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A Systematic Review of Satisfaction and Pediatric Obesity Treatment: New Avenues for Addressing Attrition

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Abstract

Pediatric obesity treatment programs report high attrition rates, but it is unknown if family experience and satisfaction contributes. This review surveys the literature regarding satisfaction in pediatric obesity and questions used in measurement. A systematic review of the literature was conducted using Med-line, PsychINFO, and CINAHL. Studies of satisfaction in pediatric weight management were reviewed, and related studies of obesity were included. Satisfaction survey questions were obtained from the articles or from the authors. Eighteen studies were included; 14 quantitative and 4 qualitative. Only one study linked satisfaction to attrition, and none investigated the association of satisfaction and weight outcomes. Most investigations included satisfaction as a secondary aim or used single-item questions of overall satisfaction; only one assessed satisfaction in noncompleters. Overall, participants expressed high levels of satisfaction with obesity treatment or prevention programs. Surveys focused predominantly on overall satisfaction or specific components of the program. Few in-depth studies of satisfaction with pediatric obesity treatment have been conducted. Increased focus on family satisfaction with obesity treatment may provide an avenue to lower attrition rates and improve outcomes. Enhancing measurement of satisfaction to yield actionable responses could positively influence outcomes, and a framework, via patient-centered care principles, is provided.

Keywords

family involvement; patient satisfaction; pediatrics

National estimates indicate nearly one third of children are overweight or obese (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). Despite some stabilization in recent years, the prevalence and consequences of childhood obesity are unlikely to abate in the foreseeable future. A call has been issued to “[find] solutions to childhood obesity” rather than simply documenting the problem (Robinson, 2008). Yet, there is no standard, effective approach for the 2.7 million American children with severe obesity (body mass index [BMI] above the 99th percentile; Skelton, Cook, Auinger, Klein, & Barlow, 2009). While approaches to improving the food and activity environment are needed to address this problem, such as increased avenues for physical activity and better access to healthy foods, there remains a need for treatment to improve the weight status of those children whose health is being

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affected by their weight. This typically occurs in family-based weight management programs, often located in community settings or specialized clinics.

Unfortunately, of the children and families who are able to access pediatric obesity treatment, a great number of them drop out (Skelton & Beech, 2011). Attrition rates reported in clinical programs range from 27 to 73%, with greater than 50% attrition in most hospital-based clinics (Barlow & Ohlemeyer, 2006; Cote et al., 2004; Denzer, Reithofer, Wabitsch, & Widhalm, 2004; Kirk et al., 2005; Skelton, Demattia, & Flores, 2008; Tershakovec & Kuppler, 2003), and up to 91% in a 2-year European study (Pinelli et al., 1999). In the few investigations of treatment attrition, patients and families reported the following explanations for dropout: the child desired to discontinue treatment; the program failed to meet family expectations, or was not what the family was looking for; the child would miss too much school; or the family was displeased with program components (Barlow & Ohlemeyer, 2006; Cote et al., 2004; Kitscha, Brunet, Farmer, & Mager, 2009; Skelton, Goff, Ip, & Beech, 2011). Some studies have considered demographic and family factors as predictors or contributors of attrition (race/ethnicity and insurance status); however, treatment characteristics have not been linked to patient attrition, nor have family interactions with their treatment providers (de Niet, Timman, Jongejan, Passchier, & van den Akker, 2011; Zeller et al., 2004). Specifically, family perceptions of and experiences in obesity treatment have not been well-studied. It is unknown if treatment programs are meeting the needs and expectations of patients in weight management and if dissatisfaction with treatment is a contributor of excessive attrition. Thus, a better understanding of treatment attrition and its determinants may be gleaned from an investigation of patient and family satisfaction.

Given the current lack of guidelines for approaching satisfaction in pediatric weight management, this is a particularly difficult topic to address. Expert recommendations for obesity treatment describe a need for multidisciplinary teams, frequent treatment visits, and use of behavior modification techniques that are tailored to each family (Spear et al., 2007). Though assessment of such programs may be difficult due to variability in their unique approaches, synthesizing information from their programs could provide a roadmap for further study. This review surveys the literature regarding satisfaction in pediatric obesity treatment and its potential relationship to patient attrition while also examining measures of satisfaction in such programs. From our findings in the identified studies, we suggest a framework for future evaluation of patient satisfaction with implications for improved attrition.

Methods

Data Sources and Search Strategy

We conducted a systematic review of Med-line (PubMed), PsychINFO, and CINAHL for English-language studies of satisfaction in pediatric weight management interventions. Search terms included obesity, overweight, pediatric obesity, childhood obesity, weight management, obesity treatment, obesity care, and pediatrics. Each of these terms was cross-searched with care perceptions, patient experience, satisfaction, quality, and quality of care.

We also reviewed studies referenced in original papers, and those by authors known in the field. All studies published between 1990 and 2011 were considered.

Study Selection

All studies had to meet these a priori criteria: pediatric age group (below 18 years of age); overweight and obesity care or treatment; and assessment of satisfaction. Though there are inherent differences between them, we included both prevention and treatment studies in order to accommodate for the dearth of literature on this topic, and to focus on satisfaction measurement as it relates to weight and behavior outcomes in general. Therefore, we considered studies of overweight and obesity prevention; perceptions of medical care and satisfaction with a focus on overweight or obesity; and school-based interventions and programs where satisfaction was measured. Reviews and commentaries were also considered. Two investigators (JAS, MBI) independently screened titles and abstracts identified by the searches, and full articles were obtained if they appeared to meet inclusion criteria or if titles and abstracts provided insufficient information to determine inclusion. Full texts were then reviewed to determine final inclusion in analysis. Disagreement between reviewers was resolved by consensus, using a third investigator (AMG) as needed.

Data Extraction

An electronic data abstraction form was developed by the three investigators. Each study was reviewed by one investigator (JAS), then independently reviewed by a second (MBI). Disagreement regarding data abstraction was again resolved by consensus upon consultation with the third investigator (AMG).

Data Synthesis

Abstracted data were summarized in narrative form based on elements in the electronic data abstraction form, including study design and setting; participants and population; measures and outcomes; and results. To examine approaches used for satisfaction assessment and perception of care, study questions and measures were further abstracted and compiled. If measures or questions were unavailable in the manuscripts, corresponding authors were contacted and asked to provide them.

