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Jenna Lupi April 23, 2013

Parental Perceptions of Weight Management in Children:

A Pilot Study

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Parental Perceptions of Weight Management in Children:

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An abstract of
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Abstract

Parental Perceptions of Weight Management in Children: A Pilot Study
By Jenna Lupi

Background: In 2009-2010 16.9% of children and adolescents in the U.S. were considered obese. Overweight and obesity in children are associated with a number of health risks including diabetes, heart disease, breathing problems, and depression. Primary care practitioners (PCPs) can play a role in childhood weight management by monitoring Body Mass Index (BMI) and providing behavioral guidance to families. Despite expert recommendations for PCP involvement, understanding of parental opinions of the PCP's role is limited. The Health Belief Model was used to assess parental perceptions of their role and the PCP's role in childhood weight management.

Methods: Structured interviews were conducted with parents of children aged 3-12 visiting a pediatric clinic in metro-Atlanta for sick visits between August-November 2012. Interview topics included perceptions of: weight and associated problems, child weight status and concerns, and PCP role and previous experiences with PCPs for weight management. Interviews were coded qualitatively and analyzed thematically.

Results: Sixty-nine interviews were completed in a mostly Caucasian, college-educated sample. Nine major themes were identified including: Defining Overweight and Obesity, Health Implications of Weight, Indicators of Weight Problems, Concern about Weight, PCP's Role in Identifying Weight Problems, Family Behavioral Changes, PCP's Role in Weight Management, Experiences with Pediatric Weight Management, and Perceptions of Registered Dietitian (RD) Involvement. Parents were most interested in receiving tailored nutrition information from PCPs. Although parents did not always define their child as overweight, many parents of overweight children expressed concern. Parents were interested in learning more about BMI, expressing confusion about the term. A challenge identified to including PCPs in weight management was a lack of knowledge of available services.

Conclusion: Parents recognize PCPs as partners in childhood weight management. As previously recommended, PCPs should provide BMI information and weight counseling. They should also ensure parents understand BMI and its potential role in identifying weight problems. PCPs should partner with local public health practitioners to develop materials with tailored nutrition information, as well as guides to services offered within the practice and in the community. Parents were open to working with RDs, and partnerships with RDs could help parents with specific nutritional questions.

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INTRODUCTION

The Childhood Obesity Epidemic

In 2009-2010 16.9% or 12.5 million children and adolescents in the United States were considered obese [1]. Obesity prevalence among children and adolescents has almost tripled since 1980 [2]. In boys, the prevalence is higher at 18.6% compared to girls at 15% [1]. For boys, this was a significant increase from the previous rate of 14% in 1999-2000, while there was no significant change for girls (previously 13.8%) in the same time period. Based on these numbers, the Healthy People 2010 goal of 5% for the national childhood obesity rate was not met [3].

Overweight and obesity have different definitions that are typically based on Body Mass Index (BMI) in the clinical setting. BMI is defined as weight divided by the square root of height, and is an approximate measure of body fat, though not precise [4]. However, BMI is a good estimate of body fat as well as a predictor for health risks [5-7] and is currently the gold standard for healthy weight assessment. For children, BMI ranges are the most appropriate measure of health risk because children are still growing. Healthy ranges for children are based on gender and age specific criteria [4]. For children, overweight is defined as a BMI between the 85^{th} and 94^{th} percentiles based on the Centers for Disease Control and Prevention (CDC) Growth Charts, and a BMI at or above the 95^{th} percentile is considered obese [4].

Similar to adult obesity risks [8], obese children are more likely to have high blood pressure and high cholesterol [9], increased risk of diabetes [10], breathing problems including sleep apnea and asthma [11, 12], joint problems [11], and psychological and social problems including low self-esteem, negative body-image, and depression as well as stigma,

discrimination, teasing and bullying [10, 13-15]. Furthermore, obese children are more likely to become obese adults and overweight children are likely to have more severe obesity in adulthood [5, 16-18]. For any child born in the U.S. in 2000, their risk of being diagnosed with Type 2 diabetes during his or her lifetime is 30% for girls and 40% for boys, with even higher numbers in minority groups [13]. In fact, the risk of diabetes and other diseases may actually result in a reduction in adult life expectancy in coming years [13]. In addition to the obvious health implications, the economic cost of obesity in the US is staggering at an estimated $147 billion in 2008 with obese people incurring $1,429 more in annual medical costs than those of normal weight [19].

The increasing prevalence of childhood obesity makes it an alarming problem based on the short- and long-term health risks associated with the condition. Although there are certain biological factors associated with overweight and obesity, the American Academy of Pediatrics (AAP) has clearly stated that this large increase in such a rapid time period cannot be explained by genetic factors alone [4]. Instead, the AAP has indicated a number of environmental factors that have contributed to this large increase in obesity rates, including: community designs which discourage physical activity (PA); family challenges to minimize food costs and reduce food preparation times, which have resulted in a dependence on convenience foods; reduced access to fresh and nutritious foods; decreased opportunities for school physical activity; and increased screen time [13]. While all children are affected by this epidemic, minority children, children residing in low socioeconomic status families, and those living in the south are more likely to be affected [13].

Addressing the Epidemic and the Role of Primary Care Physicians (PCP)

According to the Institute of Medicine (IOM), addressing the childhood obesity epidemic requires a commitment from multiple stakeholders within the community including families, businesses, community organizations, health professionals, and government [20]. The IOM has laid out specific guidelines for different sectors including the federal government, industry and media, state and local governments, healthcare professionals, community and nonprofit organizations, state and local education authorities and schools, and parents and families [20]. Healthcare providers are a particular area of interest because of their ability to regularly monitor children's weight, interact with parents, and provide resources to change behaviors.

The 2007 AAP report includes recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity based on a systematic review of the literature [4]. In addition to other recommendations, the summary report detailed the way in which primary care providers should address this growing epidemic with children and their families [4]. Other reports and studies including a comprehensive report by the Endocrine Society have also provided recommendations for PCPs which have been consistent with the AAP recommendations [21-23]. A summary of these recommendations are shown in Table 1 below.

Table 1. Expert Recommendations for PCP Role in Pediatric Weight Management[4, 21]

Regular Prevention Activities
Monitor BMI
Screen for medical history, growth, parental obesity and family history
Addressing Children above the 85th percentile for BMI
For children above 85th percentile for BMI, evaluate obesity-associated issues
Probe for negative communication within the family regarding weight practices
Assess level of patient and family readiness to change
Provide nutrition advice, for example: • Avoid calorie-dense and nutrient poor foods like sugar sweetened beverages, fast food, and calorie-dense snacks

• Encourage fruit and vegetable consumption • Reduce saturated fats • Engage in timely, regular meals
Provide activity advice, for example: • Limit television and screen time (no more than two hours per day) • Encourage 60 minutes of moderate to vigorous PA each day • Reduce sedentary activity
Focus on behavioral changes for the entire family including healthy modeling by parents and avoidance of strict diets
Determine if additional laboratory tests are needed depending on BMI and other findings
Weight Management
Determine if intervention is necessary based on results of behavioral, BMI, and laboratory assessments. Identify appropriate level of intervention based on the four AAP levels.
Bariatric surgery and pharmacotherapy should only be considered in extreme circumstances
In each case, the overall goal should be establishing long-term healthy lifestyle habits

The AAP believes that pediatric providers are an ideal starting point for the management of weight in children and adolescents and the prevention of weight problems [4]. Both the AAP and the Endocrine Society recommend that pediatricians should begin by assessing BMI [4, 21]. For those children above the 85th percentile for weight, they recommend evaluation of obesity-associated issues and the prescription of lifestyle modifications.

While the AAP recognizes the importance of screening for BMI, they have also outlined specific recommendations on other health assessments vital to understanding the overall condition of the child or adolescent [4]. The AAP defined two goals for the behavioral assessment of potential childhood weight management issues: one is to identify potentially negative dietary and PA behaviors that may be contributing to the weight problem; and two is to assess at which level the patient and family are in regards to readiness to change those behaviors. The Endocrine Society also encourages pediatric providers to probe for negative communication within the family regarding weight practices [21].

The education of parents and promotion of lifestyle changes has been suggested by both the AAP and the Endocrine Society [4, 21]. Both groups designate specific target behaviors that pediatric providers should encourage for nutrition and PA (see Table 1). Furthermore, they recommend a focus on behavioral changes for the entire family including healthy modeling by parents and avoidance of strict diets.

The AAP has developed recommendations for primary care counseling for children depending on their BMI status [4]. All children should be screened for medical history, growth, parental obesity and family history. Depending on their BMI percentile, additional laboratory tests and assessment of family concern and motivation may also be indicated. Based on the results of the assessment, PCPs should determine if the child or adolescent requires an intervention. The AAP has also outlined the intervention approaches appropriate for children and adolescents based on the assessment findings. There are four stages of intervention dependent on the severity of the problem and approaches already attempted. In some cases, the interventions can take place in the primary care office, while others require a more multidisciplinary and structured approach. In each case, the overall goal should be establishing long-term healthy lifestyle habits. The Endocrine Society provides similar recommendations suggesting pharmacotherapy and bariatric surgeries only in extreme situations [21]. They also provide specific recommendations for who should administer the various types of interventions. Both the AAP and the Endocrine Society emphasize that it is the responsibility of the PCP to address any obesity-related disorders or conditions in children.

The Role of PCPs in Weight Management - Challenges, Suggestions, and Solutions

Davis et al. [22] supports many of the recommendations of the AAP and provided further suggestions for physicians to achieve these goals. One suggestion is the practice of motivational interviewing which consists of asking, informing, advising, and listening. According to Davis et al., this method of physician-patient communication should focus on exploring the benefits of lifestyle changes without dismissing the barriers. These suggestions complement similar AAP advice against the traditional "prescription" approach for weight management. A patient-based or family-based approach to weight management has been clearly supported by evidence to be more effective than working with children alone [24, 25]. Notably, the AAP encourages physicians to get to know their patients' and families' cultural and environmental backgrounds to improve their clinical assessments and establish effective working relationships with parents. This partnership approach is an obvious departure from the traditional PCP model and therefore often a challenge for PCPs to implement. However, parents have identified a positive therapeutic relationship and the negotiation of healthcare delivery as important components of effective weight management [26, 27]. Studies have shown the importance of parental participation in weight control programs [28-30] thus it is critical for providers to include them in the appropriate manner.

Because training for such methods is uncommon in the traditional medical school curriculum, Davis et al. suggests physicians gain experience through hands-on continuing medical education [22]. Additionally, he suggests a number of practices also supported by the AAP to enable effective weight management by the PCP. Typical office practices for provider office weight prevention and management according to the AAP include routine documentation of BMI, established procedures to deliver obesity prevention messages to families, procedures to address overweight and obese children, involvement of interdisciplinary teams, and chart audits

to improve overall care [4]. Davis et al. builds on these recommendations by encouraging staff development though trainings on topics like accurate BMI calculations as developed by the CDC. He also supports chart audits and the use of interdisciplinary teams. Further, he suggests incorporation of the Chronic Care Model [22]. This model emphasizes the use of self-management including goal setting, action plans, and education that provides patients with behavior-changing tools; design support that teaches staff about the latest obesity management practices by utilizing continuing medical education opportunities; and clinical information systems which utilize electronic medical charts providing red flags for potential weight problems. Coleman et al. supports the use of electronic systems to overcome many of the challenges to PCP weight management including a lack of tools or resources, lack of time, competing priorities, low reimbursement for weight management services, lack of knowledge, and a lack of awareness of resources [23]. Coleman et al.'s study combining electronic monitoring of children's weights with automatic prompts for weight management and online education was effective in increasing diagnosis of weight problems and documentation of counseling.

