

Parents' perception of their children's weight status in an urban area of Western Greece

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ABSTRACT

Context: A lot of parents whose children are overweight or even obese are in no position to accurately acknowledge the real weight of their children. Parents' perception of their children's weight plays a significant role in the prevention and treatment of childhood obesity. **Aims:** This paper describes parents' opinions on the real weight status of their children and the sufficiency of quality nutrients in their diet. **Settings and Design:** The research methodology used in the particular study was based on survey research in preschool settings in West Greece. **Methods and Material:** The research methodology used in the particular study was based on survey research. Data were collected through questionnaires answered by parents of children attending preschool settings aged between two and five. One hundred and seventy-eight children and their parents participated. All parents had been informed of the aim of the study beforehand and gave their consent on condition that they could withdraw at any stage they wished. **Statistical Analysis Used:** Data were analyzed using SPSS (Statistical Package for the Social Sciences). **Results:** Comparing the Body Mass Index of children with the parents' opinion of their children's weight, we noticed 85,71% and 78,13% of the parents whose children were obese and overweight respectively, regarded their weight as normal. The majority of the overweight and obese children's parents were of the opinion that their children's diet was proper and healthy. **Conclusions:** Most parents whose children were obese or overweight underestimated the real weight of their children and considered their nutrition healthy.

Keywords: Childhood obesity, children weight, Greece, parent's perception, preschool children

Introduction

In modern societies, as living standards are constantly improving, weight gain and obesity pose a growing threat to health worldwide.^[1] More specifically, childhood obesity is one of the most common nutritional diseases, as the number of overweight and obese children both in developed and developing countries is growing rapidly.^[2,3] Greece finds itself among those European countries with the highest rates in child obesity.^[4] The prevalence of overweight and obese children in

the whole population is 22,2% and 9% in boys and 21,6% and 7,5% in girls, respectively.^[5]

Obesity is particularly alarming throughout the early years of a child's life given the effects associated with it, both on the child's health and on its psychosocial development, as people who have suffered obesity once in their life, find it difficult to treat it as well as maintain a healthy body weight.^[6-8]

Moreover, parents' perceptions of their children's weight play an important role in the prevention and treatment of obesity, since parents influence the child's eating habits, daily exercise and perception of body weight. Children generally view their parents as role models in developing a healthy lifestyle.^[9,10]

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Taking into account the negative consequences as regards the future health of the child, the key factor in eliminating the phenomenon is prevention aimed at parents and children. The first step towards promoting a healthy lifestyle and a healthy body weight during childhood is parents being informed of the short-term as well as the long-term consequences this major health problem, obesity, has on a child's body.^[11]

Those parents who are in no position to perceive the real weight of their children (i.e., they consider their child of average weight or even underweight) have little or no chance of taking the appropriate steps to change the unhealthy lifestyle of their children and prevent obesity.^[12,13] In Europe, America, Asia, and Australia it has been documented that most overweight or obese children are regarded by their parents as slimmer than they are in reality.^[12,14]

In Greece, scientific evidence has shown that 38% of mothers of children between two and five years of age underestimated their children's weight status. The incidence of this underestimation reached 88,3% for children "in danger of being overweight" and 54,5% for "overweight" children. It was evident that the mother underestimates her child's weight to a greater extent when the child is a boy and when the child participates in physical activities for less than three hours a week.^[15]

As obesity has taken on pandemic proportions since pre-school age, the global medical community is called upon to take prevention and treatment measures. Parents and the home environment are direct partners of the medical community in the issue of childhood obesity. Parents should consult experts on their children's healthy nutrition and experts should inform parents and help them understand and evaluate the body image of their children. At the same time, the medical community needs to gain the trust of the parent, especially in matters of obesity, so that they can better understand the risk factors that lead to weight gain.

Although the issue of childhood obesity has been widely studied as well as the risk factors that contribute to weight gain in childhood, it would be interesting to see how parents perceive their child's weight and how it is shaped by possible change of the child's weight.

The aim of the present study is to explore parents' perception of the real weight status of their children and the sufficiency of quality nutrients in their diet.

