

Parents' Perception on Children's Obesity: Integrative Review that Identified Approaches for Intervention

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Abstract

The aim of this paper was to know the main academic contributions on the perception that parents have on their children's obesity. An integrative review of the literature was conducted based on the search for articles in the Scientific Electronic Library Online (SciELO), PubMed (National Library of Medicine, USA), Google Scholar and Capes (Higher Education

Personnel Improvement Coordination) databases. The following descriptors were used: "social perception" and "childhood obesity"; as well as "childhood obesity" and "parents". We used the Bardin Analysis and three thematic axes were built: 1) Distorted perception of actual body weight by parents; 2) The need of the educational intervention to consider the perception of parents; 3) Self-deprecating feelings in parents and children, as facilitators to higher prevalence of obesity. It was noticed that there is a significant number of studies showing that the perception of parents of overweight children is usually distorted and tends to underestimate the child's weight. Many prevention and treatment programs are ineffective and one of the hypotheses for the fact is distorted parental perception. Thus, one should consider the perception of parents and their children when planning interventions for obese children.

Keywords: Pediatric obesity, Perception, Parents.

Introduction

According to the World Health Organization (WHO), children obesity is a relevant source of concern on public health based on the fact it is a non-transmissible chronic disease.¹ Epidemiologically speaking it is a pandemic one because it covers both developed and developing nations, as is the case of Brazil, in all life stages, with higher incidence in childhood (WHO, 2003; Vitolo, 2008).

The Family Budget Research (FBR 2008-2009) made by Instituto Brasileiro de Geografia e Estatística (IBGE), in partnership with the Brazilian Ministry of Health, observed the occurrence of a significant increase in the number of overweight children in the country, with ages ranging from 7 to 9 years of age. The number of male children overweight doubled in the 1989 and 2009, going from 15% to 34.8%, respectively. The number of obese children increased over 300% in the same age range, going from 4.1%, in 1989, to 16.6%, in 2008-2009 (SBP, 2012).

These data show that the growing increase of the phenomenon all over the world calls for the existence of more research to better understanding the phenomenon, as well as to finance interventions on that field. In the specific case of children obesity, family is understood to be a major player in the determination of eating habit formation of children. Parents, mainly, can influence or damage their children learning process (Mendes, Silveira & Galvão, 2008).

Thus, bearing in mind that socialization is generally performed by parents, in Brazil, it is noticed that habits learned in the family relations are, many times, predisposing to childhood obesity, as well as adult age obesity (Jahnke & Warschburger, 2008). In an experience with multidisciplinary operative groups for morbidly obese people who would undergo bariatric surgery, it was found that most of the group participants would ask for a constitution of similar groups for their children, who were overweight and had inadequate eating habits (Frontzek, Fernandes & Gomes, 2014).

For effective weight loss to take place work should be focused not only on obesity itself, as if it existed autonomously, but as a part of the context of each individual. That intervention must include the person's life, affective, family and social bonds. It should also consider a new lifestyle for the family (Tassara, 2012).

With that in mind, understanding more about the parents' perceptions on their children's obesity in the last 10 years was also a focus. We started from the idea of knowing the phenomenon "from inside out", that is, from the vision of parents with obese children, minding that they promote their children's first leaning about their body and eating. Therefore, the guiding question was: What are the perceptions parents have on their children's obesity?

Methodology

An integrative review was conducted with the purpose of collecting and synthesizing the outcomes of this research in a systematic, well-ordered way and to deepen knowledge on the theme of the research, as well as to give way to the digestion of several studies published and their general conclusions on the theme (Mendes, Silveira & Galvão, 2008).

To conduct that review we followed some steps, as seen below: Identifying the theme and preparing the research, establishing criteria for inclusion and exclusion of studies, defining what information would be collected from the studies selected, assessing the studies included in the integrative review, interpreting the results and synthesizing knowledge.

Data collection took place from August to October, 2015. We used the Descriptors in Health Sciences indexed to the database to facilitate access to information. The following descriptors were used: "Childhood obesity" AND "social perception" AND "parents" AND "social perception" (either in isolated or combined form). The "social perception" descriptor was used due to the fact that the term social representativeness does not appear among the descriptors, minding this was the first target of the research made.

Search for articles published in journals indexed the following databases: Scientific Electronic Library Online (SciELO), PubMed (National Library of Medicine, USA), Google Scholar and Capes (Higher Education Personnel Improvement Coordination) from 2005 ad 2015 was conducted.

