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ORIGINAL ARTICLE

The Effect of Education on Parental Perception of Obesity in Their 6-12 Year Old Children

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Child obesity is considered a major health problem, in the prevention and treatment of which parents can play a key role. However, some parents belive obese children to be healthy, and do not really feel the need to participate in any preventive and treatment programs. Therefore, the aim of this study is to determine parental perception of obesity in their 6-12 year old children to assess what effect education could have on their concept.

Materials and Methods: This study has been done in two stages (stage 1, descriptive and second stage, experimental). Weight, length and body mass index were calculated in 300, 6-12 year old children with BMI higher than standard for sex and age were selected as obese. Questionnaires were completed by one of the parents. Parents who did not believe their children to be obese, were divided raudomly into two groups. One group were made familiar with obesity during four, 2-hour, sessions while the other group were not. After two months, questionnaires were completed by the two groups and the data were compared.

Results: Forty-one percent of the obese children were girls and 58.7% boys; 23.3% of their parents believed that their obese children were not overweight, and 94.3% of those who participated in educational programs believed their children to be obese and overweight. No relationship was found between mother's job and children's sex and the mother's perception.

To conclude parental perceptions of their children being overweight need to be assessed and if necessary educative programs should be conducted to correct these concepts with a view to prevent and treat child obesity.

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Introduction

Today although most infectious and contagious diseases have been eradicated, or controlled, they have instead been replaced by non-contagious and chronic diseases, one such disease being obesity. According to studies in the United States, conducted between 1983 and 1995, overweight related complications in 5 year-old children have increased from 18.5 to 21.6 percent,[1] where 15 percent of children, 6-11 years old, have overweight related disorders.[2] Today, obesity is a worldwide problem, not limited to developed and industrialized countries, being common in third world countries, as well.[3] A study on Chinese children showed that obesity has increased from 2.1 percent in 1986 to 5 percent in 1998.[3] Some comparison revealed that obesity in high socio economic classes is the same as in the USA and other developed countries.[3] In Iran, the rate of obesity is reported to be 15 percent.[4] According to a re-

search done by Kelishadi in 1993 and 1999 in Isfahan, obesity in boys and girls, aged between 6 and 12 years, has increased from 0.2% in 1993, to 0.35 percent in 1999. Obesity in this group has increased from 4 percent in 1993 to 8 percent in 1999.[5] Another research done by Shahgholian in Shahrekord in 1380 showed that obesity among children aged between 6 and 12 years old, was 9.9 percent.[6] Child obesity causes hygiene related problems in childhood and adulthood and can result in chronic obesity, endangering the person's health in later years. Average and intense obesity can cause hyperlipidemia, premature puberty, obstructive apnea, pancreatitis, gall bladder disease, diabetes type 2, hypertension and polycystic ovary syndrome, and can lead to cardiovascular diseases.[7] Studies have shown that atherosclerosis, the main cause of cardiovascular diseases, goes back to childhood and risk factors of atherosclerosis have been found in obese children who have hypertension and hyperlipidemia.[8] A study done by Williams in 2005 showed that obesity and overweight–related problems influence the child's quality of life.[9] These problems in childhood can result from several factors including dietary habits and inappropriate physical, activity patterns that are formed in childhood and influenced by parental attitude and family environment.[10] Prevention programs are hence very effective. Parents should be made aware of their child's obesity; since some parents believe their obese children to be healthier. If they cannot recognize the problem, they cannot or will not make an effort to treat it. A research carried out by Mayers in Spain in 2000 revealed 35 percent of parents did not believe their children have overweight problems. Another 2000 research by showed 79 percent of mothers did not believe in the obesity of their children while almost all the mothers accepted their own obesity.[11] It was the importance of parental perception of the obesity of their children in caring and preventing of the problem, that motivated us to investigate parents conception of obesity in their 6-12 year old obese children in Shahrekord.

