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## How Pediatricians Can Improve Diet and Activity for Overweight Preschoolers: A Qualitative Study of Parental Attitudes

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### Abstract

**Objective**—This study sought feedback from parents of over-weight preschoolers on terms for overweight and treatment strategies pediatricians could use to help parents improve diet and activity for their children.

**Methods**—Twenty-three parents of 21 children aged 2 to 6 years and between the 85th and 94th percentile body mass index participated in focus groups conducted by a pediatrician to assess 1) terms and health risks that motivate parents, 2) barriers that prevent adoption of recommended behaviors, and 3) recommendations for pediatricians on strategies to help parents improve child diet and activity.

**Results**—With regard to weight status, parents preferred the terms *overweight* and *obese* as long as pediatricians provided rationale for the classification. Parents recommended that pediatricians avoid colloquial terms to describe weight status. With regard to American Academy of Pediatrics recommendations for weight management in overweight preschoolers, parents were reluctant to restrict 100% fruit juice, needed specific strategies to increase vegetable consumption, and said limiting screen time would be difficult, especially when busy or during inclement weather. Despite identification of barriers, parents reported confidence in adopting all recommended behaviors except vegetable intake if given the rationale for the recommendation and strategies for implementation.

**Conclusion**—Parents recommended that pediatricians speak clearly about weight status, explain rationale for concern, relate that concern to family history, and provide specific advice and treatment recommendations.

### Keywords

child nutrition disorder; child obesity; obesity; overweight

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The pediatric obesity epidemic in the United States is increasing in all age and demographic groups, including young children.<sup>1–3</sup> Because parental oversight of a young child's food

choices and physical activity presents an opportunity to alter diet and activity,<sup>4</sup> early screening and intervention in terms of stage of weight gain (overweight rather than obese) and age of child (younger rather than older) is currently recommended by an expert panel on pediatric obesity convened by the American Medical Association and endorsed by the American Academy of Pediatrics (AAP).<sup>5–13</sup> Implementing the recommendations for treatment of overweight preschool children—those between the 85th and 94th percentile body mass index (BMI)—presents both a challenge and an opportunity for pediatricians.<sup>14</sup>

Among the challenges is parental lack of concern about overweight in this age group. Despite the increasing prevalence of overweight and obesity in preschool children, previous focus group studies have indicated that parents are not concerned about their young child being overweight. In fact, parents express more anxiety about children being underweight than overweight and have been slow to recognize elevated weight status in preschoolers even in cases of obesity.<sup>15,16</sup> Another challenge is that parents feel they are depriving their children if they restrict unhealthy foods.<sup>15</sup> Research does suggest parents want to know their child's weight status and prefer to receive this information from their pediatrician.<sup>15,17</sup>

Motivational interviewing has been proposed as a potentially effective pediatrician-delivered intervention to address overweight. A recent feasibility study of a pediatrician-delivered motivational interviewing intervention with parents of overweight 3-to7-year-old children demonstrated promising feasibility.<sup>18</sup> Although not powered to detect differences in BMI percentile, results did show that children whose parents received the most intensive motivational interviewing (2 sessions each with their pediatrician and a dietician) decreased BMI percentile more than no intervention or a one-time motivational interviewing session with the pediatrician. Although parent satisfaction with treatment was high for each group, there was a high dropout rate for the intensive intervention (50%) and there was no assessment of the terms used to describe the children's weight status or barriers to implementing targeted behaviors.

Motivational interviewing with parents of preschoolers seeks to evoke intrinsic parental values, demonstrate pediatrician respect for parental autonomy, enhance pediatrician-parent collaboration, and resolve ambivalence to behavior change.<sup>19</sup> Direct feedback from parents on their perception of terms to describe weight concerns for preschool children—specifically identifying terms parents would find motivating to take action and not offensive—would enhance pediatrician-parent collaboration. Knowing parental opinions of weight status terms and risks, as well as perceptions of diet and activity recommendations to achieve healthy weight, would enable pediatricians to leverage intrinsic parental motivation.

