Delivering Health: An Integrated Approach to Address Diabetes in the Context of Food Insecurity

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**Objective:** People with food insecurity experience type 2 diabetes (T2D) at higher rates than others while lacking the resources to manage the disease. In order to improve the health of food-insecure individuals with T2D, interventions must address nutrition at multiple levels.

**Use of Theory or Research:** Delivering Health utilizes healthy eating and active living lifestyle programs to address food insecurity and diabetes management for food-insecure people with T2D.

**Target Audience:** This program is designed to help Arkansasans with T2D and food-insecurity.

**Program Description:** The program includes interventions at three levels: 12 weeks home delivery of T2D-appropriate food boxes with adapted education materials to food-insecure individuals with T2D; dissemination of education materials (diabetes-friendly toolkit and training) that support the nutrition of T2D clients to food pantries in Arkansas; and development of an interprofessional health education course to increase food security assessments and dietary interventions for T2D patients.

**Evaluation Methods:** Biometric data, measures of food security, food pantry utilization, health history, medica- tions, and Summary of Diabetes Self-Care Activities are gathered from individuals; survey data is collected from food pantries and interprofessional health students.

**Results:** One hundred and one food-insecure people with T2D have been recruited, 76 pantries have received a diabetes-friendly toolkit and training, and 123 health profession students have completed an interprofessional education course. Pantry surveys show that trainings have increased the ability of most food pantries to improve client health, that over half have increased the use of diabetes-related components, but that few had implemented operational changes. The interprofessional training module has been developed into a continuing education credit and made available online.

**Conclusion:** Real-world constraints often limit the ability of food pantries to support clients with T2D, but most are willing to implement changes when given support; the availability of healthy food is often limited, so some pantries have requested help procuring food. Digital dissemination of the educational course will increase reach and improve diabetes care by health professionals through increased food-security assessments and diet-related interventions.

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Design and Development of an mHealth Intervention for Parents to Promote Healthy Eating and Activity in Preschoolers

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**Objective:** To develop and test the feasibility of a mobile health (mHealth) intervention with parents to improve preschooler’s eating and physical activity behaviors.

**Description:** Previously tested content from an in-person parent intervention, HEROs (HEalthy EnviRONments), is being developed and assessed in digital formats utilizing a user-centered design process. The intervention focuses on healthy eating (picky eating), physical activity (active play), and optimizing the home environment. Each topic includes theory-based modules and strategies for parents to engage with their child(ren).

**Evaluation:** An explanatory, sequential mixed methods approach was implemented to examine mobile device use, appeal for a digital program, and digital literacy of parents of preschoolers. Participants were recruited from rural Head Start centers in NY (n = 5) and CO (n = 5) via electronic flyers. A Qualtrics survey (33 items) was completed by 116 respondents with 16 of those completing a semi-structured, virtual (Zoom) interview (12 questions with probes). Respondents primarily use smartphones (63%) to access the internet, have a moderately high level of digital literacy (χ²=29.8 + 5.9; possible score 8-40); and half (49%) preferred a digital program compared to in-person (16%) or a hybrid delivery (34%). Parents expressed varied preference and reasoning for information delivery modalities (eg, video, audio, text). The most feasible time for digital program engagement was described as when they had uninterrupted time (eg, child at school or after bedtime). Features that provided choice, opportunities to connect with other parents, and were interactive were favored. Findings informed the development of interactive wireframe illustrations. Multiple phases of wireframe testing will occur using user-centered methods to test functionality and usability (technical aspects), content (information delivery), and user experience (sensory, cognitive and emotional experiences) with potential users.

**Conclusions and Implications:** Collectively, these findings will inform the development of the HEROs mHealth intervention, including mobile app prototype development and testing.

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