Materials and Methods

Study design

The research methodology used in the particular study was based on survey research. This is a specific type of study that includes the collection of data from a selected sample of respondents from the community with the use of a questionnaire.^[16] The questionnaire included 41 questions about

parents' socio-economic status, education, life style, children's nutritional habits and physical activity. Most questions of the questionnaire were closed-ended and included "yes" or "no" questions, calibration questions (always-often-sometimes-never or daily-a few times a week-rarely-never), graded questions and multiple choice questions.^[17] At the beginning of each questionnaire respondents were asked to answer questions about their child's identity and body measurements (sex, age, Body Mass Index- BMI). Pilot research was conducted on a random sample to see possible weaknesses.

Participants

The study included a total of 178 parents of children between two and five years of age (boys 92, girls 86). Their children were attending seven public preschool settings of the Ioannina Municipality of Epirus Region of Western Greece. The preschool settings were randomly selected. Parents of all children of all preschool settings received a written invitation to the study, distributed by the management of the preschool settings. Of the approximately 400 children enrolled in their preschool settings, the parents who responded were 178. The reasons for no participating included lack of interest, refusal to participate, children being absent from school at the time the questionnaires were distributed.

Ethical approval

The parents had been informed of the aim of the study beforehand and gave their written consent on condition that they could withdraw at any stage they wished. Moreover, the administration office to which the preschool settings belong was also informed and gave their approval before the questionnaires were implemented.

The data was collected from early childhood settings, which are under the jurisdiction of municipalities. Head of such settings act as loco parentis and therefore no individual parental consent is required. An informal agreement is in place between early childhood settings and university departments to work collaboratively if the research is to promote children's learning and development. Additionally the Ethical Committee of the Administration office of the Municipality, where the preschool settings belong, had approved the initial research design of the study. The municipality's approval is dated 4/7/2013.

Measurements

Evaluation of the anthropometric characteristics of the children was based on the information printed in their medical booklets. The BMI was calculated as follows:

$$\text{BMI} = \text{Weight (kg)} / \text{Height (m)}^2$$

Children in this study were categorized as underweight, average weight, overweight and obese according to the BMI marginal rates as these are recorded in the diagrams of the International Obesity Task Force (Revised BMI cut-offs, 2012), the use of which is recommended for better assessment of overweight and obesity.^[18]

Statistical analysis

Average rates and standard deviations were used to describe the data for the category measurements such as BMI category, population, and proportion. In order to compare average rates, Pearson Chi Square test was used. In each case the significance level was set to 0,05 and the analysis was performed using SPSS v 21.0 computer software.

Results

Sample characteristics

The study included a total of 178 parents. Their children (51,7% boys and 48,3% girls) aged two to five years were attending public preschool settings in the area of Ioannina, Western Greece. 97.2% of parents studied were married, while 2.8% were single, divorced or separated. 98% of them were of Greek descent, while 2% were from abroad (Albania, Germany, and Sweden). Regarding their educational level, the majority of fathers were high school graduates, followed by university graduates and other schools. Most of the mothers were graduates of Higher Education Institutions.

Prevalence of overweight and obesity

The prevalence of overweight and obesity of all children in our study was 20,37% and 3,7% respectively. 60,49% of the children were of average weight, while 15,43% were underweight [Figure 1].

Parents' views on children's nutrition and weight

The majority of parents (69,7%) were of the opinion that their children's nutrition was good/healthy. 17,4% defined it as very good/healthy, 11,8% as average/good and accordingly 0,6% as a little good and no good at all [Figure 2].

Most of the parents considered their children's nutrition good/healthy, regardless of their BMI ($P 0,807$) [Table 1]. However, we note that four out of the 33 parents of overweight children regarded their nutrition as very good/healthy. Also, 25 out of the 33 and five out of the six parents whose children were overweight and obese, respectively, regarded their children's nutrition as good/healthy [Figure 3].

89,3% of the parents were of the opinion that their children's weight ranged at normal levels. 4,8% and 6,2% of the parents thought it was above and below average weight, respectively [Figure 4].