We chose to focus on the 3 evidence-based AAP guidelines for reducing overweight with frequency targets that pediatricians could specifically recommend to parents and we asked about barriers to changing these. These quantifiable recommendations are increasing fruit and vegetable consumption to at least 5 servings per day, eliminating completely or limiting sweet drink intake to 4 ounces daily, and limiting screen time to 2 hours per day.

We elected to use focus groups to study parental attitudes to obtain the full range of parental reactions to terminology and treatment recommendations, as well as parental advice on how

pediatricians can deliver these messages most effectively. Sufficient information is not available to construct closed-ended surveys that would be able to fully explore parental attitudes. Focus groups have particular utility in planning future preschool weight management interventions because they permit ongoing exploration of the goal of weight management. By soliciting parent perspectives, focus groups can help identify unforeseen obstacles to behavior change and generate alternate methods of improving nutrition and activity.<sup>20–22</sup>

## METHODS

### Procedures

**Recruitment**—Participants were recruited from a pediatric practice serving suburban, rural, and urban patients in the suburban Midwest. This practice serves primarily privately insured patients, with 10% of families receiving Medicaid. Approximately 10% of the practice population is African American and 5% is Hispanic. The practice's electronic medical record was used to identify children aged between 2 and 6 years. The first 60 children whose weight and height at their most recent well-child checkup classified them as overweight were sent letters from their pediatrician providing them with information about the study and informing them that they would be contacted by phone. A return-addressed, stamped reply postcard with “Do Not Contact” was enclosed for parents to mail back if they did not want to be contacted. Twenty-three participants were recruited and attended 1 of 4 focus groups that ranged from 3 to 7 participants and were conducted over 12 weeks. The study was approved by the institutional review board of Cincinnati Children's Hospital Medical Center, and written informed consent was obtained from all parents prior to participating in any study procedures.

**Focus Group Conduct**—Focus groups were organized, conducted, and analyzed in the format described by Morgan and Krueger.<sup>22,23</sup> Groups lasted 90 minutes and were held at the pediatric office after office hours. A pediatrician with training in focus group conduct and not involved in the care of the participants' children moderated all groups. A psychologist with experience in the conduct of focus groups co-moderated and supervised the groups. Participants received a \$20 gift certificate as compensation for their travel and time. Each group was audiotaped and videotaped and transcribed verbatim, with videotapes used to identify moderator and specific participant comments. Focus groups were recruited to have 6 to 8 participants to optimize group dynamics, and groups were run until themes based on parental responses achieved saturation.

### Measures

**Demographics**—Through phone interviews parents were asked to report their highest achieved educational level and current occupation to arrive at a social ranking from I (unskilled laborer) to V (major professional) by using the Hollings-head Four Factor Index of Social Status.<sup>24</sup> In 2-parent households (n = 18), parent scores were averaged to arrive at a single ranking.

**Focus Group Questions**—Questions were developed based upon review of current literature and through several meetings with pediatricians and psychologists with primary interests in pediatric over-weight. We were specifically interested in 1) opinions about terms endorsed by the medical community or euphemism used by parents in previous studies,<sup>17</sup> 2) risks regarding a child's weight status and whether parents would find the terms and risks motivating to make diet and activity behavior changes, 3) detailed parent-perceived barriers regarding the 3 quantifiable AAP recommendations for addressing weight, and 4) general recommendations for pediatricians when addressing weight status with over-weight preschoolers.

### Data Analysis

Focus group data were analyzed and summarized separately by using consensus ratings among 3 coders (the moderator and 2 independent coders not involved in the focus groups). Transcripts of the focus groups were generated by an independent service and distributed to coders, who then read the transcript before coding to understand the depth and breadth of information discussed. Transcripts were then reviewed and coded using 1 of 4 categories described by Morgan and Krueger<sup>22</sup>: question/prompt, major themes, minor themes, or other topic. Themes were derived from group sessions with all coders. The comoderator (LC) helped facilitate the group sessions and collapse topics that emerged across groups (major themes). Disagreements about themes were resolved by consensus.

