



The Evolution of Mothers' Beliefs About Overweight and Obesity in Their Early School-Age Children

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ABSTRACT

OBJECTIVE: To identify changes in maternal beliefs, concerns, and perspectives about overweight and obesity in their children over a 2-year period.

METHODS: A total of 37 low-income English-speaking mothers of overweight or obese children participated in 2 semi-structured interviews, separated by about 2 years. Mean child age was 5.9 years at baseline and 8.2 years at follow-up. Mother and child anthropometric data were obtained, and mothers completed demographic questionnaires at both time points. Mothers' interviews were analyzed using the constant comparative method for longitudinal patterns of change in their perspectives on childhood obesity across the 2 time points.

RESULTS: Six longitudinal patterns of change in mothers' perspectives and beliefs were identified: 1) mothers' identification of a weight problem in their child emerges gradually, 2) mothers' level of concern about their child overeating increases,

3) mothers' concerns about consequences of obesity intensify and change over time, 4) mothers feel less control over their child's eating and weight, 5) mothers' efforts to manage eating and weight become more intentional, and 6) mothers are more likely to initiate conversations about weight as their child gets older.

CONCLUSIONS: Mothers' concerns about children's weight and eating habits increased, and reported weight management strategies became more intentional over a 2-year period. Further research should consider attending to maternal perspectives on child weight and eating and their evolution in the development of family-based interventions for childhood obesity.

KEYWORDS: longitudinal studies; mother-child relations; pediatric obesity; weight gain

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WHAT'S NEW

Mothers of overweight and obese children became more concerned about their child's weight and eating habits over time. Mothers reported using more direct and intentional methods to address the problem of weight in their children as children grew older.

MOTHERS HAVE BEEN cited as important mediators of childhood obesity intervention efforts, as they play a central role in shaping children's eating and physical activity habits.¹ While maternal support of healthy behaviors can reduce children's risk of overweight and obesity,² mothers often do not recognize the problem and consequences of overweight in their children.³ Furthermore, pediatric providers often find it challenging to engage mothers in

childhood obesity intervention and prevention efforts.⁴ An important first step toward engaging mothers is to better understand their concerns, perspectives, and beliefs about the problem of obesity in their children.^{1,5}

Prior work has not examined how mothers' beliefs and perspectives about child overweight and obesity change over time. Weight status is likely to track through childhood,⁶ but mothers' perspectives and beliefs about their child's weight status may evolve over time as the child develops more advanced reasoning, self-control, and autonomy, particularly in eating behaviors. Prior questionnaire-based studies have found that mothers report more concerns about their child's weight status as the child grows older.^{7,8} We have been unable to identify any studies that

have examined this evolution in maternal concerns about child obesity in more depth. Understanding if and how mothers' concerns and beliefs about overweight and obesity in their child evolve could inform the timing and parenting-related content of childhood obesity intervention programs.

Therefore, the objective of this study was to examine longitudinal patterns of change in maternal beliefs, concerns, and perspectives about child overweight and obesity in a sample of low-income US mothers of overweight and obese children.

METHODS

PARTICIPANTS

Participants were recruited from an original longitudinal study that invited children attending Head Start programs (a free, federally subsidized preschool program for low-income children) in south-central Michigan to participate in a study about children's eating behaviors. Exclusion criteria included mothers not fluent in English or had a 4-year college degree or more, child gestational age <35 weeks, significant perinatal or neonatal complications, serious medical problems or food allergies, disordered eating, or foster care. Participants took part in 2 follow-up data collections, described as seeking to understand "how mothers feed their children."

The longitudinal cohort was made up of 285 mother-child dyads at baseline, 116 (40.7%) of which had children who were overweight or obese. This analysis focused on dyads in which the child was overweight or obese at both baseline and follow-up. Theme saturation (described below) was reached with a sample of 37 dyads.