The following inclusion criteria were established for sample selection: Articles published from 2005 to 2015, in English, Spanish and Portuguese languages, available in full and focused exclusively on the guiding question. We excluded reflection articles and experience reports, researched with adolescent, not infantile, target public, according to the criteria defined by the Child and Adolescent Statute (Brasil, 2010), which delimits as a child any individual up to incomplete 12 years of age, non-scientific journal editorials theses, papers and reviews. Articles duplicated in different databases were considered only once.

The final sample was restricted to 12 articles (Figure 1) after having applied the criteria and refined the search by reading the abstracts of pre-selected articles. For data collection a validated instrument was used which contemplates: article identification, introduction and objectives, methodological characteristics of the study, results and conclusion (Mendes, Silveira & Galvão, 2008). Thus, it was possible to assess the methodological accuracy of the studies and the levels of evidence in every article.

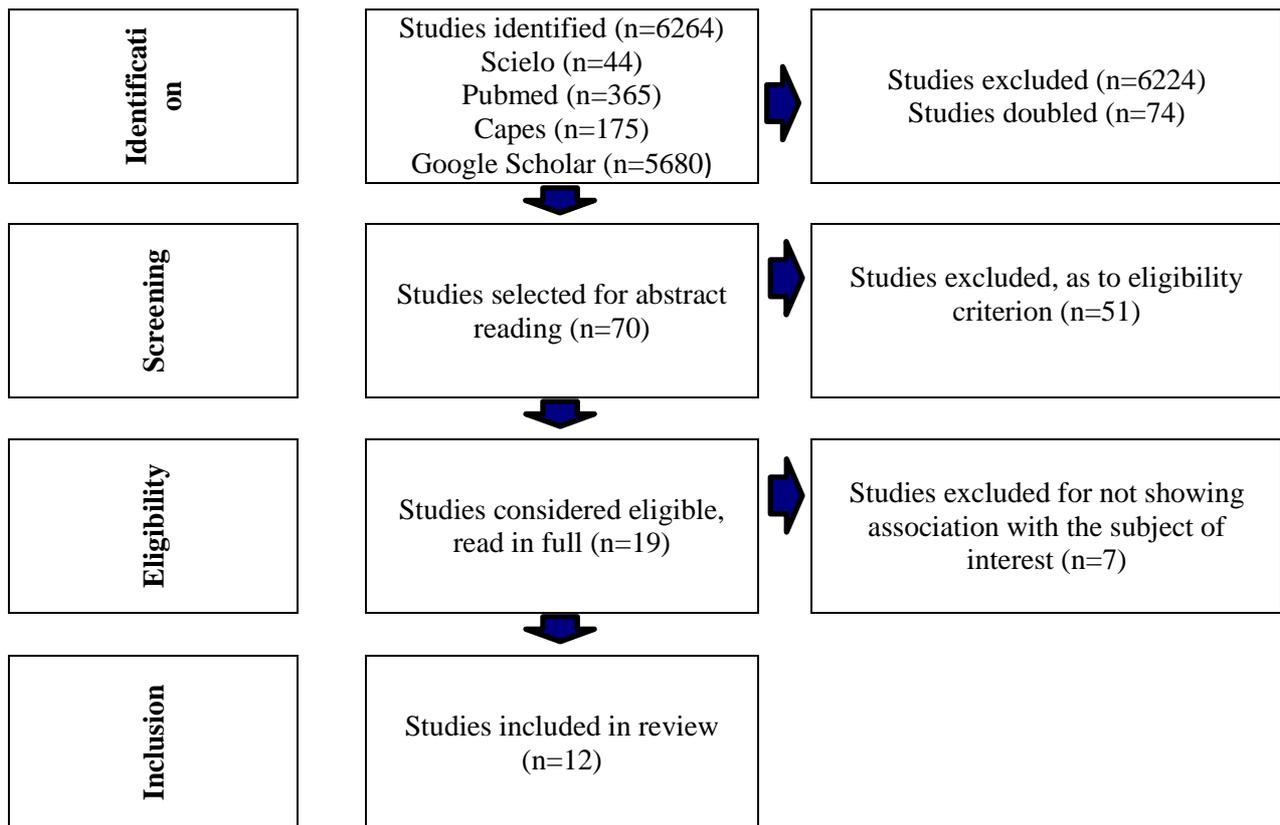


Figure 1: Selection of the articles included in the review

Content Analysis was used as a proposal to rank thematic categories after having read the articles (Bardin, 1977). Category analysis may be thematic, having the categories being built as themes emerge from the text. This analysis attempts to find a set of common meanings based on the analysis of the coder, from the indicators noticed in the text after careful reading (Bauer & Gaskell, 2002). To classify the elements in categories it is necessary identifying what they have in common, thus allowing grouping. (Bardin, 1977)

Results and Discussion

The articles included in the themes presented are described in Table 1, where a description of the articles included in the Integrative Review of Literature can also be found, per author, year/country of publishing, objectives and theme.