Satisfaction Survey Analysis

To further assess work in this area, we conducted a quasi-qualitative analysis of measures and questionnaires obtained from the authors of the studies included in this review. Content of satisfaction survey questions were categorized based on dimensions of patient satisfaction identified in previous studies, accessibility, physical environment, materials and resources, clinician–patient interactions, treatment/outcomes, convenience, cost, duration, and overall satisfaction (Margolis, Al-Marzouq, Revel, & Reed, 2003; Pascoe & Attkisson, 1983; Ware, Snyder, Wright, & Davies, 1983; Woolley, Kane, Hughes, & Wright, 1978). We also included a short measure of satisfaction developed for quality improvement in our own clinic, designed to assess each of the aforementioned dimensions of satisfaction (Guzman, Irby, Pulgar, & Skelton, 2011; Halvorson & Skelton, 2011; Irby, Kaplan, Garner-Edwards, Kolbash, & Skelton, 2010; Skelton, Goff et al., 2011). This measure has not yet been

published and was used solely for quality improvement purposes (Skelton, Irby, & Beech, 2011).

Results

Our literature search yielded 4,599 abstracts, of which 61 studies were included for further review by face validity. Of those, 18 met inclusion criteria, as they involved care perception or satisfaction in pediatric obesity, pediatric obesity prevention, or pediatric obesity treatment (4 qualitative studies, 12 intervention studies, and 2 studies examining issues of weight, obesity, and satisfaction with medical care). All were published after 2000.

Quantitative Studies

Of the 14 quantitative studies, most included cross-sectional or pre- and postintervention surveys, as described in Table 1. The study by Cote et al. (2004) was the only one to explore perceived quality of care in a pediatric obesity clinic. Attrition was associated with lower perceived quality of care as measured by a single item from an established quality of care survey where parents were asked to rate the overall care their child received on a scale from 0 to 10 (Hays et al., 1999; Homer et al., 1999). Two studies evaluated satisfaction with the use of telemedicine in treatment and another with the use of e-mail and short message service (SMS; Davis et al., 2011; Kornman et al., 2010; Mulgrew, Shaikh, & Nettiksimmons, 2011). Three studies employing behavioral approaches with adolescents, parents-only, and low-income families found participants were satisfied with their respective interventions; correlation of satisfaction with participant outcomes was not assessed in any of these studies (Cluss, Ewing, Long, Krieger, & Lovelace, 2010; Janicke et al., 2008; Saelens et al., 2002).

High levels of student satisfaction were demonstrated in five studies involving school-based interventions, all of which were group-focused and were not individual student-focused programs (Abood, Black, & Coster, 2008; Jan, Bellman, Barone, Jessen, & Arnold, 2009; Neumark-Sztainer et al., 2009; Neumark-Sztainer, Story, Hannan, & Rex, 2003; Robinson et al., 2003). Parents were satisfied with the interventions regardless of their level of participation (Neumark-Sztainer et al., 2009, 2003; Robinson et al., 2003). In a study of adolescent perceptions of their providers, weight status did not influence satisfaction with care (Cohen, Tanofsky-Kraff, Young-Hyman, & Yanovski, 2005). When compared to parents of normal weight children, a cross-sectional study found parents of overweight children were more likely to prefer individual treatment options as opposed to group sessions (Eneli, Kalogiros, McDonald, & Todem, 2007).

Qualitative Studies

Qualitative studies have evaluated parental perceptions of obesity treatment and approaches to manage weight in children (Table 2). Stewart et al., conducted in-depth parent interviews to assess perceptions before, during, and after participation in a 6-month behavioral-based pediatric obesity treatment program (Stewart, Chapple, Hughes, Poustie, & Reilly, 2008a). Pretreatment, parents indicated that they were motivated to enroll their child into a treatment program based on perceived benefits to their child's self-esteem and QOL, rather than to

improve weight outcomes. Families were motivated to remain in the treatment program when these expectations were met. In a follow-up, the same parents thought patient-centered approaches with motivational interviewing were more favorable and child-friendly; this view was linked to enhanced parental perception of the program (Stewart, Chapple, Hughes, Poustie, & Reilly, 2008b).

In a series of focus groups, parental concerns were assessed regarding obesity and approaches to manage weight in their 5- to 8-year-old children (Styles, Meier, Sutherland, & Campbell, 2007). Parents felt that physician and community efforts to improve health behaviors were lacking, and they would be most receptive to multilevel approaches for achieving a healthy weight in their children. A similar study in southwest England investigated the perceptions of parents seeking medical help over concerns for their child's weight. Parents indicated that their child's general practitioner often caused them to feel blamed or dismissed when discussing child-weight issues (Edmunds, 2005; Eneli et al., 2007).

Satisfaction Measures

Of the quantitative studies, 13 reported the use of an instrument, survey, measure, or questions pertaining to satisfaction; 4 included these measures within their published reports. Authors from the remaining nine studies kindly provided their satisfaction surveys. Table 3 describes the satisfaction domains and features assessed across these studies, including the satisfaction survey used in our pediatric weight management clinic (Halvorson & Skelton, 2011; Irby et al., 2010; Skelton, Goff et al., 2011).

Measures of satisfaction with the helpfulness and understandability of materials and resources appeared in 6 of 14 surveys; few assessed satisfaction with accessibility, physical environment, cost, or duration of treatment. Nine studies measured satisfaction with specific components of the treatment process, and 12 evaluated less specific features relative to overall satisfaction. Many surveys inquired about participant's willingness to recommend treatment to others as a proxy of overall satisfaction. In eight studies, participants were asked for open-ended feedback or provided space to explain their thoughts and feelings about their program. Of these, six specifically asked patients to identify what they did or did not like, and seven requested suggestions for improvement.

Discussion

Despite substantial efforts to design and implement interventions to treat pediatric obesity, the literature on family and patient satisfaction with these programs is sparse. Only 18 studies met our broad search criteria, and none assessed the relationship between satisfaction and outcomes. These studies examined a diverse set of interventions, including one clinic-based program. Most employed cross-sectional or pre–posttreatment rather than longitudinal designs, examining satisfaction as a simple feasibility variable secondary to other objectives and not to improve quality of care or outcomes. Satisfaction was consistently high across all studies, which is not surprising given most studies only surveyed patients currently enrolled in or who had completed programs. Only one study administered satisfaction surveys to subjects who had dropped out of treatment (Cote et al., 2004), and their results suggested

that perceived quality of care, as a marker of satisfaction, was negatively associated with attrition. The ability to detect variations in satisfaction may have been limited by the use of short batteries, characterized by a clustering of responses at one end of a scale (ceiling or basement effects). Further, the lack of variability could indicate inadequate measurement of satisfaction, providing little actionable guidance for program improvement. No other studies in this review, or in our previous review of attrition, evaluated satisfaction so conclusions could be drawn between satisfaction and attrition (Skelton & Beech, 2011; aside from one discussed in this review [Cote et al., 2004]). Combined with the qualitative studies, this review implies treatment characteristics could influence outcomes, such as preferences for treatment location and approach (group vs. individual), impact of communication styles (motivational interviewing), and use of technology.

