Conversations About the Weight of America's Children: Barriers Which Prevent Healthcare Providers from Discussing Childhood Obesity

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A systematic review of the literature was conducted to identify the barriers that prevent practitioners from identifying and counseling parents and caregivers of overweight or obese children. Once identified, barriers were organized into thematic categories (parental, provider, and professional barriers) and recommendations were generated to facilitate discussion about childhood obesity between professionals and parents. Childhood obesity is a significant public health problem. Healthcare providers must be able to effectively communicate with caregivers and put childhood obesity at the front of healthcare discussions. This article provides a synthesis of the relevant literature and makes recommendations for healthcare providers to overcome the barriers allowing healthier outcomes for children.

Keywords: Childhood obesity, pediatric, barriers, parental perception, communication, and discussing obesity

Childhood obesity is a serious public health concern not only in the United States but worldwide. According to the World Health Organization (2013), childhood obesity is one of the most significant public health problems in the 21st century. The Centers for Disease Control and Prevention (CDC, n.d.) defines obesity as a body mass index (BMI) at or above the 95th percentile and overweight as a BMI at or above 85% but less than 95%. A recent update from the American Heart Association (AHA) finds 1 in 3 children ages 2-18 are overweight and 1 in 6 are obese (Roger et al., 2012). Furthermore, early onset obesity is a strong predictor for adult obesity. Research has found that overweight children have a 70-80% chance of becoming an overweight or obese adult (Haboush, Phebus, Ashby, Zaikina-Montgomery, & Kindig, 2011). In 2008, 21% of the national healthcare spending was for obesity; by 2030 obesity is expected to account for $48-$66 billion dollars in healthcare spending (Brill, 2013). Obesity is also linked to an increased risk of the development of chronic disease. The relationship between obesity and chronic diseases such as hypertension, cardiovascular disease, type 2 diabetes, and metabolic

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syndrome well-identified in adults is now emerging at an alarming rate in children (Fox & Trautman, 2009).

While there are many factors that contribute to childhood obesity, recent studies have shown that many healthcare providers do not prioritize or discuss obesity with parents or child care providers (Alexander et al., 2007; Benson, Baer, & Kaelber, 2009; Chadwick, Sacher, & Swain, 2008; Kim, Haemer, & Krebs, 2008; Mikhailovich & Morrison, 2007; Patel et al., 2010). Patel et al. (2010) found that only 18% of patients whose BMI was greater than 95% were diagnosed with obesity. Healthcare provider reluctance to discuss obesity with parents and child care providers is the main contributing factor for a missed diagnosis of obesity in children (Alexander et al., 2007; Benson et al., 2009; Patel et al., 2010; Turner, Shield, & Salisbury, 2009).

Numerous barriers exist which prevent physicians and nurse practitioners from having frank conversations about children's weights with parents. These barriers can be grouped into three major categories: (1) parental barriers, such as failure to recognize obesity in children, parental lack of control, and parental time limitations; (2) provider barriers, such as hesitancy to discuss childhood obesity; and (3) professional barriers, such as lack of reimbursement from insurers, lack of educational resources for addressing obesity, and time constraints (Farnesi, Ball, & Newton, 2011; Larsen, Mandleco, Williams, & Tiedeman, 2006; Murray & Anzeljc, 2011; Noy, Walter, Matsunaga, & Maddock, 2006; Steele et al., 2011; Walker, Strong, Atchinson, Saunders, & Abbott, 2007). Although there were other barriers mentioned briefly in the literature, the abovementioned categories were found to be the most prominent.

The purpose of this article is to synthesize the literature to uncover the barriers that prevent healthcare providers from discussing obesity with caregivers. Several databases were used to conduct the search including PubMed, CINAHL, ProQuest, PsychInfo, and Medline. Major search keywords used consisted of childhood obesity, pediatric, barriers, parental perception, communication, and discussing obesity. A variety of articles and studies including integrative and systematic literature reviews, cross sectional studies, convenience samples, and commentary articles were evaluated and used to help identify barriers to discussing pediatric obesity. Table 1 shows a summary of the empirical studies related to childhood obesity management which were reviewed. With the alarming rate of childhood obesity, it is imperative that healthcare providers recognize and overcome these barriers. In addition, we provide recommendations for healthcare providers and other professionals who promote children’s health to begin conversations with parents about the risk and impact of childhood obesity.

Development of Childhood Obesity Guidelines

Childhood obesity is a devastating condition that has increased in prevalence in the past 20 years (Steele et al., 2011). According to Ogden and Carroll (2010), childhood obesity has almost

tripled since the 1980s. Additionally, one out of three low income children are overweight or obese by the time they reach their 5th birthday (CDC, 2012). According to the CDC (2012), childhood obesity has both immediate and long-term health effects on children. Immediate effects include higher risk of developing comorbid conditions, such as high cholesterol, hypertension, and cardiac disease. Long-term obesity increases a child's risk of bone and joint disease, type 2 diabetes, stroke, multiple forms of cancer, and osteoarthritis (CDC, 2012). The Patient Protection and Affordable Care Act of 2010 focused on health preventive services which encouraged primary care providers to help curtail childhood obesity (Silberberg et al., 2012). Current guidelines by the U.S. Preventive Services Task Force (USPSTF) recommend screening children 6 years and older for obesity, and if a child is identified as overweight or obese, offering comprehensive behavioral interventions to promote a healthy weight (USPSTF, 2010). In contrast, the American Academy of Pediatrics and the CDC recommend BMI assessments begin at age 2 (Perpich, Russ, Rizzolo, & Sedrak, 2011). The USPSTF (2010) recommends using BMI as an acceptable screening.

Despite the recommendations of the USPSTF, more than half of healthcare providers never or rarely use BMI to identify excessive weight gain in children (Flower, Perrin, Viadro, & Ammerman, 2007; Larsen et al., 2006; O'Brien, Holubkov, & Reis, 2004). Barlow and Dietz (2002) found that many providers felt least proficient in behavioral counseling. As a result, these providers were reluctant to screen for obesity in the absence of no associated medical condition. As childhood obesity-related illnesses continue to rise in this country, one quarter of preventive pediatric visits were found to lack documentation of height and weight measurements (Patel et al., 2010). Screening for overweight and obese children continues to be suboptimal (Smith, Gately, & Rudolf, 2008). With the epidemic of childhood obesity upon us, healthcare providers must be able to have therapeutic discussions with parents and caregivers of overweight and obese children. To initiate discussions, practitioners must overcome barriers to conversations about childhood obesity.