Challenges with Coverage of PCP Weight Management

One of the greatest challenges to PCP weight management as recommended by the AAP and other organizations is the lack of reimbursement for primary care weight-related counseling [31]. Without reimbursement for weight counseling and office weight management improvements, PCPs are put in a difficult position. In many cases, they simply cannot afford to spend extra time providing weight counseling. Davis et al. [22] indicates that while this is a concern, there are medical coding methods to overcome this barrier.

Despite a general lack of reimbursement for weight management in the primary care setting, some insurance companies are moving toward models of obesity coverage. For example, The Alliance for a Healthier Generation, founded by the American Heart Association and the William J. Clinton Foundation, created the Healthier Generation Benefit, a collaborative effort with insurers and employers to offer comprehensive health coverage to children and families for the prevention, assessment, and treatment of childhood obesity [32]. Through the Alliance, the following initiatives have been created:

- The Alliance provides materials to educate parents about childhood obesity and the services available
- The AAP and the American Dietetic Association (ADA) collaborate on the development of resources for providers.
- Signatories agree to provide insurance coverage for at least four follow up visits with a primary care provider and at least four visits with a registered dietitian (RD) per year for children (ages 3-18) in the eighty-fifth percentile or higher of BMI for age.
- Insurers and employers agree to distribute at least two targeted communications to educate and promote utilization of the benefit [32].

The Alliance Benefit appears to be supportive of the AAP recommendations and a helpful solution to the lack of insurance coverage for weight management. However, uptake has been slow. The present study resulted from the need to better understand why parents may not be utilizing their PCP in discussions about childhood obesity. Though not specifically focused on the Alliance benefit, this pilot study was designed to investigate parental perceptions of weight management issues in children. The design was intended to illuminate parental perceptions of

the role of PCPs in pediatric weight management in order to inform future research to increase use of the Benefit and ultimately increase use of PCPs for weight management universally.

LITERATURE REVIEW

Parental Perceptions of Identifying Weight Problems in Children

With so many parents failing to recognize their child's weight status [33], it is critical to determine the appropriate role of the PCP in informing parents of potential weight problems. Hernandez, Cheng, and Serwint [34] interviewed parents and found that while one in three of the children in the study was overweight, 83% of parents reported that their child was about the right weight. Of those parents with obese children, 35% indicated that their child was only a little overweight; while 55% still indicated that their child was about the right weight. Of the 150 responses, only 7.3% of parents recalled ever being told that their child was gaining weight too fast or that their child was overweight by a pediatrician. Pediatricians were highly favored as the most valued advisor for weight-related issues in children, and this preference did not differ by weight category. This was particularly relevant since the AAP statement on patient-centered obesity prevention strategies [4] indicated that a pediatrician's comment may be a preferred counseling method. The absence of pediatrician comment in this study was the strongest predictor of misclassification of body weight.

Like Hernandez et al., Kubik et al. [35] assessed whether parents of 5-10 year olds reported receiving information from their PCP regarding their child's weight and weight-related counseling. The social-cognitive based intervention consisted of materials in the clinic waiting room including brochures and question cards such as "what is your favorite vegetable?" Clinic staff also obtained heights and weights so that BMI could be calculated.

Of those surveyed, 83% believed it was somewhat or very important for healthcare providers to share information about their child's weight and BMI with no significant difference

by treatment group. However, significantly more parents in the intervention group reported receiving such information. Parents in the intervention group were three times more likely to say PCPs questioned them about their child's PA and fruit and vegetable intake, five times more likely to ask about sugar sweetened beverages, and eight times more likely to ask about sedentary behaviors.

Moore, Harris, and Bradlyn [36] explored factors associated with parental concern about their child's weight to determine whether concern was associated with specific action to improve the child's health. Parents expressing concern about weight were more likely to limit screen time, increase PA, and make changes to improve diet including a wide range of changes from increasing chicken and fish to decreasing soda consumption. They were also more likely to have taken their child to a weight related clinic. Alternatively, parental concerns were also associated with negative actions such as putting children on diets or having them skip meals. The results of the study indicated that there is an awareness of the importance of PA and healthy diet. However, the study also indicated that there is not a universal understanding of the appropriate weight management techniques for children.

Parental Perceptions of the Role of PCPs in Weight Management

Turner, Salisbury, and Shield's study explored parental experiences with primary care as a method of weight management for children above the 98th percentile for weight [37]. The study revealed that parents perceived primary care as a suitable setting for weight management and obesity treatment. In addition to the suitability of the setting, parents found this option accessible in location and appointment availability.

Gage et al.'s [38] surveyed both parents and practitioners, finding that while parents saw a role for PCPs in weight management, PCPs saw more of a role for parents, dietitians and school nurses. Less than a quarter of parents stated that a PCP should take no action when an overweight child presents with an unrelated minor illness compared with 43% of PCPs. Similar to Turner et al. and Gage et al., Eneli et al. [39] found that two thirds of parents at 150% or more of the poverty line thought a PCP's office was the best place to manage an overweight child. Most overweight and obese parents endorsed the doctor's office and trusted the physician's expertise and knowledge. However, negative parental responses indicated that obesity is better addressed by lifestyle changes within the family.

Turner et al. [37] found mixed results regarding the likelihood of parents consulting a PCP for childhood obesity services. Parents felt they would be blamed, and parents struggling with their own weight issues were concerned about the negative impact a consult might have on their child's mental well-being. These parents were also unconvinced that a PCP could help. The decision to consult was often triggered by a particular event related to bullying or clothes not fitting rather than the weight itself. Those parents who were willing to consult saw the experience in a positive light because they felt they were taking action and not blaming themselves.

Both groups of parents were unconvinced that a PCP would be able to properly treat their children due to a lack of knowledge, time, and resources. Parents indicated that the PCPs spent limited time with them and mainly focused on the children's weights while school nurses had spent more time on self-esteem. In some cases, parents were only visiting the PCP in hopes of being referred to a specialist. Eneli et al. [39] found, for example, that dietitians and psychologists were sometimes suggested as preferred alternatives. Gage et al. [38] found that

about a third of PCPs and parents agreed that PCPs lacked the expertise and financial incentive for this kind of treatment. Additionally, PCPs identified a lack of time and access to support as hindering their ability to treat overweight and obese children.

Heintze et al.'s study [27] addressing patient and physician views on the future of weight management found that both patients and PCPs thought weight counseling was an important component of primary care. Some patients thought weight management was entirely their own responsibility, but patients who had more of a bond and trusted their PCP attached more importance to the PCP's role in weight management. Ten of the 15 patients expressed a desire for a stronger PCP role in their weight management. Both patients and doctors realized that weight management overburdens the current healthcare structure.

Parental Perceptions of PCP Weight Management Methods

While many parents support the idea of PCP involvement in weight management, there are still a number of important factors to consider. Several studies have assessed parental preferences regarding the details of PCP involvement. Farnesi et al. [26], found that a positive therapeutic relationship was important when addressing weight issues in the primary care setting. Many parents viewed clinician language regarding weight issues to be offensive, and clinicians also recognized the importance of using positive language. Similar to Farnesi et al., Eneli et al. [39] found that choice of words was important to parents when discussing weight issues.

Farnesi et al. [26] also identified the negotiation of healthcare delivery as an important issue. Specifically, parents' described a lack of collaboration between parents and clinicians. They indicated that clinicians often provided goals and expectations without a discussion of family circumstance. Clinicians stated that they were sometimes so eager to help families that

they had a difficult time stepping back to reflect on family's needs. Both clinicians and parents agreed that parents should be involved in determining the weight management agenda.

A helpful practice identified by Farnesi et al. [26] was regular monitoring and evaluation. Parents found that tracking lifestyle behaviors was very helpful, and clinicians agreed because such tracking provided them with objective evidence on which to base their goal setting and recommendations. Heintze et al.'s study [27] addressing patient and physician views on the future of weight management confirmed both the importance of patient-physician collaboration as well as regular monitoring and planning. Both groups emphasized the importance of patient-centered communication, regular contact, and nutritional or workout plans. PCPs talked about multimodal management options and the need for more information or handouts for patients, alluding to existing and future support facilities within their practice.

Study Rationale and Theory

While there is clear support for primary care involvement with childhood weight management from professional organizations, PCPs, and parents, there are mixed findings from both parents and PCPs as to the exact role of the PCP. Based on previous literature, this pilot study was designed to learn more about parental perceptions surrounding these issues with the goal of developing further studies to identify opportunities (or strategies) to increase the use of PCPs and associated health professionals for childhood weight management.

The framework for this study was guided by the Health Belief Model (HBM), a commonly used model to describe health behaviors [40]. HBM constructs include perceived susceptibility and perceived severity which are combined to create perceived threat; perceived benefits; perceived barriers; cues to action; and self-efficacy.

Addressing childhood weight management begins with knowledge of the problem which leads to perceived susceptibility and severity of the problem from the parent's perspective. Combined, these factors create the perceived threat. Parents' definition of overweight and obesity, perceived causes of overweight, and perceived problems associated with overweight create one component of this threat. The other component consists of beliefs about their own child including his or her health status, definition of a healthy weight for that child, and concerns about the child's weight and health. Understanding the perceived threat is the first step to understanding parental motivation to seek PCP assistance in weight management.

The next step to understanding parental perceptions of weight management is to understand their perceived benefits and barriers of weight management with or without a PCP's involvement. Assessing such beliefs help to further understand parental decisions to include their PCP in weight management practices. Then, assessing cues to action is important to understand how PCPs and public health professionals can get parents to identify and act on the problem, as well as to get parents to involve their PCP. Lastly, assessing parental self-efficacy to both manage their child's weight on their own as well as to access a PCP or healthcare professional as needed would provide insight to their ultimate decisions regarding weight management. An outline of the model as it was used for this study can be found in Appendix A.

Research Question

While the challenges to PCP weight management have been well defined, further investigation is needed to understand parents' perceived roles in their child' weight management compared to their perceived roles of the PCPs. Understanding these perceptions is a key step in

developing interventions to increase parental communication with PCPs about effective weight management in children. The present analysis of the pilot study focuses on three key questions:

1. How do parents perceive their role in their child's weight management?
2. How do parents perceive the role of their PCP in their child's weight management?
3. How does child weight status affect the perceptions of parents in regards to both their role and the role of the pediatrician in their child's weight management?

METHODS

Study Design

One-on-one interviews were conducted for this exploratory pilot study. This topic area has been explored in different ways as described in the literature review. Therefore, structured interviews were selected over semi-structured interviews to explore more specific topic areas while still allowing participants to share stories which are an important to gaining insight into specific issues, according to Hennink, Hutter, and Bailey [41]. Structured interview guides were used to assess parental perceptions on the definition of overweight, the role of parents in childhood weight management, and the role of the pediatrician in childhood weight management. Interviewing is one of the most powerful methods to understanding others by allowing the participants to share what things happened, why they happened, and what the experiences mean to them [42, 43].

