Effectiveness Of Differing Levels Of Support For Family Mealtimes On Obesity Prevention Among Head Start Preschoolers: The Simply Dinner Study

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SUMMARY
Socioeconomic disparities in early childhood place low-income children at 1.5 to 2 times higher risk for obesity compared to middle to upper income children. Obesity interventions have turned toward the promotion of family mealtimes as a prevention strategy. While most prevention efforts focus solely on nutrition education and knowledge, our approach is built on the premises that:

- Enhancing parents’ abilities to implement healthy family mealtimes is critical to effective obesity prevention in preschoolers.
- Inconsistent implementation of family meals is not due only to characteristics concerning mealtimes, but to the adverse effects of poverty on parents’ capabilities to plan and to execute mealtimes.

Our hypothesis is that concrete supports for healthy family mealtimes will increase the frequency of healthy meal times at home. In turn, increased healthy family meal times at home will be associated with children’s more optimal dietary quality and adiposity indices. Likewise, we will examine family functioning as moderating intervention effects on parenting and family outcomes relative to mealtimes.

OBJECTIVES
Research:
- Examine the effects of 6 forms of support for family mealtimes as an obesity prevention strategy in preschoolers enrolled in Head Start. Intervention components range from least intensive to most intensive supports.
- Identify the interventions that yield the most robust effects on the frequency of family mealtimes and children’s dietary quality.
- Implement and evaluate the effects of a “final” intervention model (bundling the most effective screening phase components).

Extension:
- Evaluate the feasibility, fidelity and educational effectiveness of the bundled intervention following the screening phase of the 6 interventions as delivered by extension to HS and HS families.
- Identify the most effective combinations of intervention components to inform extension practices in improving mealtimes frequency, dietary quality and adiposity indices.

Education:
- Provide extension with curriculum, training and support materials for effective intervention components and obesity prevention strategies.

METHODS
The study consists of two phases: Phase 1 (Screening) and Phase 2 (Confirming Phase). In Phase 1, parents, recruited through their children’s Head Start classrooms, are randomly assigned to a comparison group or to one of 6 intervention components (63 different combinations) using a detailed factorial design. Following Phase 1, we will employ the Multiphase Optimization Strategy (MOST) to determine the most effective combination of intervention components. MOST is a cutting edge approach to maximizing resources in behavioral interventions by identifying the most efficient interventions model possible. MOST will enable us to see which of the interventions or what combinations of the interventions are most robustly related to outcomes. The final intervention, identified from Phase 1, will be tested in a randomized controlled trial in Phase 2.

INTERVENTION COMPONENTS

CONCEPTUAL MODEL

REGIONAL MEASURES

PHASE 1 AND PHASE 2 MEASURES

PHASE 1: (Screening Phase)
Purpose: Testing and identifying the most effective combination of intervention components, ranging from minimum supports (e.g., provision of cookware) to maximum supports (e.g., meal delivery).

DESIGN
- 512 low-income parents whose children are enrolled in Head Start.
- Four 8-week intervention cycles over 2 years (Fall 2015, Spring 2016, Fall 2016, Spring 2017)
- Primary outcomes: Frequency of family mealtimes, dietary quality; We will examine adiposity indices in Phase 1, although change in BMI, which is our Phase 2 primary outcome, is not expected in 8 weeks.

PHASE 2: (Confirming Phase)
Purpose: Implementing a randomized controlled trial to test the “bundled” intervention identified as the most robust in Phase 1.

DESIGN
- 250 low-income parents whose children are enrolled in Head Start.
- Two intervention cycles over 2 years (Fall 2017-Spring 2018 & Fall 2018-Spring 2019)
- Primary outcomes: Child adiposity indices, frequency of family mealtimes, dietary quality

PHASE 1 AND PHASE 2 MEASURES

- Data collected in the home pre, mid and post intervention.
- Outcomes: Parent and child adiposity (BMI, skinfolds, weight); Frequency of family mealtimes, dietary quality
- Characteristics concerning mealtimes: Barriers to family mealtimes planning/preparation, maternal cooking self-efficacy; cooking resources; parental knowledge/skills
- Parent and Family Characteristics: Family functioning, food security, parental psycho-social functioning, mealtimes climate.
- Child Characteristics: Child self-regulatory capacity (rated by parent & teacher)
- Participant satisfaction data collected weekly during intervention cycle; fidelity monitored via weekly meetings with intervention staff.

CONCLUSIONS
Results will inform policy (e.g. where limited resources may be best allocated) and interventions (e.g. supports most effective in promoting family mealtimes).