Why Don't Low-Income Mothers Worry About Their Preschoolers Being Overweight?

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ABSTRACT. ***Context.*** **Mothers are in an important position to prevent obesity in their children by shaping early diet and activity patterns. However, many mothers of overweight preschool children are not worried about their child's weight.**

Objective. **To explore mothers' perceptions about how they determine when a child is overweight, why children become overweight, and what barriers exist to preventing or managing childhood obesity.**

Design. **Three focus groups with 6 participants in each. Participant comments were transcribed and analyzed. Themes were coded independently by the 6 authors who then agreed on common themes.**

Setting. **A clinic of the Special Supplemental Nutrition Program for Women, Infants, and Children in Cincinnati, Ohio.**

Participants. **Eighteen low-income mothers (13 black, 5 white) of preschool children (mean age of 44 months) who were at-risk for later obesity. All but 1 mother had a body mass index (BMI) $\geq$25 kg/m^2, and 12 mothers had a BMI $\geq$30 kg/m^2. All but 1 child had a BMI $\geq$85th percentile for age and sex, and 7 had a BMI $\geq$95th percentile.**

Results. **Mothers did not define overweight or obese in their children according to how height and weight measurements were plotted on the standard growth charts used by health professionals. Instead, mothers were more likely to consider being teased about weight or developing limitations in physical activity as indicators of their child being overweight. Children were not believed to be overweight if they were active and had a healthy diet and/or a good appetite. Mothers described overweight children as thick or solid. Mothers believed that an inherited tendency to be overweight was likely to be expressed in the child regardless of environmental factors. In trying to shape their children's eating, mothers believed that their control over the child's diet was challenged by other family members. If a child was hungry, despite having just eaten, it was emotionally difficult for mothers to deny additional food.**

Conclusions. **Health professionals should not assume that defining overweight according to the growth charts has meaning for all mothers. Despite differing perceptions between mothers and health professionals about the definition of overweight, both groups agree that children should be physically active and have healthy diets. Health professionals may be more effective in preventing childhood obesity by focusing on these goals that they share with mothers, rather than on labeling children as overweight.** ***Pediatrics*** **2001;107:1138–1146;** ***obesity, body weight, mothers, child, preschool, mother-child relations.***

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ABBREVIATIONS. WIC, Special Supplemental Nutrition Program for Women, Infants, and Children; BMI, body mass index; CHMC, Children's Hospital Medical Center; WHP, weight-for-height percentile; CDC, Centers for Disease Control and Prevention.

Childhood obesity is difficult to treat[1]and is associated with both physical[2] and emotional[3] morbidity. Furthermore, obese children are more likely to become obese adults,[4,5] and the morbidity,[6] costs,[7] and mortality[8] from adult obesity are all enormous. Therefore, obesity prevention that begins early in life[9,10]is an important approach to reducing the dramatic upward trends in obesity prevalence.[11,12]

Low-income preschool children have historically been regarded as at-risk for undernutrition[13,14]; however, the prevalence of overweight in this group has recently also increased.[15,16] These children may be at particular risk for later obesity because their mothers are more likely to be obese,[17] and parental obesity increases the risk for offspring obesity,[18] probably through sharing of both genetic and environmental factors.

Despite the need for obesity prevention efforts in low-income preschoolers, there are multiple barriers to such efforts. For example, we have shown that among mothers without any college education, only 11% of those with an overweight preschool-aged child believed that their child was overweight.[19] Among these same mothers, >90% of those who were obese (body mass index [BMI] $\geq$ 30 kg/m^2) considered themselves overweight.

Mothers are critical mediators of obesity prevention efforts with preschoolers because mothers play such a large role in shaping the diet[20] and activity[21] patterns of their young children. For pediatricians and other health professionals working with low-income preschool children, it will be difficult to en-

gage mothers in obesity prevention efforts without first understanding how mothers perceive the problem of obesity.

The objective of this study was to understand the perceptions of low-income mothers about how they determine when a child is overweight, why children become overweight, and what barriers exist to preventing or managing childhood obesity. We used qualitative research methods because they are often useful in exploring complex, multi-faceted questions that may not be readily understood by more direct, closed-ended questioning. The methods are meant to generate a theoretical framework for how low-income mothers perceive the problem of childhood obesity and are not meant to test specific hypotheses.

METHODS

In November and December of 1999, we conducted 3 focus groups with mothers whose preschool children were enrolled at a clinic of the Special Supplemental Nutrition Program for Women, Infant, and Children (WIC) located at Children's Hospital Medical Center (CHMC) in Cincinnati, Ohio. WIC is a federally funded program that provides supplemental food and nutrition counseling to women and their young children living in low-income households (income below 185% of the federal poverty level). To be certified for WIC, children must meet a nutritional risk criteria to be certified, in addition to the income criteria. At the time of the study, Ohio WIC was using a weight-for-height percentile (WHP) ≥90th percentile as the cut point for defining overweight as a nutritional risk criteria.

