Living Well in Early Childhood Childcare Settings: Evaluating the Impact of a Community-Based Early Childhood Obesity Prevention Project

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Background

Before age 5, children’s brains are developing rapidly. A nutritional diet and adequate physical activity are crucial to achieving and maintaining optimal health. The diet and physical activity habits created in the first 5 years are not a transient for health behaviors for the future. Because the prevalence of overweight and obesity among US preschool-aged children remains high, childcare settings are an important target for obesity prevention.

Objective

Utilizing a community-based participatory research (CBPR) approach, the proposed study will evaluate the impact of a 2-year multisite early childhood obesity prevention intervention on early childhood food and physical activity (PA) policies and environments.

Methods: Study Population & Design

A one group pretest-posttest design was used to evaluate the early childhood childcare centers.

Methods: Intervention

• Since April 2015, stakeholders have convened monthly to develop the Early Childhood intervention.
• A Community Advisory Committee (CAC) was formed which includes key stakeholders in early childhood at the local and state levels.
• The CAC was involved in identifying and framing the research topic and the design of all study methods.
• The resultant 2-year intervention will assist early childhood center directors and caregivers in informed, tailored goal setting and revision or creation of policies for improving healthy eating and PA environments.

Methods: Outcome Measures

• Environmental changes are assessed using the Environmental and Policy Assessment and Observation (EPAO) tool designed to assess childcare environments.
• EPAO consists of 75 items assessing childcare nutrition and PA environments, policies, and practices measured over a full day.
• EPAO results in 18 food environment and activity environment scores.
• At each site, one 3-5 year old classroom was randomly selected for observation.
• Baseline data have been collected in 10 sites.
• Follow-up data will be collected in August of 2018.
• Due to non-normally distributed data, the median is presented in results.

Methods: Interventions

Intervention Steps

1. Baseline data collection and self-assessment
2. Technical assistance and access to resources
3. Tailored goal setting and action planning
4. Follow-up data collection: re-assessment

Results

<table>
<thead>
<tr>
<th>Nutrition Variables</th>
<th>Median score in 10 sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits &amp; Vegetables</td>
<td>1 2 3 4 5 6 7 8 9 10 12 13 15 18 20</td>
</tr>
<tr>
<td>Grazing &amp; Loose Meals</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 17 18</td>
</tr>
<tr>
<td>High Fat, High Sugar</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Beverages</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Nutrition Environment</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Feeding Practices</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Nutrition Education &amp; Professional Development</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Nutrition Policy</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
</tbody>
</table>

Physical Activity (PA) Variables

<table>
<thead>
<tr>
<th>PA Variables</th>
<th>Median score in 10 sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Play</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Sedentary Behavior</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Sedentary Environment</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Portable Play Equipment</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Fixed Play Environment</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Teacher Practices Related to Activity</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Nutrition Environment</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
<tr>
<td>Physical Activity Policy</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17</td>
</tr>
</tbody>
</table>

Interpretation

Nutrition

• Specific areas for improvement in Nutrition: Increase availability of whole grains and low-fat meats.
• Create a healthier environment around nutrition.
• Increase training & education for children, staff, and families.

Physical Activity

• Specific areas for improvement in PA: Improve access to fixed play equipment to increase physical activity in children.
• Increase training & education for children, staff, and families.

Next Steps

Implementation of the 2 year intervention:
• Tailored goal setting
• Technical assistance and resources
• Quarterly networking sessions to guide center directors in making decisions that support healthier environments

Evaluation

Fall 2016

Goal Setting

September 2016

Implementation

August 2018

Re-assessment

Fall 2018

Celebration

August 2018

Summary

The preliminary evaluations of sites indicate the need for improvement with physical activity and nutrition variables in Greenville county early childhood childcare centers. As 12.8% of 2-5 year olds in South Carolina are overweight or obese, intervening early is necessary. Making the healthy choice the easy choice in the first five years of life is an important step in improving the health of Greenville county.

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