The Relationship between Practices and Child Care Providers' Attitudes Related to Child Feeding and Obesity Prevention
Project Goal

• To improve healthy nutrition and physical activity in young children in childcare settings in Clark County, WA
Project Partners

- Educational Opportunities for Children & Families
- Clark College
- Washington State University Vancouver
- SW Washington Child Care Consortium
- Educational Service District 112 – Child Care Resource and Refereral (Child Care Aware)
- Innovative Services Northwest
- Children’s Village Day Schools
- YWCA
Rationale

• Obesity is a serious worldwide public health issue
• Childhood obesity increases children’s vulnerability for adverse physical and psychosocial outcomes (Daniels, 2009)
• Eating and activity patterns form early in life (O’Brien et al., 2007)
• Over 11 million US children under age five spend time in out of home child care (Dept. of Education, 2010)
  • 13.9% in non-relative care
  • 36.1% in center-based care
• Few obesity interventions have focused on child care (Summerbell et al., 2012)
• Even fewer have a strong process and outcome evaluation components or research design (Summerbell et al., 2012)
CONCEPTUAL MODEL

Family

Eating
- Style
- Food Preference
- Intake

Physical Activity
- Structured
- MVPA
- Unstructured

Healthy Weight

Child Care
Theoretical Basis

Health Belief Model
- View child obesity as potentially damaging
- Believe they can make a difference
- Given tools to effect change

Transtheoretical Model
- Change is conceptualized as a continuum consisting of 5 stages
- Early educators may be in varying stages and require different kinds of support
• Report based on objective evaluation of practices related to eating, activity, and media use (PMPP).
• Site Wellness Committees formed to identify annual improvement goals.
WELLNESS RETREAT

ENHANCE INTERVENTION: Yr. 1
• Assigned ENHANCE Wellness Liaison
• One stop for Training and Resources
• Mini-grants
• Check-out Kits
• Social network/ Newsletter
SHARING SUCCESSES

ENHANCE INTERVENTION: Yr. 2
ENHANCE OUTCOME EVALUATION PLAN

- Child care observations (PMPP)
- Provider survey (CCPHAN)
- Child Interviews
- BMI

Data collection completed at:
- Baseline
- end of year 1
- end of year 2
ENHANCE SAMPLE

• 663 children ages 3 - 5 attending ENHANCE child care sites
  • 50% were from low SES
  • 44% were minority background
  • 58% were girls
• 99 lead child care providers/teachers
• 59 staff assistants
  • Mean age = 35.76; SD = 11.49
  • Mean experience = 8.48; SD = 7.07
  • 82% had some college; 31% had a BA or higher degree
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**SAMPLE**
- 72 early education professionals in both lead and assistant roles who worked in 45 child care settings

**SETTINGS**
- Head Start
- Community-based non-profit
- Family home child care
- For-profit child care centers
- Lab schools
MEASURES

Protocol for Mapping Policies and Practices (PMPP)

- 23 Indicators
  - Feeding Practices (16)
  - Family Communication (7)
  - Nutrition Education (4)

Child Care Provider Healthy Eating and Activity Survey (CCPHEA)

- 14 Indicators
  - Efficacy (3)
  - Misconceptions (3)
  - Knowledge (5)
  - Priority (3)
STATISTICAL ANALYSIS

PMPP Variables and CCPHEA Factors

• Descriptive statistics
• Paired t tests
• Pearson correlations
• 3 multiple linear regression analyses
STATISTICAL ANALYSIS

- Calculated change scores for PMPP variables and CCPHEA factors

- 3 multiple linear regression analyses
  - DV = changes in feeding practices, nutrition education, and family communication
  - IV = changes in provider efficacy, misconceptions, feeding knowledge, priority and the child care site
  - Control variables = education, experience and setting
RESULTS

Descriptive Analyses

• All variables showed some positive change and high variance
• Priority did not meet normality assumptions and was excluded from statistical analyses

Comparative Analyses

• Statistically significant changes in:
  ▫ feeding practices \( (t=11.12; P<.001) \)
  ▫ child care providers’ feeding knowledge \( (t=5.30; P<.001) \).
### RESULTS

Table 4

Correlations for Changes in Child Care Feeding Practices and Changes in Provider Variables\(^a\)

<table>
<thead>
<tr>
<th></th>
<th>Efficacy (n = 72)</th>
<th>Misconceptions (n = 72)</th>
<th>Feeding Knowledge (n = 72)</th>
<th>Priority (n = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding Practice (n = 67)(^b)</td>
<td>.11</td>
<td>.52(^{**})</td>
<td>.22(^*)</td>
<td>.07</td>
</tr>
<tr>
<td>Nutrition Education (n = 45)(^b)</td>
<td>.68(^{**})</td>
<td>.51(^{**})</td>
<td>.35(^*)</td>
<td>.26(^*)</td>
</tr>
<tr>
<td>Family Communication (n = 72)</td>
<td>.43(^{**})</td>
<td>.36(^*)</td>
<td>.30(^{**})</td>
<td>.24(^*)</td>
</tr>
</tbody>
</table>

Note: * \(P < .05\). ** \(P < .01\).
## RESULTS

Table 5

Summary of Multiple Regression Analyses Predicting Changes in Child Care Practices<sup>a</sup>

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Feeding Practices&lt;sup&gt;b&lt;/sup&gt; (R² = .40; n = 67)</th>
<th>Nutrition Education&lt;sup&gt;b&lt;/sup&gt; (R² = .59; n = 45)</th>
<th>Family Communication (R² = .29; n = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B&lt;sup&gt;c&lt;/sup&gt;</td>
<td>SEB&lt;sup&gt;c&lt;/sup&gt;</td>
<td>β&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Efficacy</td>
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<td>.17</td>
<td>-.11</td>
</tr>
<tr>
<td>Misconceptions</td>
<td>.90</td>
<td>.16</td>
<td>**.71</td>
</tr>
<tr>
<td>Feeding Knowledge</td>
<td>.14</td>
<td>.09</td>
<td>.16</td>
</tr>
<tr>
<td>Priority</td>
<td>-.07</td>
<td>.14</td>
<td>-.06</td>
</tr>
<tr>
<td>Child Care Site</td>
<td>.22</td>
<td>.09</td>
<td>*.26</td>
</tr>
</tbody>
</table>

Note: *P = .05. **P = .01
LIMITATIONS

- Sample was relatively small, drawn from a single geographic area, and was somewhat more educated and experienced than the typical child care provider.
- Pre experimental pre-post design; no control
Only the reduction of provider misconceptions was associated with improved feeding practices.

**IMPLICATIONS FOR OBESITY PREVENTION**

- Examine child care workers’ child feeding beliefs
- Address common misconceptions that do not support healthy eating
- Look at program policies and practices
IMPLICATIONS FOR OBESITY PREVENTION

- Position healthy eating as part of supporting the development of the “whole child”
- Connect child care feeding practices to children’s development of lasting beliefs about healthy eating.

EFFICACY

It would be so much quicker to do this myself!

Cindy likes peas. I have to tell her dad!
IMPLICATIONS FOR OBESITY PREVENTION

- Address
  - How to communicate with families around healthy eating and provide tools
  - What to communicate and provide easy to share information.
- Emphasize child nutrition education as part of a “whole child” approach and integrate it into the curriculum.

KNOWLEDGE
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