With the finding of high levels of satisfaction across studies, perhaps *dis*satisfaction and attrition are more tightly correlated. Only 6 of 14 surveys asked participants what they did or did not like about the program in an open-ended format (Table 2). Although this format allows patients the opportunity to express dissatisfaction, such responses are less standardized and more difficult to assess, particularly in larger study populations. Mixed-methods approaches that incorporate open- and close-ended responses may help to identify areas needing improvement. Compiling questions across the studies (Table 3) provide guidance to others wishing to address satisfaction, with open-ended items providing actionable guidance for improvement. However, other than the measure used in our clinical program for quality improvement, no survey addressed all domains of satisfaction. Increased attention to satisfaction could identify new areas for pediatric obesity intervention, and have implications for quality of care and possibly improvement in weight-related outcomes. While the synthesis of questions used is helpful (Table 3), additional study is needed to bring satisfaction into effective use in pediatric obesity treatment.

Conceptualizing Satisfaction

Satisfaction has been the subject of extensive research and discussion in other areas. Sitzia and Wood (1997) conducted a comprehensive review of more than 100 papers published on patient satisfaction, presenting complex issues related to measurement of satisfaction and how it should be conceptualized. Sitzia and Wood (1997) described patient satisfaction not as a single concept, but as a function of multiple determinants: patient characteristics; psychosocial factors; and patient expectations related to structural, technical, and interpersonal aspects of treatment.

Many of the studies included in this review only assessed measures of overall satisfaction, which are less likely to be assessed critically by respondents and demonstrate little variability (Fitzpatrick, 1984; Rubin, 1990). This may explain the lack of variability in results and lead to responses that are not truly evaluative or meaningful. Asking detailed questions about specific aspects of care (access, physical setting, cost, convenience, how patient was treated by staff, staff knowledge, competence, outcomes, communication, empathy, and education [Ross, Steward, & Sinacore, 1993; Sitzia & Wood, 1997]) may better address quality improvement. It is suggested that surveys also measure discrepancies in expectations, one of the most important determinants of satisfaction, and expressed

*dis*satisfaction, rather than how much the patient liked an aspect of care. Demographic characteristics also influence satisfaction responses (Hall & Dornan, 1990), but like patient expectations, are rarely assessed directly and are included merely as adjustment factors in statistical analyses (Sitzia & Wood, 1997). Another concern is whether patient satisfaction can be used to "stimulate genuine gains in patient centered care" (Kravitz, 1998). This would require measures that specifically target the unique concerns of the patient, since assessments of care overall are less likely to yield dynamic responses.

Pediatric obesity prevention and treatment can occur in diverse settings, from the primary care pediatrician's office to community-based sites to children's hospitals (Barlow, 2007). Treatment options are therefore diverse, and likely to differ greatly from site to site. Capturing satisfaction in an accurate and useful way will contribute greatly to shared learning between programs, identifying key opportunities to improve care and hopefully outcomes (Hampl, Paves, Laubscher, & Eneli, 2011). Approaches to consider implementing to improve attrition include reminder phone calls, evening hours, flexible scheduling, motivational interviewing, staff training, child-friendly activities, parent-only visits, and establishing appropriate expectations. Focusing on actionable variables will allow program leaders to use gathered information most effectively and possibly to extend findings from one program site (multidisciplinary, tertiary-care) to another (community-based groups). With treatment programs being developed in response to the epidemic of pediatric obesity, incorporating satisfaction into treatment will be the first step in standardizing approaches and monitoring quality of care delivered.

Patient-Centered Care

The Institute of Medicine outlined specific aims for improved health care, with particular focus on patient-centeredness (Institute of Medicine, 2001). The core tenets of patient-centered care are broken down further, including respect for patients' values, preferences, and needs; coordinated and integrated care; provision of information and education; effective communication; physical comfort; emotional support, relief from fear and anxiety; and involvement of family and friends (Institute of Medicine, 2001). These dimensions of patient-centered care overlap substantially with the dimensions of satisfaction (Table 3), and are highly relevant to pediatric obesity.

Patient-centered communication is already an accepted component of pediatric obesity treatment, as are nutrition and physical activity education (Barlow, 2007). Including family members in treatment is also recognized as a core component, and many treatment programs utilize multidisciplinary teams or community programs, necessitating coordinated care (Barlow, 2007). Patient-, and in the case of pediatric obesity, family-centered care appears to be an ideal avenue in which to evaluate the satisfaction of families. If doctors lack a patient-centered approach to care, patients will be less satisfied and have greater symptom burden, suggesting a link between outcomes, satisfaction, and patient-centered care (Little et al., 2001). Through proper measurement of patient satisfaction, we can determine if the treatment being provided is patient-centered and meeting the needs of the family. For programs seeking to improve quality of care, striving to achieve patient-centeredness in the measurement of satisfaction (Table 4) implies intent to address patient concerns (Avis,

Bond, & Arthur, 1997; Calnan, 1988; Wensing & Grol, 1994). Thus, patient-centered approaches may be a means to improve patient satisfaction, and doing so may lead to improvement in attrition and patient outcomes. The framework in Table 4 outlines an approach to patient-centered satisfaction measurement, and combined with questions specific to an intervention (open-ended questions, treatment-specific items), can provide beneficial feedback to clinicians and researchers.

Conclusion

The study of satisfaction and pediatric obesity treatment can gain much going forward from existing research presented here, previous conceptualization of satisfaction in other areas of healthcare, and from the framework of patient-centered care (Table 4). Clinicians and researchers should strive to incorporate several key aspects to fully capitalize on measurement of satisfaction: capturing sociodemographics of the family and correlating to responses; determining if satisfaction predicts success in weight management and attrition from treatment; investigating satisfaction in families dropped out of treatment; and assessing dissatisfaction as a means to improve care delivery. A more concerted effort to meaningfully measure satisfaction in pediatric weight management can provide actionable findings that could lead to more efficacious treatment.

Given the current pediatric obesity epidemic, attrition from treatment programs represents a stark failure of treatment. Treatment programs involve great time commitment from patients and clinicians, and require extensive resources that are seemingly wasted when attrition is high. Satisfaction with obesity treatment has not been sufficiently studied, has produced few actionable findings, and has not captured dissatisfaction with treatment, particularly among dropouts. A true improvement in treatment outcomes may be facilitated by proper satisfaction measurement using family-centered care principles as guidelines. Utilizing existing research in this area, increased attention to satisfaction with pediatric obesity treatment could lower attrition rates and improve weight-related outcomes.

