Contrasting Barriers and Facilitators to Policy, Systems, and Environmental Interventions Among Public Health Programs
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Background: Policy, systems, and environmental (PSE) changes promoting healthful eating and physical activity may be able to play a role in obesity prevention. These interventions are more effective than education alone in addressing barriers to health equity among marginalized groups. Both the CDC High Obesity Program (HOP) and Supplemental Nutrition Assistance Program Education (SNAP-Ed) implement PSE changes in Louisiana. In order to develop training for HOP and SNAP-Ed staff, it is necessary to identify factors influencing PSE implementation for these programs.

Objective: To elicit barriers and facilitators to PSE interventions among CDC and SNAP-Ed staff and identify any differences by implementing program.

Study Design, Settings, Participants: Qualitative, semi-structured interviews were conducted with 13 SNAP-Ed and CDC HOP employees implementing PSE changes.

Measurable Outcome/Analysis: Interview questions were based on constructs from the Consolidated Framework for Implementation Research (CFIR). Two researchers independently coded transcripts using a deductive approach with a predetermined codebook developed according to CFIR constructs.

Results: Staff from both programs frequently cited access to information about the intervention and engaging participants as barriers. Frequently mentioned facilitators included networking with outside organizations and communication within their organization. SNAP-Ed staff more frequently mentioned the relative priority of PSE change work compared to educational programs as a barrier and adaptability of the intervention as a facilitator. Comparatively, CDC staff more frequently mentioned their organizational climate as a barrier and community champions as facilitators.

Conclusion: The leaders of both SNAP-Ed and CDC HOP in this setting should address the expressed barriers and facilitators in future trainings. SNAP-Ed trainings should address how to conduct PSE change work as part of existing education programs and CDC staff will need additional training on engaging community champions.

Funding: Supplemental Nutrition Assistance Program - Education

Criterion Validity of Veggie Meter® to Estimate Fruit and Vegetable Consumption in Non-Hispanic White Preschool Children
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Background: Dietary intake assessment for preschool children (3-5 years old) is resource intensive and subject to caregivers’ biases and recall abilities. Skin carotenoid is considered a valid biomarker for approximating children’s fruit and vegetable consumption (FVC) over 4-6 weeks. Veggie Meter® (VM®) is a pressure-mediated reflection spectroscopy-based device that allows for non-invasive and rapid assessment of skin carotenoid score (SCS) in children and adults. Although VM® is established as a valid and sensitive tool to measure FVC in adults, the criterion validity of VM® is yet to be established with dietary intake in preschool children.

Objectives: To establish criterion-related validity of VM®-assessed SCS as a proxy for FVC among non-Hispanic White preschool children.

Study, Design, Settings, Participants: Cross-sectional data were collected from typically developing 3-5-year old children attending family child care home settings (n=30) in Nebraska. For the current study, only non-Hispanic White children (n=66) were included.

Measurable Outcome/Analysis: We collected children’s height-weight to calculate Body Mass Index (BMI), and children’s SCS was collected using VM®. Parents completed a shortened version of the National Health and Nutrition Examination Survey (NHANES) food frequency questionnaire (FFQ) to report children’s FVC over the last month in Qualtrics. We conducted Pearson’s correlation in SPSS v.29.0 to measure the association between children’s SCS with parent-reported FFQ scores.

Results: Children’s SCS was not associated with their weight status, BMI- Z score, age, and biological sex. Parent-reported FFQ score for children’s FVC over the last month was significantly associated with VM®-assessed SCS, r= 0.26 (p=0.04). We found a small effect size for the criterion-related validity for VM®-assessed SCS among preschool children.

Conclusion: Measuring SCS can be an easy and non-invasive alternative to collecting parent-reported FVC data for preschool children. The criterion validity result is comparable to previous studies conducted in adults (r=0.35) and meta-analyses conducted for older children (r=0.20). Future experimental studies are warranted to establish the sensitivity of VM® to capture changes in SCS for preschool children over time.