Participants and Recruitment

Participants in this study were selected through non-probability convenience sampling, based on Hennink et al.'s guide for sampling [41]. Participants were selected from one pediatric clinic in metro-Atlanta. The clinic was a private, primary care practice with a dynamic team of doctors, nurses, and clinical staff. The staff monitored BMI in their patients through an electronic record system. PCPs at the clinic also provided nutritional and weight counseling to patients during well-visits.

Inclusion criteria for the study included parents or guardians at the clinic with their child aged 3-12 for a sick-child visit. Exclusion criteria included parents or guardians of children outside the 3-12 age bracket, individuals who were not parents or guardians, and children at the

clinic for well-visits. Well-child visits were excluded to prevent potential bias due to pediatrician discussions about nutrition and weight.

Parents attending the clinic for a sick child visit were seen initially by a nurse in individual exam rooms. Once their initial assessment was complete, nurses explained the study using a script provided to them by the research team. The script explained that the study's purpose was to address parental perceptions about childhood overweight and obesity, that the data collected would be anonymous, and that the interview would take approximately 20 minutes to complete. It also informed potential participants that they were eligible to receive a $10 Target gift card. Nurses used their discretion when approaching parents about the study based on the amount of time they knew the patient would be waiting. If the parent agreed to participate in the study, the nurse informed the interviewer that he or she could enter the patient's room and begin the interview process.

Data Collection

Interviewers included four members of the research team. Three had extensive previous experience with qualitative interviewing and one was a graduate student who received training and observed several interviews before participating. Interviewers sat in the nurse's station in between interviews and waited for nurses to direct them to exam rooms of patients who agreed to participate. Interviewers visited the clinic on weekday mornings typically between the hours of 9:00-1:00. Some interviews were conducted in the afternoons between 2:00-4:00.

Procedure

Based on Hennink et al.'s principles [41], the interviews in this study began with introductory statements from the interviewer. These statements explained the purpose of the

interview, the anticipated use of the data, and assurance about the anonymous nature of the responses. Interviewers also confirmed that the participant was the parent or primary guardian of the child present for the appointment. The interviewer then presented participants with a consent form (See Appendix C), asked them to read through it, and asked them to sign it if they wished to participate. An audio-recorder was used during each interview after receiving consent from the participant. Audi-recordings were saved on an Emory University server which was only accessible by the research team through a password protected login.

Once consent was obtained, interviews began with questions regarding participant demographic characteristics (See Appendix B). Close ended questions assessed the educational level of the participant, self-identified race, type of insurance coverage, and participant age. Such close-ended questions were important to provide background on the interviewees and to begin building rapport between the interviewer and the interviewee. The next set of questions was open-ended and broad-themed to introduce the interviewee to the topics of overweight and obesity without specifically addressing the interviewee's child. This was also important to continue building rapport without asking sensitive questions. A sample question in this set was "How would you define overweight?" The next set of questions addressed concerns, attitudes, and perceptions about overweight specific to the participant's child. A sample question in this section was "What concerns do you have about your child's weight?"

The next section of questions asked directly about weight maintenance with questions such as "At what point would you seek help from your pediatrician to manage your child's weight problem?" This section prepared interviewees to answer questions specific to pediatric weight management like "Would you want your pediatrician to help your child manage their weight?"

The next section asked questions specific to contact with the pediatrician such as “In the past year, has your pediatrician expressed concerns about your child’s weight?” If patients responded “Yes” there were a series of additional questions addressing parental agreement with pediatrician concerns, weight management advice offered by the pediatrician, and pediatrician recommendations for registered dietitian involvement. The final section assessed parental perceptions of several materials provided by the interviewers. The materials were samples of potential messaging strategies aimed at parents for weight management in children. Questions assessed overall perceptions of the materials and likeliness of the materials to prompt action. Interviews concluded with a question asking parents for additional feedback on messaging strategies to encourage parents to speak with their pediatrician about weight concerns.

Based on Hennink et al.’s model [41], topical probes were designed for several questions to extract information about related themes that interviewees did not address in responses. For example, topical probes for the question “If you felt that your child had weight issues, what things would you try as a family before speaking to a healthcare professional?” included the probes “Would you make changes to his/her exercise routine?” and “Would you make other lifestyle changes such as limiting TV?”

Since the data collection process is cyclical, both questions and probes were established deductively and inductively. The majority of questions in this study were designed deductively before the interviews began and were based on the literature, while additional probing questions were added inductively by the interviewers when appropriate.

At the completion of the interview, the interviewer thanked the participant for their time and input and offered them a $10 Target gift card. Participants signed for the gift card on a

numbered sheet for record keeping. Interviewer notes were maintained in a binder. This study was approved by the Emory University Institutional Review Board.

Analysis

The goal of data analysis was to identify common themes across interviews, and then compare the themes in all interviews to find similarities and differences between participant responses. The data analysis process was guided by the strategies described by Hennink et al. [41]. In traditional semi-structured interview analysis, interviews are transcribed verbatim and then analyzed. For this study, interviewer notes were compared with the audio-recording and additional notes were added as necessary. All data was anonymous to protect the confidentiality of the interviewees.

The final themes identified included the following:

- Definitions of Overweight and Obesity
- Health Implications of Weight
- Indicators of Weight Problems
- Concern About Weight
- PCP's Role in Identifying Weight Problem
- Family Behavioral Changes
- PCP Role in Weight Management
- Experiences with PCP Weight Management
- Perceptions of RD Involvement

The themes were identified by comparing codes across interview questions. Once the interview notes were completed, the data was entered into an Excel spreadsheet by two of the

interviewers and codes were then developed across interviews for each question (See Appendix D). Codes are issues or ideas that are raised in the data that allow researchers to establish meaning. For this analysis, coding was first assessed using a deductive approach based on the interview questions, followed by an inductive approach within each question assessing repetition of words or phrases and underlying concepts across interviews. For example, sample codes for the question "How would you define overweight" include fat, weight, BMI, visual, and affecting life/health.

Once these codes were developed by one of the interviewers, the research team members including the other three interviewers reviewed the codes for accuracy. Additional codes were suggested as appropriate. Coding began about halfway through the interview process and continued until all interviews were completed. This process was based on Hennink et al.'s principles so that the interviews could be adjusted based on findings of the coding process. Minor changes to the interview process were made based on continuous data analysis. These changes did not have any major influence on data consistency. The main purpose of these changes was to alter a skip pattern to include more opinions regarding RDs.

Common patterns, similarities, and differences among participants were identified by comparing codes from different questions. After multiple reviews were completed, the codes were categorized based on similarities into the main themes listed above. This process was done to help conceptualize the data as a whole. Key themes were summarized and similarities and differences between responses are presented in the Results Section.

RESULTS

Participant Characteristics

There were a total of 69 interviews completed by four interviewers (Table 2). Of the 69 interviews, 32% were with parents of children above the 85th percentile for BMI and 54% were with parents of males. The median age of the children was 6 years old. Parents ranged in educational attainment with the majority completing college or higher (63%). The majority of participants were White/Caucasian (60%) and most participants had private insurance (71%). The median age of participants was 40 years old.

Table 2. Characteristics of Parents and Children Included in Study (n=69)

	n (%)
Parent Median Age (n=67)	40 (Range 20-50)
Parent Education	
Some High School	2 (3)
High School Graduate/GED	10 (14)
Some College	14 (20)
College Graduate	24 (35)
Post-Graduate Work	19 (28)
Parent Race	
White/Caucasian	41 (60)
Black/African American	22 (32)
Hispanic/Latino	3 (4)
Asian	1 (1)
Other (Indian)	2 (3)
Insurance Type	
Private	49 (71)
Public	19 (28)
None/Uninsured	1 (1)
Child Median Age	6 (Range 3-12)

Child Gender	
Male	37 (54)
Female	32 (46)
Child BMI Range	
Below 85th percentile for BMI	47 (68)
Above 85th percentile for BMI	22 (32)

Key Themes Identified from Parent Interviews

Themes and key messages are listed below in Table 3 accompanied by example quotations from interviewees. Detailed explanations of each theme follow the table.

Table 3. Themes, Key Messages, and Quotations

Themes	Key Messages	
Defining Overweight and Obesity	Parents had mixed definitions of overweight and obesity and were confused about BMI	"understanding BMI is such a push right now" "it sounds harsh, but it [obese] also means overweight."
Health Implications of Weight	Parents are well informed about the health implications of weight	"…increased blood pressure, diabetes, cholesterol- anything that could happen to adults could happen to kids."
Indicators of Weight Problems	Parents pay close attention to the visual indicators of weight in their children Parents also identify poor eating habits and low levels of activity to be indictors and causes of weight problems	"You can just look at some kids and tell that they are overweight." "When I think obese, I'm thinking really big, even though when I look at the charts, it says I'm obese, and I don't consider myself that." "maybe they talk about food a lot, and eat fast, thinking and talking about when the next meal is…gets so excited about food, too excited."
Concern about Weight	Parents are concerned about children's weight, though they might not define their children as "overweight" Parents are less interested in monitoring weight and more interested in their children's health and happiness	"[she's at a] healthy weight because it's not causing any problems, [but] in just the past year her weight has gone up, [I] would prefer her to weigh a little less, maybe 10 pounds lighter." "we are mindful of genetics and different builds so we don't talk about weight but instead healthy lifestyle."
PCP's Role in Identifying Weight	Parents find the monitoring of BMI by the	"If I noticed my child was above normal

Problems	pediatrician to be helpful in identifying a weight problem Pediatrician comment was indicated as important for recognizing a weight problem	weight over time, I would be worried. [You] can follow their progress on growth charts." "I would need to hear that my child was heavy from a doctor directly."
Family Behavioral Changes	Family changes to diet and activity were preferred over individual changes for the child Parents felt challenges in modeling healthy behavior for their children	"We as a family would change the things that we do together, like how we get desserts. It would not be targeted at her." "To be honest, I feel so overwhelmed when I read things…I feel like everything I'm doing is wrong!"
PCP's Role in Weight Management	Most parents indicated they would try changes on their own before consulting a pediatrician Most parents wanted pediatrician involvement in weight management, but parents identified different preferred levels of involvement Parents were most interested in dietary management, meal planning, and nutritional guidance Parents of normal weight children were interested in being connected to other resources through their pediatrician	" [I would consult my pediatrician] if no changes had occurred within two weeks of making adjustments- not dramatic changes but if nothing at all had happened- especially if I was worried about secret eating or other behavioral issues." "Not sure I would [consult my pediatrician]. I would never tell my children about 'a diet' because I struggled with my own weight growing up. No one in my family is going to be on 'a diet." "give us some sort of guideline to follow, that's more than just a discussion, like a menu for a child his age." "I need somebody to show me what are the good and bad foods. I know I'm supposed to read labels, but I don't know what I'm

		supposed to be looking for."
Experiences with Pediatric Weight Management	Parents engaged in weight management with their pediatrician were happy with the suggestions and working to incorporate them into their behavior	"Well, they always give good nutritious advice, like to take them to the park for more long walks, to get her to dance more."
Perceptions of Registered Dietitian Involvement	Parents were open to RD Involvement, especially if referred by their pediatrician	"My husband and I have talked about that service [RD consultation] for ourselves as well as for her [child]. Someone who could say 'Here, try this meal.'" "Whether I would meet with an RD would depend on whether we could have a trusted relationship with her, as we do with our doctor."