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References

Abood DA, Black DR, Coster DC. Evaluation of a school-based teen obesity prevention minimal intervention. Journal of Nutrition Education and Behavior. 2008; 40:168–174. [PubMed: 18457785]

Avis M, Bond M, Arthur A. Questioning patient satisfaction: An empirical investigation in two outpatient clinics. Social Science and Medicine. 1997; 44:85–92.

Barlow SE. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: Summary report. Pediatrics. 2007; 120(Suppl 4):S164–S192. [PubMed: 18055651]

Barlow SE, Ohlemeyer CL. Parent reasons for nonreturn to a pediatric weight management program. Clinical Pediatrics. 2006; 45:355–360. [PubMed: 16703159]

Calnan M. Towards a conceptual framework of lay evaluation of health care. Social Science and Medicine. 1988; 27:927–933. [PubMed: 3227389]

Cluss PA, Ewing LJ, Long KA, Krieger WG, Lovelace J. Adapting pediatric obesity treatment delivery for low-income families: A public-private partnership. Clinical Pediatrics. 2010; 49:123–129. [PubMed: 20080518]

Cohen ML, Tanofsky-Kraff M, Young-Hyman D, Yanovski JA. Weight and its relationship to adolescent perceptions of their providers (WRAP): A qualitative and quantitative assessment of teen weight-related preferences and concerns. The Journal of Adolescent Health. 2005; 37:163. [PubMed: 16026727]

Cote MP, Byczkowski T, Kotagal U, Kirk S, Zeller M, Daniels S. Service quality and attrition: An examination of a pediatric obesity program. International Journal for Quality in Health Care. 2004; 16:165–173. [PubMed: 15051711]

Davis AM, James RL, Boles RE, Goetz JR, Belmont J, Malone B. The use of TeleMedicine in the treatment of paediatric obesity: feasibility and acceptability. Maternal & Child Nutrition. 2011; 7:71–79. [PubMed: 21108739]

Denzer C, Reithofer E, Wabitsch M, Widhalm K. The outcome of childhood obesity management depends highly upon patient compliance. European Journal of Pediatrics. 2004; 163:99–104. [PubMed: 14691718]

Edmunds LD. Parents' perceptions of health professionals' responses when seeking help for their overweight children. Family Practice. 2005; 22:287–292. [PubMed: 15772121]

Eneli IU, Kalogiros ID, McDonald KA, Todem D. Parental preferences on addressing weight-related issues in children. Clinical Pediatrics. 2007; 46:612–618. [PubMed: 17554138]

Fitzpatrick, R. Satisfaction with health care. In the experience of illness. Tavistock; London, U.K.: 1984.

Guzman MA, Irby MB, Pulgar C, Skelton JA. Adapting a tertiary-care pediatric weight management clinic to better reach Spanish-speaking families. Journal of Immigrant and Minority Health. 2011; 14(3):512–515. [PubMed: 21909984]

Hall JA, Dornan MC. Patient sociodemographic characteristics as predictors of satisfaction with medical care: A meta-analysis. Social Science and Medicine. 1990; 30:811–818. [PubMed: 2138357]

Halvorson E, Skelton JA. Appointment attendance in a pediatric weight management clinic. Clinical Pediatrics. 2011; 51(9):888–891. [PubMed: 21622690]

Hampl S, Paves H, Laubscher K, Eneli I. Patient engagement and attrition in pediatric obesity clinics and programs: results and recommendations. Pediatrics. 2011; 128(Suppl 2):S59–S64. [PubMed: 21885646]

Hays RD, Shaul JA, Williams VS, Lubalin JS, Harris-Kojetin LD, Sweeny SF, et al. Psychometric properties of the CAHPS 1.0 survey measures. Consumer assessment of health plans study. Medical Care. 1999; 37(3 Suppl):MS22–MS31. [PubMed: 10098556]

Homer CJ, Fowler FJ, Gallagher PM, Shaul J, Uyeda M, Zaslavsky A, et al. The Consumer Assessment of Health Plan Study (CAHPS) survey of children's health care. Joint Commission Journal on Quality Improvement. 1999; 25:369–377. [PubMed: 10412084]

Institute of Medicine. Crossing the quality chasm: A new health system for the 21st century. National Academy Press; Washington, DC: 2001.

Irby M, Kaplan S, Garner-Edwards D, Kolbash S, Skelton JA. Motivational interviewing in a family-based pediatric obesity program: A case study. Families, System, and Health. 2010; 28:236–246.

Jan S, Bellman C, Barone J, Jessen L, Arnold M. Shape it up: A school-based education program to promote healthy eating and exercise developed by a health plan in collaboration with a college of pharmacy. Journal of Managed Care Pharmacy. 2009; 15:403–413. [PubMed: 19496637]

Janicke DM, Sallinen BJ, Perri MG, Lutes LD, Huerta M, Silverstein JH, et al. Comparison of parent-only vs. family-based interventions for overweight children in underserved rural settings: Outcomes from project STORY. Archives of Pediatrics & Adolescent Medicine. 2008; 162:1119–1125. [PubMed: 19047538]

Kirk S, Zeller M, Claytor R, Santangelo M, Khoury PR, Daniels SR. The relationship of health outcomes to improvement in BMI in children and adolescents. Obesity Research. 2005; 13:876–882. [PubMed: 15919841]

Kitscha CE, Brunet K, Farmer A, Mager DR. Reasons for non-return to a pediatric weight management program. Canadian Journal of Dietetic Practice and Research. 2009; 70:89–94. [PubMed: 19515272]

Kornman KP, Shrewsbury VA, Chou AC, Nguyen B, Lee A, O'Connor J, et al. Electronic therapeutic contact for adolescent weight management: The Loozit study. Telemedicine Journal and E-Health. 2010; 16:678–685. [PubMed: 20575613]

Kravitz R. Patient satisfaction with health care: Critical outcome or trivial pursuit? Journal of General Internal Medicine. 1998; 13:280–282. [PubMed: 9565395]

Little P, Everitt H, Williamson I, Warner G, Moore M, Gould C, et al. Observational study of effect of patient centredness and positive approach on outcomes of general practice consultations. BMJ. 2001; 323:908–911. [PubMed: 11668137]

Margolis SA, Al-Marzouq S, Revel T, Reed RL. Patient satisfaction with primary health care services in the United Arab Emirates. International Journal for Quality in Health Care. 2003; 15:241–249. [PubMed: 12803352]

Mulgrew KW, Shaikh U, Nettiksimmons J. Comparison of parent satisfaction with care for childhood obesity delivered face-to-face and by telemedicine. Telemedicine Journal and E-Health. 2011; 17:383–387. [PubMed: 21492028]