Table 1. Summary of Empirical Research Studies Reviewed

Research Study (Date)	Sample (*N*)	Measurements
Akerman et al. (2007)	–1,205 children ages 6-14 –1,205 caregivers	–Perceived BMI –Measured BMI
Alexander et al. (2007)	17 physicians at Duke University	Qualitative analysis of focus groups
Barlow & Dietz (2002)	–1,088 pediatricians –879 pediatric nurse practitioners –1,652 registered dieticians	Needs assessment questionnaire to measure practices of practitioners
Baughcum et al. (2000)	622 mothers of preschoolers on WIC program	Office survey of mothers' perceptions of children as overweight

Benson et al. (2009)	60,711 electronic medical records of children ages 2-18	Medical record review of BMI measurement and diagnosis of overweight or obesity
Bolling et al. (2009)	23 parents	Focus group qualitative analysis
Boyle et al. (2009)	–248 Healthy Eating, Active Communities providers in California –56 health care stakeholders	–Written survey of providers –Telephone interviews of stakeholders
Eckstein et al. (2006)	223 parents of children ages 2-17 years	Parental survey of child's appearance
Evans et al. (2005)	1,047 US households	Survey of perceptions of severity, causes, and public support of childhood obesity
Flower et al. (2007)	38 health care providers	Focus group analysis of BMI use and identification of obesity in children
Genovesi et al. (2005)	569 mother/child dyads	–Measured height and weight to determine obesity status –Used questionnaires to measure perceptions of weight
Gordon-Larsen et al. (2004)	–12 AA girls, mean age 7.8 years –11 caregivers of girls	Used qualitative thematic analysis of interviews over a 6-month period to evaluate perceptions of physical exercise
Haboush et al. (2011)	3,628 surveys of Nevada parents	Children's BMI scores
He & Evans (2007)	770 child/parent pairs	Questionnaires to measure parental perceptions of children's weights
Jackson et al. (2005)	11 mothers of overweight children	Interviews to measure weight perception of mothers
Jelalian et al. (2003)	1,066 New England physicians	Surveys measuring attitudes towards obesity
Larsen et al. (2006)	99 family and pediatric nurse practitioners	Questionnaires which assessed current practices
Lee et al. (2010)	50-state review of Medicaid and private insurance laws regarding obesity prevention	Coverage of obesity treatment via Medicaid and private insurance

Lindsay et al. (2006)	31 Spanish speaking, low-income mothers	Focus groups and then in-depth interviews to assess beliefs about child feeding behaviors and beliefs about weight status
Lowenstein et al. (2013)	3 focus groups with a total of 24 fathers	Analysis of fathers' responses to provider communication about their child
Nolan et al. (2012)	22 nurses in England	Thematic analysis of semi-structured interviews
Noy et al. (2006)	Charts of 60 children diagnosed as overweight or obese at a pediatric clinic in Hawaii	Used BMI measurement to evaluate correct classification of children as overweight or obese
O'Brien et al. (2004)	244 obese children medical records	Provider practice to measure consistency with recommended guidelines
Ogden et al. (2010)	3,281 children ages 2-19	Heights and weights from National Health and Nutrition Examination Survey to determine trends
Pan et al. (2012)	26,708,516 children in federally funded nutrition programs	Measured trends in BMI from 1998-2000
Patel et al. (2010)	1,155 preventive care visits made by children classified as obese (>95%)	Documentation by physician as obesity
Perrin et al. (2005)	356 members of North Carolina Pediatrics Society & American Academy of Pediatrics who practiced primary care	Self-reported self-efficacy in obesity management
Perrin et al. (2010)	115 parents of children ages 4-12 years enrolled in Medicaid	Questionnaires to measure communication with providers about child's weight
Pettigrew & Roberts (2007)	20 mothers of children ages 1-12 years	In-depth interviews measuring perceptions
Rhee et al. (2005)	151 parents of children ages 2-12 years	Surveys to assess parental stage of behavioral change in regard to weight management behaviors for their children
Schwartz et al. (2007)	15 pediatricians	Randomized clinical trial measuring 3 levels of motivational intervention

Silberberg et al. (2012)	273 providers and staff in primary care practices in North Carolina	Surveys to measure knowledge on pediatric obesity management
Singh et al. (2008)	46,707 ethnically diverse children	Used race and SES to evaluate risk of obesity status
Smith et al. (2008)	80 healthcare professionals	Identify obesity via pictures of children
Spivack et al. (2010)	192 primary care providers	Surveys to measure knowledge, beliefs, practices, and perceived barriers to treating childhood obesity
Steele et al. (2011)	22 school nurses	Focus groups to measure perceived barriers to discussing childhood obesity
Story et al. (2002)	–202 pediatricians –293 pediatric nurse practitioners –444 registered dieticians	Survey to measure provider needs to adequately manage childhood obesity
Thomas et al. (2008)	17 Black women 13 White women	Group discussions on perceptions of weight
Turner et al. (2009)	30 practitioners in England	Interviews to explore practitioners' experience with childhood obesity management
Wald et al. (2007)	612 parents	Surveys to measure parental beliefs about childhood obesity
Walker et al. (2007)	18 practitioners	Interviews to survey practitioners' perceptions of their roles in relation to childhood obesity management
West et al. (2008)	–1,551 parents before policy implementation –2,508 parents after policy implementation	Telephone surveys to measure parental accuracy in their child's obesity measurement before and after childhood obesity policy implementation
Whitaker et al. (2004)	155 health professionals	Group discussion following viewing a 20-minute video on WIC families to identify barriers to discussing childhood obesity
Yarnall et al. (2003)	Published USPSTF data on time for primary care preventive services	Compared USPSTF standards to actual working hours to determine if recommended primary care services can be performed as recommended

Barriers to Conversations about Childhood Obesity

Parental Barriers

Evans, Finkelstein, Kamerow, and Renaud (2005) found that almost 91% of people surveyed believed parents were most responsible for reducing their children's weight. These results demonstrated the importance for parents and healthcare providers to effectively communicate about the overweight or obese child. In a study by Lowenstein et al. (2013), the quality of the parental-provider relationship was a major influence on a father's receptivity to childhood obesity discussions with respect to their child. Fathers in this study commented that despite feeling responsible for the health and well-being of their children they often felt "left out" by providers in their children's healthcare visits. These feelings led to a decrease in fathers' perceptions of the quality of their relationship with their children's healthcare providers which resulted in poorer communication in regard to their children's weights and eating habits (Lowenstein et al., 2013). According to Kim et al. (2008), a parent who does not acknowledge a weight problem with their child will be unlikely to discuss the topic of childhood obesity with the healthcare provider and even less likely to adhere to a therapeutic plan. Often the parents' recognition that their child is overweight or obese is the first issue that must be addressed (Howard, 2007). Research showed that parental perception of the overweight or obese child is a key variable in establishing the family's willingness to make positive changes that will impact the child's lifestyle (Towns & D'Auria, 2009; Wald et al., 2007). Furthermore, recognition of the overweight or obese child was an essential component of successful behavioral changes (Howard, 2007; Kim et al., 2008; Rhee, DeLago, Arscott-Mills, Mehta, & Davis, 2005).

Parental perception versus actual weight. A common barrier found in the literature is the discrepancy between a child's actual weight and the perceived weight by the parent or caregiver. Multiple studies suggested that parents underestimate their children's weights as normal and do not perceive their families' lifestyles as unhealthy (Akerman, Williams, & Meunier, 2007; Doolen, Alpert, & Miller, 2009; Eckstein et al., 2006; He & Evans, 2007; Howard, 2007; Wald et al., 2007; West et al., 2008). In a benchmark study (N = 662 child/parent pairs), Baughcum, Chamberlin, Deeks, Powers, and Whitaker (2000) found that 79% of mothers of overweight or obese children did not recognize their children's overweight status. Interestingly, 95% of the mothers who were obese identified themselves correctly, but failed to recognize their overweight or obese children as such. In addition, of the 21% of mothers who recognized their children's weight issue, only two-thirds were concerned about the weight causing a health issue (Baughcum et al., 2000).

Akerman et al. (2007) found over 61% of parents with an obese child and 54% of parents of an overweight child underestimated their child's weight. They also found that parents of underweight children actually tended to overestimate their children's weight. Additionally,

Eckstein et al. (2006) found parents were more likely to consider their children underweight than obese. In their study, 63% of children who met the criteria for clinical diagnosis of overweight (BMI between 85-95%) were considered normal weight by their parents (Eckstein et al., 2006).