Defining Overweight and Obesity

Participants provided many different definitions of overweight and obesity. While there were many overlapping definitions given, it was clear that overweight and obesity have very diverse meanings to different people and the clinical definition is not clear. One of the most striking themes was the specific weights provided by participants. One participant indicated "a person 250 pounds or more is obese" while others indicated that obese was "more than 20 pounds overweight," "50 pounds over target weight," and "75 pounds or more overweight." There was also a consistent focus on the "norm" for weight. Words like norm, ideal, standard, optimal, average, and target were consistently used when participants were describing overweight and obesity. For example, one participant defined overweight as "20% over target for height/weight and age" and another defined it as "anything over the standard norm."

While most participants were easily able to provide definitions of overweight and obesity, several participants indicated that they did not know the definitions or that overweight and obesity have the same meaning. One participant stated, "…about the same [definition as overweight}…it doesn't take much to get classified as obese on those BMI scales!" Another participant explained "it sounds harsh, but it [obese] also means overweight." BMI, though often mentioned in regards to definitions of overweight and obesity, was not well understood amongst participants. When asked what the term obese meant, one participant replied "[it] has to do with BMI and percent body fat, but I'm not sure exactly what." Another participant described overweight as "20 pounds more than BMI should be."

The confusion with BMI came up again when assessing participant reactions to the sample materials provided. One material referenced BMI, which generally interested parents

who recognized it as an important concept. However, it was clear that this was a newer concept for parents with reactions like "understanding BMI is such a push right now," "The BMI info- I've heard Dr. Oz talking about BMI," and "I've always wondered what BMI is exactly." Another participant specifically stated that BMI was a new concept for her and one participant asked, "Can they do BMI here?" Such reactions were seen in both parents of normal weight and overweight children.

Implications of Weight

Despite the discrepancies on the definitions of overweight and obesity, there was a strong focus on the health implications of these conditions from participants. In many cases, participants actually used these implications to help define overweight and obesity. One participant defined overweight as "if a person is having trouble breathing or has high blood pressure." When specifically asked about the problems overweight children may have to deal with, most participants pointed to physical, psychological, or long-term health implications. Most commonly, low self-esteem and emotional problems were mentioned as potential psychological health implications. Physical health problems mentioned by participants included diabetes, heart disease, joint issues, and breathing problems. One participant explained the potential physical health impacts as "…increased blood pressure, diabetes, cholesterol- anything that could happen to adults could happen to kids."

Indicators of a Weight Problem

Visual Indicators

Many participants made references to visual signs that define overweight or obesity. For example, participants used terms like chubby, chunky, and visibly larger to define these

conditions. One participant stated "You can just look at some kids and tell that they are overweight." The visual aspect of obese outweighed the clinical definition in some cases with one participant stating, "When I think obese, I'm thinking really big, even though when I look at the charts, it says I'm obese, and I don't consider myself that." Participants also indicated that visual aspects were how they defined a healthy weight for their children. Many participants indicated that proportionality was important in defining a healthy weight for their child. One participant with a normal weight child said "You can look and see she's healthy, she's in proportion." Similarly, a participant with an overweight child said "She is proportional to her height. She is tall, sturdy for her age." While participants identified other factors, visual signs still played a role in the definition of healthy weight for parents of both overweight and normal weight children.

When asked about the warning signs for a child becoming overweight, many parents again referenced visual signs, such as increased weight or more weight compared to other children. One participant stated, "what I look for in my kids is soft weight," while another explained "physically looks larger than other children their age." Parents also emphasized, however, that many children put on weight before growth spurts and thus increased weight may not always be a signal for them. When asked about warning signs, one participant stated, "You would see it on their bodies. But children also gain a little excess weight, especially boys, right before growth spurts, so you'd just want to watch it." When discussing concerns about their child's weight, one participant said, "he is tending in that direction [overweight], something we're keepin' an eye on. I'm not concerned yet, but we're watching it. I've seen a lot of our friends' boys go from looking like this to shooting up into bean poles." Some parents also emphasized the influence of others on their realizations about children's weight. On the topic of

signs of overweight, one participant explained, “If a family or friend says something because sometimes it’s hard to see as a parent when you see your child every day.”

Clothing was also noted as a sign of overweight among participants. Children not fitting into clothes came up consistently throughout the interviews with both parents of overweight and normal weight children. One participant said, “well she’s a little underweight—she’s 4 and wears 5T so she is on track,” while another participant explained, “age-appropriate clothes fit well, we don’t have any issues with her clothes,” indicating that the child was perceived to be at a healthy weight. When asked about the signs of overweight in children, participants explained that children wearing sizes too big for their age range or not fitting into their clothing were indicators. One participant responded, “clothes start not fitting, need to increase size without corresponding growth spurt.” Another participant said, “when my kids are wearing the inappropriate size for their age range.”

Behavioral Indicators

Diet was consistently discussed as not only the cause of overweight and obesity in children, but also as an indicator of a problem. Parents pointed to children that are always hungry, always focused on food, or refusing to eat healthy as children who may have a problem with weight. When asked about signs of overweight, one participant thought about a specific child she knew and responded, “maybe they talk about food a lot, and eat fast, thinking and talking about when the next meal is…gets so excited about food, too excited.” Other participants pointed to children who would rather eat chips or junk food instead of fruits and vegetables. One participant with an overweight child explained, “[they are] constantly wanting to eat for no reason, they say they aren’t full but you know they are.” Conversely, eating proper foods and having a healthy diet were considered to be key components of a healthy weight.

Parents consistently discussed energy levels and active living as important components of children's healthy weights. When discussing signs for children becoming overweight, many participants referenced decreased activity, lethargy, and a sedentary lifestyle as obvious signs. One participant explained, "they get lethargic, unmotivated, they want to sit instead of being active." Keeping up with other children was also commonly addressed with one parent explaining, "[they] might not be able to keep up with other kids, play sports, and get out of breath easily." Activity levels were consistently a point of concern for parents with some parents of overweight children stating that their child was not getting enough exercise. One participant said, "I'm afraid she might gain weight because she is not as active and moving as I would like." Activity levels were also commonly used to define a healthy weight by many parents who expressed "physically active" as a key component. One parent explained "he runs a lot, he moves a lot, he's not exhausted and not tired; he has good energy."

Parental Concerns about Weight

While parents were sometimes hesitant to describe their child as overweight, parents of overweight children had notably more concerns about their child's weight than parents of normal weight children. Recent weight gain was noted by several participants as cause for concern with one participant explaining, "[she's at a] healthy weight because it's not causing any problems, [but] in just the past year her weight has gone up, [I] would prefer her to weigh a little less, maybe 10 pounds lighter." Participants were also concerned about food choices and lack of activity. One participant explained, "I have the perception that she is a little heavy. She is really healthy though. I'd like to limit desserts," and another explaining "his dad is obese and he lives with him half of the time- he is not active and doesn't want to be- we are trying to get him to ride

his bike more and do conditioning but it's a struggle." Concerns among parents of overweight children were also evident in their definitions of healthy weight. Although not asked directly, several parents of overweight children identified specific weights or weight goals when defining a healthy weight. When asked what a healthy weight would be for their child, participants gave responses such as "120 would be healthy for him" and "maybe ten pounds lighter, maybe." None of the parents of normal weight children indicated such goals.

A theme among participants was the focus on 'health' and 'happiness' instead of weight. First, several participants defined overweight and obesity by the limitations the conditions place on lifestyle. One participant described overweight as "difficult to sit on bus due to size," while another participant described obese as "can't participate in normal daily activities, where it's a struggle to go to the grocery store." When asked how they defined a healthy weight for their children, several parents emphasized that they do not focus on weight. One participant explained, "Weight is not important, it's important that they are healthy, not getting tired, sleeping ok…" Another participant explained, "we are mindful of genetics and different builds so we don't talk about weight but instead healthy lifestyle." For others, the most important element of a healthy weight was happiness. One participant stated, "as long as she's happy and not having to think about her weight; she has a poor diet, but she is exercising more."

The idea of 'health' also applied to food choices for parents. Many parents were concerned with their children's food choices and it was important to focus on the healthy and positive aspects for some. One participant described her child as "always on the slim side, picky eater. We have trouble trying to get her to eat, encourage healthy snacks, focus on 'food choices', not diet." Another participant concerned with underweight explained, "I think actually

both my children are a bit underweight, so a few more pounds. My daughter eats very healthy though, so that's good, [that's] what's most important."

PCP's Role in Identifying Weight Problems

Several participants discussed the doctor's BMI charts or growth charts throughout their interviews and labeled these charts as indicators for weight problems in children. The idea of "normal" or "average" weight which was often referenced by participants was usually linked to the doctor's chart, though it was not always clear if the participant was referring to the BMI or the growth chart. When asked about signs that a child was becoming overweight, one parent explained, "If I noticed my child was above normal weight over time, I would be worried. [You] can follow their progress on growth charts." Some parents also indicated that the BMI chart is a good way to validate other signs of overweight. In response to the question about signs for a child becoming overweight, one participant stated, "It varies, some kids are chubby and if it doesn't wear off parents assume it's genetic. If there was extreme weight and he was at the upper end of the curve at wellness visits [this would be a sign of overweight]." In some cases however, parents did not specify the chart as a sign, but simply the doctor's comment. Additionally, parents were not clear about the BMI chart as one parent referenced "…those growth curve things at the doctor." Even for those parents who did understand the charts, not all were convinced. One participant explained, "[The] pediatrician might say something about percentiles...though I'm still skeptical of [the concept of] BMI in children." Still, pediatrician comment and charts were commonly mentioned as signs of a child becoming overweight.

In several cases, parents mentioned that comments from their pediatrician about their child's weight status initiated the discussion about weight. One participant explained, "I

wouldn't make a special appointment. It would be part of the conversation at the [next] annual checkup." Another participant explained that they would seek help from their pediatrician if the weight gain was noted by their pediatrician and prompted a cause for concern. Both of these participants were parents of overweight children. One parent of an overweight child explained the pediatrician had actually brought her child's high BMI to her attention. When asked about specific materials addressing weight issues in children, parents had mixed reactions to the materials themselves, but several parents indicated that they read everything their pediatrician gives them and others emphasized the importance of such information coming from a trusted source like their health care provider. Still, one parent of an overweight child reemphasized the importance of pediatrician comment by stating, "I would need to hear that my child was heavy from a doctor directly."

Family Behavioral Changes

When discussing changes they would make as a family to help their children with weight issues, participants often focused on changes the whole family would make. Such changes included items like changing diet and increasing family activity time. There was a focus on "our" and "we" when discussing these changes. One participant said, "I would try to change our diet, what I prepare, to make healthier dishes." Parents were hesitant to single out their children when it came to weight management practices. One participant explained, "she is already such a good eater that it's hard to imagine how to change her diet, but maybe the whole family could cut back on sweets so as not to single her out." Another participant echoed this sentiment stating, "We as a family would change the things that we do together, like how we get desserts. It would not be targeted at her." Some participants expressed challenges with family meal

choices due to the different weights in the family. One parent of an overweight child emphasized this challenge but also stated that they could all cut back on carbohydrates and sodas.

Changes in activity were also identified as family efforts. Many participants indicated that they would increase activity and exercise if they were concerned about their child's weight, but several focused on increasing activity for the whole family. Similar to not targeting children with food changes, one participant explained, "exercising as a family, like walking and going to the park together, so she doesn't feel targeted." Participants indicated that they would increase active family time and take more walks as a family. Participants also indicated that family and friends were useful resources to help them make changes such as increasing activity or providing advice to help their children lose weight. Many participants stated that they would talk to family, friends, parents, and grandparents for advice in weight management for their child.

