informed by social cognitive theory, this project builds on the potential of gardening as a means of teaching nutrition concepts.

Description: As part of an 8-lesson curriculum, preschool children listened to stories, planted and harvested a variety of beans, and participated in sensory evaluation of ten recipes. Parents were given a weekly nutrition newsletter sum-

marizing their child's activities, along with nutrition information, recipes and a can of beans.

Evaluation: Observations of children and pre/post surveys among parents were used to measure attitude, knowledge and behavior changes. Frequency data were analyzed using the SPSS computer program. Parents/caregivers significantly increased their knowledge of beans as a source of fiber and folate with potential health benefits. The use of canned beans among the families significantly increased ($P < .05$). Children rated bean-containing recipes highly and consumed more beans during preschool. The recipes were incorporated in the menus. About 88% of the parents reported reading the newsletter, 69% said their child talked about beans, 83% reported that their child talked about the gardening, and 85% of the children talked about tasting bean recipes.

Conclusions and Implications: Children's literature and gardening were effective means of teaching children and their families about nutrition and dry edible beans.

Funding: USDA.

P37 Missouri Eat Smart Guidelines for Child Care Promote Positive Changes in Menus, Feeding Environments and Food Policies

Lynda Zimmerman, MS, RD, LD, zimmermanl@missouri.edu, University of Missouri Extension, 2436 Tanner Bridge Road, Jefferson City, MO 65101; R. Gammon, MEd, RD, LD; B. Keen, RD, Missouri Department of Health and Senior Services

Objective: Missouri Eat Smart Guidelines for Child Care program is designed to encourage child care facilities to adopt the 2010 Child and Adult Care Food Program (CACFP) recommendations. The goal is to instill healthful lifestyle behaviors in preschoolers and help prevent childhood obesity.

Target audience: The target audience was center-based child care facilities.

Theory, Prior Research, Rationale: Eating habits developed during preschool years influence lifestyle choices and weight throughout life. Missouri Eat Smart Guidelines for Child Care is based on the 2010 Dietary Guidelines and the Institute of Medicine's CACFP recommendations.

Description: The program is modeled on North Carolina's Nutrition and Physical Activity Self-Assessment for Child Care (NAPSACC) which includes: 1) Self-Assessment; 2) Action Planning; 3) Workshop Delivery; 4) Technical Assistance; and 5) Evaluate, Revise and Repeat. The program involved individualized coaching and training with center directors and staff to bring practices in line with Missouri's Eat Smart Guidelines for Child Care. Centers that met the guidelines applied for recognition as an "Eat Smart Child Care."

Evaluation: Since 2010, 71 individual child care centers and 4 Head Start agencies serving 36 sites participated in the program. As a result, child care centers made healthful changes in menus, feeding environments and food policies. Anecdotal reports indicate the program helped motivate and encourage center directors to complete the

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