Akerman et al. (2007) concluded their research provided evidence of a parental positivity bias where the parents fail to recognize their overweight or obese child allowing them to preserve a positive self-image. Findings from the aforementioned research demonstrate perceptions do not match reality, and parents' distorted views of their children's actual weight may perpetuate rather than prevent obesity in their children. Parental distortion of children's weights hinders discussion with healthcare providers, thus, contributing to the childhood obesity epidemic. Studies show that parental misperceptions of children's weights influence providers' beliefs that their impact on influencing childhood obesity is limited. This in turn leads to the reluctance of providers to initiate conversations and interventions with parents of at-risk children (Nolan, Deehan, Wylie, & Jones, 2012; Perrin, Flower, Garrett, & Ammerman, 2005; Story et al., 2002; Whitaker, Sherman, Chamberlin, & Powers, 2004).

Parents' perceived lack of control. Another parental barrier prevalent in the literature was the belief of lack of control over child's lifestyle choices as a result of time constraints, child preferences, and familial beliefs about behavior change (Mikhailovich & Morrison, 2007; Pettigrew & Roberts, 2007). As suggested by Pocock, Trivedi, Wills, Bunn, and Magnusson (2010), parents often cited child food preferences, low motivation to exercise, and familial beliefs about their children's inability to change behavior as reasons for unhealthy lifestyles. Mothers felt undermined in their attempt to feed their children a healthy diet. They complained of fathers, grandparents, and schools disrupting their attempts to consistently provide healthy foods (Jackson, Mannix, Faga, & McDonald, 2005; Pettigrew & Roberts, 2007; Pocock et al., 2010). Mothers claimed that grandparents weakened parental efforts at providing a healthy diet by permitting children to eat anything they desired when grandparents cared for the children while the mother was at work. In addition, mothers acknowledged feeling like "spoilsports" if they attempted to limit junk foods (Pocock et al., 2010). Furthermore, Eckstein et al. (2006) found 26% of caregivers of overweight children were concerned about their child's weight status, but most felt they could not motivate their children to increase their physical activity level.

A contributing characteristic to lack of parental control found in the literature was the limitation of time (Jackson et al., 2005; Mikhailovich & Morrison, 2007; Pocock et al., 2010). Mikhailovich and Morrison (2007) found parents' work responsibilities were cited as reasons for providing fast foods more frequently as well as preventing exercise time with their children. Additionally, Pocock et al. (2010) found parental tiredness as a barrier to preparing healthy foods, requiring parents to often choose fast food options for meals for their children. Pocock et al. (2010) also indicated that fast food consumption increased a child's risk of obesity

exponentially; the more fast food a child consumes, the greater his or risk of being overweight and eventually obese. This study showed that while parents acknowledged a healthy diet and exercise as important, they sometimes felt it was adequate to just urge their children to exercise, without participating in physical activity themselves. Fatigue and lack of time were also shown to affect parents' willingness to participate in physical activity with their children (Gordon-Larsen et al., 2004; Pocock et al., 2010). Lack of parental involvement in exercise and use of fast foods for convenience further complicate the problem of childhood obesity (Jackson et al., 2005; Mikhailovich & Morrison, 2007; Pocock et al., 2010).

Ethnic, cultural, and socioeconomic roles in childhood obesity. An important parental factor to consider when discussing childhood obesity is the impact of cultural and ethnic beliefs on feeding habits of children, as well as the maternal education and socioeconomic status (Eckstein et al., 2006; He & Evans, 2007; Mikhailovich & Morrison, 2007; Peña, Dixon, & Taveras, 2012; Singh, Kogan, Van Dyck, & Siahpush, 2008; Towns & D'Auria, 2009). According to Peña et al. (2012), research has revealed that socioeconomic and racial differences exist as risk factors for childhood obesity. Statistically, Ogden, Carroll, Curtin, Lamb, and Flegal (2010) found the prevalence of obese children ages 2-19 years was 20% among African American children, 21% among Mexican-American children, and 15% among non-Hispanic White children. In addition, Singh et al. (2008) found Native American and Alaskan children's obesity rates to be 26%. An explanation for cultural differences that contribute to childhood obesity may include the cultural context of body image where Black and Hispanic women are more accepting of a larger body habitus, as well as biological differences in the development of obesity (Caprio et al., 2008; Rhee et al., 2005).

Opinions regarding views of a healthy child differ among ethnic minority parents (Peña et al., 2012). In the Hispanic culture, mothers tend to view overweight children as being healthy and thinner children as being malnourished (He & Evans, 2007; Lindsay, Sussner, Greaney, & Peterson, 2011). Additionally, the Hispanic culture views health as the absence of illness, and Latina mothers may not recognize an overweight or obese child as unhealthy as long as he or she is free from disease (Peña et al., 2012). Thomas, Moseley, Stallings, Nichols-English, and Wagner (2008) found that larger body size is more acceptable among African Americans, thereby causing a reduced stigma of obesity and less motivation to make positive weight changes. It is clear that cultural and ethnic beliefs must be considered when discussing childhood obesity. Questioning parents about their beliefs and cultural practices can assist healthcare providers in appreciating the parents' viewpoints and allow respectful communication to better serve the needs of overweight and obese children.

Research has also shown that lower maternal education and lower socioeconomic status has a major impact on the ability of mothers to correctly identify their overweight or obese children (Baughcum et al., 2000; Genovesi et al., 2005). Singh et al. (2008) found children had an 83%

higher chance of obesity when living below the poverty level. Genovesi et al. (2005) found parents with a higher level of education were more likely to have children with lower weights, as well as perceive their children's weights correctly. This research indicated that providers must be especially cognizant of obesity screening in children from lower socioeconomic and parental education environments (Baughcum et al., 2000; Genovesi et al., 2005; Singh et al., 2008).

Provider Barriers

Synthesis of the literature revealed many barriers and factors that contribute to lack of discussion between healthcare providers and caregivers of pediatric patients at risk for obesity. These barriers directly influence the propensity of healthcare providers to initiate conversation about childhood obesity. In an integrative review by Farnesi et al. (2011), literature suggested that most healthcare providers were unlikely to initiate conversation about obesity with families. The reasons for provider hesitancy were diverse and included the following concerns: risk of damage to provider-caregiver relationship, provider perception of caregiver responsibility, and provider frustration and professional constraints.

Perceived risk of damage to provider-caregiver relationship. Healthcare providers' concerns over raising the issue of an overweight child and the potential damage to the family-provider relationship are major barriers to initiating conversation about obesity. In reviewing the literature, numerous articles were found which illustrated clinicians' discomfort at addressing the issue of pediatric obesity because of fear of caregiver reaction (Farnesi et al., 2011; Steele et al., 2011; Walker et al., 2007). In a study by Larsen et al. (2006), 32% of nurse practitioners reported fear of offending parents when discussing obesity risk factors and complications. Other studies reiterated the provider's fear of parent or caregiver reaction as discouragement for pursuing a conversation about a child's weight (Banks, Shield, & Sharp, 2011; Chadwick et al., 2008; Steele et al., 2011; Walker et al., 2007).

Provider perception of caregiver responsibility. In many studies, providers indicated that they believed parents and caregivers were responsible for healthy behaviors in children, including weight management (Lindsay, Sussner, Kim, & Gortmaker, 2006; Plourde, 2012; Walker et al., 2007). This belief about parental/caregiver responsibility also served as a barrier to communication about obesity between healthcare providers and parents/caregivers. Providers believed that the caregivers were ultimately responsible for their obese children. This view was congruent with public opinion that places blame on the individual or parent for the obese child (Alexander & Baur, 2007; Mikhailovich & Morrison, 2007).