When asked if they believed they were a good role model for their children in terms of living a healthy lifestyle, most participants indicated that they were or that they were trying to be. Participants said that they tried to eat healthy including fruits and vegetables and to exercise more. Some challenges they identified were work hours, snacking, and trying to increase fruit and vegetable consumption. When asked if she thought she was a good role model, one participant said, "…I want to be [a good role model]. I tell them stuff and don't give them stuff, but then I turn around and sneak stuff. But I know when they get older I will have to change! I can't trick them then." Parents of both overweight and normal weight children had some concerns about their own behavior and identified challenges in setting a good example. One participant expressed her frustration stating, "To be honest, I feel so overwhelmed when I read things…I feel like everything I'm doing is wrong!"

PCP's Role in Weight Management

While many participants felt that they had the knowledge and understanding of weight issues to make changes on their own, others indicated that they would immediately seek help from their pediatrician if they were concerned about their child's weight. Many participants said that they would talk to a doctor first, that there was no need to wait, and a doctor's suggestions would help inform them about changes to make. One participant explained "I'd want to talk to her [pediatrician] right away, and I'd want to talk with her often." Conversely, more participants indicated that they would consult their pediatrician for help if their own attempts at weight management for their child were not working. Participants stated that they would consult their pediatrician if their diet and exercise changes had no effect, if their children continued to gain weight, or when they felt they had tried everything and nothing worked.

Some participants, specifically those with overweight children, were not sure they would even consult a pediatrician for weight management. One participant was hesitant based on her own experience with weight management. She explained, "Not sure I would. I would never tell my children about 'a diet' because I struggled with my own weight growing up. No one in my family is going to be on 'a diet.'" Another parent of an overweight child simply indicated that she had never considered seeking help from a pediatrician regarding weight management, while a parent of a normal weight child indicated that she would know what to do and may or may not seek help from a pediatrician.

The majority of participants wanted their pediatrician to help manage their child's weight, however, some indicated that they were the primary person to manage their child's weight and that the pediatrician would only be useful for suggestions. Participants were hesitant to include their pediatrician for various reasons. One participant explained, "I would take their

suggestions, but I don't like to put my child on a diet, so I would integrate my own thoughts." Others recognized the importance of the partnership but were still hesitant, for example, one participant stated, "I see my pediatrician as a partner with me, having a healthy two-way dialogue, even though there are some things the pediatrician might say that I don't buy into." One participant indicated that the pediatrician's role was mainly to draw attention to the problem, explaining, "[The pediatrician is helpful in] sounding the alarm, but I don't think it's their responsibility to manage their [child's] weight." Another participant explained that pediatricians could act as a "voice of reason" especially for children who do not always listen to parents.

When asked how a pediatrician could help manage a child's weight, the most common response theme was concerning food choices. Participants felt that pediatricians could help monitor children's nutrition, provide suggestions for improving diets, and assess if parents were doing a good job with food choices. Participants mentioned healthy eating instructions, portion size recommendations, and brochures about which foods to avoid. Several participants indicated that they thought pediatricians could provide weekly meal or nutritional plans. One participant said the pediatrician could "give us some sort of guideline to follow, that's more than just a discussion, like a menu for a child his age." Healthy eating was consistently seen as a challenge among participants. When asked what weight related topics she would like more information about from her pediatrician, one participant said, "I need somebody to show me what are the good and bad foods. I know I'm supposed to read labels, but I don't know what I'm supposed to be looking for."

Similar to the focus on food recommendations, many parents of normal weight children suggested that a pediatrician could connect them with dietitians to help manage their child's

weight. Interestingly, no parents of overweight children made this suggestion. In response to the question "How do you think your pediatrician could help manage your child's weight" one participant responded, "Help us see a dietitian, I guess- I'd want to see a dietitian to see if there's something in his diet causing him to be overweight or unhealthy." Several other parents suggested a dietitian, and others simply indicated that a pediatrician could help connect them with other resources. Food continued to be a trend, as one parent explained, "They're pretty good here at every check-up, they talk about it, including education about the health effects of being overweight. But if they could direct us to resources- how to actually get them to eat healthy…"

Experiences with PCP Weight Management

Participants generally agreed with their pediatricians on weight concerns and reported taking their advice. One participant explained, "we have taken away sugary drinks, pushing water, fruits and vegetables, not eating out as much." Most suggestions participants reported were based on dietary changes, though some also discussed recommendations for increasing activity. One participant said, "Well, they always give good nutritious advice, like to take them to the park for more long walks, to get her to dance more." Still, some participants were not completely convinced about their pediatrician's concerns and recommendations. One participant whose child had been classified as obese explained, "It's not that I don't agree. I heard them [pediatrician comments]. I trust Dr. P a lot. I am taking them [concerns] into consideration. Seriously. But he's just a big kid, he has a big head." Others were hesitant because of confusion with BMI as one participant explained, "[the] pediatrician said BMI in children is not so stable,

that it can change a lot." Comments like these caused participants to question the validity of the weight problem.

Perceptions of RD Involvement

To assess parental perceptions of RD involvement in weight management, participants were asked whether or not they had ever been recommended to see an RD or if they would be willing to see an RD if prompted by their pediatrician. Both parents of overweight and normal weight children had interest in RD visits for various reasons. Some indicated that they would only be interested if it was needed or if their child was obese. Others were just generally interested. One participant stated, "My husband and I have talked about that service [RD consultation] for ourselves as well as for her [child]. Someone who could say 'Here, try this meal.' Something we could do something with." The importance of a trusted relationship was emphasized by another participant who explained, "Whether I would meet with an RD would depend on whether we could have a trusted relationship with her, as we do with our doctor." Similar to how some parents felt about pediatrician involvement, one participant also stated that a dietitian would be helpful in discussing a healthy diet with her child so that the information would not be coming only from her. However, one participant explained why she would not want RD involvement: "No—I kind of feel like all the information we need is out there, and I wouldn't want to take more time out of our schedules to come [for RD appointments]."

DISCUSSION

This pilot study generated several important themes and revealed a number of areas for future research and intervention implementation. Key findings showed that parents were most interested in receiving nutrition advice from their PCPs. Although parents were concerned about weight, they did not always identify their child as overweight, which is an important concept for PCPs to consider when delivering weight-related messages. Parents were also interested in learning more about BMI, a concept which could serve as a cue to action when properly understood. One of the challenges parents identified to including their PCPs in weight management was their lack of knowledge about services offered. These key points and others are discussed further in this section.

The implications of overweight and obesity were well understood among parents including the physical, psychological, social and long-term effects. Parents were also easily able to identify causes of overweight and obesity in children including diet, activity, and genetic factors. The definition of overweight and obesity as well as the definition of a healthy weight for the individual child were less clear among parents. Physicians can play a role in helping parents to identify healthy weights or healthy lifestyles for their child by using motivational interviewing techniques per the recommendation of the AAP [4].

Parents identified several indicators of weight problems in children. Consistent with previous research and recommendations, parents recognized factors besides weight and BMI as important indicators of weight problems [44] including diet, activity level, and behavioral issues such as bullying and teasing. BMI was a term that was commonly identified by parents as important, but the definition was often unclear. When parents saw the term BMI on the sample

material supplied during the interview, many were interested and indicated that this would serve as a prompt for them to discuss weight issues with their doctor.

Consistent with previous literature, many parents of overweight children did not recognize that their child was overweight [44, 45] . However, many more parents of overweight children had concerns about their child's weight than parents of normal weight children. Moore et al. similarly found that concern about weight was more likely among parents of children who were overweight by BMI [36]. This indicates that although parents may not consider their child "overweight," they still recognize the need for changes or improvements in their lifestyle. This finding contradicts previous literature demonstrating that parents are not concerned about risks associated with overweight [46]. In Jain et al.'s study with low-income parents [47], participants did not find meaning in the BMI growth charts, but understood the importance of diet and physical activity. Jain et al.'s recommendation therefore was to focus on diet and activity. However, parents' interest in BMI in this study indicates that physicians should take the time to explain the concept. This may contradict Bolling et al.'s finding that parents prefer colloquial terms for weight status [48]. A clear understanding of BMI may serve as a way for parents to identify weight problems earlier.

Pediatrician comment was clearly indicated to be one of the most important cues to action for parents in terms of identifying a weight problem which was consistent with previous findings [37]. While some of the materials presented in the study were of interest to parents and several said they may prompt a conversation with a doctor, such materials cannot replace physician monitoring and prompting based on this study. Based on this study, parents are more likely to read information given to them directly from their pediatrician which coincides with Borra et al's findings indicating that parents prefer direct messages [49]. Kubik et al's study [35] which

included positioning materials around the waiting room in pediatric clinics showed promising results in terms of pediatrician-parent discussions about weight issues. The effectiveness of materials to initiate parental discussion about weight issues with their physicians requires additional research.

Parents had knowledge of better food choices and activity choices and overall seemed confident in their ability to implement these changes if they thought their child had a weight problem. However, parents identified healthy eating and regular exercise as challenges in weight management for their children, issues that have been shown previously to be challenges for a number of reasons including lack of time, lack of local facilities, safety concerns, and cost of food [50]. Most parents indicated that they would try to make changes at home before consulting a pediatrician to help manage weight. They felt that resources such as websites, family, and friends could be accessed in order to help them with this process. However, some parents did indicate that they needed help making changes, were overwhelmed by the options, and had a difficult time modeling the correct behaviors.

Consistent with previous research and recommendations, parents focused largely on family changes for healthy living and healthy weight in place of changes directed specifically at overweight children [26, 50, 51] . This is important for physicians to consider when providing guidance in the area of weight management. Physicians should provide recommendations for the family as a whole when discussing behavioral changes like diet and physical activity. Recommendations specific to parents may also be warranted since several parents indicated that they had a difficult time acting as a good role model for their children in terms of healthy behaviors. Previous research has found that parents often find good role modeling difficult, especially when undermined by another adult in the home [50].

Consistent with previous studies that identified primary care as an appropriate setting for weight management [37, 39], most parents were comfortable with the idea of consulting their pediatrician in regards to weight management for their child. Those parents that were not comfortable felt that they knew what to do or felt that the pediatrician would not be helpful. Parents often mentioned a trusted relationship with their pediatrician as the reason they would include them in weight management discussions. The idea of a trusted relationship is consistent with previous literature [4, 26] and further support for pediatricians to use motivational interviewing techniques to build relationships with their patients.

Parents were most likely to include their pediatrician in weight management discussions when self-initiated family behavioral changes failed to improve an identified weight problem. Some parents said that they would include pediatricians from the beginning, but consistent with previous findings [52], most seemed more likely to make changes on their own before consulting a pediatrician. Parents clearly had different ideas about when to include their pediatrician in the discussion about weight management. Many identified a certain point when they would reach out to a pediatrician for help. The variety of opinions on this topic highlights the importance of open communication between parents and physicians about weight management. If parents are going to choose to manage their child's weight on their own, they need to be well educated on the best methods and also able to identify when they need help. Edmunds [52] similarly recommended open communication as a method to encourage parents to seek help earlier.