Materials and Methods

The research was carried out in two stages, descriptive–analytical and experimental. A group of mothers of 6–12 year old obese children in Shahrekord were studied. Initially, 10 elementary schools were chosen randomly. Then the the weight and stature of children were assessed. (without shoes) obese children were distinguished obese children were distinguished according to BMI for sex and age the. BMI is a suitable criteria for differentiating.[12,13] Sample size was determined according to the formula given: n=(N.Z2.pq)/(N-1) d2+Z2 pq) z=1/96, a=0/005. The research instrument was a questionnaire including two parts: Part A: Some questions on age and sex of the child, the education level, job and age of the mother. Part B: Four questions: 1) Does your child have an overweight problem? 2) What kind of problems do you think an obese child may have? 3) What have you done to control the weight of your child? and 4) What kind of problems do you face controlling your child's dietary habits?

The mother's perception of obesity is unreal and if her answer to the first question was negative it meant she did nothing to control her child's overweight problem. To ensure the validity of the questionnaire it was tested and retested according to alpha coefficient (a=0.8). Three hundred obese children were chosen, and their mothers completed the questionnaire. Those who did not believe in their child's overweight problem were identified and divided into two groups randomly. One group was educated about obesity and its dangers in four sessions, while the other group was not. After two months, the questionnaire was given to both groups for completion and their answers were compared. After collecting data, they were analyzed by SPPSS soft ware, and the descrip-

tive –deductive statistical method was used to analyze data.

Results

Findings of the study showed of 300 obese children, 41.3% were girls and 58.7% were boys (Table 1).

Education levels of 31.3% of mothers' obese children were over school diplomal and 68.7% were below school diploma (Table 2).

Thirty-two percent of mothers' obese children were employed and 68% those were housewives (Table 3).

Table 1. Profusion distribution of obese children's sex in the two group of mothers with real and unreal perception

Child sex	Real perception		Unreal perception		Total	
	Percent	No	Percent	No	Percent	No
Girl	42.6	98	37.1	26	41.3	124
Boy	57.4	132	62.9	44	58.7	176
Total	100	230	100	70	100	300

Table 2: Profusion distribution of mothers, education levels in two group of mothers with real and unreal perception

Mother's education	Real perception		Unreal perception		Total	
	Percent	No	Percent	No	Percent	No
Illiterate	5.7	13	4.3	3	5.4	16
Guidance	24.3	56	20	14	23.3	70
Diploma	39.6	91	41.4	29	40	120
Higher than diploma	30.4	70	34.3	24	31.3	94
Total	100	230	100	70	100	300

Table 3. Profusion distribution of mothers, job in two group of mothers with real and unreal perception

Mother's job	Real perception		Unreal perception		Total	
	Percent	No	Percent	No	Percent	No
Employer	31.3	72	34.3	24	32	96
House wives	68.7	158	56.7	46	68	204
Total	100	230	100	70	100	300

Table 4. Profusion distribution of mothers, perception of obesity

Mother's perception	Percent	Number
Real	76.7	230
Unreal	23.3	70
Total	100	300

In this study there was no relationship between the mother's job, education, child's sex and their mother's' perception of child obesity.

Results also showed that 23.3% of mothers' have unreal perception of their children's obesity and did not believe their obese children to be overweight (Table 4).

After educating the mothers, 94.3% of case group believed that their children were overweight and that they must try to control it (Table 5).

Results also showed that education had an influence on mothers' responses the questions: 1). What actions do you take for controlling year child weight? 2). What problem do you encounter in controlling what children eat?

Since after education, only 5.7% of mothers' case group had not answered these two questions, X^2 test showed a significant relationship between education and answers given to the two question (Tables 6 and 7).

Table 5. Profusion distribution of perception regard to obesity, after educating two groups, case and control

Mother perception	Control group		Case group		Total	
	Percent	No	Percent	No	Percent	No
Real	94.3	33	2.9	1	48.6	34
Unreal	5.7	2	97.1	34	51.4	39
Total	100	35	100	35	100	73

Table 6. Assessment of answer to question: What problem will an obese child have? In two group of mothers?