Comparing the BMI of the children with the opinion parents had of their weight, we note that 85,71% of the parents whose children were obese considered their weight to be average, as opposed to 14,29% of parents who believed that their children were actually overweight, according to their answers. The same is noted for the parents of overweight children, as 78,13% of them perceived their weight as average, as opposed to 15,63% who thought their children were overweight. 94,85% of parents whose children were of average

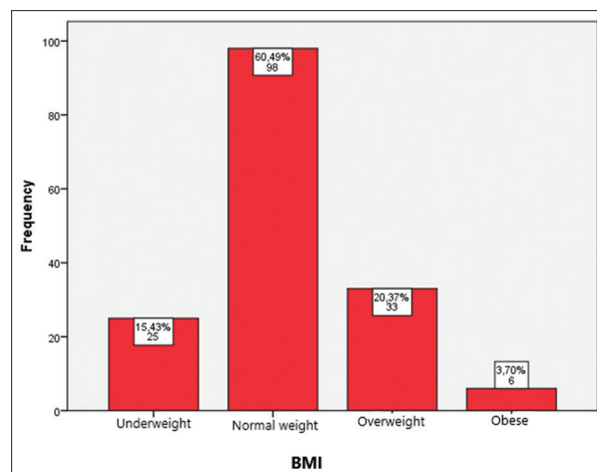


Figure 1: Prevalence of children BMI

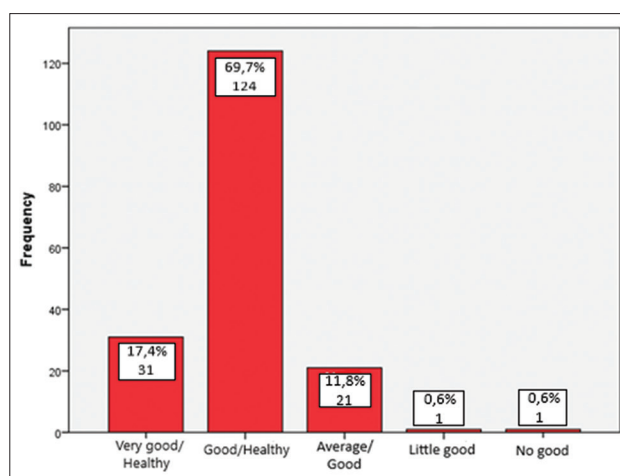


Figure 2: Parents opinion of children's nutrition status

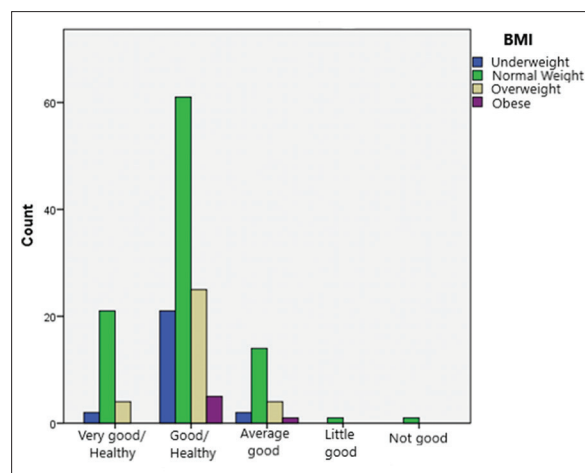


Figure 3: Correlation of BMI and parents' opinion of their children's nutrition status

weight thought that their weight was indeed normal, while 1,03% thought it was above average. Lastly, 84% of the parents whose children were underweight thought their children were of average weight, while 16% believed their weight was below average [Figure 5].