While parents were interested in including their pediatrician in weight management for their child, some parents were concerned about the pediatrician's methods. Healthy lifestyles and happiness were the main focus for parents [51], and there was concern that pediatricians may not reflect those attitudes in their weight management practice. Some parents recalled negative

experiences with physicians in terms of weight management. These findings were consistent with previous literature demonstrating that mothers felt blamed or were accused of overreacting when addressing weight with the pediatrician [52]. To combat these feelings, physicians must again work to build trust with patients. Turner also suggested a multidisciplinary approach to weight management to help reduce the feeling of judgment among parents [37].

Parents recognized several benefits to including their pediatrician in the process of weight management for their child. Parents were most eager for nutrition advice and meal planning and saw their pediatricians as a resource for such needs. Many parents indicated that they wanted more tangible guidance on how to get their children eating well which was consistent with previous findings [48, 49]. Developing specific meal plans for patients is likely outside the scope of a pediatrician's abilities, however, there are a number of resources and programs that can help parents create healthy meal plans for their children. The development of materials connecting parents with such resources may be advisable. Vaczy et al. [53] piloted Passport to Health which provided specific healthy eating and activity goals based on BMI, as well a way to monitor individual goals and to translate provider information into tangible information usable by the patient. Such tools could help physicians address the demand for more specific guidance in nutrition and PA.

Several parents suggested the pediatrician could connect them with dietitians. These findings also provide further support for the inclusion of RDs in weight management. Parents are clearly looking for nutritional guidance, and partnering with RDs could be a potential avenue to connect them with such resources. Behavioral change techniques employed by RDs have been shown to be effective for pediatric weight management when partnerships were formed

between the family and the RD [54], and referrals for support services are a recommended role for the pediatrician [49].

Although parents of normal weight and overweight children had many of the same perceptions of weight management practice, there were a few notable differences. While pediatricians were identified as a source of additional resources for weight management, only parents of normal weight children made this connection. Some parents of overweight children had not even considered the pediatrician as an option or did not understand how a pediatrician could contribute to weight management. Based on these findings, it is essential for physicians to clearly communicate how they can help in the weight management process. Without such information, parents may seem unengaged simply due to a lack of knowledge of the resources available to them. Physicians should communicate this information verbally, but materials should also be developed listing the services offered by the physician.

Using the key messages and findings from the pilot study, recommendations were developed for physicians and public health professionals to incorporate into practice and future interventions (Table 4). These findings and recommendations are largely consistent with previous work but also add to the previous literature.

Table 4. Recommendations for PCPs and Implications for Public Health Practitioners

Recommendations for PCPs
• Use motivational interviewing to assess parent's knowledge and work with parents to identify the definition of a healthy weight for their child. • Learn about patient's cultural and personal backgrounds and use this information to build a trusting relationship. • Ensure parents are aware of all services offered at their pediatric practice and refer to other venues as necessary

• Always inform parents of child's weight status and provide suggestions as necessary • Educate parents on BMI definition and how BMI can be used as a monitoring tool for child's weight • Target whole family when providing behavioral changes for weight management • Help parents learn about RD coverage, especially for children with high BMI • Partner with local public health organizations to help with BMI education, marketing services, and connecting to RDs
Implications for Public Health Practitioners

• Develop Resources:
  o Targeting nutritional guidance specific to child age and culture
  o Describing community-specific child weight resources
  o Helping PCPs teach families about BMI
• Interview parents at different stages of primary care weight management (i.e. thinking about consulting a PCP, currently working with a PCP, tried working with a PCP and stopped) to learn about the factors that influence parents' decisions to seek services, continue with services, or discontinue services for childhood weight management
• Facilitate partnerships between local public health workers and pediatric clinics to develop materials and support services offered for pediatric weight management

The findings of this study were also broken down by HBM construct (Table 5). This breakdown is helpful for understanding the potential avenues for public health interventions to increase knowledge, reduce barriers, increase self-efficacy, and target cues to action in order to help parents correctly identify weight problems in their children and effectively access the necessary resources to manage these problems.

Table 5. Health Belief Model Constructs

HBM Constructs	Parental Responses
Perceived Threat	• Overweight in children has serious health and long-term implications
Perceived Barriers to Weight Management	• Getting children to exercise/eat healthy • Parents are overwhelmed by options
Perceived Barriers to including pediatrician in weight management	• Some parents are hesitant about "diets" • Some parents don't understand the potential role of the pediatrician
Perceived Benefits to including pediatrician in weight management	• Resources (i.e. referrals to RD) • Nutritional guidance • Partner in weight management

Self Efficacy to Manage Weight	• Parents are knowledgeable about possible behavioral changes, but do not always know the best approach • Parents feel that there are resources available to them (friends, family, websites)
Self-Efficacy to Access to Pediatrician	• Based on trusted relationship
Cues to Action for Weight Management	• Visual Indicators • Pediatrician Comment • BMI/weight/behavioral changes
Cues to Action for Including Pediatrician	• When individual attempts at weight management fail

Strengths and Limitations

This study was able to cover a range of topics in a short interview time. While the structured nature of the study was a limitation for in-depth responses, it was effective at providing information on more specific topics and allowed for more interviews to be completed in a shorter time period. As a pilot study, this method was highly effective at generating foundational information for future research. This study was also unique in asking specifically about preferences of pediatrician involvement.

While many studies have asked about the challenges with weight management in the primary care setting, few have looked at the actual expectations parents have for the pediatrician's role. This study began to explore these expectations. It also explored more specific definitions of overweight and obesity. Such information is important in understanding why some parents may not identify their child as overweight. Lastly, the inclusion of sample materials provided a different way for parents to express themselves. Many of the most enlightening comments came while parents were looking at the materials. This element of the interview prompted more tangible responses than typical interview questions.

This study, like any scientific study, had several limitations. Limitations can be broken down into three categories: sample, study design, and analysis. The sample was largely Caucasian mothers who were highly educated and had private health insurance coverage. This is not representative of the general population, though it is likely more representative of the population that would be currently covered by the Alliance Benefit. The sample was further altered by using nurses to screen patients. The research staff had little control over the patients who were asked to participate. There may have been bias on the part of the nurses based on their perceptions of how likely patients were to participate. Lastly, only parents of sick children were included in the study. This was done to protect the study from bias if the doctor had discussed weight during a well check or conversely to prevent influence of the patient prior to a doctor's discussion about weight. However, this may have altered the demographic of who was interviewed.

Limitations of the study design include the structured nature of the interview guide that did not allow interviewees to go into as much depth about their perceptions, potentially limiting the breadth of topics that may have been covered. However, the interview guide was designed in this way in order to target more specific topics as well as to keep the interviews at a reasonable length so as to complete them while the participant waited to see the doctor. Additionally, the qualitative nature of this study limited the generalizability of the findings and the ability to compare between groups. The ability to identify differences between parents of normal weight and overweight children would be better suited for a quantitative analysis. Lastly, the presence of the child in the exam room during the interview may have altered participant responses.

The greatest limitation of the analysis was the lack of group coding sessions typical of qualitative studies. With limited time and funding, the members of the research team were not

able to be directly involved with the coding process with the exception of reviewing codes that had been developed. However, given the structured nature of the interviews, the responses were shorter and more direct which allowed for simpler coding. Before publication in peer-reviewed literature, additional coders who also conducted the interviews will be included in the analysis.

Implications

Based on the findings of this pilot study, there are several implications for future research and public health work. Future studies should focus on the reasons families choose to engage in pediatric weight management, the reasons they stay engaged, and their reasons for stopping such care. Ball et al. [55] has begun a study to answer these types of questions in Canada, but similar research is needed in the U.S.

Other work should be done to identify effective materials to support parents in weight management endeavors. While pediatrician comment and involvement are important, their time is limited and the support they can provide could be more effective with adequate materials. Many materials exist to help families with nutrition and weight management, but the results of this study demonstrate that more specific resources need to be developed. Such specificity will require more in-depth pilot and longitudinal studies to assess the effectiveness for different cultural groups. They will also require the contribution of local public health professionals. Working together, local public health workers and pediatric clinics should develop community-specific materials addressing the following: targeted nutritional guidance; child-weight resources available in the community; and resources available directly through the pediatric provider.

Further research should also be done to identify the benefits of RDs in pediatric weight outcomes. Parents are clearly open to this option, and the Alliance for a Healthier Generation

had recognized this as a potential avenue for prevention and treatment support for weight problems in children. Future studies should assess the accessibility of RDs, the costs associated with RD appointments, and the potential methods of increasing communication between PCPs and RDs.

Conclusion

This pilot study showed that parents consider pediatricians as partners in weight management. Parents are also open to working with registered dietitians per the recommendation of their pediatrician. These attitudes did not appear to differ by child weight status. Future studies should assess attitudes of parents at various stages of the pediatric weight management process, materials to support parents in pediatric weight management, and the feasibility of expanding use of RDs in pediatric weight management.

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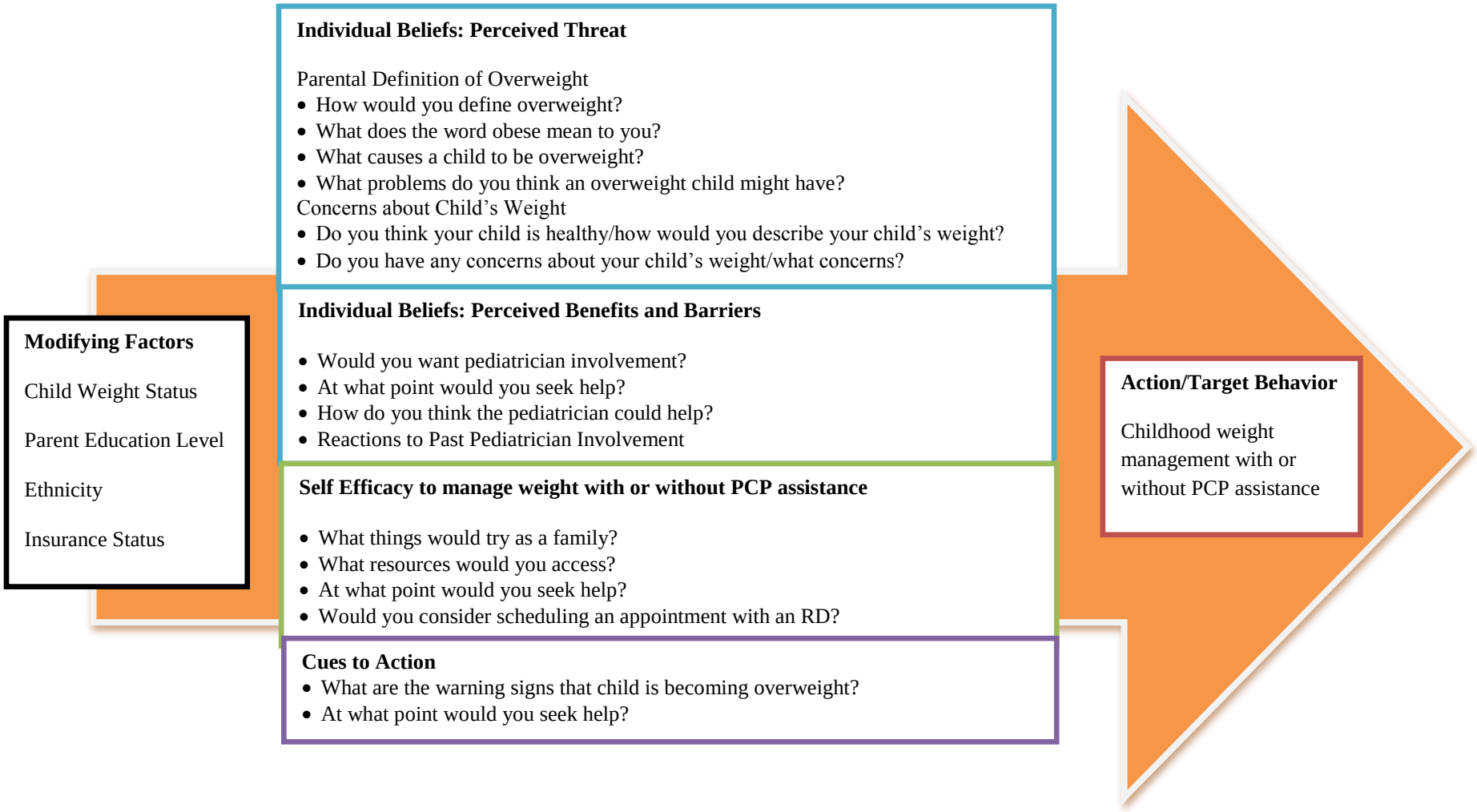
APPENDICES