Reference	Year and Country of Publishing	Population in the Study	Objectives	Main findings	Thematic Axes
Pakpour et al	2011/Brazil	300 mothers of obese children	Assessing the mother's knowledge about their children's weight issue and assessing the impact of an educative intervention on the mothers'	Over 1/3 of the mothers weren't able to acknowledging their children were obese. Only a small amount of the mothers believed childhood obesity was a risk to health. Educative intervention may improve maternal	1, 2

			awareness about their children's obesity.	perception on the weight issue of their children, and change the way they control their children's weight.	
Silva et al	2011/Brazil	16 mothers of obese children	Understanding the meaning, for mothers, of having a child suffering from a nutritional disorder.	Mothers feel sad when they see their child compared to children regarded as healthy. Mothers of overweight or obese children tend to underestimate weight in excess in children, what increases the probability of worsening their nutritional status.	3
Bordignon et al	2011/Brazil	79 children, ranging from 7 to 12 y.o.	Checking the relations among self-concept, depressive traces and bodily perception among normal weight and overweight children.	Results showed associations between perception and bodily satisfaction, normal weight and overweight children show no difference in their perception of nutritional status. In this study, a large amount of normal weight children perceives themselves as fat/very fat (31.3%). These findings deserve special attention of healthcare professionals, bearing in mind that a distorted bodily perception is linked to inadequate eating behaviors and to eating disorders, such a Bulimia and Anorexia Nervosa.	1, 2, 3
Nogueira et al	2012/Portugal	1,885 children, from 3-10 y.o.	Assessing the association between parental perception of the environment and obesity values in children with ages ranging from 3 to 10 years old, in the district of Coimbra.	Significant associations were found between environment dimensions and weight of female children. A negative parental association of the built environment, regarding soil usage and urban design is associated to	3

				higher values in obese girls; a negative perception of the social environment and local safety is also associated to higher prevalence of obesity in girls.	
Feitosa et al	2012/Brazil	17 children, ranging from 8 to 12 y.o.	Assessing bodily image perception of children who take part in Dance-Education activity in public schools.	It was found that when the child under research was obese, there was inadequacy of subjective evaluation, comparatively to BMI. The opposite happened with non-obese children, their choices reflected closer to the reality of the comparative level of BMI.	1
Pereira et al	2013/Brazil	397 students, from 8-17 y.o.	Assessing the link between body weight perception and related variables, in elementary school students.	It was found that body weight perception was associated to nutritional status in both genders, and to age groups only in boys. That reinforces the need these adolescents have to be followed-up by healthcare professionals, aiming to better consistency of their own bodies.	1, 2
Aparício et al	2011/Portugal	234 parents (mother and father), ages ranging from 20 to 54 y.o.; and 234 children, from 3 to 6 y.o.	Identifying parental perception (mother and father) on their pre-school child and assessing their relation with socio-demographic and clinic variables.	It was noted that parents have a distorted perception on their children's body image, with marked tendency to underestimating their true nutritional status. Area of residence was linked to higher distortion to inhabitants of rural areas, what reinforces cultural influence in parental beliefs and practices in rural areas.	1, 3