## RESULTS

### Demographics

Twenty-three primary caregivers of 21 overweight children (48% male) aged between 3.2 and 6.0 years (mean 4.6 years) participated in 1 of 4 focus groups. For 2 children, both parents participated, yielding a total of 23 parents of 21 children. Group participants were mothers (n = 19), fathers (n = 3), or maternal grandmother (n = 1). One participant was a maternal grandmother and, for the sake of brevity, participants will be referred to as parents. The mean age for parents was 37.1 years (range, 28.6–45.1 years). Parents were all non-Hispanic, white, and were generally college educated (n = 18) and would be considered middle class (Hollingshead class III = 3, class IV = 13, and class V = 7). Two were parents of children on Medicaid, which was representative of the practice. Unlike the practice, no parents were minorities.

### Highlights from Focus Group Discussion

In general, parents reported that they would prefer pediatricians use the terms *overweight* and *obese* when talking with them about childhood weight status and recommended that pediatricians make reference to national norms to help parents understand the information compared with other children (Table). They reported the term *overweight* would convey a strong message, and although they may not want to hear it, the term would motivate parents to action: “It would be upsetting because it is your child, but it would be also a way to make me concerned and want to do something about it.” They responded that “obese” would send a strong message: “I would not have thought of her as obese but according to your guidelines she would be, so I think it's a real eye opener.” Parents felt “at-risk for

overweight” was confusing and would not motivate them to action. Parents stated: “I think I’d keep an eye on it but . . . it wouldn’t motivate me as much,” and “ ‘At risk’ sounds like you’re at risk for getting hit by a car when you walk the street—across the street. I’m not sure how seriously I’d take that.” Colloquial terms such as *chubby* or *plump* were considered offensive and inappropriate for pediatrician use, whereas terms such as *big boned* or *big for age* would be confusing if used to convey concern about weight. One parent said, “I think the dads of the football fans probably think that it’d be a good thing to be a big kid.”

Parents agreed that it is important for providers to discuss health risks of being overweight (Table). However, there was not consensus among parents about what health risks to emphasize. Parents’ preference of health risk to emphasize was related to the prevalence of a specific health risk in their extended family. Parents commented, “When you talk about things like heart disease, you hear that a lot and maybe you don’t take it as seriously after you hear it a thousand times” and “That’s a very frightening thing, especially if heart disease runs in your family, which it does in mine.” The exception seemed to be the risk of diabetes: “You know when you think of diabetes, that affects children and I know heart disease does too but typically heart disease affects people when they get older.” Overall, parents felt that it was not appropriate or helpful for a pediatrician to discuss social risks such as being teased, because pediatricians would not know about the child’s relationship environment. Parents said, “Kids are going to be teased. If it’s not their weight, it could be their ears or their hair.”

### **Parent Perceived Barriers to Recommended Behaviors**

**Limiting Sweet Drinks:** Sweet drinks were defined as any drink with sugar, including juice, soft drinks, sports drinks, and sweetened drink mixes. Parents were reluctant to group fruit juices—especially 100% fruit juice—in this group, were unaware of its relationship to weight gain, and had difficulty believing that limiting or eliminating it was appropriate: “A certain amount of juice is OK, 100% juice . . . isn’t just sugar water” and “The health department tells you they need this much juice.” Parents were far more receptive to limiting or eliminating other sweet drinks, saying “We don’t allow any soda pop, Gatorade or Kool-Aid or anything like that in our house.” The primary barrier to limiting or eliminating juice was child behavior: “I think they’d throw a temper tantrum” and “I’d hear whining and crying.”

**Increasing Fruit and Vegetable Consumption:** Many parents reported that their children did not like vegetables and often refused to eat them. Meeting the recommendation of 5 fruit or vegetable servings was felt to be problematic when it came to vegetables: “Mine wouldn’t eat any vegetables” and “He would go hungry before he would eat the vegetables.” Parents reported their children would “not eat for three or four days,” and would “tantrum and not eat.”