Neumark-Sztainer D, Haines J, Robinson-O'Brien R, Hannan PJ, Robins M, Morris B, et al. “Ready. Set. ACTION!” A theater-based obesity prevention program for children: A feasibility study. Health Education Research. 2009; 24:407–420. [PubMed: 18622011]

Neumark-Sztainer D, Story M, Hannan PJ, Rex J. New moves: A school-based obesity prevention program for adolescent girls. Preventive Medicine. 2003; 37:41–51. [PubMed: 12799128]

de Niet J, Timman R, Jongejan M, Passchier J, van den Akker E. Predictors of participant dropout at various stages of a pediatric lifestyle program. Pediatrics. 2011; 127(1):e164–170. [PubMed: 21149433]

Ogden CL, Carroll MD, Curtin LR, Lamb MM, Flegal KM. Prevalence of high body mass index in US children and adolescents, 2007–2008. JAMA. 2010; 303:242–249. [PubMed: 20071470]

Pascoe GC, Attkisson CC. The evaluation ranking scale: A new methodology for assessing satisfaction. Evaluation and Program Planning. 1983; 6:335–347. [PubMed: 10267261]

Pinelli L, Elerdini N, Faith MS, Agnello D, Ambruzzi A, De Simone M, et al. Childhood obesity: results of a multicenter study of obesity treatment in Italy. Journal of Pediatric Endocrinology & Metabolism. 1999; 12(Suppl 3):795–799. [PubMed: 10626272]

Robinson TN. Treating pediatric obesity: Generating the evidence. Archives of Pediatrics & Adolescent Medicine. 2008; 162:1191–1192. [PubMed: 19047549]

Robinson TN, Killen JD, Kraemer HC, Wilson DM, Matheson DM, Haskell WL, et al. Dance and reducing television viewing to prevent weight gain in African-American girls: The Stanford GEMS pilot study. Ethnicity & Disease. 2003; 13(1 Suppl 1):S65–S77. [PubMed: 12713212]

Ross CK, Steward CA, Sinacore JM. The importance of patient preferences in the measurement of health care satisfaction. Medical Care. 1993; 31:1138–1149. [PubMed: 8246642]

Rubin HR. Can patients evaluate the quality of hospital care? Medical Care Review. 1990; 47:267–326. [PubMed: 10108049]

Saelens BE, Sallis JF, Wilfley DE, Patrick K, Cella JA, Buchta R. Behavioral weight control for overweight adolescents initiated in primary care. Obesity Research. 2002; 10:22–32. [PubMed: 11786598]

Sitzia J, Wood N. Patient satisfaction: A review of issues and concepts. Social Science and Medicine. 1997; 45:1829–1843. [PubMed: 9447632]

Skelton JA, Beech BM. Attrition in paediatric weight management: A review of the literature and new directions. Obesity Reviews. 2011; 12:e273–e281. [PubMed: 20880126]

Skelton JA, Cook SR, Auinger P, Klein JD, Barlow SE. Prevalence and trends of severe obesity among US children and adolescents. Academic Pediatrics. 2009; 9:322–329. [PubMed: 19560993]

Skelton JA, Demattia LG, Flores G. A pediatric weight management program for high-risk populations: A preliminary analysis. Obesity (Silver Spring). 2008; 16:1698–1701. [PubMed: 18451781]

Skelton JA, Goff D, Ip E, Beech BM. Attrition in a multidisciplinary pediatric weight management clinic. Childhood Obesity. 2011; 7:185–196. [PubMed: 21966612]

Skelton JA, Irby MB, Beech BM. Bridging the gap between family-based treatment and family-based research in childhood obesity. Childhood Obesity. 2011; 7:323–326. [PubMed: 25019510]

Spear BA, Barlow SE, Ervin C, Ludwig DS, Saelens BE, Schetzina KE, et al. Recommendations for treatment of child and adolescent overweight and obesity. Pediatrics. 2007; 120(Suppl 4):S254–S288. [PubMed: 18055654]

Stewart L, Chapple J, Hughes AR, Poustie V, Reilly JJ. Parents' journey through treatment for their child's obesity: a qualitative study. Archives of Disease in Childhood. 2008a; 93:35–39. [PubMed: 17916586]

Stewart L, Chapple J, Hughes AR, Poustie V, Reilly JJ. The use of behavioural change techniques in the treatment of paediatric obesity: Qualitative evaluation of parental perspectives on treatment. Journal of Human Nutrition and Dietetics. 2008b; 21:464–473. [PubMed: 18647212]

Styles JL, Meier A, Sutherland LA, Campbell MK. Parents' and caregivers' concerns about obesity in young children: a qualitative study. Family & Community Health. 2007; 30:279–295. [PubMed: 17873635]

Tershakovec AM, Kuppler K. Ethnicity, insurance type, and follow-up in a pediatric weight management program. Obesity Research. 2003; 11:17–20. [PubMed: 12529480]

Ware JE Jr. Snyder MK, Wright WR, Davies AR. Defining and measuring patient satisfaction with medical care. Evaluation and Program Planning. 1983; 6:247–263. [PubMed: 10267253]

Wensing M, Grol R. Single and combined strategies for implementing changes in primary care: a literature review. International Journal for Quality in Health Care. 1994; 6:115–132. [PubMed: 7953212]

Woolley FR, Kane RL, Hughes CC, Wright DD. The effects of doctor-patient communication on satisfaction and outcome of care. Social Science and Medicine. 1978; 12:123–128. [PubMed: 653374]

Zeller M, Kirk S, Claytor R, Khoury P, Grieme J, Santangelo M, Daniels S. Predictors of attrition from a pediatric weight management program. Journal of Pediatrics. 2004; 144(4):466–470. [PubMed: 15069394]

Table 1

Quantitative Studies of Perceptions of Care and Satisfaction in Pediatric Obesity