Dyads participated in data collection at baseline and again at follow-up about 2 years (mean 2.30, SD 0.22, range 1.84–2.91 years) later. The institutional review board approved the study, and mothers provided written informed consent and were compensated \$80 at baseline and again at follow-up. Data collection methods were identical at baseline and follow-up. Mothers provided demographic information and completed the Household Food Security Scale.⁹ Maternal and child anthropometrics were obtained by standardized procedure.¹⁰ Children's weight status was categorized as overweight (body mass index \geq 85th to <95th percentile for age and sex) or obese (body mass index \geq 95th percentile for age and sex) on the basis of the US Centers for Disease Control and Prevention growth charts.¹¹

Mothers participated in semistructured interviews at baseline and follow-up. The questions from the semistructured interview have been previously published,¹² as have the methods of developing, administering, and analyzing the interview.^{13–15} In brief, mothers participated in a semistructured interview, administered by trained research staff, which was conducted in a quiet location without the child present. Interviews were audiorecorded and transcribed verbatim. The interview was developed by 2 clinician-researchers and consisted of a series of open-ended questions about mothers' beliefs related to feeding their child and childhood obesity. Sample ques-

tions included, "Do you ever worry that [your child] does or might eat too much?" and "In your opinion, what causes a child to be overweight?"

The unit of analysis was the mother's interview at baseline compared to her interview at follow-up. Longitudinal patterns were defined as the ways in which mothers' beliefs and perspectives about childhood obesity changed or evolved from the baseline to follow-up interview.

For this study, the researchers first sought to identify if there were different patterns of beliefs among mothers of normal-weight children versus mothers of overweight/obese children. Two readers read an initial sample of 15 interview pairs from mothers of normal-weight children and 15 interview pairs from mothers of overweight and obese children. Readers used the constant comparative method¹⁶ to identify longitudinal patterns of change in both groups.

Both readers identified different longitudinal patterns of beliefs in the mothers of normal-weight children compared to mothers of overweight and obese children, specifically noting that concerns for overweight, obesity, and obesity-related behaviors did not emerge in the group of mothers of normal-weight children at either time point. Therefore, the decision was made to continue with analysis of longitudinal patterns using only interviews with mothers of children who were overweight or obese at both baseline and follow-up.

From the reading of the 15 paired interviews with mothers of overweight and obese children, 4 initial longitudinal patterns were consistently identified by both investigators. To further refine these targeted longitudinal patterns, readers reviewed an additional 22 interviews at which point saturation was achieved, meaning that no new longitudinal patterns were identified through reading further paired interviews. Readers met and discussed the longitudinal patterns and further refined these to reflect the most coherent, salient, and saturated final longitudinal patterns. Of the original 4 longitudinal patterns, 2 were divided into subpatterns; 6 total longitudinal patterns resulted. Longitudinal patterns identified were ultimately reviewed with a research psychologist, a clinical psychologist, and a pediatrician, who provided feedback on plausibility of these patterns and their interpretation.

RESULTS

Characteristics of the sample at baseline and follow-up are presented in the [Table](#).

Six longitudinal patterns in mothers' beliefs were identified. Illustrative quotations from each are shown in the [Supplementary Table](#) (available at <http://academicpedsjnl.net>).

MOTHERS' IDENTIFICATION OF AND CONCERN FOR A WEIGHT PROBLEM IN THEIR CHILD EMERGES GRADUALLY OVER TIME

At baseline, some mothers did not identify their child as having a weight problem, with some stating that they did not consider their child to be overweight or obese, but

Table. Characteristics of 37 Participants at Baseline and Follow-up*

Characteristic	Baseline	Follow-up
Child characteristics		
Child age, y	5.86 (0.64)	8.17 (0.65)
Child sex, m	18 (49)	18 (49)
Child BMI z score	1.98 (0.65)	2.01 (0.5)
Child weight status		
Overweight	12 (32)	10 (27)
Obese	25 (68)	27 (73)
Mother characteristics		
Maternal age, y	30.03 (4.75)	32.33 (4.78)
Maternal race/ethnicity		
White non-Hispanic	26 (70.27)	26 (70.27)
Black non-Hispanic	5 (13.51)	5 (13.51)
Hispanic	4 (10.81)	4 (10.81)
Other	2 (5.41)	2 (5.41)
Highest level of maternal education achieved		
High school diploma or less	18 (49)	18 (49)
More than high school diploma	19 (51)	19 (51)
Maternal BMI	38.62 (10.67)	38.40 (12.44)
Maternal weight status		
Underweight	0	0
Normal weight	4 (11)	5 (14)
Overweight	5 (13)	3 (8)
Obese	28 (76)	29 (78)
Household characteristics		
Food insecurity		
Secure	29 (78)	28 (76)
Insecure	8 (22)	9 (24)
Single parent household	18 (49)	13 (35)

BMI indicates body mass index.