Several articles suggested that while clinicians acknowledged responsibility for raising the issue of obesity, in the end, they considered it a social and family problem (Plourde, 2012; Walker et al., 2007). It was only when obesity was attributable to another comorbid condition that

providers were more willing to initiate conversations with parents and caregivers (Jelalian, Boergers, Alday, & Frank, 2003; Walker et al., 2007). Jelalian et al. (2003) confirmed that healthcare providers were more likely to bring up the topic of childhood obesity if it caused or was related to another comorbid disease process, such as diabetes, hypertension, or hyperlipidemia.

In an article by Spivack, Swietlik, Alessandrini, and Faith (2010), healthcare providers listed perceived family problems, such as lack of motivation from parents, excessive television viewing, lack of exercise, and consumption of too many fast-food meals, as barriers to obesity prevention and treatment. The provider belief of parental/caregiver responsibility of obesity is compounded when one considers socialization of children. Parents serve as role models for children, thus, they have a significant influence on what their children eat, how often they exercise, and other lifestyle choices that contribute to the development of obesity (Pocock et al., 2010). Healthcare professionals can feel overwhelmed by addressing the topic of childhood obesity, because in some cases, it results in conversations about better parenting and role modeling for children (Kim et al., 2008; Mikhailovich & Morrison, 2007). Some parents may consider these conversations distressing, thus, they become defensive and less open to suggestions for reducing weight in their children (Mikhailovich & Morrison, 2007).

Provider perception of inadequacy of childhood obesity assessment tools. An additional barrier that healthcare providers expressed in regards to discussing pediatric obesity with caregivers included the belief that interventions currently approved for treatment, screening, and education were not working. While both the USPSTF and the CDC recommend the use of the Body Mass Index calculator for classifying children as overweight or obese, there is relatively little research which shows improved weight outcomes related to BMI measurement programs (Nihiser et al., 2009). No consensus exists on the use of BMI screening programs, and this may contribute to provider perceptions of inadequacy of assessment tools for childhood obesity. In 2007, Walker et al. found that providers felt there was a lack of evidence for the effectiveness of obesity interventions in pediatric patients. Furthermore, some healthcare providers were found to have a pessimistic view of treating obesity (Plourde, 2012; Story et al., 2002; Walker et al., 2007). In a study by Story et al. (2002), healthcare providers acknowledged they felt lower proficiency in behavioral management of childhood obesity as compared to registered dietitians. These feelings of lower proficiency of ability to manage childhood obesity may have contributed to a more pessimistic view of overall childhood obesity treatment (Story et al., 2002).

In a study by Jelalian et al. (2003), only one-third of providers felt that they would be effective in changing patient's behaviors regarding dietary intake. This view held by providers greatly impacts the provider's ability to properly screen and treat obesity in children (Jelalian et al., 2003). It may even serve as one reason why providers do not screen or diagnose obese children as often as indicated.

Additional provider barriers. Clinicians who treat and interact with pediatric patients expressed their frustration in managing childhood obesity and viewed that as a barrier that kept them from discussing obesity with caregivers (Story et al., 2002; Walker et al., 2007). Providers stated that due to barriers outside of their control, including family income, community resources, and caregiver's lack of concern, they felt that managing obese pediatric patients was unrewarding (Walker et al., 2007). Clinicians also affirmed that treating obesity in children was overwhelming (Murray & Anzeljc, 2011). Providers stated that the extensiveness of the problem and level of difficulty in treatment creates frustration and reluctance to accept the responsibility of treating obese children (Banks et al., 2011; Walker et al., 2007). This results in providers who are frustrated and less likely to discuss and educate families about childhood obesity. As the literature suggested, providers often wait to initiate discussions about a child's weight until he/she develops another comorbid condition, such as diabetes, hypertension, or hyperlipidemia (Jelalian et al., 2003; Walker et al., 2007).

Professional Barriers

Healthcare providers are in a position to suggest preventive measures which promote healthier lifestyle choices for children at risk for obesity. Professionally, numerous barriers prevent healthcare providers from having discussions with parents and caregivers about weight management in children. Obstacles identified included lack of educational resources for addressing obesity, time constraints, and reimbursements from insurers (Kim et al., 2008; Story et al., 2002). One study found that some healthcare providers did not feel the primary care setting was the right environment for the discussion of childhood obesity (Turner et al., 2009). These providers cited lack of time and expertise in managing obesity in the primary care environment as barriers preventing them from initiating conversations about children's weights (Turner et al., 2009).

Lack of professional knowledge and educational resources. Lack of educational resources and healthcare provider's knowledge are professional barriers that limit the discussion of childhood obesity with caregivers. According to an institutional review by Spivack et al. (2010), there were inconsistencies in clinicians' knowledge of obesity and their specific practice guidelines. Only 39% of providers surveyed were familiar with the American Academy of Pediatrics (AAP) guidelines for exercise, and 26% of providers correctly identified the definition of overweight (Spivack et al., 2010).

Furthermore, Story et al. (2002) found that healthcare providers felt they had minimal opportunities to keep abreast of the most current information on pediatric obesity treatment. This may hinder the providers' abilities to recognize children with weight problems. Proper identification of obese children is essential to promoting discussion about lifestyle changes to decrease weight and health risks (Walker et al., 2007). Spivack et al. (2010) found that 95% of

healthcare providers would be willing to spend an additional one minute discussing diet, nutrition, and exercise if educational materials were readily available. Thus, lack of educational resources exacerbates practitioners' reluctance to communicate obesity prevention strategies with parents and caregivers.

Perceived time constraints. According to Boyle, Lawrence, Schwarte, Samuels, and McCarthy (2009), many providers cited the lack of time available per patient as a barrier to assessing and discussing childhood obesity. Research found the average time required during a preventive healthcare visit for conducting brief but helpful nutrition counseling was approximately 8.2 minutes (Yarnall, Pollak, Ostbye, Krause, & Michener, 2003). Scheduling 15-minute time slots in primary care offices leaves little time to have frank discussions about childhood obesity, and yet a 15-minute time slot is a common appointment time allocation in pediatric primary care.

Additionally, obesity is not viewed as a primary health concern for children by many healthcare professionals. Turner et al. (2009) found healthcare providers felt they did not have the time to manage childhood obesity and considered it more a social problem rather than a medical one. However, research indicates that discussion with parents and proper assessment of children at risk for obesity can have a profound effect on the propensity of children to become overweight (Farnesi et al., 2011; Larsen et al., 2006; Lindsay et al., 2006).

Lack of reimbursement. Financially, reimbursement policies hinder ongoing support for weight management programs in pediatric primary care practices. Providers often cited lack of reimbursement as a barrier to discussing childhood obesity with caregivers (Farnesi et al., 2011; Jelalian et al., 2003; Spivack et al., 2010). Results of a survey of 248 healthcare providers showed 88% felt there should be better insurance coverage for obesity counseling, prevention, and management (Boyle et al., 2009). Furthermore, national support for childhood obesity prevention is minimal. Lee, Sheer, Lopez, and Rosenbaum (2010) found only 11 states which provide reimbursement for obesity prevention, and even fewer had published treatment guidelines for providers. Researchers concluded that due to the current economic recession, many states were dealing with budget constraints and were unlikely to cover obesity treatments or make changes to current policy (Lee et al., 2010). This delay could prove catastrophic if childhood obesity continues to increase at a rate similar to the last twenty years. Even though there are numerous barriers to initiating conversations about childhood obesity in the primary care setting, healthcare providers can employ strategies to overcome these barriers and have a positive influence on improving the weight of America's children.