For the focus groups, our aim was to recruit the biological mothers of preschool children (24–60 months old) at-risk for later obesity. We used records from the WIC clinic to identify potential mothers for telephone recruitment. The records contained children's height and weight measurements that were obtained at this clinic, according to standard protocol, during the semiannual WIC certification visits. Standing without shoes, children were measured to the nearest centimeter using a wall-mounted, Harpenden Stadiometer (Holtain Limited, London, England). Wearing only light clothing and no shoes, children were weighed to the nearest 0.1 kilogram using an electronic scale (Scale-Tronix, Model 5005, White Plains, NY). We calculated the age (in months) at the most recent WIC measurement. The 2000 Centers for Disease Control and Prevention (CDC)-US growth charts[22] were then used to calculate the child's WHP for sex and the child's body mass index (BMI, kg/m^2) percentile for age and sex. WHP was also calculated from the 1977 National Center for Health Statistics growth charts[23,24] because this reference was used by the clinic to classify children as overweight.

There were 174 children 24 to 60 months old enrolled at this WIC clinic, and 31 (18%) had been classified by WIC as overweight (WHP ≥90th percentile) using the 1977 growth charts. These 31 children all had a BMI ≥90th percentile according to the 2000 CDC-US growth charts. We used a 2-stage recruitment procedure. In the first stage, we telephoned the 30 mothers of the 31 overweight children (1 pair of overweight siblings). This group of mothers was of primary interest to us because their children had been certified previously for WIC on the basis of meeting the nutritional risk criteria of overweight. Thus, the children had been labeled by WIC as overweight, and the mothers had also received some counseling from WIC about managing the child's weight. Of the 30 mothers of overweight children, 17 agreed to participate and 1 refused; 4 children were not living with their mother; and 8 households could not be reached by phone (phone disconnected or no answer).

Because we anticipated that some of these mothers would not arrive for the focus group, we conducted a second stage of recruitment involving the mothers of children in the clinic who had not been classified by WIC as overweight. From the 143 children who were not overweight, we identified 52 children, by random chart review, whose WHP was ≥50th percentile. To recruit 5 additional mothers, we telephoned the households of the children in this group with the highest WHP. Among the children of these 5 mothers, 4 had a BMI ≥85th percentile for age and sex and the mother of the fifth child was obese (BMI ≥34 kg/m^2). Although these children were not overweight, they were at increased risk for later obesity.[18]

At the time of our recruitment for the focus groups, each mother answered a brief telephone questionnaire. Mothers reported demographic information, height, and weight (prepregnant weight, if pregnant). They also responded to questions about whether they considered their children overweight, worried that their child was now overweight, or worried that their child would become overweight. In addition, mothers were also asked whether they considered themselves overweight or if their own weight was a problem.[19]

Of the 22 total mothers who agreed to participate, 18 arrived for their 1-hour focus group session held at CHMC (6 mothers in each group). Each mother provided written consent before participating in the session and was given $50 as compensation for her time and the expenses of travel, parking, and childcare. The Institutional Review Board at CHMC approved the study.

Two of the authors (S.N.S. and Y.C.), 1 white and 1 black, jointly moderated the focus groups. One (S.N.S.) is an experienced focus group facilitator and the other (Y.C.) is a nutritionist with 16 years of experience in the WIC programs of Kentucky and Mississippi. The prompting questions used in the focus groups were developed during group meetings with all authors. The broad, open-ended (root) questions (Table 1) were followed by more specific (probe) questions to clarify the participants responses and to narrow the discussion. The questions were designed to explore mothers' perceptions about how they determine when a child is overweight (definition), why children become overweight (etiology), and what barriers exist to preventing or managing childhood obesity (management). After each of the first 2 focus groups, the 2 leaders reviewed the questions, reworded them, and added probe questions. There was strong convergence in the responses across the focus groups, and no new ideas were emerging in the third group.

Data Management and Analysis

Each focus group session was audio taped and transcribed. We considered a comment by a participant as any uninterrupted utterance in response to a question. All the transcribed data were placed into a computerized transcript database. Each of the 1072 participant comments was assigned a unique comment number. Each author read the transcripts—2 general pediatricians (A.J., R.C.W.), 1 clinical psychologist (S.W.P.), 2 nutritionists (L.A.C., Y.C.), and the focus group facilitator (S.N.S.). Each reader independently identified recurrent themes and selected comments, by comment number, as examples of each theme. Each reader's list of recurrent themes and comment numbers were coded into the transcript database and discussed at a group meeting of all readers. Twenty-two themes were identified by group consensus and a total of 366 unique supporting comments corroborated these themes. Each theme was assigned a number and a descriptive name. All supporting comments identified by the readers were then coded in the transcript database with the corresponding theme number and theme name. The 22 themes were then collapsed into 10 major themes that were also named by the group.

