P98 Refining a Maternal Self-Care Intervention to Promote Family Health Using the Plan, Do, Study, Act (PDSA) Model

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Background: Maternal self-care, behaviors facilitating healthy eating, physical activity (PA), and stress management, are targets for child obesity prevention efforts and there is a need for optimized interventions to enhance these efforts. Plan, Do, Study, Act (PDSA) Cycling, a quality improvement process using rapid cycle testing to develop and refine interventions within healthcare settings, is less often used in maternal health and nutrition studies.

Objective: PDSA Cycles were applied during the development of the Healthy EnviRONments (HEROs) Self-care intervention to refine and verify intervention components including content, delivery methods, and digital strategies.

Study Design, Setting, Participants: HEROs Self-care was designed for low-income mothers of preschoolers in rural Colorado to improve healthy eating, PA, and stress management. Three sequential PDSA cycles were conducted via group or individual interviews with: 1) an expert panel (n = 8), 2) a convenience sample (n = 5), and 3) target audience (n = 6).

Outcomes, Measures and Analysis: Three cycles of group and/or individual interviews provided insights into intervention components: Cycle 1 provided input on program content: flow, activities, and materials; Cycle 2 provided feedback on delivery methods: in-person and videoconferencing meeting strategies, duration, and use of electronic binders; and Cycle 3 gathered information about the feasibility of digital strategies: website, iPad, and an activity tracker. Interviews were transcribed, data were compiled from group discussion notes, and data from each cycle was analyzed for emergent themes around intervention components.

Results: In Cycle 1, areas for refinement included the addition of mindfulness activities, revision of handouts for literacy level, and additional time for group discussion. Cycle 2 verified that content was acceptable to the target audience and delivery methods functioned in rural areas. Cycle 3 verified that digital strategies were feasible.

Conclusion: PDSA cycles allow for the optimization of intervention components prior to full-scale implementation, potentially saving resources and resulting in more efficacious interventions.

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P99 Social-Ecological Changes May Support Use of Local Food Sourcing in a Sample of Oklahoma School Nutrition Programs

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Objective: Evaluate efficacy of a year-long local food sourcing promotional campaign on school nutrition programs' (SNP) use of practices.

Use of Theory/Research: Previous research established the benefit of locally sourced foods including increased dietary quality and support of local economies. Prior research also identified barriers including lack of product availability, knowledge of regulations and personnel time.

Target Audience: Convenience sample of 25 Oklahoma SNP administrators/managers.

Program Description: Multiple communication methods were employed during the 2018-2019 academic year to address perceived barriers to local food sourcing by SNPs. Methods included development and use of a fact sheet at 2 statewide SNP management training sessions, culinary chef consults and follow-up emails.

Evaluation Methods: Management-level personnel completed hierarchical concept maps before and after the school year assisted by a trained research assistant. Two base questions assessed 1) procurement methods used and food types purchased, and 2) perceived barriers. Secondary data provided school demographic information. At post-assessment, research assistants queried about number of local food sourcing campaign trainings/contacts received.

Results: Programs were self-operated (92%) and served grades K-12 (96%). Most were rurally located (60%), with <10,000 student enrollment (96%) and mid to high poverty (96%). There was no difference in local food purchasing by geographical location. At end-of-year, there was a 20% increase in the number of schools purchasing local foods. There was an increase in the number of food types purchased ($P = 0.043$, Cohen's $d = 0.89$). There was no difference pre to post in procurement methods used ($P = 0.14$) or perceived barriers ($P = 0.056$). The most often reported barrier was lack of product availability.

Conclusion: This study demonstrated efficacy of a campaign to increase SNPs' use of local food sourcing. More work based on social-ecological and diffusion of innovation behavior change theories is needed to increase availability of product and address perceived cost/benefits to further expand diffusion of the practices.

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