Recommendations for Facilitating Discussion about Childhood Obesity

Overcoming barriers requires practitioners to stay abreast of obesity prevention guidelines for pediatric patients, learn techniques which facilitate conversations, and partner with parents and

caregivers to educate them about the risks of having an overweight child. Skills such as motivational interviewing, asking open-ended questions, and presenting an honest, nonjudgmental attitude can facilitate conversations between providers and parents. These skills promote a nonthreatening environment which permits parents to acknowledge the risk of childhood obesity in their family and generate a plan of action in partnership with their healthcare provider (Bolling, Crosby, Boles, & Stark, 2009; Schwartz et al., 2007; Teixeira, Silva, Mata, Palmeira, & Markland, 2012).

Motivational interviewing helps the healthcare provider and caregiver examine what is important to each of them in terms of the health of the child and assess readiness for change. According to Schwartz (2010), motivational interviewing focuses on the patient's or caregiver's perception on how obesity affects daily living while seeking to understand the patient's point of view without being judgmental. This is a useful tool to help overcome the barrier of provider perception of caregiver responsibility. This skill allows providers an opportunity to overcome their own personal judgment and biases. Effective listening, focused advice, and positive affirmations are all parts of motivational interviewing and can assist clinicians with initiating discussions with patients ("Let's go!," 2012). In a study by Schwartz et al. (2007), motivational interviewing accounted for a .6% – 2.6% decrease in BMI over six months (N= 91, children ages 3-7 with BMI $\geq$ 85%). The drop in BMI was greatest when there was an increase in the level of intervention, and 94% of parents reported that motivational interviewing helped them change their family's eating behaviors (Schwartz et al., 2007). Motivational interviewing employs a patient-centered approach (rather than provider-centered) and leads to better clinical outcomes in patients (Schwartz, 2010).

The National Institutes of Health—National Heart, Lung, and Blood Institute (2002) suggest setting an effective tone for communication when discussing weight. Communicating with parents/caregivers of obese children should include providing clear information, empathy and support, anticipation of a wide range of responses, and a focus on solutions (Mikhailovich & Morrison, 2007). It is essential to consider the demographic characteristics of the patient, parental perceptions, and comfort level of the healthcare provider when discussing childhood obesity (Mikhailovich & Morrison, 2007). Clear communication between providers and caregivers can facilitate overcoming barriers, such as parental perception of weight, so that the healthcare provider may address them. Additionally, effective communication would allow providers an opportunity to identify some of the issues that are related to parent's perceived lack of control and offer suggestions.

Exploring the concept of health with respect to cultural differences ensures that the topic of weight is presented to the caregiver in a sensitive and respectful manner. The provider has the responsibility to introduce the topic in a way that is nonthreatening and nonjudgmental. This can be done initially by assessing readiness for change with the parents/caregivers and the patient. In

a recent review of empirical findings from weight loss studies, Teixeira et al. (2012) found that communication focused on understanding internal motivation with a patient endorsement of weight loss goals resulted in long-lasting behavior change which resulted in maintenance of a healthy body weight. Ultimately, the goal is to ensure the best possible health of the child without jeopardizing the parent/caregiver-provider relationship.

Semantics and language play a huge role in initiating therapeutic conversations about childhood obesity with parents and caregivers. Proper terminology is essential to create a trusting environment. Open-ended questions encourage honest communication between providers and parents that can help to eliminate the concern of damage to the provider-caregiver relationship. A qualitative study by Bolling et al. (2009) revealed that parents were more likely to discuss children's weight issues with healthcare providers when providers asked open-ended questions to facilitate conversation. Relating child's weight back to familial health risks, such as heart disease and diabetes, also facilitated conversation between parents and caregivers (Bolling et al., 2009). Additionally, establishing baseline familial knowledge, perceptions, and openness to discussion helps the provider address childhood obesity without sounding patronizing or accusatory (Chadwick et al., 2008).

If the topic of obesity is presented on a societal level, parental defensiveness is reduced, and more opportunities for conversation may emerge (Mikhailovich & Morrison, 2007). Providers should avoid stigmatizing terms such as "fat" and "fatness," as these terms can have negative connotations. The terms "healthier," "leaner," and "fitter" can be used to describe the desirable outcome without a judgmental attitude (Chadwick et al., 2008). Bolling et al. (2009) suggested that parents preferred the terms "overweight" and "obese" when discussing children's weights because parents felt those terms were more accurately descriptive and motivational.

One way to spur the discussion of healthy weight and eating habits can be through visual aids placed in the workspace ("Let's go!," 2012). Caregivers can see those visual cues and be encouraged to start a discussion with providers. The visual aids can also be a focal point for the healthcare provider when bringing up the topic of childhood obesity. Visual aids also serve as an education tool and resource for providers and families to assist with decreasing any knowledge deficits. There are numerous resources for teaching and education available through agencies such as Choosemyplate.gov and the National Initiative for Children's Healthcare Quality (NICHQ) that can be utilized in the workspace (U.S. Department of Agriculture, n.d.). Research indicates that use of toolkits, such as a BMI color-coded chart and nutritional and exercise counseling, improves parental accuracy of child's weight status, as well as dietary and physical activity behaviors which reduce risk of childhood obesity (Perrin et al., 2010).

Any visit with a healthcare provider should include the establishment of clear cut goals for the patient and family at the outset. Caregivers play an important role in terms of diet, physical

activity, and motivation for their children, thus, it is important for caregivers and providers to decide on mutually agreeable goals and allow for subsequent discussions on achievement and modification of goals. The National Institutes of Health—National Heart, Lung, and Blood Institute (2002) recommend creating a partnership with the patient and family as one of the steps to initiating discussion about weight management in children. This partnership would help to reduce the risk of potential damage to the provider-caregiver relationship because both parties would work together to develop a treatment plan. Caregivers may feel less attacked and less offended if a partnership existed with the healthcare provider (Lowenstein et al., 2013).

Healthcare provider frustration can stem from feeling uncomfortable and inadequate in treating childhood obesity. Mikhailovich and Morrison (2007) recommend developing a plan for communication, as well as examining one's own biases and attitudes toward obesity. Specifically, providers can use existing practice guidelines to create resources for discussing childhood obesity with parents or caregivers. The lack of resources and adequate assessment tools that providers cite as a barrier can be easily overcome through a variety of toolkits, publications, and national guidelines that are available (as described). Provider continuing education and awareness are paramount to successfully diagnosing, managing, treating, and discussing childhood obesity with caregivers. The NICHQ (2011) provides a toolkit that includes documentation templates for patient encounters, billing and coding, and patient education. In addition, the NICHQ along with the Health Resources and Services Administration (HRSA) published "Joining Forces for Healthier Communities: Collaborate for Healthy Weight" (2012) for healthcare providers, community leaders, and public health professionals to address obesity at the community level. Included in this publication are evidenced-based tips for increasing awareness and adopting lifestyle changes to reduce childhood obesity. According to Gee, Ravel, Roberts, and Wylie (2008), the well-child visit is the best time to provide concise but focused advice that can be given in less than three minutes for the established overweight or obese child. A more focused weight management consultation can subsequently be scheduled for a longer follow-up session to discuss the health risks of obesity, share more detailed information about the BMI, and negotiate a plan (Gee et al., 2008). The provider-cited time constraint barrier can be addressed by utilizing this approach.