After this process, an additional reader independently reviewed the transcripts and recorded a set of themes. This reader was a nutritionist with 22 years of experience in Kentucky WIC and was not involved in planning or executing the focus groups. All of the themes identified by the outside reader were among the

TABLE 1. Sample Prompting Questions Used in Focus Groups

How do you know a child is at a healthy weight?
What are the warning signs that a child is becoming overweight?
What does the word obese mean to you?
What causes a child to be overweight?
Why do you think some children are overweight and others are not?
What do you think parents can do to keep children from becoming too heavy?
Tell me what you could do to keep your child from becoming too heavy?
Whose responsibility is the control of eating?

22 themes identified by the 6 primary readers during their group consensus. Finally, using the transcript database, the authors generated a list of all comments supporting each of the 10 major themes and together selected the most representative comments for presentation here (n = 84).

RESULTS

Anthropometrics and Telephone Questionnaire Responses

The mean age of the mothers who participated in the focus groups was 25 years (range: 17–38 years) and the mean age of their children was 44 months (range: 26–56 months). Thirteen of 18 mothers were black, and 5 were non-Hispanic whites. Twelve of the mothers were obese (BMI $\geq$30 kg/m^2), and 4 others were overweight (BMI $\geq$25 kg/m^2). All 12 of the obese mothers accurately perceived themselves as overweight, and all but 1 of them also believed that their own weight was a problem. We did not specifically aim to enroll overweight mothers. The fact that all but 2 mothers were overweight reflects both the high prevalence of overweight in the mothers of children in WIC[25] and the recruitment of mothers of overweight children.

Seven of the 18 children were boys. All but 1 child had a BMI >85th percentile for age and sex. Of these, 14 had a BMI >95th percentile, of whom 7 had a BMI >97th percentile. Fifteen of the 18 children met the WIC definition of overweight (WHP $\geq$90th percentile) using the 2000 growth chart, and 13 met the definition using the 1977 growth chart. Among the mothers of these 15 overweight children, 10 labeled the child as either a little or very overweight, but only 2 of these 15 mothers worried about their child's present weight, and only 5 worried about their child's weight in the future.

The 10 major themes we identified in the focus groups are presented in Table 2, 3, and 4, along with representative comments supporting each theme. Each of these tables is devoted to 1 of the 3 major target areas of discussion—definition, etiology, and management.

Definition

Mothers in our focus groups did not accept the health professional's classification of children as overweight according to the chart's parameters. There was a shared dislike and distrust of the growth charts, along with the claim that the charts were not relevant to their children (comments 1.1–1.7).

In describing children and adults, mothers used terms such as thick, solid, strong, or big-boned to indicate increased size. These terms were not being used euphemistically to really mean fat or overweight (comments 2.1–2.8). Being big boned or having a large frame was culturally acceptable to these moms and, perhaps, even desirable (comments 2.9–2.11). Some mothers stated they would be concerned about their child's weight if clothing had to be purchased too frequently, indicating overly rapid growth (comments 2.12–2.15).

Although these mothers did not worry about a child's percentile on the growth chart or large frame size, per se, they would become concerned about a child's weight if the child became inactive or was being teased by peers. For these mothers, inactivity and low self-esteem were the 2 most critical aspects of weight-related functional impairment in children. If a child ceased to run and play with other children, mothers would be worried (comments 3.1–3.4 and 4.1–4.3). There was a strong suggestion that being overweight caused inactivity in children rather than the other way around. Although few of these mothers responded in the telephone survey that they were worried about their child's current or future weight, they frequently discussed the social and emotional consequences of being overweight and the potential damage to a child's self-esteem (comments 3.8–3.10).

When questioned specifically about the meaning of the word obesity, mothers described it as a condition that caused severe functional impairment, specifically, compromised mobility (comments 3.5–3.7). None of the mothers had ever known a young child they considered obese.

These mothers would not worry about a child's weight if the child had a good appetite and ate healthy foods. Mothers implied that eating healthy foods compensated for eating junk foods. If a child ate certain foods, such as fruits and vegetables, then his/her diet and weight were considered healthy, regardless of the amount and nutritional quality of the other foods in the diet (comments 4.4–4.7).

Etiology (Table 3)

The dominant belief was that a child's size and growth pattern was fixed or predestined and was attributable to an inherited metabolism or body type. Most mothers believed that it was nearly impossible to alter a child's weight if there was a familial predisposition to be large (comments 5.1–5.8). Some mothers, however, would acknowledge that parental diet and activity habits could influence children's habits (comments 6.1–6.4). Also supporting the notion that a child's size was naturally programmed was the belief that children would grow into their weight, or that the fat of a younger child would disappear as the child became taller, older, and more active (comments 5.9–5.12).

