Nutrition Education Program Design Implementation and Evaluation

P51 A Self-Monitoring Urinary Salt Excretion Level Measurement Device for Educating Young Women About Salt Reduction: A Parallel Randomized Trial Involving 2 Groups

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Background: To prevent and treat hypertension, it is important to restrict salt in one's diet since adolescence. However, an effective salt-reduction education system has yet to be established. Besides accurate evaluation, we believe that the frequent usage of a measurement device may motivate individuals to avoid high salt intake.

Objective: The present study evaluated the use of a urinary salt excretion measurement device for salt-reduction education.

Study Design, Setting, Participants: The present study evaluated the use of a urinary salt excretion measurement device for salt-reduction education in a parallel randomized trial of 2 groups. The sample comprised 100 university students. The participants were divided into 2 groups: control (51 participants) and self-monitoring group (49 participants). Participants in the self-monitoring group measured their own urinary salt excretion level for 4 weeks, using the self-measurement device while the control group did not. Before and after this intervention, "measurable outcomes" (24-hour urinary salt excretion level; and sodium/potassium ratio (Na/K)) were evaluated in addition to "characteristics" (changes in the dietary behavior stage) in both groups.

Results: At baseline, there was no significant difference between the 2 groups in terms of their characteristics and measurable outcome. After intervention, 24-hour urinary Na/K showed no change in the control group, but it decreased significantly in the self-monitoring group [baseline score: 4.0 ± 1.7 , endline score: 3.5 ± 1.4 , $P = .044$]. At the endline of the distribution of eating behavior stage, no difference was found in the control group, but a significant increase was found in the self-monitoring group. These changes were significant even after adjusting for baseline and endline differences between groups using analysis of covariance.

Conclusions: The self-monitoring urinary salt excretion measurement device improved the 24-hour urinary Na/K and the distribution of eating behavior stage. The device is a useful and practical tool for educating young individuals about dietary salt reduction.

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P52 Intervention Mapping of Maternal Self-Care Practices to Facilitate Intervention Design

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Background: Maternal self-care, or behaviors facilitating healthy eating, physical activity (PA), and stress management practices, may play an important role in child weight status. Few childhood obesity interventions, however, consider maternal self-care and health practices.

Objective: To understand existing beliefs, practices, and supports or barriers related to self-care in mothers of preschoolers in rural communities via in-depth interviews, and develop and refine a theory-based self-care intervention using Intervention Mapping (IM).

Study Design, Setting, Participants: A semi-structured interview guide was developed using Social Cognitive Theory constructs and pilot tested to establish content and face validity. Telephone interviews with mothers ($n = 19$) recruited from preschool centers in rural Colorado were conducted by a trained researcher.

Measurable Outcome/Analysis: Interviews were recorded, transcribed verbatim, coded, and analyzed using an iterative approach. IM steps were then followed: formulation of change objectives, material creation, and implementation/evaluation plan development.

Results: Three interview themes emerged: self-care practices; facilitators and barriers; and resources. Mothers had varying definitions of self-care and contexts in which self-care strategies were used. The majority of participants described self-care practices as important for helping them be a better mom, but reported infrequent practices of self-care. Barriers such as time, access to healthy food options or facilities for PA, and exhaustion made incorporation difficult in daily life. This input guided IM for the development of a self-care program which includes 2 workshops, 4 remote health coaching sessions, and a companion website. Topics addressed include what defines self-care, how to incorporate self-care behaviors into a busy life, and how self-care can benefit families.

Conclusions: Understanding mothers' existing self-care practices and beliefs provided insights to inform and guide the development and refinement of a self-care intervention using IM. A maternal self-care intervention offers a unique approach to childhood obesity prevention efforts.

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