*Data are presented as n (%) or mean (SD).

then used these terms at follow-up. At baseline, mothers provided explanations for their child's weight—for example, the child was about to go through a growth spurt, or the child's body proportions were normal (eg, "he's just husky"). Most of these explanations for excess weight were less prominent or absent at follow-up. While most mothers of children with overweight or obesity demonstrated a level of concern about their child's weight, some mothers did not describe any concerns at either time points. Some mothers who did not discuss concerns about their child's weight at baseline demonstrated newly emerging concerns at follow-up. For mothers who had already begun to worry about their child's weight at baseline, most discussed it more directly and with greater urgency at follow-up.

MOTHERS' LEVEL OF CONCERN ABOUT THEIR CHILD'S OVEREATING INCREASES OVER TIME

Although subtle, the salience of overeating increased as the child grew older; at follow-up, mothers expressed more certainty and confidence that overeating was problematic for their child in general. At baseline, mothers wavered between believing their child's eating habits were normal or worrisome. Mothers initially demonstrated uncertainty about whether to be concerned, providing a range of explanations for their child's eating

(eg, growth spurts, normal child preference for junk food, normal fluctuations in appetite, child being active). Still others expressed doubts about whether their child was actually hungry or was eating out of boredom. Compared to baseline, at follow-up mothers described overeating more assertively and used more concrete explanations for the behavior, such as emotional or stress eating. At follow-up, some mothers even described their child overeating to the point of vomiting. Compared to baseline, at follow-up mothers more commonly described conflicts with their children around the amount of food the child was eating. A generalized fear of obesity as the consequence of overeating was described consistently by most mothers at both time points, but for some mothers, this worry gained strength at follow-up.

MOTHERS' CONCERNS ABOUT CONSEQUENCES OF OBESITY INTENSIFY AND CHANGE OVER TIME

The types of fears mothers disclosed regarding health consequences of their child's eating and weight tended to shift over time. While mothers of younger children worried about consequences of eating excessive sugar or junk food (eg, tooth decay), this concern was rarely mentioned at follow-up. Instead, at follow-up mothers began to worry more about chronic comorbidities of obesity (eg, diabetes, "heart problems," high blood pressure). While some mothers did mention these chronic comorbidities at baseline, the frequency and intensity with which they arose at follow-up were significantly greater. Concerns for psychosocial effects of overweight (eg, bullying, low self-esteem, even suicide) surfaced with greater frequency at follow-up. Many mothers revealed dueling desires for their child to be happy and confident despite their size, but also to develop healthier eating habits and lose weight. Mothers began to foresee challenges ahead for their child regarding navigating social terrain, maintaining self-esteem, and changing unhealthy eating habits.

MOTHERS FEEL LESS CONTROL OVER THEIR CHILD'S EATING AND WEIGHT OVER TIME

Mothers conveyed low confidence and feelings of poor self-efficacy in their role managing their child's eating and weight at both baseline and follow-up, but these sentiments were more often present and stronger at follow-up. At baseline, many mothers expressed feelings of powerlessness and described situations in which their child was in control, demanding specific types of foods and quantities of foods that mothers deemed inappropriate. Mothers often implied or directly stated that they were frustrated with their child or desperate for solutions to help gain control of their child's eating and weight. At follow-up, some mothers even described giving up, feeling their child would always struggle with weight, or reaching a point at which they became resigned to their lack of control over their child's overeating and weight.

At both baseline and follow-up, mothers discussed a range of factors that posed challenges to their efforts in

managing eating and weight of their child, but at follow-up, mothers discussed these factors with greater conviction. At follow-up, many mothers expressed that it was tough to maintain consistency with healthier eating habits over time or shared regrets such as wishing they would have set up certain eating habits from a younger age. Many mothers reported that they struggled to manage their child's weight because of factors such as lack of support from family members or needing to make economical food purchases (eg, shopping in bulk or choosing cheaper, less healthy options).

MOTHERS' EFFORTS TO MANAGE EATING AND WEIGHT BECOME MORE INTENTIONAL OVER TIME

Mothers who recognized a problem with overeating or weight in their child at baseline described increasingly taking a wide variety of actions to manage their child's weight at follow-up. Some mothers who vacillated about their child's weight status or overeating at baseline were beginning to implement strategies for improving their child's eating habits at follow-up. Others described a pattern of trying out multiple strategies and frequently adjusting according to what seemed to work. The promotion of fruits and vegetables and physical activity maintained a constant presence at both baseline and follow-up. However, at baseline, promotion of healthy eating or exercise was more commonly mentioned as a strategy to offset concerns about overeating or weight status. At baseline, mothers often stated that they did not feel it was appropriate to restrict foods or intake, preferring to redirect their child's eating to healthier alternatives.