Management (Table 4)

Mothers described difficulties limiting or structuring their children's eating. These mothers spoke about a lack of control over the family diet and felt either powerless to remedy the situation or unwilling to take charge of it (comments 7.1–7.4). They especially struggled with children whose appetites seemed boundless and who were perpetually hungry. Mothers voiced an inability to say no if a child claimed to be hungry, and they believed that saying no would be starving the child. Providing ample nourishment to their children was an important and emotionally rewarding part of parenting that mothers seemed unwilling to relinquish (comments 7.5–7.9). The inability to limit a child's eating may have been related to the use of food as a parenting tool or to reward children (comments 8.1–8.3). Some mothers were also reluctant to withhold food or limit certain foods because they were proud to be able to

TABLE 2. Definition: How Do You Know a Child is Overweight?

Theme 1.	Mothers do not define a healthy weight by measurements or by standardized growth charts.
1.1	They [WIC professionals/providers] always go by these charts, and I don't think that's accurate because when is there ever an average child, or the right height, and the right weight child? I've never seen it. Everyone is different—I believe.
1.2	Honestly, I don't think they understand it, because they're just sticking your child's weight and your child's height and connecting the dots. I mean, they're telling you, "This is where your child is." They're not taking into consideration the family's background. I mean, they're not looking at me and saying "well, I'm big." I'm big. I'm thick. So, she's going to be thick.
1.3	My youngest one, she's really, really tiny. I mean, she's short, you know. But on the chart, she's considered chunky. But she's tiny—so it's like—they don't—the weight and the height—they don't, you know, come together.
1.4	They have commended me—or whatever—saying you're doing everything right. But the chart still comes up.
1.5	If you're already feeding your child all the right foods, what else can they say? What can they tell you that's going to make your child go into that chart that you're not already doing?
1.6	So I really don't worry about it—about what they're saying on their chart or whatever.
1.7	Every time I bring him in here, they are like, "Oh, he is so big," and they are doing this graph. We never fit on a graph and we never will.
Theme 2.	Mothers speak about a child's size in terms of bone structure, frame, and clothing size.
2.1	It's not that she's overweight, she's a solid girl.
2.2	She's solid and its not like [there is] a lot of fat everywhere.
2.3	Some people may think that they are overweight because they look big, but I—I think that just because you're big-boned doesn't mean you're overweight.
2.4	I can look at him, and he might weigh a lot, of course, but that could be just all muscle. 'Cause he is a strong kid.
2.5	She's pretty healthy, but I guess she has a nice bone structure to make her look, you know, bigger than she really is.
2.6	I got 7 aunts and all of them wear size 11 shoes. All of them. They are not fat. They are big-boned. They are still slim but they are just big women.
2.7	My aunts and them, they're like 190, but you wouldn't be able to tell. That's what I mean by big-boned. She carries her weight real good. If she were 160, she would look real small.
2.8	There is nobody in my family that is really tiny or small-boned. The women are all nice sized. The men are big and tall.
2.9	Because if you wear size 2, you are too little for anybody. Thick is a cultural term. African-American women, in general, don't have a problem like Caucasian women have with weight issues. When we say thick, a size 12 woman or size 14 woman is not unusual for African-Americans. We are fine with that.
2.10	If I lose so much weight, my frame is not going to look right—it's going to look like I'm on crack. Because I have a big frame.
2.11	If I was 120, I'd look sick. [In response to that comment, another said] You'd look anorexic. [and another said] She'd be all sunk in.
2.12	It would not be a number for me. J—- is 4, he's the youngest. He wears clothes that—his brother is 8 and him, they interchange certain things. It is just the length that is the problem. When J—- is starting to wear clothes that are bigger than the 8 year old, then I would say that [there was a problem]. Because I am expecting him to get taller and therefore, he would grow into stuff in length and not have to get bigger sizes. But when I start seeing him getting into where he can't button his pants, then I know they are too small and I am going to be concerned.
2.13	My two girls wear the same size, which is a 6X. If my youngest got in my nephew's size, which is an 8, then I would be worried.
2.14	He's four, but he is the size of a seven year old. We have big people in our family also.
2.15	My son is 3 and wears a size 7 and he is on his way to an 8 the next time I go shopping. He is not fat.
Theme 3.	Children are considered overweight if they are seen as inactive, lazy, or are being teased about their weight.
3.1	If they weren't at a healthy weight, they wouldn't be as active as—I wouldn't think—have the energy to be able to move around.
3.2	If he wasn't playing right or he was short of breath, that would be concerning.
3.3	They're still going to consider her overweight, so I'm not going to worry about it because she is still as active as any child that I see who has the smaller body frame.
3.4	[Being overweight] becomes a problem when they're lazy and all they want to do is eat, sit in front of the TV, or just don't want to interact with children.
3.5	Obese to me [means that a person] can barely walk.
3.6	Obese means [a] guy needs to come out with a tow truck [in order to move the individual].
3.7	Like that guy that couldn't get out of bed because he was so big. That's obese.
3.8	And she's not fat, but she's chunky. You know, and I know, like, kids at school make fun of her because she's, like, the fattest cheerleader and it's hard.
3.9	Even if I don't think she's overweight. I don't want other people, you know, sitting here making fun of her and stuff like that.
3.10	I don't think overweight is ever a problem for the kids. It's just around those who make it a problem because they wouldn't feel that it was a problem unless other kids see it that way.
Theme 4.	Children are not considered overweight as long as they are active, playful, happy, and have good appetites.
4.1	I don't know what to do—she's busy all the time—she's exercising constantly, running and jumping.
4.2	If he was not as interested in playing, then I would get concerned.
4.3	See, my little girl, she—she won't be still. That's why I really don't have a problem with her weight. She will not be still. It's like [she's] got a jumping bean in her stomach.
4.4	It's not that she's overweight, she's a solid girl. She eats all the right foods, it's just how it comes up on her.
4.5	He eats a lot of vegetables. He also eats a lot of junk but I think he balances it out when he eats his vegetables.
4.6.	Like at dinnertime, she really eats. She can eat as much as I can eat but she doesn't eat a lot of junk food. She eats a lot of food that's good for her.
4.7	To have a healthy child is to have a child that has good eating habits, not sick too often, plays good, eats good.