**Limiting Screen Time:** Screen time was defined as time spent playing video games, working on the computer, watching television programming, or playing in a room where children’s programming is on. Parents were skeptical of their ability to limit their child’s screen time in the winter: “When it’s cold or snowy and he can’t go outside and play and

there is only so much you can do down in the basement. Then it's bouncing off the wall and 'Hey what movie you want to watch?'" Parents were also doubtful that they could stop using television as a "babysitter": "I am guilty of using it . . . because with my kids' ages, arts and crafts are hard to let them do by themselves," and "Any parent would want their children to have less screen time . . . but, especially if you work at home or are an at home parent that is your babysitter sometimes. It's about the only way you can get a shower some days." Parents recommended pediatricians focus on tying screen time directly to weight status since this recommendation may be inconvenient for families. Parents asked "Where do you get two hours?" and "There's some direct effect on their weight?" Parents made a distinction between educational computer and television programs and noneducational screen time: "My daughter's figured out how to go to all the different websites on her own and that's good for her because she's learning to read from it, so I guess I never really viewed that as screen time." Similar to other focus groups on physical activity,<sup>25,26</sup> parents felt educational screen time should not count in the 2 hour time limit.

**Parent Confidence to Follow Recommendations:** Surprisingly, with all recommendations except vegetable consumption, parents reported that they would be "very" to "somewhat confident" about their ability to follow recommended behavior, even if they expressed initial skepticism.

**Parent Recommended Intervention Strategies**—Parents had several recommendations how pediatricians can motivate them with regard to specific recommendations. Parents reported a desire for pediatricians to demonstrate the relationship between juice and weight: "Take those calories and equate them to pounds," and "Not just 'stay away from sweet drinks' . . . it has to be as much about education about why it's that bad." A few parents said that direct instruction from pediatrician to child to reduce juice would be helpful: "I think if the doctor said you can't have this, they're more apt to listen to that and take it in." Parents wanted pediatricians to inform them about the benefits of fruits and vegetables for young children. Parents asked for advice on serving size, strategies for eating more vegetables and handling child reactions, and for reassurance to persevere in offering vegetables: "Do you say this is it and go hungry?" "Will they eventually eat it?" "How far do you go?" and "What limits do you set?"

In general, parents recommended pediatricians intervene early if they are concerned about weight. Parents felt pediatricians should be direct, show interest, send clear messages, and be positive about the families' ability to make changes. Parents felt such a discussion would be valuable in motivating them to act, stating it would be essential that pediatricians manage this discussion with sensitivity and avoid being "preachy." The discussion between the parent and pediatrician should include an action plan (eg, shopping lists, progress logs, or ways to make it fun). Finally, parents desired that pediatricians follow-up with parents to provide support for changes: "I want you back in three months to bring him back in here, let the nurse weigh and I'm going to review what his weight is and I may call you and let you know where I think he stands at this point . . . At least I either know that I'm doing the right thing, keep up the good work or he's gained three pounds."

## DISCUSSION

This study is the first to directly ask parents of overweight preschool children about terms they would find acceptable and motivating in dealing with weight issues for their preschooler. Contrary to studies on adults and adolescents who did not like the term *obese* when receiving messages about their own weight,<sup>27,28</sup> parents of preschoolers preferred the direct terminology of *overweight* or *obese*. In fact, parents reported that colloquial terms would be offensive coming from a pediatrician if they were meant to convey concern about weight. As reported in another focus group study of parents of overweight preschoolers enrolled in the Special Supplemental Nutrition Program for Women, Infants, and Children, parents in this study confirmed the observation that parents perceive terms like *big for age* as positive.<sup>17</sup> Our data further support the change in terminology recently recommended by the American Medical Association and AAP for weight status of children whose weight places them between the 85th and 95th percentile for BMI from “at risk for overweight” to “overweight.” Parents found “at risk” confusing and not motivating because it could indicate weight was not yet a problem.