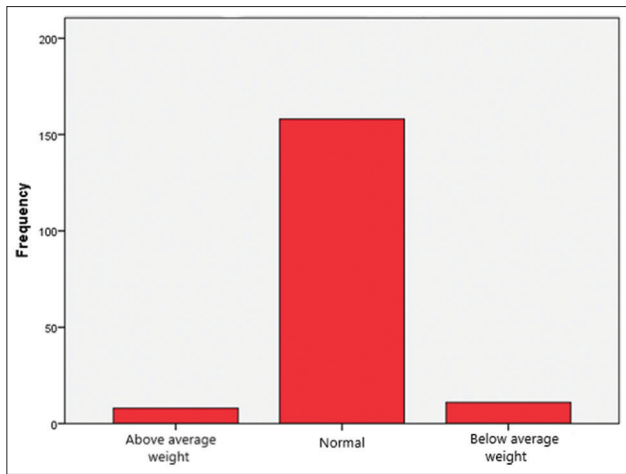


Figure 4: Parents assessment of children's weight

Consequently, only approximately 15% of the parents acknowledged the actual weight of their children ($P 0,002$) [Table 2].

54,8% of the parents were not in the least concerned about the weight of their children. 13,6% were quite concerned, 23,2% expressed little concern, while 8,5% were particularly concerned [Figure 6].

Comparing parents' concern about their children's weight with the BMI of the children, we note that parents were accordingly concerned about all types of BMI, irrespective of the actual weight of the children ($P 0,713$) [Table 3]. We therefore conclude that 42,86% of parents whose children were obese expressed no concern about their weight, while 28,57% expressed much or little concern. 43,75% of the parents whose children were overweight were not concerned about the weight of their children, while 18,75%, 31,25%, and 6,25% expressed much, little or a lot of concern respectively. As for parents whose children's weight ranged within normal levels, 58,16% of them expressed no concern at all. However, 11,22% were quite concerned, while 22,45% and 8,16% expressed little or a lot of concern, respectively. Lastly, 8% and 12% of the parents whose children were underweight expressed much or a lot of concern about their weight respectively, 60% were not concerned at all, while 20% expressed little concern [Figure 7].

Discussion

Our study aimed to investigate the parent's perception of their children's weight status. According to the findings of the present study, the majority of parents considered their children's nutrition to be good/healthy. However, most of the parents (30 out of 39) whose children were overweight and obese were under the wrong impression and belief that the diet they were following was good/healthy. In spite of the fact that some of the parents who took part in the study had overweight or obese children, in their majority they did not realize that their children were facing a weight problem, being overweight or obese, and therefore, they should be

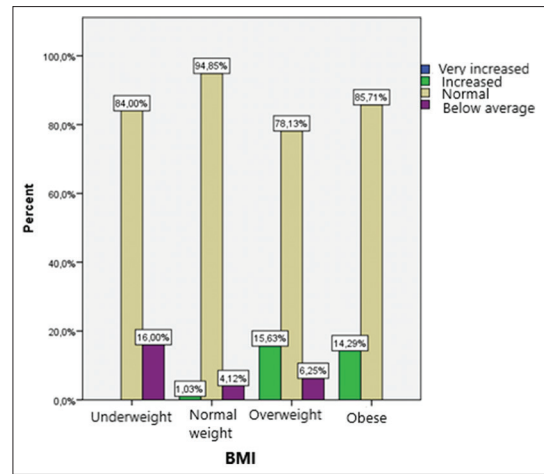


Figure 5: Correlation of BMI and parents' assessment at children's weight

Table 1: Results of the statistical tests about correlation of BMI and parents' opinion of their children's nutrition status

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7,720 ^a	12	,807
Likelihood Ratio	9,648	12	,647
Linear-by-Linear Association	,150	1	,699
n of Valid Cases	162		

^a14 cells (70,0%) have expected count less than 5. The minimum expected count is ,04

Table 2: Results from correlating of BMI and parents' assessment at children's weight

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20,332 ^a	6	,002
Likelihood Ratio	17,496	6	,008
Linear-by-Linear Association	10,124	1	,001
n of Valid Cases	161		

^a7 cells (58,3%) have expected count less than 5. The minimum expected count is ,30

Table 3: Results from correlating of BMI and parental reflection on children's weight

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6,268 ^a	9	,713
Likelihood Ratio	6,435	9	,696
Linear-by-Linear Association	,290	1	,590
n of Valid Cases	162		