afford "treats" (comments 8.4–8.5). There was a suggestion that the inclination to treat children with food was related to other times, in the recent or remote past, when the food supply was more insecure.

Mothers described scenarios where their authority over the child's dietary habits was challenged by other caretakers, commonly the child's father or grandparents. The children, aware of the conflicting views of their caretakers, would naturally seek ap-

TABLE 3. Etiology: What Causes a Child to Be Overweight?

Theme 5.	Mothers believe that nature, genetics, or heredity determine weight.
5.1	My children's father, he's very slender and he can—he can shove some food down his mouth and not gain anything, and I don't see, I mean, how that can happen. I mean, you know. He has a high metabolism, but she (my daughter) doesn't. She just picked up my body frame, and she has to keep the food in her body.
5.2	You can't control it [weight].
5.3	Kids born in the nineties are big.
5.4	[She's] destined to be thick like me. If I was to press her down to her bones, she's still going to be thick.
5.5	So I think it's just—it's based on your family. If they're born big, they're going to stay big.
5.6	When you got a fat gene, you got a fat gene, and there's nothing you can do about it.
5.7	It's just her nature. That's just how she was born.
5.8	We're [child's parents] about the same size and our children don't really stand a chance of seeing skinny.
5.9	When he was like one to two, he was real big. So as he got to walking and playing with his sisters, he started losing the weight and started getting taller; so I think when the kids get older and the older they get and the more they get active, that they're going to lose the baby fat. Because that's what my son did—that's what—because I—I always have big kids. So—but when they get to walking and playing around, they start losing the weight.
5.10	They [clinic staff] were the ones that told me that my son was going to be overweight. She like—"Well, watch it." I'm like "Well, watch what?" He's just three, he might be big because we are. I really didn't pay no attention to it.
5.11	J—- is starting to stretch, get longer. That's why I am not so concerned about his weight gain. As he gets taller, it evens out.
5.12	Well, she's going to be tall. She is going to sprout up because her dad is real tall.
Theme 6.	Parents' behaviors and family environment also influence a child's diet and activity patterns.
6.1	So I picked up the same habits that my mother had.
6.2	It's what you get them used to when they're small.
6.3	Nine times out of ten your child is going to go with whatever you go with. If you eat junk food all day, potato chips, cookies, pop, that's what they're going to do.
6.4	Keep them active and everything will be fine.

proval from the more permissive adult (comments 9.1–9.10).

When explaining their attitudes and behaviors regarding children's weight, mothers consistently intermingled anecdotes about their own weight histories, both as children and adults. It was often difficult to discern the mothers' own stories from those about their children. Mothers described feeling ambivalent about their own weight status and whether being overweight was a problem in their lives. Alternately they expressed both contentment and dissatisfaction with their own weight. Some mothers emphasized the need to strengthen a child's self-esteem to buffer the effects of being teased about weight in the future. They often proposed this approach rather than trying to prevent obesity itself (comments 10.1–10.5).