Costa e Silva	2009/Brazil	40 parents of children from 6-10 y.o. from a basic school on lower elementary school	Identifying knowledge and behaviors parents of 6-10 y.o. children have on childhood obesity.	It was found that up to 80% has knowledge of, at least, one of consequences of childhood obesity, and 85% referred healthy eating and regular practice of physical activity as for prevention for obesity,	1
Giacomossi et al	2011/Brazil	493 children, from 1 and 1/2 months old to maximum age: 92.9 months old.	Assessing prevalence and factors linked to error in perception of mothers or guardians on the nutritional status of children in public and private daycare institutions in Balneário Camboriú (SC).	Overweight or undernourished children of mothers over 35 years old, and with non-white skin color, showed higher probability of having their nutritional status incorrectly assessed by their guardians,	1
Simões et al	2007/ Portugal	100 children (n=58 females), from 8-12 y.o. (M=10,19; DP=1.26), mostly residents of urban environment (n=54) and mean NSE (n=78), 45 of which were obese.	Comparing self-concept in obese and non-obese children.	Statistically significant differences were not found in between the two groups of children assessed regarding School Competence, Social Acceptance and Overall Self-Esteem. It was found that non-obese subjects showed significantly higher mean values in subscales for Athletic Competence and Physical Appearance, whilst obese subjects showed significantly higher mean values in subscale Behavioral Attitude.	3
Moraes et al	2013/Brazil	Six mothers and a grandmother of children with ages ranging from eight to incomplete ten, who were under reference in-patient care for childhood obesity.	Understanding the elements present in the family story of children with obesity.	It can be concluded that the families showed lack of cohesion about the child's eating norms and limits to the child, conjugal and family conflicts and difficulty to adequate the environment to the recommendations of	1, 2 and 3

				the professionals.	
Pinheiro et al	2010/Brazil	Three hundred forty-seven participants (160 boys and 187 girls, ages ranging from 8-12 y.o.)	Assessing the bodily perception and dissatisfaction in a population of Brazilian pre-adolescents; and examine the relation of these variables with gender, age and BMI.	It was found that 26.4% of the sample showed overweight or obesity, that the bodily perception level was underestimated and that 64% are dissatisfied with their bodies. Significant differences were found regarding image wanted as to gender; perceptive discrepancy as to BMI and age; and bodily dissatisfaction as to BMI.	1

Table 1: Description of the articles included in the Integrative Review of Literature, per author, year/country of publishing, objectives and theme. Belo Horizonte – MG, 2015

During research in the database, 3 international reviews were found (Sosa, 2012; Lundah, Kidwell & Nelson, 2014; Rietmeijer-Mentink *et al*, 2013) on the theme parents perception on their children's obesity, as well as 1 national review (Tenorio & Cobayashi, 2011). Based on the interpretation of the data collected three thematic axes were built: 1) Distorted perception of actual body weight by parents; 2) The need of the educational intervention to consider the perception of parents; 3) Self-deprecating feelings in parents and children, as facilitators to higher prevalence of obesity.

Theme 1 - Distorted Perception of Actual Body Weight by Parents

The articles found (Silva *et al*, 2011; Lima, Frota & Pinto 2012; Aparício *et al*, 2011; Pinheiro & Jimenes, 2010; Feitosa *et al*, 2007) show that parents' perception on their own children's obesity is, often, distorted and tends to be underestimated. Some also appointed differences in the perception from parents, children and healthcare professionals, producing ineffective communication, since each one is self-referenced and rarely coincide. Thus, if there is no hearing and no dialogue in the relationship, parents, children and healthcare professionals will be talking about diverse perceptions, many times imagining they are all noticing the same things the same way.

In some cases it was found that parents tend to underestimate the child's weight. Such distortions compose relevant factors for thinking about the increased incidence and prevalence of obesity and overweight in children population (Bordignon & Teodoro, 20011). An inadequate perception on the nutritional situation of a child represents risks for the success of the interventions related to that disorder. Response from mothers with obese or overweight children may range from relief, lack of interest, denial to anger (Silva *et al*, 2011).

Body image is a complex human phenomenon that involves cognitive, affective, social and motor aspects. It is associated to self-concept and is influenced by the dynamic interactions between the being and its habitat. Its development process is connected to social determinants which change at every context and transform themselves over time. Although, those determinants are often exclusionary and rigorous by establishing an ideal standard, reached by a few: The standard of thinness and that of being young. So, the distortion of body image

occurs due to a mesh of social, relational factors and due to internal psychological mechanisms to be built amidst the entire surrounding set involved (Adami, 2005).

Body image depends on individual perception and occurs on physical, mental and emotional levels. Bearing in mind that perception is built based on the environment, it is possible to learn the social representativeness present to a collective, without losing sight of individuality. Succinctly speaking, the notion of social representativeness connects the idea that there is no distance between inner and outer universe of the individual and his group (Schilder, 1977).

Another relevant factor was relative to gender and ethnicity, showing that such factors are also connected to the distortions found. White children's fathers tend to have a more distorted perception than mothers, regarding their child's nutrition. Overweight rate increases together with the increase of negative parental perception on the environment, both for girls and for boys with ages ranging from 10 to 14 years old. Boys in that age range show more difficulty in noticing their own body than girls do, these tend to be culturally more concerned with their own aesthetics, much earlier than boys do (Nogueira *et al.*, 2012; Pereira *et al.*, 2013; Giacomossi, 2011).

