Effectiveness Of Supports For Family Mealtimes On Obesity Prevention Among Head Start Preschoolers: Preliminary Descriptives from a Confirming Phase Initial Cohort

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Objectives and Design

**Phase 1: Screening Phase**
- Determine the feasibility and additive effects of 6 intervention components reflecting differing levels of supports for family mealtimes as associated with more frequent family meals and improved dietary outcomes.

**Phase 2: Confirming Phase**
- Evaluate the identified components as a bundled intervention in a randomized controlled trial (RCT).

**Measures**
- Data collected in the home pre, mid, post intervention.
- **Outcomes:** Child adiposity (BMIz, weight); dietary quality (Block screener and food photography app), frequency of family mealtimes, dietary quality
- **Characteristics concerning mealtimes:** Perceptions of cooking, Barriers to mealt ime planning & preparation
- **Parent and Family Characteristics:** Food security, parental psychosocial functioning, mealtime climate via videotaped mealtimes, parental stress (phone app)
- Participants reported on how stressful mealtimes were 2X per week for 12 weeks (up to 24 reports)
- Participant satisfaction data collected bi-weekly during intervention cycle; fiditively monitored via weekly meetings with intervention staff.

**Methods**
- We have experienced challenges in recruiting the sample size (n = 250) needed for the Confirming Phase. Focus groups with a small group of parents suggested that some potential participants might have concerns with the receipt of meals. Potential sources of concerns raised included negative perceptions about receiving a food support intervention, concerns about an unknown delivery person on Wheels coming to participants’ homes, and concerns about whether or not the food would taste good. We are currently completing our initial work with testing the intervention with Meals on Wheels as a partner.

- The remainder of the Confirming Phase will utilize a commercial meal delivery service that may offer a few advantages: delivery of 2 fully prepared meals delivered to participant’s home once per week for 12 weeks, as identified from Phase 1, is being tested in a randomized controlled trial. Phase 2 recruitment methods were expanded beyond recruitment solely through Head Start as was the practice in Phase 1 (Screening Phase) to include the use of social media recruitment strategies and notices placed through UM Health system, which provides access to thousands of potential researcher participants. Moreover, the expanded recruitment and shift to the use of a commercial delivery system provides a unique opportunity to include the Meals on Wheels sample as a sub-study along with the larger sample in the more-widely recruited commercial delivery sample. This will allow us to examine any patterns in differences in outcomes and response rates that may be associated with intervention delivery modes.

Phase 2 recruitment is ongoing. We expect the final sample (N = 60 in the Meals on Wheels subsample; N = 250 in the Direct Meal Delivery via UPS subsample) will reflect variability in family income and education levels.

**Confirming Phase Sample Demographic Characteristics**
- 44 low-income parents and children in Head Start (20 control condition; 24 intervention condition).
- Primarily White (33.8%), African American (23.4%) or Multiracial (22%).
- 57.6% food insecure.
- Mean child age = 51.5 months (SD = 6.8); 22.8% overweight; 10.5% obese.
- Mean parent age = 31.1 years old (SD = 7.9); 21% overweight; 53.9% obese.

**Reports of Mealt ime Stress**
- **Synopsis:** The descriptive means and standard deviations above reflect 30 participants for whom pre and post data were available. The descriptive data, to date, do not indicate differences between the control and intervention groups. Patterns suggest that the intake of sugar sweetened beverages may be decreasing for children in the intervention group.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Control-Pre Mean (SD)</th>
<th>Control-Post Mean (SD)</th>
<th>Intervention-Pre Mean (SD)</th>
<th>Intervention-Post Mean (SD)</th>
<th>Response Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent and child eating together</td>
<td>5.9 (1.6)</td>
<td>5.4 (2.3)</td>
<td>5.8 (1.3)</td>
<td>5.7 (1.6)</td>
<td>Number of days out of 7</td>
</tr>
<tr>
<td>BMIz</td>
<td>0.7 (0.8)</td>
<td>0.6 (1.0)</td>
<td>0.3 (1.3)</td>
<td>0.37 (1.4)</td>
<td>Z score</td>
</tr>
<tr>
<td>Daily saturated fat intake</td>
<td>14.5 (5.9)</td>
<td>16.7 (7.3)</td>
<td>15.0 (6.7)</td>
<td>16.9 (8.3)</td>
<td>Grams</td>
</tr>
<tr>
<td>Daily intake of potatoes, including French Fries</td>
<td>0.2 (0.1)</td>
<td>0.3 (0.3)</td>
<td>0.2 (0.2)</td>
<td>0.2 (0.1)</td>
<td>Cups equivalents</td>
</tr>
<tr>
<td>Daily vegetable intake</td>
<td>0.5 (0.3)</td>
<td>0.4 (0.3)</td>
<td>0.6 (0.3)</td>
<td>0.6 (0.3)</td>
<td>Cups equivalents</td>
</tr>
<tr>
<td>Sugar sweetened beverages</td>
<td>1.8 (4.6)</td>
<td>8.8 (15.1)</td>
<td>15.3 (34.8)</td>
<td>8.5 (13.3)</td>
<td>kcal</td>
</tr>
</tbody>
</table>

**Synopsis:** The descriptive means and standard deviations above reflect 30 participants for whom pre and post data were available. The descriptive data, to date, do not indicate differences between the control and intervention groups. Patterns suggest that perceptions about meal planning and meal preparation, in particular, may be improving for the participants in the intervention group.

**Satisfaction with the Intervention**
- “Really grateful, healthy, seemed like real food.”
- “Very good, saves me time”
- “Really good for my son, opening his options to food more”
- “We greatly appreciate it; it makes things easier”
- “Meals is good, all pre-cooked and tastes good”

**Descriptives on Use of the Phone App**
- **Synopsis:** The satisfaction with the meal delivery is very high and seems somewhat contrary to the twice weekly reports of how stressful mealtime is.

This discrepancy may reflect several characteristics:
- About half of participants are reached successfully on a bi-weekly basis; thus, results reflect very few participants. Mean scores across up to 6 satisfaction assessments are reported here.
- Mealt ime stress reported twice weekly reflects on-going “real-time” perceived stress.
- It is possible that participants receiving meals might perceive meal time stress associated with:
  - Children or parents disliking the meals
  - The necessity to be home/or have another adult home to receive the weekly meal deliveries
  - The necessity to heat delivered meals (one delivered cool; one delivered frozen)

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