DISCUSSION

Mothers in our study did not find it meaningful to use pediatric growth charts to define their children as overweight. Instead, these mothers of overweight preschoolers in WIC considered their children at a healthy weight as long as their children's activity and social functioning were unimpaired. Mothers believed they were unlikely to affect a child's biological predisposition to be overweight. In addition, they described difficulties structuring their young children's eating habits. Other caretakers often interfered with the mother's sense of control and mothers themselves found it emotionally difficult to deny food to a hungry child.

This study has several limitations. First, the findings were from a small sample of urban, mostly black, low-income mothers with young children who were overweight, and all but 2 mothers were overweight. Perspectives and practices may or may not differ in normal weight mothers, mothers from other socioeconomic or cultural backgrounds, or mothers who have normal weight children. Qualitative research is intended to generate an explanation or theory of a phenomena that is not well understood.[26] In this case, what was not well understood was why low-income mothers are not more concerned about their preschool children being overweight. Using focus groups, we probed, in-depth, the perspectives of a small number of mothers. Interpretations of the mothers' statements were made by consensus of a group of readers with varying perspectives. Together, the authors developed an explanation of why low-income mothers may not worry about their preschoolers being overweight. This research methodology produced testable hypotheses for future study in larger samples. The study was not meant to produce any conclusion about the phenomenon under study that could be generalized to all mothers or even to all low-income black mothers.

It is possible that the focus group setting may have inhibited some of the participants from expressing their views. There was, however, considerable agreement among the 3 focus groups, and the themes highlighted here were found in all 3 groups. Despite these limitations, this study suggests that there are major differences in the way parents and health professionals view the definition, etiology, and management of overweight preschoolers. In short, these low-income mothers, whose children are at-risk for later obesity, have a different textbook of childhood obesity than physicians, nurses, or nutritionists.

In contrast to our previous study[19] and to 1 other,[27] in the telephone survey, the majority of our focus group mothers who had overweight preschoolers did describe their children as overweight. As in our previous study, however, very few of these mothers were worried about the child's current or future weight. Asking mothers about their child's weight status with a telephone interview may have elicited a different reply than when the same questions were asked in a self-administered paper survey. It is also possible that these mothers were acknowledging that their children may be considered

TABLE 4. Management: How Do You Prevent a Child From Becoming Overweight or Treat an Overweight Child?

Theme 7.	Mothers have trouble controlling their children's eating habits.
7.1	[I'll] give her what she wants.
7.2	When she wants something, she will open up the refrigerator and she will fight to get to the refrigerator. She will push her big sister out the way and get to the refrigerator.
7.3	I try to control it but he gets to the point where he can climb over the gate, he can take the gate down, and he wants to get something to eat and he is going to get it.
7.4	I try to do the best I can, and that's all I can do.
7.5	My kids, they go in the refrigerator and get whatever they want. I think if a child's hungry—a child knows when they're hungry. You know, they come from school. You know, they're allowed to get whatever they want out of the 'fridgerator. So, you know—that's probably a problem. I know I shouldn't—I know I shouldn't be letting them go in there and get whatever they want—but I do.
7.6	If she's still hungry after we put the food away, I'll get her something else to eat—because I won't let my baby go to bed hungry. If she asks for something, I can't tell her no. I mean that's—that's just how I am. If they ask for something, I'm not going to tell them no. I don't want to deny my child something.
7.7	He's not happy unless he has a bottle in his mouth eating. I don't want to starve him, but you know, I don't know what I can do.
7.8	I'm not going to starve her or make her eat certain foods just so she can get in the "average" weight and height" type category.
7.9	He can't eat a Happy Meal® [child's size fast food meal]. He needs an adult size meal.
Theme 8.	Mothers use food to shape children's behavior.
8.1	'Cause my daughter is real smart, and she gets good grades—so I want to reward her. So I say, "Well, S—-, yeah, you can have this, you can have that. You can go to the store."
8.2	When I am going out, he says, "This is what I want, I want this." When I do come in and I don't have anything, he pouts and says, "You didn't buy me anything." I don't want to hear that and I don't want to see him pout and mad. He doesn't go to school until 12:45—until then, I want to get my sleep so I try to have something there to quiet him down.
8.3	If they're good, I give them a sucker or something.
8.4	If you can afford to give them snacks, you're going to give them snacks.
8.5	Their [grandma] didn't have the money to be able, you know, back then, to support their kids with food.
Theme 9.	Mothers' control over her child's diet is challenged by other family members.
9.1	She [my mother] believed in giving a kid sweets. And now, I do that with my kids. But me and my kids' father have a problem with that. He doesn't like junk food.
9.2	So me and him (child's father) have problems with that, too, 'cause he likes to give her candy.
9.3	He (child's father) gave her 3 suckers and 2 cookies and I got so mad at him.
9.4	They [my mother and boyfriend] say "You shouldn't do that. You shouldn't just let them go in there and get whatever they want," and I do.
9.5	If [my daughter] starts crying, that's when I have to break down, because my father gets so upset that I'm not giving her food and he thinks I'm starving her. And I'm not. It's just when he comes up [here]. That's when they're hungry.
9.6	I tell my father, "Well, no you can't do that because I'm telling them one thing, and then when you come, they're going to get another, and that's going to confuse them." Because they're going to think—well are they going to start crying when they don't get what they want, and I'm trying to teach them that they can't always eat like that.
9.7	When I say she can't have it, her daddy gives it to her.
9.8	He went with my father or his father's parents. Whenever we say no, they say yes. If I say no, he says, "Daddy, can I have?," "Grampa can I have?" [And they say], "Oh, forget your momma. Go ahead and get it."
9.9	He wants his son to be able to come to him for whatever, anything, because he could not always go to his parents. That's the main thing right there.
9.10	They all get something to eat before they go to bed, which we tell them no, but she [grandmother] gives it to them anyway.
Theme 10.	Mothers' own obesity affects their outlook on children's weight management.
10.1	I've been walking up and down them third floor steps for a year now, and I'm still the same weight.
10.2	I don't think—well, I am a little—uh okay, I am overweight, but I don't feel like I'm overweight, you know. So, I just—I guess it just depends on the person. It just depends on how you feel, what you feel is overweight.
10.3	I look in the mirror and say I am fat. But compared—what I consider fat for me would be where I can't wear clothes that I have. If I have to buy another size to feel comfortable, then I consider myself fat. I have problems with saying that term because I have been labeled fat when I was younger. I look at my daughter and she looks exactly like me and she is not fat.
10.4	It is depressing. At one time, I was really depressed about it and now I am starting to really say, "I am in control of this and this is what I need to do to change my eating habits."
10.5	I think that's what all of us good parents are doing with our kids is making sure that their self-esteem is up to be prepared for being out there in the world where people tell them that they are this and they are that, and someone is always going to say something.

