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.

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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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