It should be noted that, in addition to using direct terminology, it would be important for pediatricians to place the terms in a medical context. That is, explicitly telling parents what the BMI means relative to other children. Parents also felt linking weight to specific family medical history would increase their motivation to address their child's weight. It was noteworthy that medical conditions generally linked to weight would not be as motivating as messages tailored to specific family history. The need to describe the meaning of the terms with respect to other children, to not be preachy, and to convey concern and a sense that parents can make changes complements the findings of Styles and colleagues<sup>25</sup> with caregivers of 5- to 8-year-old children with weight problems. In that study, parents reported seeking help from their pediatrician but felt they were often given advice “in ways that seemed emotionally abusive to both the child and the parent,” reporting they felt blamed for the child's weight or accused by their pediatrician of lying about their child's intake.<sup>25</sup>

Our study differs from prior studies exploring weight issues in young children in that we asked about terms parents of overweight preschool children would find motivating for their pediatrician to use to approach weight concerns, barriers to incorporating 3 behavior changes related to weight, and recommendations for pediatricians to better engage parents around weight issues. Most focus group studies of weight in preschool-aged children, with the exception of the studies of Jain and colleagues<sup>16</sup> and Styles and colleagues<sup>25</sup> described above, did not specifically target parents of overweight children, but a broad section of parents of preschool children. Despite this difference, there were a number of similar findings in the current study and those of parents of preschoolers in general, specifically the challenge of limiting screen time and increasing fruit and vegetable consumption. In a series of reports on focus groups that were conducted with 71 parents of preschool children in Canada, Irwin and colleagues investigated parental attitudes toward screen viewing,<sup>29</sup> physical activity,<sup>30</sup> and dietary behaviors.<sup>31</sup> Their results were similar to ours in that parents did not believe educational television was a problem or that watching television caused obesity. Parents in the Irwin study also questioned the rationale of the TV viewing guidelines of the Canadian Pediatric Society. Consistent with our study, parents in the study

of He and colleagues<sup>29</sup> study found television a helpful tool when used as a baby-sitter. Thus, our findings from parents of overweight preschoolers are similar to attitudes of parents of preschool children in general and reinforce the advice from parents in the current study for pediatricians to clearly make the link between television and obesity and to help parents identify alternative independent activities for preschoolers while parents are engaged in chores and other responsibilities.

In terms of diet, no other study explicitly asked about fruits and vegetables or sweet drinks. In general, however, parents report similar barriers to addressing dietary behaviors, such having to “hide vegetables”<sup>15</sup> or not identifying Gummy Bears as candy.<sup>31</sup> Parents in our study felt that children would resist vegetables and felt that 100% fruit juice did not require limiting. Our results and those of previous focus groups indicate that parents of preschool children may not fully understand basic nutrition. In the current study, parents felt that pediatricians would have to clearly show the relationship between 100% fruit juice and obesity to convince them to change this dietary behavior, and suggested the use of concrete demonstrations such as showing the amount of sugar in fruit juice as a means of educating parents. Our finding on increasing servings of vegetables is not surprising in light of the numerous studies showing that young children eat an average of less than 1 vegetable serving per day.<sup>32</sup> Similar to findings from the Styles study, parents reported that their biggest barrier would be child refusal, and they recommended that pediatricians provide information on serving size and advice on getting children to eat vegetables.

A potential limitation is that focus groups were run by a pediatrician, which may have resulted in parents giving perceived desired responses. Given parent-cited barriers to change behaviors, it was surprising that by the end of each focus group participants stated they felt confident (except for vegetable consumption) they could make the changes if recommended by their pediatrician. Alternatively, the reported confidence in making changes may represent a shift in perspective of the parents about the importance of the recommendations after extensive discussion. That is, focus group dynamics and pediatrician moderator-participant “give and take” in which parent feedback was sought is similar to a collaborative motivational interviewing-based intervention. It is therefore encouraging that parents would be receptive and have increased confidence to change diet and activity if their concerns and views were solicited and the advice were given within the context of these concerns. Additionally, parents encouraged pediatricians to not shy away from helping parents. Increased action on the pediatrician's part, such as weight check visits, clear demonstrations about their concern regarding weight to the parent, and instrumental help for them to take action to address their child's weight would be expected to be well received. That said, having parents rate their confidence after thorough discussion is a limitation of the study because it compromised our ability to obtain a baseline confidence level and explore the possibility that their confidence shifted as a result of the focus group. Enlisting a neutral nonpediatrician to ask about pediatrician behavior and assessing baseline confidence in future studies would address these limitations.