overweight by health professionals or by medical definitions. As our focus group discussion revealed, however, these mothers did not truly believe their children were overweight, and, thus, were unconcerned.

Previous investigators[28,29] have documented ethnic differences in weight acceptance among women, and these differences may extend to children. However, the 12 obese mothers in the focus groups considered themselves overweight, and all but 1 believed their own weight was a problem. Because these mostly black mothers were not accepting of their own weight, we do not know to what extent their acceptance of their children's weight is related to ethnicity.

In its recent revisions of the growth charts for children,[22] the US Department of Health and Human Services included BMI charts for children 24 months old and older and also suggested BMI levels for classifying children as overweight or at risk of overweight. In releasing the 2000 growth charts, the federal government emphasized the potential importance of the charts as a tool for teaching parents about their children's growth and for encouraging parents to prevent obesity in their children.[30] The low-income mothers that participated in our study

clearly did not accept the use of standardized, statistically-based definitions of a normal or healthy weight. This study suggests that the new charts, especially the new BMI charts, may not be meaningful or comprehensible for certain populations.

Our previous qualitative research also suggested parents' interpretations of the growth chart may depart from that of health professionals'.[31] We indicated that parents may consider an infant's placement on the growth chart as a sign of parental competence. If parents consider a larger size desirable for infants, use of the growth charts by health professionals to indicate excess weight during the preschool years may confuse parents and de-emphasize the relevance of growth charts. Health professionals may be unaware of how the growth chart information is being perceived and understood by parents. It is likely that some unintended messages are being conveyed. One important possibility is that parents may implicitly receive a message that their parenting skills are being judged. Mothers in this study complained that the health professional looked at the percentile on the chart instead of assessing the individual child or family. Thus, the advice given in response to the child's growth pattern might then be considered irrelevant.

Feeding is an essential part of parenting young children. Indeed, eating habits are so closely woven into the day that they impact patterns of play and activity, sleep, and social interactions for both the parent and the child. Likewise, to establish healthy eating patterns in children requires a variety of parenting skills that also improve overall child well-being. These skills include the ability to set limits, establish consistent routines, anticipate a child's needs, read nonverbal cues, provide physical and emotional closeness, and encourage and model desirable behaviors. Developing and maintaining these parenting skills is a challenge for any parent, even those with multiple resources.