Author	Site/*N*	Demographics	Intervention and Objectives	Design	Measure of Satisfaction	Satisfaction-Related Results	Comments
Abood, Black, & Coster (2008)	Fourteen schools in North Florida *N* = 880 Intervention: *n* = 551 (seven schools) Control: *n* = 329 (seven schools)	Intervention: Mean age 14.5 years Female 57% Mean BMI Females 22.3 Males 23.3 White 78% Black 12% Hispanic 7.2% Control: Mean age 14.8 years Female 54% Mean BMI Females 22.1 Males 23 White 57% Black 17.4% Hispanic 19.9%	School-based minimal intervention, consisting of two 30-min interventions Evaluate improvement in nutrition knowledge, intentions to avoid overweight, role of peer, and parental influences and participant satisfaction	Experimental design, randomization at school level Pre- and posttest evaluation	Four-item child survey 4-point scale response	Sixty-seven percent found program interesting 87% found program easy to follow 73% would use information presented	Program satisfaction had a positive effect on healthy weight behavior intentions: eat more fruits and vegetables, less fried food, less sweets; change eating habits; read food labels; exercise more; limit TV, change activity level
Cluss et al. (2010)	Pennsylvania *N* = 52 overweight or obese children and parents Normal weight *n* = 29 Obese *n* = 62	Mean age 8 years Female 48% Mean BMI 26.9 overweight 23% obese 77% Medicaid 80% Race/ethnicity not reported Participating parent: mothers 93% Mean age 14 years Mean BMI 38.9 Female 42% White 48% Black 48% Hispanic 3%	Adaptation of evidence-based approaches to meet needs of low-income families. Eight-week intervention, three in-person and five by phone sessions lasting 20–45 min Evaluate feasibility of adapting intervention for low-income families medical care	Prospective single arm intervention	11-item parent survey Mixed Response (Likert, closed- and open-ended)	Hundred percent indicated they would refer friends to program Program quality 3.8 on a scale of 4 (very satisfied); high ratings (3.5–3.8) of individual components Most common suggestion was to extend program length	Eighty-eight percent retention rate 65% completed all sessions 28% of families offered suggestion to improve future versions of program
Cohen et al. (2005)	Greater Washington, DC area *N* = 91 adolescents participating in ongoing	Normal weight: Mean age 13.4 years Mean BMI 22.5 Female 52% White 59%	No intervention Examine relationship of body weight to satisfaction with care in adolescents, and obtain qualitative data on preferences for general and weight-related medical care	Cross-sectional survey	44-item survey of adolescents (WRAP[a] Survey) Mixed response (Likert, closedand open-ended)	Overall medical satisfaction and behavioral subscales not correlated with BMI Affective subscales negatively correlated with BMI standard deviation score	Study focused on preferences for general medical care and weight status, not related to

Author	Site/*N*	Demographics	Intervention and Objectives	Design	Measure of Satisfaction	Satisfaction-Related Results	Comments
	studies at National Institutes of Health studies at National Institutes of Health studies at National Institutes of Health studies at National Institutes of Health Normal weight *n* = 29 Obese *n* = 62	Black 38% Hispanic 3% Obese Mean age 14 years Mean BMI 38.9 Female 42% White 48% Black 48% Hispanic 3%				Teens prefer term "overweight" Attention to confidentiality, privacy, and embarrassment important for teen satisfaction	obesity treatment
Cote et al. (2004)	Cincinnati Children's Hospital obesity treatment program *N* = 120 parents of obese children participating in treatment program	Parent: age not reported Sex not reported White 55% Black 40% Biracial 3.3% Other 1.7% Medicaid 47% High-school education or above 89.2%	Multidisciplinary pediatric obesity program at urban tertiary-care children's hospital. Study of initial 12-week treatment phase Examine demographics, illness, and quality of care determinants of service attrition in a pediatric obesity program	Cross-sectional survey and semistructured interviews	1-item parent survey (CAHPS® 2.0[b]) 11-point scale response	Statistically significant differences between drop-out and completers on overall quality of care 33% reported child's desire to leave the program was the reason for drop out 27% stated program failed to meet family expectations	Most frequent suggestions to facilitate family returning to program: assistance with insurance coverage, following up with families, increasing engagement of child
Davis et al. (2011)	Urban and rural areas of Kansas *N* = 17 overweight or obese children and mothers	Child: Mean age 9.9 yrs Mean BMI 95th percentile Female 58.8% White 47.1% Black 47.1% Hispanic 5.9% Mother: Age not reported Mean BMI 32.0 High school education or above 76%	Four, 1-hr long group sessions over 8 weeks, attended by parent and child, delivered by telemedicine from tertiary care center to school Assess feasibility of group obesity treatment via telemedicine	Randomized prospective study. Single visit with physician control group	2-item parent survey 10-point Likert scale	High satisfaction overall (mean score 8.4) High satisfaction with intervention components (8.1) 100% indicated program was helpful	100% completed initial 2 months of study
Eneli et al. (2007)	Urban Midwestern city *N* = 292 parents	Parent: Mean age 32 years BMI ≥ 25 53% Female 90% White 65.3% Black 16% Hispanic 8% Medicaid 45%	No intervention Investigate preferences for addressing weight-related concerns with parents of overweight and normal weight children in routine medical care	Cross-sectional survey, recruited from pediatric primary care faculty group	Survey of parents, including demographics, perceptions of care, and logistics and preferences for care	A total of 62.3% of all parents viewed physician's primary care office as best place to provide care for overweight children Parents have strong preferences about when, where, and how weightmanagement should be addressed	Parents of overweight children more likely to prefer individual meetings with physician over group meetings to address weight

Author	Site/*N*	Demographics	Intervention and Objectives	Design	Measure of Satisfaction	Satisfaction-Related Results	Comments
		High-school education or above 81% High-school education or above 81% High-school education or above 81% Reported having overweight child 12.1%					
Jan et al. (2009)	New Jersey schools *N* = 6421 children (49 schools)	Age not reported Mean grade level 3.5 (grades 2–5) Female 50% Race/ethnicity not reported	A total of 60-min educational presentation, take-home booklet for family use, and educational posters for school Assess preliminary effectiveness of school-based obesity prevention program	Pre- and post- (2 weeks following initial presentation) intervention survey	1-item child survey (6-point faces scale)	A total of 54.9% gave program highest possible rating 91.7% rated program positive overall	Intervention improved knowledge and attitudes about healthy eating and exercise
Janicke et al. (2008)	Rural Florida *N* = 93 overweight or obese children	Across three study arms Child: Mean age 11 years Mean BMI *z*-score 2.015–2.16 Female 61% White 66.7–80.8% Black 3.8–14.3% Hispanic 3.8–16.7% Parent: Mean BMI in obese range	Sixteen-week behaviorally based intervention, led by psychologists and agent of Cooperative Extension Service Assess effectiveness of parent-only versus family-based interventions for pediatric weight management in rural settings	Three-arm randomized controlled trial: wait-list control, parents with children (family-based), and parents only	3-item parent survey 1-item child survey Mixed response (Likert, closed-ended)	No significant difference in satisfaction between parent-only and family-based groups 90% of parents would join program again 85% of children stated it was a good program	A total of 63–74% attendance at sessions
Kornman et al. (2010)	Australia *N* = 49 overweight or obese children	Mean age 14.3 years Female 55% Mean BMI *z*-score 2.0 Ethnicity not reported	Twelve-month community-based group obesity intervention with adjunct therapeutic contact via e-mail and short message service (SMS) communication in months 2–12 Examine adolescent and facilitator participation in an obesity management intervention	Randomized controlled trial (data reported only for adjunct contact group)	4-item child satisfaction survey Mixed response (Likert, closed-ended)	Mean rating of 5 for e-mail and SMS messages (where 1 = *not at all helpful* and 7 = *very helpful*)	Twenty-two overall reply rate of children
Mulgrew, Shaikh, & Nettiksimmons (2011)	Rural areas of California, and in Davis, California *N* = 25 obese children	Across both groups Child: Mean age 6.3–8.1 years Female 60–80% Parents: Age range 25–64 years	University medical center pediatric weight management clinic with telemedicine consultation program Determine difference in quality of care between consultations for childhood obesity delivered face-to-face and via telemedicine	Cross-sectional survey given after a minimum of one consultation visit	Control: 18-item parent satisfaction survey Intervention: 22-item parent satisfaction survey Mixed response (Likert, closed- and open-ended)	No significant difference in overall satisfaction Slightly lower rating of telemedicine program versus face-to-face All responded they would be willing to participate in telemedicine consultation again	