A further limitation in our study is the lack of diversity of our participants. Low income families and ethnic groups have demonstrated differing opinions on weight status and willingness to change behaviors.<sup>33,34</sup> For example, a focus group study of African American



parents of children above the 85th percentile BMI recruited from offices of the Special Supplemental Nutrition Program for Women, Infants, and Children found that parents rejected the classification of weight based on growth charts and claimed they were not relevant to their child.<sup>16</sup> These parents expressed the belief that their child's growth pattern was predestined, and that they would be unwilling or unable to limit or structure their child's eating. The difference in perception of parents between the 2 studies may be cultural, given the subjects in the Jain study were primarily lower socioeconomic status, African American families, whereas the current study was middle class white families. The difference in perception of weight charts clearly indicates the need to develop tailored approaches to managing over-weight that take into account cultural and ethnic beliefs.

Future studies should focus on improving the effectiveness of pediatrician messages to help parents achieve healthy behaviors for all children. It will be important to have parents of normal weight children involved in similar studies since they will be the target of many obesity prevention efforts. Although children with a BMI over the 95th percentile will likely require intervention beyond primary care, these patients and parents should be studied since they will nonetheless benefit from support from their pediatrician. In addition, similar exploration of the other AAP recommendations (eg, eating a healthy breakfast) is warranted.

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Table

Summary of Focus Group Questions and Themes

Questions	Consensus Themes
<p>Weight terms</p> <ul style="list-style-type: none"> <li>• What does it feel like to have your pediatrician describe your child as “at risk for overweight”? . . . as “overweight”? . . . as “obese”? . . . as “chubby”? . . . as “big boned”?</li> <li>• Do you consider these terms motivating, offensive or neutral?</li> </ul>	<p>Theme 1: Parents prefer the terms obese and overweight.</p> <p>Theme 2: Terms like <i>big boned</i>, <i>chubby</i>, and <i>at risk for overweight</i> are confusing, potentially offensive, and should be avoided.</p>
<p>Weight risks</p> <ul style="list-style-type: none"> <li>• What does it feel like to have your child described as “at risk for diabetes”? . . . as “at risk for heart disease”? . . . as “at risk for being teased”?</li> <li>• Do you feel that these risks would motivate you to action?</li> <li>• What are the physical, social, or emotional signs that would indicate weight is a problem for your child?</li> </ul>	<p>Theme 1: It is important for pediatricians to discuss health risks for being overweight that are specific to an individual family.</p> <p>Theme 2: Social risks are not appropriate for pediatricians to discuss.</p>
<p>Barriers to diet and activity recommendations</p> <ul style="list-style-type: none"> <li>• What are the barriers for you to restrict your child’s sweet drink intake to 4 oz per day or eliminate it entirely?</li> <li>• What are the barriers for you to increase your child’s fruit and vegetable intake to 5 servings per day?</li> <li>• What are the barriers for you to restrict your child’s screen time to less than 2 hours per day?</li> </ul>	<p>Theme 1: 100% juice does not count.</p> <p>Theme 2: There is no problem with eliminating other drinks.</p> <p>Theme 3: Children will respond with behaviors such as tantrums, whining, and crying.</p> <p>Theme 1: Children refuse to eat vegetables.</p> <p>Theme 2: Fruit consumption is not an issue.</p> <p>Theme 1: Educational television or computer programs should not count.</p> <p>Theme 2: It would be difficult to limit television during inclement weather.</p> <p>Theme 3: Television time doesn’t require close supervision, which allows parents to complete chores and other tasks.</p>
<p>Strategies for pediatricians to address weight status</p> <ul style="list-style-type: none"> <li>• How would you advise pediatricians to motivate parents to action regarding healthy nutrition and activity?</li> <li>• What should pediatricians do to help parents achieve these goals?</li> </ul>	<p>Theme 1: Pediatricians should demonstrate the relationship between both juice intake and weight, as well as screen time and weight.</p> <p>Theme 2: Parents need specific strategies for implementing recommendations.</p> <p>Theme 3: Parents want information about how to manage child reactions to dietary and activity changes.</p> <p>Theme 4: Pediatricians should bring up weight status and be direct about it.</p> <p>Theme 5: Pediatricians should follow-up with families as they make changes.</p>

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