Summary

Both parental and provider barriers limit the care and education that obese children and their families are receiving. It is unfortunate that in today's society, there are clinicians who perceive their efforts to manage childhood obesity as ineffective (Plourde, 2012). It is not unreasonable to hypothesize that once these barriers are addressed, healthcare providers will be more comfortable discussing childhood obesity. Based on the information gathered from a review of the literature, more research is needed to study the terminology used to discuss pediatric obesity, the manner in which obesity is addressed, and how providers can better assess and discuss pediatric obesity in

the primary care setting. Overcoming professional barriers such as lack of time and education in childhood obesity can be addressed by increasing resources for healthcare professionals. Continuing education focused on childhood obesity identification and education is essential, and national efforts at increasing awareness among all professionals who work with children's health should be paramount (National Institutes of Health, 2002).

Professional barriers play a significant role in preventing healthcare providers from discussing childhood obesity with caregivers. Research indicates that the most influential barriers include the provider's inability to properly identify overweight and obese children, lack of time, and lack of proper reimbursement. A more detailed analysis is needed to understand how to overcome these barriers and which steps must be taken to increase knowledge among clinicians in the pediatric primary care setting (Larsen et al., 2006).

As more clinicians understand the importance of screening, educating, and addressing childhood obesity in today's society, perhaps those "barriers" may not seem quite so insurmountable. It is disheartening to read and hear about the effects of childhood obesity on a family, yet some providers still rank it less important than other health problems (Jelalian et al., 2003). With the epidemic of obesity being referred to by the World Health Organization as "globesity" (2006), it is time to put childhood obesity at the forefront of our discussions with caregivers and overcome the barriers to communication that threaten the welfare of overweight children. Proper and timely discussion with parents and caregivers can lead to earlier diagnosis of children at risk, and ultimately, improve morbidity and mortality among overweight and obese children (National Institutes of Health, 2002). Providers need to consider the potential repercussions of unscreened, undiagnosed, and untreated obesity in children.

References

Akerman, A., Williams, M., & Meunier, J. (2007). Perception versus reality: An exploration of children's measured body mass in relation to caregivers' estimates. *Journal of Health Psychology*, *12*(6), 871–882. doi:10.1177/1359105307082449

Alexander, S., & Baur, L. (2007). Childhood obesity: Who's to blame and who should pay? *Expert Review of Pharmacoeconomics & Outcome Research, 7*(2), 95–98. doi:10.1586/14737167.7.2.95

Alexander, S. C., Ostbye, T., Pollak, K. I., Gradison, M., Bastian, L. A., & Brouwer, R. J. (2007). Physicians' beliefs about discussing obesity: Results from focus groups. *American Journal of Health Promotion, 21*(6), 498–500. doi:10.4278/0890-1171-21.6.498

Barlow, S. E., & Dietz, W. H. (2002). Management of child and adolescent obesity: Summary and recommendations based on reports from pediatricians, pediatric nurse practitioners, and registered dieticians. *Pediatrics*, 110(Supplement 1), 236–238.

Baughcum, A., Chamberlin, L., Deeks, C., Powers, S., & Whitaker, R. (2000). Maternal perceptions of overweight preschool children. *Pediatrics, 106*(6), 1380–1386. doi:10.1542/peds.106.6.1380

Banks, J., Shield, J., & Sharp, D. (2011). Barriers engaging families and GPs in childhood weight management strategies. *British Journal of General Practice, 61*(589), 492–497. doi:10.3399/bjgp11X588466

Benson, L., Baer, H. J., & Kaelber, D. C. (2009). Trends in the diagnosis of overweight and obesity in children and adolescents: 1999-2007. *Pediatrics, 123*(1), e153–e158. doi:10.1542/peds.2008-1408

Bolling, C., Crosby, L., Boles, R., & Stark, L. (2009). How pediatricians can improve diet and activity for overweight preschoolers: A qualitative study of parental attitudes. *Academic Pediatrics, 9*(3), 172–178. doi:10.1016/j.acap.2009.01.010

Boyle, M., Lawrence, S., Schwarte, L., Samuels, S., & McCarthy, W. (2009). Health care providers' perceived role in changing environments to promote healthy eating and physical activity: Baseline findings from health care providers participating in the healthy eating, active communities program. *Pediatrics, 123*(Supplement 5), S293–S300. doi:10.1542/peds.2008-2780H

Brill, A. (2013). *The long-term returns of obesity prevention policies*. Available at http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf405694

Caprio, S., Daniels, S. R., Drewnowski, A., Kaufman, F. R., Palinkas, L. A., Rosenbloom, A. L., & Schwimmer, J. B. (2008). Influence of race, ethnicity, and culture on childhood obesity: Implications for prevention and treatment. *Diabetes Care, 31*(11), 2211–2221. doi:10.2337/dc08-9024

Centers for Disease Control and Prevention. (n.d.). *Defining overweight & obesity.* Available at http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/defining.htm

Centers for Disease Control and Prevention. (2012). Trends in the prevalence of extreme obesity among US preschool-aged children living in low-income families, 1998-2010. *Journal of the American Medical Association, 308*(24), 2563–2565. doi:10.1001/jama.2012.108099

Chadwick, P., Sacher, P., & Swain, C. (2008). Talking to families about overweight children. *British Journal of School Nursing, 3*(6), 271–276.

Doolen, J., Alpert, P. T., & Miller, S. K. (2009). Parental disconnect between perceived and actual weight status of children: A metasynthesis of the current research. *American Academy of Nurse Practitioners, 21*(3), 160–166. doi:10.1111/j.1745-7599.2008.00382.x

Eckstein, K., Mikhail, L., Ariza, A., Thomson, J., Millard, S., & Binns, H. (2006). Parents' perceptions of their child's weight and health. *Pediatrics, 117*(3), 681–690. doi:10.1542/peds.2005-0910

Evans, W. D., Finkelstein, E. A., Kamerow, D. B., & Renaud, J. M. (2005). Public perceptions of childhood obesity. *American Journal of Preventive Medicine, 28*(1), 26–32. doi:10.1016/j.amepre.2004.09.008

Farnesi, B. C., Ball, G. D. C., & Newton, A. S. (2011). Family-health professional relations in pediatric weight management: An integrative review. *Pediatric Obesity, 7*(3), 175–186. doi:10.1111/j.2047-6310.2012.00029.x

Flower, K. B., Perrin, E. M., Viadro, C. I., & Ammerman, A. S. (2007). Using body mass index to identify overweight children: Barriers and facilitators in primary care. *Ambulatory Pediatrics, 7*(1), 38–44. doi:10.1016/j.ambp.2006.09.008

Fox, R. E., & Trautman, D. E. (2009). The epidemic of childhood obesity: A case for primary prevention and action. *Bariatric Nursing and Surgical Patient Care, 4*(3), 169–172. doi:10.1089/bar.2009.9969

Gee, S., Ravel, J., Roberts, S., & Wylie, A. (2008). *Effective communication with families.* Available at http://www.thecmafoundation.org/projects/pdfs/ChildToolkit_Revised%202%20April%202008.pdf

Genovesi, S., Giussani, M., Faini, A., Vigorita, F., Pieruzzi, F., Strepparava, M., & Valsecchi, M. (2005). Maternal perception of excess weight in children: A survey conducted by paediatricians in the province of Milan. *Acta Paediatrica, 94*(6), 747–752. doi:10.1111/j.1651-2227.2005.tb01975.x

Gordon-Larsen, P., Griffiths, P., Bentley, M., Ward, D., Kelsey, K., Shields, K., & Ammerman, A. (2004). Barriers to physical activity: Qualitative data on caregiver-daughter perceptions and practices. *American Journal of Preventive Medicine, 27*(3), 218–223.