Answer to Question	Real perception		Unreal perception		Total	
	Percent	No	Percent	No	Percent	No
Heart problems , geriatrics	61.3	141	57.1	40	60.3	181
Problem in exercise	33	76	37.2	26	34	102
Problem in finding friend	5.7	13	5.7	4	5.7	17
Total	100	230	100	70	100	300

T**able 7. Assessment of answer to question: What action do you take for controlling children's weight?**

Answer to Question	Case group		Control group		Total	
	Percent	No	Percent	No	Percent	No
None	5.7	2	68.6	24	37.1	26
To reduce of promise nutrition	62.9	22	20	7	41.5	29
To increase of actioning	31.4	11	11.4	4	21.4	15
Total	100	35	100	35	100	70

Results showed that responses, of the control group, who had not received education, were the same.

Table 4 shows that 23.3% of mothers have incorrect perceptions of their children obesity; using X^2, no relationship was found between child's sex and mother's, perception of their children obesity (p=0.4).

Table 2 shows profusion distribution, mother's education level in the two groups. X^2 test showed there was no relationship between mother's education level and their perception (p=0.8).

Table 3 showed distribution of mother's employment in the two groups. X^2 test showed there was no relationship between mothers' job and their perception of obesity (p=0.6).

Table 6 shows there was no significant relationship between answers to this question: What problem will an obese child face? and mothers perception of obesity (p=0.8) .

After educating mothers, 94.3% of the case group developed a correct perception of their children's obesity, while without education, 2.9% of the control group did have a real perception regard to their children obesity, x^2 test showed there was significant relationship (p<0.0).

After educating mothers, results showed, only 5.7% of the case group answered no questions, while, 68.6% of control group did not answer questions. X^2 test showed there was a significant relationship (p<0.001).

Discussion

The findings of this study showed that of 300 mothers who had obese children, 23.3 percent had unreal perceptions about obesity and did not believe their children to be overweight or obese. In this regard, Myers (2000) from Spain reported 200 mothers with preschool obese child before school, 35.5 percent of whom did not believe that their children were obese. In this study, 18.7 percent nurses reported that their children were not obese, their perception being based on the appearance of child.[1] In another 2000 study, Amy E reported that of 300 mothers who had obese children, 79 percent of them did not believe that their child is fat, although almost all of mothers believed themselves to be overweight.[11] Different factors including race and sociocultural factors can affect parental perception of obesity. It seems some parents accept a grade of obesity for their children and believe it is a sign of health, and although their child is overweight, they do nothing to control it. Probably the difference between percentage of parents with an unreal perception in this study and other studies is due to cultural and race factors. In this study, there was significant correlation between sex of child, job and level of education of mothers and their perception of obesity. In this regard, Amy E reported that mothers with lower levels of education, had little or no perception of obesity; most of their children were fat.[11] The finding showed that after receiving education, 94.3 percent of mothers had became aware of the obese condition of their children, and therefore found it necessary to prevent and to treat the obesity. In the control group that did not receive any education, after two months, they still an had unreal perception about obesity and only 2.9 percent had some real perception, may due to education or other reasons. Another significant finding was that education given about desirable weight, obesity and its complication affected answering of questions, whereas after instruction, the mothers who had unreal perception in the answering of this question "What do you do for control of the child's weight"? Very few in the case group of mothers had selected the "none" point, but in the control group, 68.6 percent of mothers had selected the none point. Aein F (2000) reported that instruction effectively could change that parent's attitudes about child obesity.[15] Also Morgan (2000), reported that instruction and scientific information have positive effects in children and change their attitudes about obesity and that there was a significant correlation between instruction and change of attitudes.[16] In the control group who had not received instruction, the answers to questions were similar in the first and second stages and difference was not significant. Since the purpose of health care providers such as community health nurses is to improve and prevent disease, community nurses can affect change the level of prevention at initial, secondary and tertiary levels.[17] Since fat children have lower quality of life in the future, and are more of a financial burden in terms of treatment to health services, recognition of obesity in childhood is vital at an early stage. To obtain this goal, the parents

must be in formed about desirable weights for children and related factors. Also they must educated on the complications resulting from obe sity. Most health care providers can educate families individually or in groups on nutritional habits, kind of nutrients and exercise for prevention of obesity in children, and health strategies that need to be implemented as priorities.

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