Theme 2 - The Need of the Educational Intervention to Consider the Perception of Parents

Articles on this theme share the fact that the methods for intervention regarding current childhood obesity are of little effectivity (Pakpour, Seed & Chen, 2011; Silva *et al.*, 2011; Aparício *et al.*, 2011). One of the hypothesis to clarify this is, exactly, what the review appointed as dominant in Theme 1, distorted perception for treatment and lack of conviction the his/her child really needs it. Mothers of overweight or obese children tend to underestimate weight in excess in children, what increases the probability of worsening their nutritional status (Silva *et al.*, 2011; Oliveira, Eneida & Cerqueira, 2003; He, 2007). This would be a very relevant factor regarding the increased incidence and prevalence of obesity and overweight in the childhood population. Distorted perception on the child's nutritional status and their own family would, then, be a risk for the success of the interventions connected to this disorder (Amaral & Pereira 2007).

It was also noticed that parents have difficulties noticing the actual weight of their children, and then that perception occurs, the need for a continuous preventive treatment is not noticed. On the contrary, a study revealed that parents had no difficulty in acknowledging their child's weight, however, they were not alert to the real need for treatment their children have (Oliveira, Eneida & Cerqueira, 2003).

Behaviors of a population regarding their health issues, including the use of medical services available, are built based on that population's health perceptions, which is developed based on its socio-cultural context (Uchoa & Vital, 1994). Prior knowledge of that community's health perceptions, what sets the thought and action of the same population before the heal-disease process, is of fundamental efficiency to assistance actions and education on healthcare. This way, actions in this field should check parents' capacity to identify overweight or obesity in their children, and parents' understanding that obesity is a risk factor for lifelong health issues. Whether parents are unable to acknowledge that their child is obese, or even distort their actual physical status, they will also resist taking any action to change their child's behavior, what can speed up the development of obesity in that child (Jain *et al.*, 2001).

However, studies show that many parents are not alert or concerned with their children being overweight, because some of them underestimate their child's weight or believe that obesity is hereditary and, then, cannot be changed (He, 2007; Myers & Vargas, 2000). It was also

noticed that focusing on parents is a profitable strategy to manage weight-related issues in children (Golan, 2006). Another study showed that, even among parents with higher level of formal education, the intervention significantly improved the perception on childhood obesity (Pakpour, Seed & Chen, 2011).

The role of the healthcare professional is capital in the interventions because he needs to interact with the parents with respect and dignity, understanding that that is an adverse experience, with diverse worldviews and, as such requires a more humane positioning and a more significant relationship. It is not about a vertical relationship, where one knows best. It is about a horizontal interaction which includes differentiated knowledge, which cannot be possibly quantified, nor qualified. It is, thus, necessary to establish an empathic relation with the public, understanding “the capacity of taking part in someone else's inner world, without ceasing to be yourself” (Benjamim, 2002, p. 32). Such positioning may relief the situation experienced by the parents and improve healthcare for the child (Silva *et al*, 2011).

It is interesting to observe that that one of the researches revealed that the percentage of parents who have proper information on how to prevent childhood obesity is expressively high, yet they cannot set in place actions they regard as more appropriate (Costa & Silva, 2009). This fact shows that information alone does not change behaviors and that it is necessary following up people in their paths because, this way, it will be far easier for them to rebuild their perceptions and actions (Schall, 1999). Whether perception occurs in emotional, physical and mental levels, all of these areas need to be covered (Adami *et al*, 2005).

Theme 3 - Self-Deprecating Feelings in Parents and Children, As Facilitators to Higher Prevalence of Obesity

Articles revealed, with predominance, self-deprecating perception from parents. Feelings most mentioned were: guilt, sadness, inferiority because of the comparison with healthy children, perception of having failed as parents and negative feelings regarding themselves (Silva *et al*, 2011; Nogueira *et al*, 2012; Aparício *et al*, 2011; Moraes & Dias, 2013). Negative perceptions from the environment, which reflect on an increase in infantile overweight were also appointed (Pereira *et al*, 2013).

Despite being negative feelings, the fact of having parents acknowledge their children as obese is a great step towards their adoption of or investment on new eating behaviors. That fact contributes to obtaining successful interventions on eating and nutrition for their children (Schall, 1999). Although that may not be always the case, for even when parents manage to acknowledge their children's obesity, many of them will not be alert for the need of treatment (Oliveira, Eneida & Cerqueira, 2003).