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Culturally Adapted Nutrition Education for Somali Refugees Improves Nutrition-Related Behavior
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Background: Refugees face nutrition-related challenges due to their cultural uniqueness. These challenges make them at high risk for food insecurity and chronic diseases. Culturally appropriate nutrition education may help refugees better navigate the challenges of their new food environment and support healthier nutrition-related behaviors.

Objective: To assess the impact of the delivery of the culturally adapted Create Better Health (CBH) program on nutrition-related behavior of Somali refugees in Utah.

Study Design, Settings, Participants: A pre-test and post-test design were used. Somali refugee women were recruited from two communities in Utah. The women participated in community education and had access to laptop computers and smartphones. Twelve nutrition education lessons using CBH that was adapted for Somali refugees was delivered via Zoom. Each lesson lasted 2 hours.

Measurable Outcome/Analysis: Impact of nutrition education on nutrition-related behavior using the EFNEP behavior assessment survey. A Wilcoxon Signed Rank Test and descriptive statistics were performed using SPSS to assess changes in nutrition-related behaviors and to analyze demographic data. A frequency analysis was also performed using WebNEERS.

Results: Thirty-six women completed the program. Most participants (50 – 94%) made improvements in nine of the 11 indicators of diet quality (p<0.01), in two of three indicators of physical activity (p<0.01) and in three of four indicators of food safety (p<0.001). Participants made improvements in all nine food resource management indicators (p<0.001). Finally, improvements were made in all three food security indicators (p<0.03).

Conclusion: Culturally adapted nutrition education conducted in an online format is effective in improving nutrition-related behaviors in Somali refugee women. Because many women were still below recommended targets, further education would be beneficial. Although improvements were realized, the percentage of participants meeting recommendations remained below 50% for most parameters measured.

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Design of Implementation Protocols for a Health System-Based Produce Prescription Program: A Process Evaluation

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Objective: Develop and evaluate scalable, sustainable systems for implementation of a produce prescription program through pilot testing in a rural primary care setting.

Use of Theory or Research: Improved provider-patient relationships, visit compliance and health outcomes are associated with primary care integration of produce prescriptions. These interventions may improve quality and costs of healthcare. The Theory of Healthcare Acceptability recognizes provider and administrator buy-in as a key element of successful healthcare integration.

Target Audience: Clinic providers and administrators, study staff, research and IT personnel.

Program Description: Primary care patients are screened for enrollment in the Fresh to Flourish produce prescription program if they meet inclusion criteria: Adults with a chronic condition who are either food insecure; Medicaid members; or enrolled in SNAP. Participants receive $100 value of fresh produce vouchers redeemable at community food businesses offering local produce. Brief nutrition education is provided by a primary care provider at the enrollment visit and participants may attend optional live (in-person and virtual) or pre-recorded virtual nutrition education events offered by community-based SNAP-Ed providers. The intervention aims to track individual uptake of nutrition incentives and nutrition education for the evaluation of food security, dietary intake, biometric and healthcare utilization outcomes. This process evaluation focuses on development two crucial program implementation components required for program delivery and data collection for this intervention: clinical workflow integration; and data collection and management systems.

Evaluation Methods: Process evaluations include key informant interviews (n=4, from 1/5/22 to present), and review of meeting minutes (n=50, from 2/8/22 to present).

Results: Initial clinical workflow integration revealed barriers for patients (eg, transportation, appointment reminders) and clinical staff (eg, support staffing shortages, clinic admin staff limitations and physical space limitations). Development of data management and collection tools required technical skills and was incumbered by competing organizational priorities and staffing challenges.

Conclusion: Universal data collection and management systems will facilitate more efficient implementation and evaluation procedures for produce prescription interventions.

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Development and Evaluation of Food Preservation Lessons for Gardeners: Application of the DESIGN Process

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