^a8 cells (50,0%) have expected count less than 5. The minimum expected count is ,56

concerned. It is important that parents, as role models of healthy behaviors, have an accurate perception of their child's weight status. Parents, especially those whose children are between two and six years of age, often have a misconception about the weight of their children. This can happen either because of the fear of stigmatizing the child or because of the increase in the proportion of overweight children which can

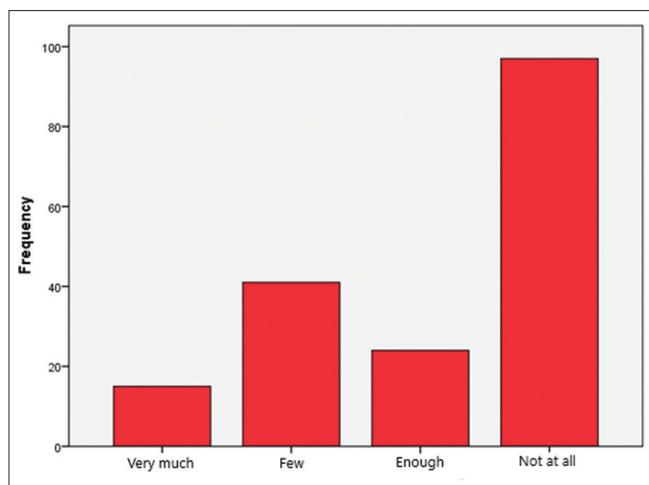


Figure 6: Parent's concerns about children weight

create a perception of excess as “normal”.^[19-21] Another reason for this parental misconception is probably their reluctance to admit the problem, mainly because their children's diet is unhealthy.^[22,23] Moreover, the daily parent and child interaction is often responsible for this misconception, as weight gain, especially if it is acute, may not be easily perceived.^[24]

These findings are particularly important as parent's inability to correctly assess children's weight and recognize overweight or obesity poses a serious threat, as they do not realize the consequences on their children's health and are not expected to intervene by taking measures to address the problem and improve the quality of nutrition.^[24-26] While, recognition of weight problem is a first step towards taking preventive measures in managing childhood obesity.^[27]

Limitation of the study

The sample of participants in the current study was consisted of those who finally accepted to take part and they may be different from those who choose not to. As such, the sample may not be representative of other characteristics of the population. Furthermore, the BMI of the parents and their perception of their own weight was not taken into account so that we can see if the assessment of their own body weight is in line with that of their child.

Conclusion

In their majority, parents of overweight and obese children did not realize that their children were overweight and considered their diet to be healthy. However, parents' awareness of the problem of their children being overweight plays a crucial role in preventing childhood obesity. Parents not realizing their children being overweight or obese is likely to be related to further weight gain, as parents do not take measures to deal with the condition, since they regard it as normal and therefore there is no reason for concern.

Taking into account that dietary behaviors are formed and established in early childhood, it is necessary to alarm and

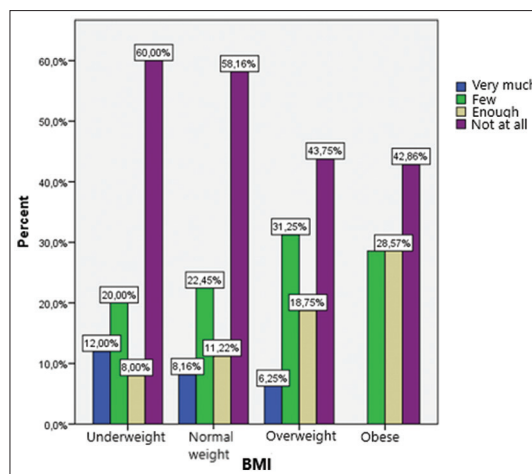


Figure 7: Correlations of BMI and parental reflection on children's weight

inform parents of childhood obesity in order to shed light on any misconception they might have. Also, further research and interventions programmes in home environment and preschool settings as well is needed.

Key Messages

- The majority of parents underestimated the weight of their children
- 85,71% of the parents whose children were obese regarded their weight as normal.
- The highest percentage of parents were of the opinion that their children were healthily nourished.

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Conflicts of interest

There are no conflicts of interest.

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