It's noteworthy that self-deprecating feelings of parents refer to a lack of management to deal with the situation from an emotional viewpoint. The construction of childhood obesity, as well as adult obesity, is given in a relational and contextualized way. Children will learn from their parents through their teaching and, mainly, from their example, by familiarity. Family relations, with all their subjectivity, emotions and feelings are intimately imbricated in the process of childhood obesity.

Studies show that parents often tend not to notice their children's obesity and see them as normal weight (Vuorela, Saha & Salo, 2010; Molina *et al*, 2009; Eckstein *et al*, 2006). Maybe that view is attached to the fear of feeling they have failed as parents and to negative feelings about themselves and their environment. Beliefs and cultural reference related to children weight, as well as gender and age, and parent's income and schooling influence parental perception on their children's obesity (Tenorio & Cobayashi, 2011).

It can be noticed that “parents – and not only mothers – family and the society play a key role in the overall development of the human being, both in the acquisition of a healthy lifestyle and of a more adequate the eating behavior”(Camargo et al, 2013, p. 332). Bearing in mind those children are first influenced by their family, and only after interacting with other individuals they get to know themselves and about the affective, cognitive and behavioral aspects (Suehiro, 2009).

One of the studies showed that overweight and obese children have a negative concept about their bodily aspect when compared to normal weight children (Suehiro, 2009). However, overweight children may show a positive self-concept in behavioral (and communicative) attitudes, as a possible compensation mechanism for the negative self-concept relative to their performance and physical appearance (Simões & Meneses, 2007). Children tended to overestimate their body weight, what shows a distorted perception on their weight (A.S. Tenorio & Cobayashi, 2011). The negative concept denotes dissatisfaction with their bodies and that can be a relevant risk factor for the development of depression, low self-esteem and changes in eating behavior (Mirza, Davis & Yanovski, 2005).

At last, it can be noticed that the thematic axes put forth in this integrative review reveal part of the social representations parents have about childhood obesity. Considering one's child as non-overweight or not in need of external intervention reveals one of those representations and may be anchored in cultural beliefs, like the one which says that a chubby child is a healthy child, because it would be worrying if he/she were a very thin child. A diversity of cultural weight-related beliefs and references molds parents' perception on their children's weight.

Thus the relevance of studying the body from the perspective of social representations, because they allow identifying the social character of the individual dimension (Jodelet, 1984). The term social representation was not in the list of descriptors in health science, but social perception was as the perception of attributes, characteristics and behaviors from the social groups themselves.

Parents' perception on their children's obesity revealed the following parental beliefs, from literature, on children's body weight: A child being above average on growth scale and pediatric weight makes parents proud; “fatter” children are endowed with good health; if the baby is not “chubby” there is a perception that the mother; being overweight comes from an inherited metabolism thus “one can't do much about it”; obesity is only worrying of the child loses mobility, if the child can run and play normally, then there's no reason to be worried (Tenorio & Cobayashi, 2011).

Final Considerations

A lack of qualitative knowledge on children obesity has been observed, because a higher number of quantitative researches have been found. It must be highlighted that qualitative research is focused on understanding the subjectivity of the subject under research, what could help knowing it/him better and increase the chances of more successful interventions. It is believed that increasing the number of researches in qualitative area may be a promising way to create more effective intervention programs in the fight against childhood obesity.

Interventional programs on childhood obesity have proved to be ineffective, without however existing answers that clarify the reasons why it happens. One of the hypotheses raised was that the distorted, underestimated perception on children's weight contributes to that inefficiency. Perceptions are connected to parents' feelings and emotions, often being very relevant for the understanding and intervention on childhood obesity, once they point to the effectiveness of the actions proposed towards overweight children. Besides, such perceptions

come loaded with culture-related representativeness linked to the place they were built and reveal how several other factors causing childhood obesity are related to a person's life.

Intervening in childhood obesity implies intervening with parents, and changing children's and families' lifestyles. But only guidance is not enough, though. It is necessary that parents can understand the risks of the condition and it is capital working on themes such as: bodily image and perception of every family member.

Childhood obesity cannot be regarded as an isolated phenomenon, because it is inserted within a range of factors – social, cultural, economic, behavioral, environmental, genetic, emotional, metabolic and, mainly, relational factors. It becomes necessary understanding those factors, both from the parents' and the children's viewpoints, because it will enable for the performance of family-centered interventions, which are adequate to their needs and realities.

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