At follow-up, mothers frequently discussed restriction, and many used a more direct, intentional approach to limit their child's intake. Strategies related to portion control and limiting junk food increased in salience for many mothers. Mothers also described covert restriction strategies, including hiding food, altering their food purchase choices at the grocery store, and selecting their child's meals and snacks. Some mothers who described at baseline the practice of hiding junk food to prevent their child from consuming it expressed at follow-up exasperation at their child's behavior sneaking food, hiding it, or not admitting they had eaten something. Other mothers, many of whom had described efforts at covert restriction at baseline, began to refer to more overt methods at follow-up, including directly limiting times of day for snacking and attempting to become stricter by limiting junk food.

MOTHERS ARE MORE LIKELY TO INITIATE CONVERSATIONS ABOUT WEIGHT AS THEIR CHILD GETS OLDER

Mothers increasingly reported engaging in direct conversations about weight and overeating at follow-up compared to baseline. Few mothers reported having these discussions with their child at baseline. Most mothers who talked about these issues with their child believed the topic should be approached with caution and sensitivity. Mothers sought to minimize the emotional impact of these conversations and avoid negative words (eg, "fat," "obese") while still trying to convey the urgency

and importance of controlling overeating to achieve a healthier weight. Some mothers expressed fears that these conversations would affect their child's self-esteem, cause worries about their appearance, or negatively impact their child's psychological relationship with food and eating. For these reasons, mothers explained that they actively tried to avoid discussing the topic of weight and overeating with their child.

DISCUSSION

This study makes several new contributions to the literature. Specifically, in this study of low-income US mothers of young children, 6 longitudinal patterns were identified, which described mothers' evolving concerns about child overweight and obesity over a 2-year period. In their narratives, mothers described becoming more aware of their child's overweight status as well as factors contributing to and concerns about the consequences of their child's weight. This study extends prior work using survey methodology that has shown that the accuracy of mothers' perceptions of their child's weight and concern for overweight increases as the child gets older.⁷ To our knowledge, no prior studies have identified longitudinal patterns in the evolution of maternal concerns, beliefs, and perspectives on child overweight and obesity using qualitative methods.

Prior cross-sectional work has found mothers to be concerned about their child becoming overweight or obese,¹⁷ overeating,^{18,19} suffering social-emotional and health consequences of obesity,¹⁷ and their child's eating habits being out of the mother's control.²⁰ Prior work has also found that mothers of overweight and obese children are more likely to engage in restrictive feeding behaviors²¹ and have conversations with their children about weight.²² Our study extends this prior work by illustrating how these concerns and behaviors intensify over the early school years.

The fact that mothers' concerns about the problem of overweight and obesity in their child emerged gradually over 2 years may provide insights, as has been suggested,²³ into why some early child obesity intervention programs may not be effective. If mothers are not concerned about the problem of overweight in their younger children, as many have reported,³ they may be less likely to make sustained lifestyle changes. This study found that over only a 2-year period, mothers' concerns began to emerge and become more explicit in multiple domains related to overweight and obesity. Results of the current study suggest that parents may be more concerned and thus potentially more accepting of interventions targeting child obesity when their children are older. However, it could also be argued that at this later time point, children's obesity and obesity-related health behaviors may be more difficult to change. In fact, prior work²⁴ has found that intervention at an earlier age is more effective in treating obesity, possibly because younger children are more adaptable to behavior change and their parents have more control over their diets at this age. The ideal age and timing of child obesity interventions is unclear, as the trajectory and influences on the evolution of mothers' beliefs

throughout childhood remains unknown. While this study examined the evolution of mothers' beliefs during the early school-age years, it is unknown if these beliefs evolve on a continuum throughout childhood or if there is a critical period for development of concern for overweight and obesity. Furthermore, changes in mothers' beliefs may have more to do with the weight status of their child than with the passage of time. Future research is needed to identify the evolution of mothers' beliefs throughout childhood and their association with child weight gain to answer the larger question of the ideal timing for child obesity interventions.

