Outcomes of a Weight Management Program for Young Children by Obesity Severity Class Recommendations

Meredith Dreyer Gillette, PhD1,2, Kelsey Borner, MA1,3, Ashleigh Pona, MA1,4, Tarrah Mitchell, MA1,2, & Sarah Hampl, MD1,2

1 Center for Children’s Healthy Lifestyles & Nutrition, Kansas City, MO
2 Children’s Mercy-Kansas City, Kansas City MO
3 Clinical Child Psychology Program, University of Kansas, Lawrence, KS
4 Clinical Psychology Program, University of Missouri-Kansas City, Kansas City, MO

Background

- Severe obesity affects 2% to 5% of young children and is associated with serious immediate and long-term cardiovascular, metabolic, and other health consequences.
- Despite the prevalence and negative consequences of severe pediatric obesity, little research is available on treatment outcomes.

Objective

- This study examined body mass index (BMI) and obesity severity outcomes of a 6-week family-based behavioral lifestyle intervention for young children with overweight or obesity.

Participants

- Families of 84 children ages 2-8 years (M = 6.71, SD = 1.62) who completed the treatment program.

<table>
<thead>
<tr>
<th>Baseline Participant Demographics</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BMIz</td>
<td>2.68 (0.55)</td>
</tr>
<tr>
<td>BMI%ile</td>
<td>99.23% (0.95%)</td>
</tr>
<tr>
<td>BMI%ile over the 95th percentile</td>
<td>133.58% (19.67%)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>31 (36.9%)</td>
</tr>
<tr>
<td>Female</td>
<td>53 (63.1%)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>19 (22.6%)</td>
</tr>
<tr>
<td>Black</td>
<td>23 (27.4%)</td>
</tr>
<tr>
<td>Latino</td>
<td>38 (45.2%)</td>
</tr>
<tr>
<td>Multiracial/other</td>
<td>4 (4.8%)</td>
</tr>
</tbody>
</table>

Methods

- Demographic information, such as age, sex, and ethnicity, were assessed at the time of entry to the intervention.
- Child height and weight were measured at baseline, treatment end (6 weeks), and follow-up (6 months) using standardized procedures. Height and weight, along with age and sex, were used to calculate BMI and categorize youth into obesity severity classes.
- Data collection procedures were approved by the hospital’s Institutional Review Board. All families signed informed consent prior to participating.

Statistical Analysis

- Paired-samples t-tests tested outcomes between obesity severity classes.

Results

- Distribution of Obesity Classes at Baseline
  - Overweight
  - Class 1: BMI=100-119% of 95th percentile
  - Class 2: BMI=120-140% of 95th percentile
  - Class 3: BMI=140% of 95th percentile

- Results of a Weight Management Program for Young Children by Obesity Severity Class Recommendations

  - Change in Distribution of Obesity Classes from Baseline
    - 6 months (n=46)
      | Overweight | Unchanged | Increased |
      | 7.1%       | 90.5%     | 2.4%      |
      | 10.9%      | 87.0%     | 2.2%      |

- Change in BMI across time for the entire sample

  - Baseline obesity class did not predict changes in BMIz or BMI%ile over the 95th percentile at treatment end or follow-up.

Discussion

- Though the intervention aimed to target children over the 85th percentile, nearly 75% of presenting youth had Obesity Class 2 or 3, which is associated with significant medical comorbidities. It is essential to figure out ways to engage families of young children in interventions at lower levels of severity.
- Although baseline obesity class did not predict weight outcomes, there were significant improvements in BMIz and BMI%ile over the 95th percentile at treatment end and follow-up. Further, 11% of youth decreased one class at follow-up.
- Future research is needed to improve intervention effectiveness, particularly for those with severe obesity.

Acknowledgements

- We would like to acknowledge funding from the Kenneth and Eva Smith Scholar in Pediatric Obesity and the Junior League of Kansas City, MO as well as thank the families who participated in this research.
- This poster was presented at the annual conference of The Obesity Society in New Orleans, LA, on November 2, 2016.
- For more information, please contact Meredith Dreyer Gillette at mtdreyer@cmh.edu.