Appendix A. Health Belief Model Constructs with Associated Study Questions



Appendix B: Semi-Structured Interview Guide

Start Time_____ **Date_____**

End Time_____ **Age_____** **Gender_____**

Most Recent Weight in Chart_____ **Weight in Prior Year_____**
Date_____

Most Recent Height in Chart_____ **Height in Prior Year_____**
Date_____

Current BMI_____ **BMI in Prior Year_____**

Interviewer Observation: Does the child appear overweight/obese? Yes No

Pilot Interview Guide

The three aims of this study are to: (1) explore parental knowledge and perceptions of obesity prevention and clinical treatment services; (2) identify the factors that motivate parents to access obesity-related health care services; and (3) use parent feedback to enhance family-focused materials designed to promote use of obesity services

Introduction

Hello, I am part of a research team from Emory University. We are conducting interviews with parents to explore their thoughts on healthy weight for their children and, if relevant, what would motivate you to seek weight management services. During the interview, I will ask about your perceptions and concerns of weight gain in your child, ways to manage your child's weight and the role of health professionals in weight management. I will also show you some materials developed to create communication messages about healthy weight management in children and ask you what you think about them. The interview is completely confidential. Your feedback will be used to develop communication strategies to increase the use of weight management services. If you are eligible and agree to participate, you will receive a $10 gift card upon completion of the interview.

Screener

First, I have a question to ensure this interview will apply to you and your family.

1. Are you a parent/primary caregiver for the child being seen today at the office that is between the ages of 3 and 12? To clarify, this would be a parent or caregiver that has primary

responsibilities for health, diet, cooking, grocery shopping, physical activity and other related decisions for this child.

□ I am a parent/primary caregiver for the child being seen today at the office who is between the ages of 3 and 12. *(Continue with consent form)*

□ I am neither a parent/primary caregiver for the child being seen today at the office who is between the ages of 3 and 12. *(Stop - NOT ELIGIBLE, Thank them for their time)*

Now that we have established your eligibility, I will review the consent form with you and give you a chance to ask any questions you have about the interview and the research. *(Review consent form, ask if the participant has any questions, allow participant to sign consent form.)*

Section 1. Demographics

First, I would like to ask a few questions about you. The answers to these questions will help the researchers to create communication messages about healthy weight management for specific audiences. As a reminder, the information gathered through this interview will be kept confidential. It is very important that your responses are as accurate as possible.

2. Which is the highest year of school you completed? *(Read list)*

□Grade school or less □Some high school □High school graduate/GED

□Some college □College graduate □Post-graduate work

3. How would you describe your race?

□White/Caucasian □Black/African-American □Hispanic/Latino

□Asian □Other, specify_____

4. What type of insurance coverage do you currently have?

□Private insurance □Public insurance (Medicaid) □None/Uninsured

□Prefers not to answer □Other, specify_____

5. What is your current age? ___21

Section 2. Obesity knowledge

Next, I am going to ask a few questions about your understanding of childhood overweight and obesity and possible consequences of obesity.

6. How would you define overweight?_____

7. What does the word obese mean to you?_____

8. What causes a child to be overweight?

   Explain_____

9. What problems do you think an overweight child might have?

   Explain _____

   Probes

   - Health complications such as diabetes, hypertension, heart disease
   - Inability to play, run, be active
   - Bullying
   - Low self-esteem/confidence
   - Socially isolated
   - Poor functioning at school
   - Other

10. What are the warning signs that a child is becoming overweight?
    _____

Section 3. Concerns, attitudes and perception about overweight

For the next few questions, I will ask about possible concerns that you may have regarding your child's weight.

11. Do you think you child is healthy? Yes, No

12. How would you define "healthy weight" for your child?_____

13. What term would you say best describes your **child's** weight

    Underweight, Healthy weight, Overweight Obese

14. What term would you say best describes **your** weight

    Underweight, Healthy weight, Overweight Obese

15. Do you have any concerns about your child's weight?

    □ Yes (go to Q. 16) □ No (Skip to question 17)

16. What concerns do you have about your child's weight?_____

Probes

- *What concerns you the most? Explain*

_____

Section 4. Managing your child's health

Next I will ask you about your experiences with promoting healthy habits for your child.

17. If you felt/believe that your child had/has weight issues, what things would you try as a family before speaking to a healthcare professional?

Probes

- Would/did you make any changes to his/her food choices? Explain.
    - If changes were made, probe for successes and barriers.
- Would/did you make any changes to his/her exercise routine? Explain.
    - If changes were made, probe for successes and barriers
- Would/did you make any other lifestyle changes such as limiting TV, computer or game time. Explain.
    - If changes were made, probe for successes and barriers.

18. What resources would/did you access when attempting to help your child? Recourses may include websites, magazines, family/friends etc. Explain.

19. At what point would/did you seek help from your pediatrician to manage your child's weight problem? Explain.

Probes

- Can you think of something you saw or read that would make/made you come to the realization that your child may have/has a weight problem. Explain?
- Would/did someone you trust advise you to seek professional help? If so, who would it be/who was it?

Section 5. Views on settings for childhood weight management

In the next few questions, I will ask your opinion on possible services that might help promote healthy weight for your child.

20. Would you want your pediatrician to help your child manage their weight?

□ Yes (Continue to Question 21) □ No (Skip to question 22)

21. How do you think a pediatrician can help you manage your child's weight?

Explain _____

Section 6. Contact with Pediatrician

22. In the past year, has your pediatrician expressed concerns about your child's weight?

□ Yes (Continue to Question 23) □ No (Skip to Section 7)

23. Did you agree with your pediatrician's concerns?

□Yes □ No

Explain._____

24. In the past year, has your pediatrician advised you about how to manage your child's weight?

□ Yes (Continue to Question 25) □ No (Skip to question 26)

25. What advice was offered by your pediatrician?

Describe. _____

Probes. Advice on:

- Modification of eating habits
- Reduction of sedentary behavior
- Instructions on monitoring food intake
- Instructions on monitoring weight
- Explanation of BMI
- Health consequences of overweight
- Importance of parental involvement
- Other

26. What, if any, weight related topics would you like to have more information on from your pediatrician?

Describe_____

Probes

- Healthy eating
- Age appropriate physical activity
- Self-monitoring food intake
- Self- monitoring weight
- BMI
- Health consequences of overweight
- Community resources
- Websites to explore
- Availability of parent support groups
- Behavioral modification techniques
- Other

27. In the past year, has your pediatrician work with you to set healthy weight goals for your child.

□Yes □ No

If yes, describe_____

28. Has your pediatrician ever recommended that your child be seen by a Registered Dietitian?

□ Yes □ No (Skip to section 7)

29. If services were more available, would you ever consider scheduling an appointment with an RD?

□Yes □ No

30. Is there anything that your pediatrician could do to make it easier for you to schedule and/or keep an appointment with an RD?

Explain_____

Probes

- Provide contact list
- Provide directions
- Schedule appointment directly
- Other

Section 7. Action Steps

In the next question(s) I will ask about your role in helping your child live a healthy lifestyle.

31. Do you believe you are a good role model for your child when it comes to living a healthy lifestyle?

□Yes □ No

Explain_____

ONLY FOR PARENTS WHO EXPRESSLY STATE THAT THEIR CHILD IS OVERWEIGHT.

Please select one of the four statements (Q 32-35) that best describes your healthy weight plan for your child.

32. I am currently making lifestyle changes for my child in order to help him/her lose weight. (Go to Q 37)

33. I am currently making lifestyle changes for my child but am doing so inconsistently. (Go to Q 37)

34. I am intending to make lifestyle changes for my child in the next 6 months. (Go to Q 37)

35. I do not intend to make any lifestyle changes in the next 6 months. (Go to Q 36)

36. If you do not intend to make lifestyle changes, what are the reasons that are leading you to make that decision. Examples may include cultural beliefs, limited family support, limited pediatrician support, financial concerns, failed experience with weight loss programs or various other issues.

Explain:_____

Section 8. Analysis of existing materials

This is the last part of the interview, and in this portion I will show you some materials and ask you how you feel about them. The items I am going to show you have been used by some health plans and are designed to encourage parents to talk to their children's provider about wellness.

37. If you were interested in receiving information about your options for seeing a health care professional to help your child develop healthy habits related to weight, how would prefer to receive them?

□ Email □ Text message □ US mail □Other

(Show each sample item to the parent and give them a chance to look through it, and ask the following)

ITEM A – Questions to Ask your Doctor Flyer

38. How likely would you be to read this if you received it? (1=not likely at all, 5= extremely likely)

1	2	3	4	5

- What, if anything, about this item makes you (want/not want) to read it?

  _____

39. How likely would you be to talk to your child's pediatrician about any weight concerns based on this item (1=not likely at all, 5= extremely likely)

1	2	3	4	5

(Ask only first probe if they score it 4-5 and only second probe if they score it 1-2.)

a. What is it about the item that makes you want to speak with your physician?

   _____

b. If not likely, what would help convince you to speak to your pediatrician?

   _____

ITEM B – Very Hungry Caterpillar Reader Guide

40. How likely would you be to read this if you received it? (1=not likely at all, 5= extremely likely)

1	2	3	4	5

a. What, if anything, about this item makes you (want/not want) to read it?

   _____

41. How likely would you be to talk to your child's pediatrician about any weight concerns based on this item (1=not likely at all, 5= extremely likely)

1	2	3	4	5

(Ask only first probe if they score it 4-5 and only second probe if they score it 1-2.)

a. What is it about the item that makes you want to speak with your physician?
_____

b. If not likely, what would help convince you to speak to your pediatrician?
_____

42. Are you familiar with the "Stop Sugarcoating" campaign developed to increase awareness of childhood obesity ? (show picture)

□Yes continue □ No (skip to Q. 43)

What do you think about the campaign? Different- makes me wonder where these kids are coming from (the ones in the ads)

Is the messaging effective?

Explain_____

Wrap up Question

43. Can you think of other possible advertising messages that might encourage parents to speak to their pediatrician about any concerns they may have regarding their child's weight?