These mothers voiced difficulties in establishing and maintaining the healthy eating routines for their children that are necessary to prevent obesity. The study revealed several possible explanations for these difficulties. Although we did not assess what was meant by a healthy diet, there seemed to be a greater problem with consistent implementation of a healthy diet than with knowledge of which foods were healthy. These mothers believed that obesity and becoming overweight could not be prevented in children because of the overriding influence of heredity. This belief may decrease motivation to change eating habits of a young child. Instead, it may be more attractive to implement the nonnutritive uses of food as a parenting tool, to set limits, reward behavior, and provide nurturing. Food may be helping mothers to maintain their sense of competence and control, despite contributing to a child's risk of obesity. Other qualitative research with black adolescent mothers suggests a strong role of grandmothers in deciding what infants should eat[32,33] and in shaping the young mothers' overall parenting style.[34] Our data suggest that maternal attempts to structure eating habits in their preschool children may be influenced not only by grandmothers but also by fathers and grandfathers.

We suggest that the lack of maternal concern about her overweight preschooler is not necessarily some complex form of denial[35] that needs to be penetrated by health professionals with discussions about the long-term medical complications of obesity. Health professionals may be more helpful to families by trying to understand how the pathways to energy imbalance in children reflect the more complex and emotionally-laden task of parenting and by exploring the intergenerational influences on parenting practices. The WIC program, for example, may need to consider ways to increase parenting capacity to make its nutritional messages more effective.[36]

Just how should mothers be parenting their preschool children to prevent obesity? An increasing body of scientific literature suggests that a child's obesity risk may be increased when parents exert a high degree of control over the feeding interaction.[37–39] This control has been conceptualized in the form of restricting children from eating and is thought to arise from excessive parental concern about a child being or becoming overweight.[36] This is especially true between mothers and their daughters. In studies primarily conducted with white, educated, and married parents, it has been shown both that using food as a reward[40] and restricting access to food[41,42] may lead to a child overeating. These studies have also shown that the relative weight of preschool children is greater when parents report more restriction of children's access to snack foods.

However, the causal direction between controlling parenting practices and increased weight in children has not been clearly established in these cross-sectional studies. It is very possible that controlling behaviors of parents leads to appetite dysregulation in some children and to subsequent overeating. Alternately, parents may become more controlling over their children's diet when those children most genetically susceptible to obesity begin to overeat (exhibit poor self-control over intake) or to become overweight. These contrasting mechanisms lead to different conclusions about what advice is most appropriate to give parents to prevent obesity in their preschoolers. If excess maternal concern about preschoolers being overweight is thought to initiate a cascade of interactions that worsens energy balance in a child, then a complete lack of concern about weight and no limit setting in the diet cannot, at the same time, also be in the child's best interest. The current scientific literature has not identified the happy medium of maternal concern and, thus, does not inform practitioners about some common and seemingly straightforward questions. For example, should a parent restrict access to food in an overweight 3.5 year old who says she is hungry between meals? Prospective studies with sociodemographically diverse families may be required to resolve such questions.

Based on this qualitative study, we hypothesize that a lack of parental control and unrestricted eating may contribute to obesity in the low-income population we studied. Indeed, whether parents are able

to restrict or structure their child's eating, in the face of an obesity-promoting environment, may be a measure of parenting ability—an ability that may be particularly lacking in families with limited resources.

This qualitative study was meant to be hypothesis-generating rather than confirming. We hypothesize that the continued use of growth charts to define and emphasize childhood obesity, at least with low-income, black mothers who have overweight children, is unlikely to enhance parental efforts to prevent excessive weight gain and may even limit the effectiveness of nutritional counseling that is given. We believe that the categorization of children as overweight, using the new growth reference, is an important part of health supervision. However, we also believe that there should be a reexamination of if and how these growth charts should be used in counseling for obesity prevention.

Finally, we hypothesize that low-income mothers whose parenting skills allow them to impose more structure and control on their children's eating and activity patterns are more likely to prevent obesity in their children. Despite differing perceptions between mothers and health professionals about the definition of overweight, mothers aspire to have active children with healthy diets. We postulate that the best approach to preventing obesity may be to focus more on improving general parenting skills and less on discussing the child's growth.

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DUE TO INFERTILITY TREATMENTS

. . . In the United States in the last 2 decades, despite increasing availability of prenatal care, nutrition supplementation programs, and drugs to stop preterm contractions, the preterm birth rate has increased from 9.5% in 1980 to 11% in 1998. Part of this increase is due to multiple births associated with infertility treatments, but many preterm births occur spontaneously. None of the medical or public health strategies used to reduce preterm birth has succeeded. One of the major unsolved issues is the very high occurrence of preterm births among black women in the United States, who have twice the rate of preterm birth of other women, along with a three- to fourfold increase in the earliest preterm births, which account for most of the neonate deaths and long-term morbidity. The increased rate of preterm birth accounts for much of the black-white difference in infant mortality (estimated at 6.3 deaths per 1000 live births for white women vs 15.1 per 1000 live births for black women in 1995).

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