Author	Site/*N*	Demographics	Intervention and Objectives	Design	Measure of Satisfaction	Satisfaction-Related Results	Comments
		Female 80% High school education or above 26% Race/ethnicity not reported					
Neumark-Sztainer et al. (2009)	Twin cities area in Minnesota *N* = 201 children Intervention: *n* = 89 Control: *n* = 112	Mean age 15.4 years Female 100% Mean BMI 26.7 overweight 19% obese 31% White 41.9% Black 28.6% Asian 21.1% Hispanic 4.4% Native American 1% Other 3%	Multicomponent, girls-only, high-school physical education class based on Social Cognitive Theory framework and included nutrition education and social support, meeting 5 days a week for 16 weeks Evaluate program feasibility and acceptability among girls, parents, and school staff; and determine short-term impact on student behaviors and weight	Pre- and postintervention survey Randomized by school	19-item parent and child survey Mixed response (Likert, closed- and open-ended)	Parents and children highly satisfied with the program Teachers and principals strongly supportive Parents: would recommend to others Children: highly satisfied with social support, physical activity, and nutrition sessions All thought program should continue	Suggested for improvement: lengthening, increase parental involvement
Neumark-Sztainer et al. (2003)	St. Paul, Minnesota Children: N = 108 Intervention: n = 56 Control: n = 52 Parents: N = 73	Child: Mean age 10.3 yrs Sex not reported obese 23% overweight 18% White 7% Black 54% Asian/Hmong 13% Other 23%	Theater-based after-school program with obesity prevention messages with booster session and family outreach. Fourteen 2-hr sessions held twice a week Examine feasibility of theater-based after-school program to reach ethnically diverse, low-income families with an obese child	Randomized controlled trial, randomized by school Pre- and post-evaluation	17-item parent and child survey Mixed response (Likert, closed- and open-ended)	75% of children and 90% of parent/caregivers were highly satisfied with program overall 86% of children and 92% of parents would recommend to others	59% had consistent attendance Parents felt program changed child's behaviors
Robinson et al. (2003)	Oakland and East Palo Alto, California *N* = 61 Black girls with BMI ≥ 50th percentile for age and/or at least one overweight parent/ guardian Intervention: *n* = 28 Control *n* = 33	Child: Mean age 9.5 years Female 100% Mean BMI 21 Black 100% Parent: Mean age 38 years Low-income population	After-school dance class held in community centers with five-lesson in-home intervention designed to reduce screen time. Test feasibility, acceptability, and efficacy to reduce television viewing among African-American girls	Randomized controlled trial Pre- and postevaluation	11-item child survey 13-item parent survey Mixed response (Likert, closed- and open-ended)	Parents and children rated dance classes and home-delivered intervention very positively Newsletters and health lectures rated very positively Parents, children, and staff indicated high overall satisfaction with program	High retention rate (only one participant lost to follow-up)

Author	Site/*N*	Demographics	Intervention and Objectives	Design	Measure of Satisfaction	Satisfaction-Related Results	Comments
Saelens et al. (2002)	San Diego, California *N* = 44 overweight adolescents Intervention: *n* = 23 Control: *n* = 21	Mean age 14.2 years Female 41% Mean BMI 31 (all had BMI above 89th percentile for age/gender) White 70.5% Black 4.5% Hispanic 15.9% Asian 2.3% Other 6.8%	Four-month multicomponent behavioral weight control intervention, initiated in primary care setting and including telephone, computer, and mailed contact Evaluate the acceptability and efficacy of intervention for overweight adolescents	Randomized prospective study Pre- and postevaluation	21-item child survey Mixed response (Liker, closed- and open-ended)	High levels of satisfaction with provider interaction around weight-issues High satisfaction with components of intervention, especially telephone counseling Greater satisfaction with mailed manual program compared to computer program	

Note. BMI, body mass index.

[a] Weight and its Relationship to Adolescent Perceptions of their Provider (WRAP).

[b] Consumer Assessment of Healthcare Providers and Systems (CAHPS®).

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Table 2

. Qualitative Studies Involving Perceptions of Care and Satisfaction in Pediatric Obesity

Author	Site/*N*	Demographics	Objectives	Design	Satisfaction-related Results
Edmunds (2005)	United Kingdom *N* =40 parents	Parents of children ages 4–15 years with concerns of child's weight	Explore parent perceptions of help-seeking with health professionals	Semi-structured interviews	Parent responses yielded four themes: pediatricians were helpful, did not know how to help, dismissed parent concerns, treated the parent/child negatively
Stewart et al. (2008a)	Scotland	Parents of children 6–11 years attending outpatient obesity treatment program	Investigate parent perceptions of participating in a pediatric obesity treatment program	Semi-structured interviews of parents 12 months after start of treatment	During treatment, parents consistently expressed need for support from someone outside the home for motivation
	N = 17 parents	Child:			At end of treatment, parents viewed child self-esteem as most important outcome; expressed both positive and negative concerns regardless of child's weight change
		Mean age 8.4 yrs			During follow-up period without treatment, parents felt there was a lack of support for lifestyle change at home
		Mean BMI >98th percentile for age and gender			
Stewart et al. (2008b)	Scotland	Parents of children 6–11 years attending outpatient obesity treatment program	Explore the thoughts and feelings of parents participating in one of two dietetic counseling programs for their obese child (behavior change program vs. standard care)	Semi-structured interviews of parents 12 months after start of treatment	Developing rapport between clinician and family important for perception of positive experience
	N = 17 parents	Child: mean age 8.4 years			Patient-centered behavior change program: parents perceived goal-setting and self-monitoring techniques positively; felt they were able to oversee child's goals with encouragement; perceived process as “child-friendly”
		Female 53%			Standard care: parents did not feel they received targets for change from care provider; could not recall being asked to self-monitor lifestyle habits
		Mean BMI >98th percentile for age and gender			Parents in this group appeared to have dictatorial parenting roles
Styles, Meier, Sutherland, & Campbell (2007)	Eastern and Central North Carolina	White 17%	Identify culturally specific child weight-management concerns, the behavioral intervention needs of caregivers, and their preferences for intervention	Focus group series	Parents reported families faced many challenges in maintaining healthy weight; time, time management, and conflicting priorities identified as barriers
	N = 54 parents of overweight children 5–8 years old	Black 54%		Semi-structured interviews	Parents felt they lacked knowledge, skills, and support for controlling their child's weight; did not feel that community institutions effectively supported efforts to be healthy
		Hispanic 30%			
		Mothers 68%			
		Grandmothers 16%			

Author	Site/*N*	Demographics	Objectives	Design	Satisfaction-related Results
		High school education or above 44%			

Note. BMI, body mass index.