Haboush, A., Phebus, T., Ashby, D. T., Zaikina-Montgomery, H., & Kindig, K. (2011). Still unhealthy 2009: Building community research to identify risk factors and health outcomes in childhood obesity. *Journal of Community Health, 36*(1), 111–120. doi:10.1007/s10900-010-9288-8

He, M., & Evans, A. (2007). Are parents aware that their children are overweight or obese? *Canadian Family Physician, 53,* 1494–1499.

Howard, K. R. (2007). Childhood overweight: Parental perceptions and readiness for change. *Journal of School Nursing, 23*(2), 73–79. doi:10.1177/10598405070230020301

Jackson, D., Mannix, J., Faga, P., & McDonald, G. (2005). Overweight and obese children: Mother's strategies. *Journal of Advanced Nursing, 52*(1), 6–13. doi:10.1111/j.1365-2648.2005.03558.x

Jelalian, E., Boergers, J., Alday, C. S., & Frank, R. (2003). Survey of physician attitudes and practices related to pediatric obesity. *Clinical Pediatrics, 42*(3), 235–245. doi:10.1177/000992280304200307

Kim, C., Haemer, M., & Krebs, N. (2008). Parental and provider perceptions of children's weight status: Where and why the gaps. *Obesity Management, 4*(5), 236–241. doi:10.1089/obe.2008.0226

Larsen, L., Mandleco, B., Williams, M., & Tiedeman, M. (2006). Childhood obesity: Prevention practices of nurse practitioners. *Journal of the American Academy of Nurse Practitioners, 18*(2), 70–79. doi:10.1111/j.1745-7599.2006.00105.x

Lee, J. S., Sheer, J. L., Lopez, N., & Rosenbaum, S. (2010). Coverage of obesity treatment: A state-by-state analysis of medicaid and state insurance laws. *Public Health Reports, 125*(4), 596–604.

Let's go! Childhood obesity resource toolkit for healthcare providers. (2012). Available at http://www.letsgo.org/programs/healthcare/toolkits/

Lindsay, A. C., Sussner, K. M., Greaney, M. L., & Peterson, K. E. (2011). Latina mothers' beliefs and practices related to weight status, feeding, and the development of child overweight. *Public Health Nursing, 28*(2), 107–118. doi:10.1111/j.1525-1446.2010.00906.x

Lindsay, A., Sussner, K., Kim, J., & Gortmaker, S. (2006). The role of parents in preventing childhood obesity. *The Future of Children, 16*(1), 169–186. doi:10.1353/foc.2006.0006

Lowenstein, L. M., Perrin, E. M., Berry, D., Vu, M. B., Pullen Davis, L., Cai, J., Tzeng, J. P., & Ammerman, A. S. (2013). Childhood obesity prevention: Fathers' reflections with healthcare providers. *Childhood Obesity, 9*(2), 137–143. doi:10.1089/chi.2012.0111

Mikhailovich, K., & Morrison, P. (2007). Discussing childhood overweight and obesity with parents: A health communication dilemma. *Journal of Child Health Care, 11*(4), 311–322. doi:10.1177/1367493507082757

Murray, R. D., & Anzeljc, A. (2011). Childhood obesity in practice. *Primary Care Reports, 17*(4), 37–48.

National Initiative for Children's Healthcare Quality. (2011). *Childhood obesity: Healthy care for healthy kids toolkit.* Available at http://www.nichq.org/childhood_obesity/toolkit_prevention_office.html

National Initiative for Children's Healthcare Quality. (2012). *Joining forces for healthier communities: Collaborate for healthy weight loss.* Available at http://www.nichq.org/resources/Collaborate_for_Healthy_Weight_Progress_Report_Fall_2012.html

National Institutes of Health—National Heart, Lung, and Blood Institute. (2002). *Three steps to initiate discussion about weight management with your patients* (NIH Publication No. 02-5211). Available at http://www.nhlbi.nih.gov/health/prof/heart/obesity/aim_kit/steps.pdf

Nihiser, A. J., Lee, S. M., Wechsler, H., McKenna, M., Odom, E., Reinold, C., Thompson, D., & Grummer-Strawn, L. (2009). Body mass index measurement in schools. *Pediatrics*, 124, S89–S97. doi:10.1542/peds.2008-3586L

Nolan, C., Deehan, A., Wylie, A., & Jones, R. (2012). Practice nurses and obesity: Professional and practice-based factors affecting role adequacy and role legitimacy. *Primary Health Care Research & Development, 13*(4), 353–363. doi:10.1017/S1463423612000059

Noy, L., Walter, M., Matsunaga, D. S., & Maddock, J. E. (2006). Pediatric obesity: Are we under-diagnosing? Assessing pediatric obesity at an urban community health clinic. *Hawaii Medical Journal, 65*(4), 102–104.

O'Brien, S. H., Holubkov, R., & Reis, E. C. (2004). Identification, evaluation, and management of obesity in an academic primary care center. *Pediatrics, 114*(2), e154–e159.

Ogden, C., & Carroll, M. (2010). *Prevalence of obesity among children and adolescents: United States, trends 1963-1965 through 2007-2008.* Available at http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.pdf

Ogden, C. L., Carroll, M. D., Curtin, L. R., Lamb, M., & Flegal, K. (2010). Prevalence of high body mass index in US children and adolescents, 2007-2008. *Journal of the American Medical Association, 303*(3), 242–249. doi:10.1001/jama.2009.2012

Pan, L., Blanck, H. M., Sherry, B., Dalenius, K., & Grummer-Strawn, L. M. (2012). Trends in the prevalence of extreme obesity among US preschool-aged children living in low-income families, 1998-2010. *Journal of the American Medical Association, 308*(24), 2563–2565. doi:10.1001/jama.2012.108099

Patel, A. I., Madsen, K. A., Maselli, J. H., Cabana, M. D., Stafford, R. S., & Hersh, A. L. (2010). Underdiagnosis of pediatric obesity during outpatient preventive care visits. *Academic Pediatrics, 10*(6), 405–409. doi:10.1016/j.acap.2010.09.004

Peña, M. M., Dixon, B., & Taveras, E. M. (2012). Are you talking to me? The importance of ethnicity and culture in childhood obesity prevention and management. *Childhood Obesity, 8*(1), 23–27. doi:10.1089/chi.2011.0109

Perpich, K. J., Russ, R., Rizzolo, D., & Sedrak, M. (2011). Childhood obesity: Understanding the causes, beginning the discussion. *Journal of the American Academy of Physician Assistants, 24*(12), 30–34. doi:10.1097/01720610-201112000-00005

Perrin, E. M., Flower, K. B., Garrett, J., & Ammerman, A. S. (2005). Preventing and treating obesity: Pediatricians' self-efficacy, barriers, resources, and advocacy. *Ambulatory Pediatrics, 5*(3), 150–156. doi:10.1367/A04-104R.1

Perrin, E. M., Vann, J. C., Benjamin, J. T., Skinner, A. C., Wegner, S., & Ammerman, A. S. (2010). Use of pediatrician toolkit to address parental perception of children's weight status, nutrition, and activity behaviors. *Academic Pediatrics, 10*(4), 274–281. doi:10.1016/j.acap.2010.03.006

Pettigrew, S., & Roberts, M. (2007). Mothers' perceptions of their control over their children's diets. *Advances in Consumer Research 34*, 306–311.