Pediatricians may hope that mothers of overweight and obese children develop concern earlier than they typically do. There are 2 elements of creating maternal concern: helping mothers to accurately recognize overweight and obesity, which at least 1 intervention has successfully targeted,²⁵ and helping mothers recognize obesity-related health risks. We believe it is unlikely that a fundamental lack of health knowledge is preventing mothers from being concerned about obesity in their children. Rather, on the basis of our prior work,¹⁴ we hypothesize that mothers may be slow to self-identify as being the parent of a child with a weight problem because they equate having an obese child with being a neglectful or inept parent. This may contribute to a mother's rejection of the label of overweight or obesity for her child,¹⁴ as parents of obese children face stigma and blame for their children's weight problems.²⁶ The concerns may not fully develop until several years later, when the child is beginning to experience the physical and social consequences of their weight. Pediatricians may be able to accelerate concern for child weight problems in parents by partnering with them, acknowledging their appropriate parenting practices, and helping them understand that in today's obesity-promoting environment, the causes of obesity in children are complex and are not attributable to bad parenting. As a result, mothers may be more open to taking steps to make healthy changes for their children earlier.

In the follow-up interviews, mothers in our study often described themselves as desperate and not in control of their child's weight and eating habits; mothers seemed ready to change but not able to effect that change to help their child. They described increasing their controlling feeding behaviors in response to these increasing concerns, consistent with prior longitudinal studies using questionnaire methods that found that controlling feeding behaviors emerges after increases in adiposity.²⁷ While the American Academy of Pediatrics cautions parents against the use of overly restrictive feeding practices,²⁸ mothers are left with few tools to control their older, more autonomous child's problematic eating habits. At follow-up, mothers increasingly described wanting to reduce their older child's intake and talk to them about the problem of weight, but they also acknowledged not wanting to cause low self-esteem or disordered eating. Pediatricians should engage parents in discussions about the weight management strategies they are using with their children. Future research is

needed to understand how mothers should best manage their child's food intake, identifying adaptive, sensitive, and healthful ways to guide older children's eating.

While this study describes the evolution of mothers' concerns about overweight and obesity in their children, it did not examine the external influences that may have shifted those beliefs. Understanding what influences are persuasive in changing parents' opinions, beliefs, and actions is extremely important to effect change. Influences such as public health messaging, increased societal awareness of obesity, and school initiatives, to name only a few, likely affected mothers' beliefs and may have prompted these concerns. The influence of advice and counseling from health care professionals on parents' beliefs cannot be underestimated. In fact, prior work has found that conversations with health care providers about child weight have an important influence on a parent's concern for their child's weight.⁸ Future work is needed to understand how these external factors influence the development and evolution of mothers' longitudinal beliefs about obesity in their children.

This study has several limitations, including its small sample size of English-speaking US low-income mothers, who were predominantly white, non-Hispanic, obese, and from a specific geographic area. The results may not be generalizable to other groups. In addition, mothers' responses in the follow-up interview may have been influenced by their having completed the same interview 2 years before. It is also possible that the evolving beliefs were not related to the child growing older but rather to other influences such as increasingly more prominent public health messaging about childhood obesity or discussions with the child's health care provider. These other potential influences on mothers' beliefs were not captured in this study, and are therefore a limitation.

CONCLUSIONS

Mothers of overweight and obese children became more concerned about their child's weight and eating habits over time. Furthermore, over time, these mothers reported using more direct and intentional methods to address the problem of overweight and obesity in their child. Future research should consider these changing maternal perspectives and emerging concerns in the development of family-based interventions for preventing childhood obesity.

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SUPPLEMENTARY DATA

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.acap.2016.03.008>.