Table 3

Dimensions and Features of Patient Satisfaction Surveys of Pediatric Obesity Treatment Programs from 13 Reviewed Studies and One Local Survey

Dimensions ([a])	Specific Features Assessed ([a])
Accessibility (1)	Parking (1)
	Transportation (1)
	Location of treatment facility (1)
Physical environment (1)	Comfort of waiting room (1)
	Comfort of treatment room/clinician's tools (1)
Materials and resources (6)	Helpfulness of materials and handouts (6)
	Ability to understand materials (1)
Clinician-patient communications (4)	Knowledge and competency (4)
	Attitudes: courtesy, friendliness, respectfulness, warmth, caring, empathetic, reassuring, trustworthiness (3)
	Ability to communicate effectively (3)
	Thoroughness and helpfulness of staff (2)
	Patient's ease of communicating with staff (2)
	Staff's ability to understand patient's thoughts and feelings (2)
	How the patient felt they were perceived (1)
	Amount of time the staff spent with the patient (2)
	Patient's comfort with the staff (2)
	Team work with other staff members and patient (1)
	Listened and allowed patient time to voice concerns (1)
	Valued the patient's concerns (1)
Treatment/outcomes (9)	Frequency and helpfulness of contacts (5)
	Classes/programs offered (3)
	Ease of understanding treatment topics (2)
	Helpfulness of treatment (2)
	Frequency and helpfulness of treatment visits (2)
	Effectiveness (1)
	Interesting topics (1)
	Ability to implement treatment outside of clinic (1)
	Willingness to follow treatment recommendations (1)
	Privacy (1)
Convenience (2)	Appointment times available and ease of scheduling (1)
	Ability to receive treatment quickly (1)
	Amount of school/work missed in order to attend treatment (1)
Cost (1)	Affordability of treatment and resources necessary for treatment (1)
Duration (2)	Wait time (1)
	Appointment length (1)
	Time spent discussing treatment concerns (1)
	Duration of treatment process (1)

Dimensions ([a])	**Specific Features Assessed ([a])**
Overall satisfaction (12)	Overall satisfaction with the program (9)
	Willingness to recommend treatment to others (6)
	Enjoyment/how much the patient liked the program (2)
	Overall satisfaction with the staff (2)
	Overall quality of the program (2)
	Program's ability to meet expectations (1)
Other (7)	Suggestions for improvement (7)[b]
	What did or did not the patient like (6)[b]
	Challenges/barriers experienced (2)[b]
	Willingness to continue treatment recommendations (1)
	Preference of male or female clinicians (1)
	Patient perceptions of the care provider's appearance (1)
	Patient perceptions of the provider's approach and language (1)
	Topics that were/were not discussed by the clinician (1)[b]
	Terms used by the clinician to discuss weight (1)[b]

[a] Indicates the number of studies that included each dimension or feature represented in the table.

[b] Denotes open-ended question.

Table 4

Framework of Patient-Centered Care and Satisfaction in Pediatric Obesity Treatment

Tenets of Patient-Centered Care[a]	Definition[a]	Satisfaction Dimensions and Features to Address
Respect for patient's values, preferences, and needs	Opportunity to be involved and informed in medical decision making, guiding, and supporting medical care providers. This can involve attention to quality of life, shared decision making, and customizing care, and process can be dynamic over time	Cultural competency Challenges and barriers experienced in care Patient and family inclusion in treatment decisions Privacy Mutuality of treatment focus between family and clinicians (family guiding treatment process) Treatment preferences (individual, group) Provider sensitivity to weight of child (language) Provider value patient and family concerns
Coordinated and integrated care	Medical care providers coordinating tests, consultations, procedures, and other services to ensure accurate information reaches those who need it in a timely manner. Managing smooth transitions from one setting and provider to another	Accessibility of clinic and appointment times Coordination with other health-related services, particularly in regards to weight-related co-morbidities Transportation to clinic and other treatment programming Quality of teamwork in multidisciplinary and interdisciplinary teams Cost of treatment Attention to missed school and work
Information, communication, and education	Accurate answers in a language and terms they understand, answering questions of diagnosis, prognosis, and management or treatment. Patients and families desire trustworthy information that is attentive, responsive, and tailored to individual needs	Helpfulness of educational materials and handouts Ability to understand materials Ability to clearly understand clinicians Provider knowledge of information pertinent to patient and family Quality of clinician–patient communications Time spent discussing treatment concerns Patient and family ability to ask questions Comfort with clinicians Ability to use alternative means of communication (e-mail, phone) Understanding of treatment process
Physical comfort	Management of symptoms that is timely, tailored, and expert to relieve discomfort	Comfort of facilities (furniture, exercise equipment)

Tenets of Patient-Centered Care[a]	Definition[a]	Satisfaction Dimensions and Features to Address
		Improved comfort of obese children (skin folds, musculoskeletal pain, fit of clothes)
Emotional support, relieving fear, and anxiety	Attention to anxiety that accompanies illness, which may be from uncertainty, fear of pain, disability or disfigurement, loneliness, financial stress, or impact on family. This should include physical, emotional, and spiritual dimensions	Clinician attention to emotions of obese children: self-esteem, depressive symptoms, peer and family relationships, teasing and bullying
		Accurate explanation of short and long-term risks of obesity
		Preparation for treatment
		Provider attitudes: courtesy, friendliness, respectfulness, warmth, caring, empathetic, reassuring, trustworthiness
Involve family and friends	Including family and friends who provide support and care. Family and friends should be more than accommodated, but welcomed and be made comfortable in the medical care setting	Inclusion of family and friends in treatment process
		Accommodations made for family and friends
		Sensitivity of clinicians to family and friends in treatment process

[a] Adapted from Institute of Medicine (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press, 17.