Plourde, G. (2012). Managing pediatric obesity: Barriers and potential solutions. *Canadian Family Physician, 58*(5), 503.

Pocock, M., Trivedi, D., Wills, W., Bunn, F., & Magnusson, J. (2010). Parental perceptions regarding healthy behaviours for preventing overweight and obesity in young children: A systematic review of qualitative studies. *Obesity Reviews: An Official Journal of the International Association for the Study of Obesity, 11*(5), 338–353. doi:10.1111/j.1467-789X.2009.00648.x

Rhee, K. E., DeLago, C. W., Arscott-Mills, T. A., Mehta, S. D., & Davis, R. K. (2005). Factors associated with parental readiness to make change for overweight children. *Pediatrics, 116*(1), e94–e101. doi:10.1542/peds.2004-2479

Roger, V. L., Go, A. S., Lloyd-Jones, D. M., Benjamin, E. J., Berry, J. D., Borden, W. B., Bravata, D. M., Dai, S., Ford, E. S., Fox, C. S., Fullerton, H. J., Gillespie, C., Hailpern, S. M., Heit, J. A., Howard, V. J., Kissela, B. M., Kittner, S. J., Lackland, D. T., Lichtman, J. H., Lisabeth, L. D., Makuc, D. M., Marcus, G. M., Marelli, A., Matchar, D. B., Moy, C. S., Mozaffarian, D., Mussolino, M. E., Nichol, G., Paynter, N. P., Soliman, E. Z., Sorlie, P. D., Sotoodehnia, N., Turan, T. N., Virani, S. S., Wong, N. D., Woo, D., & Turner, M. B.; on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. (2012). Heart disease and stroke statistics - 2012 update: A report from the American Heart Association. *Circulation, 125,* e2–e220. doi:10.1161/CIR.0b013e31823ac046

Schwartz, R. P. (2010). Motivational interviewing (patient-centered counseling) to address childhood obesity. *Pediatric Annals, 39*(3), 154–158. doi:10.3928/00904481-20100223-06

Schwartz, R. P., Hamre, R., Dietz, W. H., Wasserman, R. C., Slora, E. J., Myers, E., Sullivan, S. S., Rockett, H., Thoma, K. A., Dumitra, G., & Resnicow, K. A. (2007). Office-based motivational interviewing to prevent childhood obesity. *Archives of Pediatric & Adolescent Medicine, 161*(5), 495–501. doi:10.1001/archpedi.161.5.495

Silberberg, M., Carter-Edwards, L., Murphy, G., Mayhew, M., Kalasa, K., Perrin, E. M., Armstrong, S., Graham, C., & Menon, N. (2012). Treating pediatric obesity in the primary care setting to prevent chronic disease: Perceptions and knowledge of providers and staff. *North Carolina Medical Journal, 73*(1), 9–14.

Singh, G. K., Kogan, M. D., Van Dyck, P. C., & Siahpush, M. (2008). Racial/ethnic, socioeconomic, and behavioral determinants of childhood and adolescent obesity in the United States: Analyzing independent and joint associations. *Annals of Epidemiology, 18*(9), 682–695. doi:10.1016/j.annepidem.2008.05.001

Smith, S. M., Gately, P., & Rudolf, M. (2008). Can we recognize obesity clinically? *Archives of Disease in Childhood, 93*(12), 1065–1066. doi:10.1136/adc.2007.134486

Spivack, J. G., Swietlik, M., Alessandrini, E., & Faith, M. S. (2010). Primary care providers' knowledge, practices, and perceived barriers to the treatment and prevention of childhood obesity. *Obesity*, *18*(7), 1341–1347. doi:10.1038/oby.2009.410

Steele, R. G., Wu, Y. P., Jensen, C. D., Pankey, S., Davis, A. M., & Aylward, B. S. (2011). School nurses' perceived barriers to discussing weight with children and their families: A qualitative approach. *Journal of School Health, 81*(3), 128–137. doi:10.1111/j.1746-1561.2010.00571.x

Story, M. T., Neumark-Stzainer, D. R., Sherwood, N. E., Holt, K., Sofka, D., Trowbridge, F. L., & Barlow, S. E. (2002). Management of child and adolescent obesity: Attitudes, barriers, skills, and training needs among health care professionals. *Pediatrics, 110*(1 Pt 2), 210–214.

Teixeira, P. J., Silva, M. N., Mata, J., Palmeira, A. L., & Markland, D. (2012). Motivation, self-determination, and long-term weight control. *International Journal of Behavioral Nutrition and Physical Activity, 9*, 22. doi:10.1186/1479-5868-9-22

Thomas, A., Moseley, G., Stallings, R., Nichols-English, G., & Wagner, P. (2008). Perceptions of obesity: Black and white differences. *Journal of Cultural Diversity, 15*(4), 174–180.

Towns, N., & D'Auria, J. (2009). Parental perceptions of their child's overweight: An integrative review of the literature. *Journal of Pediatric Nursing, 24*(2), 115–130. doi:10.1016/j.pedn.2008.02.032

Turner, K. M., Shield, J. P., & Salisbury, C. (2009). Practitioners' views on managing childhood obesity in primary care: A qualitative study. *British Journal of General Practice, 59*(568), 856–862. doi:10.3399/bjgp09X472269

U.S. Department of Agriculture. (n.d.). *Choosemyplate.gov*. Available at http://www.choosemyplate.gov.

U.S. Preventive Services Task Force (USPSTF). (2010). *Screening for obesity in children and adolescents*. Available at http://www.uspreventiveservicetaskforce.org/

Wald, E. R., Ewing, L. J., Cluss, P., Goldstrohm, S., Cipriani, L., Colborn, D. K., & Weissfeld, L. (2007). Parental perception of children's weight in a pediatric primary care setting. *Child: Care, Health and Development, 33*(6), 738–743. doi: 10.1111/j.1365-2214.2007.00753.x

Walker, O., Strong, M., Atchinson, R., Saunders, J., & Abbott, J. (2007). A qualitative study of primary care clinicians' views of treating childhood obesity. *BMC Family Practice, 8*, 50. doi:10.1186/1471-2296-8-50

West, D. S., Raczynski, J. M., Phillips, M. M., Bursac, Z., Gauss, C. H., & Montgomery, B. E. E. (2008). Parental recognition of overweight in school-age children. *Obesity, 16*(3), 630–636. doi:10.1038/oby.2007.108

Whitaker, R. C., Sherman, S. N., Chamberlin, L. A., & Powers, S. W. (2004). Altering the perceptions of WIC professionals about childhood obesity using video with facilitated group discussion. *Journal of the American Dietetic Association, 104*(3), 379–386. doi:10.1016/j.jada.2003.12.017

World Health Organization (WHO). (2006). *Global database on body mass index: An interactive surveillance tool for monitoring nutrition transition*. Available at http://www.who.int/bmi/index.jsp

World Health Organization (WHO). (2013). *Global strategy on diet, physical activity and health: Childhood overweight and obesity.* Available at http://www.who.int/dietphysicalactivity/childhood/en/index.html

Yarnall, K., Pollak, K., Ostbye, T., Krause, K., & Michener, J. (2003). Primary care: Is there enough time for prevention? *American Journal of Public Health, 93*(4), 635–641. doi: 10.2105/AJPH.93.4.635

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