REFERENCES

1. Jain A, Sherman SN, Chamberlin LA, et al. Why don't low-income mothers worry about their preschoolers being overweight? *Pediatrics*. 2001;107:1138–1146.
2. Campbell KJ, Crawford DA, Salmon J, et al. Associations between the home food environment and obesity-promoting eating behaviors in adolescence. *Obesity*. 2007;15:719–730.
3. Towns N, D'Auria J. Parental perceptions of their child's overweight: an integrative review of the literature. *J Pediatr Nurs*. 2009;24:115–130.
4. Hingle MD, O'Connor TM, Dave JM, et al. Parental involvement in interventions to improve child dietary intake: a systematic review. *Prev Med*. 2010;51:103–111.
5. Hesketh K, Waters E, Green J, et al. Healthy eating, activity and obesity prevention: a qualitative study of parent and child perceptions in Australia. *Health Promot Int*. 2005;20:19–26.
6. Nader PR, O'Brien M, Houts R, et al. Identifying risk for obesity in early childhood. *Pediatrics*. 2006;118:e594–e601.
7. Jeffery A, Metcalf B, Hosking J, et al. Awareness of body weight by mothers and their children: repeated measures in a single cohort (EarlyBird 64). *Child Care Health Dev*. 2015;41:434–442.
8. Eckstein KC, Mikhail LM, Ariza AJ, et al. Parents' perceptions of their child's weight and health. *Pediatrics*. 2006;117:681–690.
9. Bickel G, Nord M, Price C, et al. *Guide to measuring household food security. Revised 2000*. Available at: http://www.fns.usda.gov/sites/default/files/FSGuide_0.pdf. Accessed August 31, 2015.
10. Shorr I. *How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children in Household Surveys. Preliminary Version*. New York, NY: United Nations; 1986.
11. Kuczmarski RJ, Ogden CL, Grummer-Strawn LM, et al. CDC growth charts: United States. *Adv Data*. 2000;314:1–27.
12. Goulding AN, Lumeng JC, Rosenblum KL, et al. Maternal feeding goals described by low-income mothers. *J Nutr Educ Behav*. 2015;47:331–337.
13. Pesch MH, Harrell KJ, Kaciroti N, et al. Maternal styles of talking about child feeding across sociodemographic groups. *J Am Diet Assoc*. 2011;111:1861–1867.
14. Kalinowski A, Krause K, Berdejo C, et al. Beliefs about the role of parenting in feeding and childhood obesity among mothers of lower socioeconomic status. *J Nutr Educ Behav*. 2012;44:432–437.
15. Goulding AN, Rosenblum KL, Miller AL, et al. Associations between maternal depressive symptoms and child feeding practices in a cross-sectional study of low-income mothers and their young children. *Int J Behav Nutr Phys Act*. 2014;11:75.
16. Glaser BG, Strauss AL. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Piscataway, NJ: Transaction Publishers; 2009.
17. Davis AM, James RL, Curtis MR, et al. Pediatric obesity attitudes, services, and information among rural parents: a qualitative study. *Obesity*. 2008;16:2133–2140.
18. Johannsen DL, Johannsen NM, Specker BL. Influence of parents' eating behaviors and child feeding practices on children's weight status. *Obesity*. 2006;14:431–439.
19. Baughcum A, Powers S, Johnson S, et al. Maternal feeding practices and beliefs and their relationships to overweight in early childhood. *J Dev Behav Pediatr*. 2001;22:391–408.
20. Pettigrew S, Roberts M. Mothers' perceptions of their control over their children's diets. *Adv Consumer Res*. 2007;34:306.
21. Faith M, Berkowitz R, Stallings V, et al. Parental feeding attitudes and styles and child body mass index: prospective analysis of a gene–environment interaction. *Pediatrics*. 2004;114:e429–e436.
22. Berge JM, MacLehose R, Loth KA, et al. Parent conversations about healthful eating and weight: associations with adolescent disordered eating behaviors. *JAMA Pediatr*. 2013;167:746–753.
23. Wald E, Ewing L, Cluss P, et al. Parental perception of children's weight in a paediatric primary care setting. *Child Care Health Dev*. 2007;33:738–743.
24. Haemer MA, Ranade D, Barón AE, et al. A clinical model of obesity treatment is more effective in preschoolers and Spanish speaking families. *Obesity*. 2013;21:1004–1012.
25. Oude Luttikhuis H, Baur L, Jansen H, et al. Interventions for treating obesity in children. *Cochrane Database Syst Rev*. 2009;CD001872.
26. Puhl RM, Heuer CA. Obesity stigma: important considerations for public health. *Am J Public Health*. 2010;100:1019–1028.
27. Rhee KE, Coleman SM, Appugliese DP, et al. Maternal feeding practices become more controlling after and not before excessive rates of weight gain. *Obesity*. 2009;17:1724–1729.
28. Barlow SE. Expert Committee. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. *Pediatrics*. 2007;120(suppl 4):S164–S192.