_____

Appendix C. Consent Form

Emory University

Consent to be a Research Subject

Title: Identifying Effective Messaging Strategies for Healthy Weight

Principal Investigator: Julie Gazmararian, PhD MPH, Associate Professor, Department of Epidemiology

Funding Source: Alliance for a Healthier Generation

Introduction

You are being asked to be in *the Identifying Effective Messaging Strategies for Healthy Weight* research study. This form is designed to tell you everything you need to think about before you decide to consent (agree) to be in the study or not to be in the study. It is entirely your choice. If you decide to take part, you can change your mind later on and withdraw from the research study. You can skip any questions that you do not wish to answer.

Before making your decision:

- Please carefully read this form or have it read to you
- Please ask questions about anything that is not clear

You can take a copy of this consent form, to keep. Feel free to take your time thinking about whether you would like to participate. By signing this form you will not give up any legal rights.

Study Overview

The purpose of this study are to identify the: (1) knowledge and perceptions of obesity and prevention services; and (2) most effective messaging strategies for obesity prevention and treatment strategies such as content, wording, format and modes of delivery.

Procedures

A one-time, face to face interview will be conducted in a private office while you are at the clinic. The interview is expected to last approximately 20 to 30 minutes. During the interview, I will take written notes of your answers and the interview will be digitally recorded with your permission. If you do not agree to have the interview recorded, please let me know. If you do not want to answer any question during the interview, please tell me and I will move on to the next question. Immediately following the interview, I will address any questions that you may have and take you back to the clinic waiting room.

Risks and Discomforts

There are no foreseeable risks or discomforts associated with the study, although you may experience some embarrassment, uneasy feelings or concerns about disclosing sensitive information.

Benefits

This study is not designed to benefit you directly. This study is designed to learn more about effective messaging strategies for obesity prevention and treatment. While there may be no direct benefit to you as a participant from this study, it is hoped that the study results may be used to help others in the future by designing a communication plan or marketing strategy to increase use of obesity related services.

Compensation

You will be offered a $10 payment for being in this study.

Confidentiality

To protect your privacy, all of the information that you will provide to the interviewer will be confidential. Certain offices and people other than the researchers may look at study records. Government agencies and Emory employees overseeing proper study conduct may look at your study records. The Emory Institutional Review Board, which is a committee established according to federal laws to review and oversee human subjects research, has the right to review research records including voice recordings. In addition, records can be opened by court order or produced in response to a subpoena or a request for production of documents. The study funders may also look at your study records. Emory will keep any research records we create private to the extent we are required to do so by law. A study number rather than your name will be used on study records wherever possible. Your name and other facts that might point to you will not appear in any report or publication of this study or its results.

Voluntary Participation and Withdrawal from the Study

If you agree to participate in this study, understand that your participation is voluntary. You have the right to leave a study at any time without penalty. You may refuse to answer any questions that you do not wish to answer without penalty.

Contact Information

Contact Julie Gazmararian at : 404-712-8539 or jagazma@emory.edu.

- if you have any questions about this study or your part in it, or
- if you have questions, concerns or complaints about the research

Contact the Emory Institutional Review Board at 404-712-0720 or 877-503-9797 or irb@emory.edu:

- if you have questions about your rights as a research participant.
- if you have questions, concerns or complaints about the research.
- You may also let the IRB know about your experience as a research participant through our Research Participant Survey at http://www.surveymonkey.com/s/6ZDMW75.

Consent

Please, print your name and sign below if you agree to be in this study. By signing this consent form, you will not give up any of your legal rights. We will give you a copy of the signed consent, to keep.

_____

Name of Subject

_____ _____

Signature of Subject Date Time

_____ _____

Signature of Person Conducting Informed Consent Discussion Date Time

Appendix D. Qualitative Codes by Question

How Would You Define Overweight?

Code	Definition	Example
Fat	Any mention of the word 'fat'	A lot of fat
Weight	Any reference to weight, a specific weight, or an ideal weight	Over the recommended weight
Visual	Reference to visual indicators of weight gain	Visibly obese
BMI	Direct mention of the term 'BMI'	Based on BMI
Affecting Life/Health	References to the ways in which weight can impact an individuals' lifestyle, including daily activities or preferences, or their health including specific diseases or symptoms	Many problems and diseases
Food	Reference to food and its impact on weight	Constantly eating

What does the word obese mean to you?

Code	Definition	Example
Fat	Any mention of the word 'fat'	Really fat
Weight	Any reference to weight, a specific weight, or overweight	300 or 400 pounds
Visual	Reference to the visual indictors of weight or terms that can only be judged visually (i.e. big)	You know it when you see it
BMI	Direct mention of the term 'BMI'	has to do with BMI but I'm not exactly sure what
Affecting Health	Reference to the ways in which weight can impact healthy either by a specific disease or symptoms	Leads to problems like diabetes
Analogous to Overweight	Direct statement that overweight and obese have the same meaning	Same as overweight
Affecting Life	Reference to the ways in which weight impacts an individual's lifestyle or daily activities	When weight impedes lifestyle

What causes a child to become overweight?

Code	Definition	Example
Genetics	Reference to genetics, heredity, or running in the family	In part genetics

Diet	Reference to food, specific types of food, diet, eating, or food choices or habits	Wrong food choices
Exercise	Reference to exercise, activity levels, or sedentary lifestyle	Sedentary lifestyle
Physical Triggers	Physiological characteristics (i.e. stress) or medications that have physiological effects on weight	Medication side effects
Parenting	Reference to parenting styles, parent modeling or other parental influence on weight	Choices in food that parents buy
Environmental Triggers	Reference to factors like TV, computers, or videogames	Too much TV

What problems do you think an overweight child might have?

Code	Definition	Example
Psychological	Reference to problems like self esteem, body image, or emotional issues	Low self esteem
Social	Reference to problems with peers such as bullying, teasing, difficulty fitting in, or social stigma	Bulling
Health	Reference to the health implications of weight including specific diseases or symptoms	Diabetes, high cholesterol
Activity	Reference to challenges with activity, exercise, or keeping up with peers	Can't keep up with peers
Long-term	Reference to lifelong problems with disease of quality of life	Struggle with weight as they get older
School	Reference to problems in school or with learning	Affects ability to learn

How would you define a healthy weight for your child?

Code	Definition	Example
Proportional/Visual	When a child looks visually healthy or proportional in size, any reference to visual indicators	I know it when I see it
Chart/Doctor	Reference to doctor or the doctor's chart as an indicator of healthy weight	Normal weight according to height and weight chart
Food	Reference to proper food, healthy food, or good food choices	Eating the right foods
Activity Level	Children who are physically active, high energy	Has enough energy to do stuff

Happy/Healthy	Reference to happiness or healthy lifestyle as an indicator of healthy weight	As long as she's happy
Specific Weight Goal	A defined weight goal for the child	120 would be healthy for him

What concerns do you have about your child's weight?

Code	Definition	Example
Underweight	Reference to child being underweight	She is a bit underweight
Recent Weight Gain	Reference to recent weight gain as a point of concern	Weight has gone up in past year
Food	Reference to improper food choices	Eating the wrong foods
Activity	Reference to a lack of exercise or physical activity	Not getting enough exercise
Future Weight Problems	Concern about future weight problems	Not concerned yet, but watching it

If you felt or believe that your child had/ has weight issues, what things would you try as a family before speaking to a healthcare professional?

Code	Definition	Example
Food	Reference to any kind of changes in food or diet for child or family	Be more vigilant about food she was eating
Activity	Reference to any kind of changes in exercise or activity for child of family	More activity as a family
Medical Causes	Reference to consulting a doctor or checking for a disorder	See if he has a problem like stress
Needs Help	Indication that help would be needed to make changes	I want to make changes but I don't know what to do

What resources would/did you access when attempting to help your child? Resources may include websites, magazines, family/friends, etc.

Code	Definition	Example
None	Indication that no resources would be accessed	Wouldn't because we know what to do
Websites	Reference to websites, internet	Might look online for recipe ideas
Magazines	Reference to magazines	Magazines
Family and Friends	Reference to family or friends	I go to my grandmother a lot for advice
Healthcare workers	Reference to doctor, nutritionist, or other healthcare provider as a resource	Our pediatrician, and also we know some dietitians
School	Reference to school counselors or teachers	Advice from school

What are the warning signs that a child is becoming overweight?

Code	Definition	Example
Visual	Reference to visual indicators of weight problems, or terms that can only be judged visually	Physically looks larger than other children their age
Activity	Reference to lack of energy, low activity and exercise, disinterest in activity	They get lethargic, unmotivated
Health	Reference to health problems	Shortness of breath
Doctor/Chart	Reference to doctor's comment or child being on the high end of the growth curve as determined by doctor	When doctor states that weight is a problem
Diet	Reference to poor diet, food choices, or overexcitement about food	Refusing to eat healthy
Weight/BMI	Reference to increasing weight, sudden weight gains, or BMI	Weight keeps increasing beyond what it should be
Clothing	Reference to inappropriate clothing sizes for age, clothing not fitting	Clothes not fitting for their age
Others Noticing	Reference to family or friends noticing weight in child	If a family or friend says something

At what point would/did you seek help from your pediatrician to manage your child's weight problem?

Code	Definition	Example
Immediately	Indication that the first step to weight management would be talking to a pediatrician	Early on, there is no need to wait
If Attempts were not working	Indication that changes would be made in the home before talking to a pediatrician	If I wasn't seeing a difference with the changes we made
Weight/BMI/Visual	Reference to significant weight gain or changes in BMI or visual indicators	Increase 4 or 5 pounds per month over several months
Medical Condition	Reference to medical concerns or physiological problems	If I saw health issues like breathing
Wait for pediatrician	Reference to annual checkups or pediatrician comment	During annual physical if weight gain is noted and cause for concern
Unclear pediatrician role	Indication that consulting a pediatrician hadn't been considered or wasn't a favorable option	Not sure I would
Already talking to a doctor	Reference to current	Have always discussed with

	pediatrician involvement	the doctor

How do you think a pediatrician can help manage your child's weight?

Code	Definition	Example
Doctor as Secondary	Indication that doctor may be included but parent would be primary for weight management	I am primary person to manage her weight, but would consult a doctor as secondary
Food	Reference to help with food, meal planning, or nutritional guidance	Design weekly meal plan
Exercise	Reference to exercise and activity suggestions	Suggest activity regimen
Connect to other resources	Indication that doctor could provide references to other resources including dietitians	Help us see a dietitian I guess
General Advice/Guidance	Reference to general advice, monitoring of weight or overall health compared to age	Tell us what is healthy and normal for her age
Medical Assessment	Reference to medical tests for specific disease diagnosis	I would ask for tests to be run on thyroid
Reality Check	Indication that pediatrician could serve as an additional voice to overweight child	It would be helpful to have pediatrician reinforce what parent is saying

What, if any, weight related topics would you like to have more information on from your pediatrician?

Code	Definition	Example
None/Under control	Indication that no information is desired	We have a lot of knowledge about a healthy lifestyle
More detailed food advice	Reference to food or nutritional guidance	I need somebody to show me what are the good and bad foods

Interest in RD Consultation

Code	Definition	Example
RD Knowledge	Interest in an RD consultation for their knowledge of experience	Would be interested in seeing RD because they are more experienced
If concerned	Interest in seeing an RD based on level of concern for child	Only [interested] if I had an obese child
Based on trusted relationship	Interest in seeing RD based on trusted relationship with referring pediatrician	Would be interested in seeing an RD if MD recommends