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A Study of the Beliefs of Female Students in Pakdasht City about Obese People and the Related Factors

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ABSTRACT

Background: The present study was conducted to investigate the beliefs of girl students in Pakdasht city about obese people and the factors related to it.

Methods: This cross sectional study was conducted on 350 grade-seven students in Pakdasht city. The data collection tool was a BAOP questionnaire, including demographic information and eight five-choice questions on the beliefs about obesity and obese people. To analyze the data, the SPSS 16 software as well as Chi-Square test and one-way ANOVA were used.

Results: The result reported, 141 (40.3%) students disagreed with the sentence "Obesity often occurs as a result of an illness." and 74 ones (21.1%) totally disagreed. Or, asking a question about the eating habits of obese people ("The majority of obese people have bad eating habits that lead to their obesity.") indicated that 73 students (20.9%) totally agreed and 128 ones (36.6%) agreed with the idea. In addition, 15 students (4.2%) totally agreed with the sentence "Obesity rarely occurs due to the person's lack of will."

Conclusion: The findings of this study showed that high school female students had little knowledge about the causes of obesity.

1. Introduction

According to the World Health Organization (WHO), obesity is considered as one of the most important and common health problems, with an increasing incidence trend in many countries and it is also considered epidemic [1]. The World Health Organization has predicted that by 2025, obesity will be known as a first-class health problem in the world [2, 3].

Various studies in Iran have also shown that the prevalence of obesity (BMI ≥ 30) is increasing over time, so that the study of the changing trend of obesity in Iran showed that during 2001-2010, the prevalence of obesity among women and men increased from 28/78% to 37.37% and from 11.23% to 24.84%, respectively [4].

However, the high prevalence of obesity is not limited to adults.

For instance, another study by Golishadi et al. indicated that the prevalence of overweight and obesity among the students aged 6-18 years in 30 provinces of the country was 9.7% and 11.9%, respectively [5].

Incorrect beliefs and discriminatory attitudes toward obesity have caused obese people to be labeled lazy or glutton. These labels sometimes are given from childhood and accompany the persons up to adulthood. In many cases, they lead to isolation, escape from society, and even depression of obese people [6-9]. It has also been observed among adolescents and young adults to limit their social and sports activities due to obesity [10].

It seems that girls are more involved in these problems than boys, and the fear of discrimination and prejudices of the society has diminished their presence in society and social interactions [11].

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2. Materials and Methods

This is a descriptive-analytical study conducted on 350 students in February 2015. The sample size was estimated at 350 by using Morgan formula. The sampling method was based on a cluster random sampling approach. Since the target population was the girls studying in grade 7 in the city of Pakdasht, four high schools that had grade-7 girl students were selected through cluster random sampling. After obtaining necessary permissions, the researcher selected the samples randomly proportionate to the number of students in each school by referring to the high schools. The questionnaires were then completed by the students. The data collection tool was a BAOP (Beliefs about Obese Persons) questionnaire, containing demographic information and eight items (five-option with Likert scale) on beliefs about obesity and obese people [6]. To test the translation validity, the translation/back-translation method was used; i.e. the questionnaire was first translated into Persian by two specialists and then the final Persian translation was translated into English by two other specialists. The final English questionnaire was approved by the research team (3 Pearson) after it was conformed to the original questionnaire and some minor amendments were done. At each stage of the translation of the questionnaire, examinations and corrections were also done by the supervisor, counselor and researcher. The CVR (content validity ratio) was obtained equal to 1 for all questions, and the CVI (content validity index) scores for all questions were higher than 0.79. So, no question was eliminated at this stage. To evaluate face validity, 10 students were surveyed about the difficulty of understanding words and phrases, the probability of misconceptions about phrases, and the insufficiency in the meaning of words. Some minor modifications were made to some of the questions.

To examine the reliability, after the questionnaire was translated and its validity was evaluated, a pilot study was conducted on 30 students from one of the schools. After examining the reliability, the Cronbach's alpha coefficient was obtained 0.7, which was acceptable. The data collection was done through the researcher's direct referral. The answer "totally agree" was scored 1, while the answers "agree, no comment, disagree and totally disagree" were scored 2, 3, 4 and 5, respectively. Each questionnaire was coded after it was completed, and the SPSS software version 16 as well as the Chi-square test and one-way ANOVA were used for data analysis. The significance level in all tests was considered 0.05.

3. Results and Discussion

Table 1 shows the basic characteristics of the participants in the study. As can be seen, all the participants were girls aged 12 to 14 years, of whom 253 (72.3%) were thirteen. Examining their parents' jobs showed that the fathers of 156 students (44.6%) were self-employed and the mothers of 295 ones (84.3%) were housewives.

In the study of their parents' education, it was found out that 136 fathers (38.9%) and 161 mothers (46%) were

illiterate or had elementary education. Of all the participants in the study, 219 (62.6%) had normal weight, 72 (21.6%) were thin, 56 (16%) were overweight and the rest were obese (Table 1).

Table 1: Frequency distribution of demographic variables (age, parental occupation, parental education, body mass index and weight) of the students participating in the study

Variable	Classification	Frequency (%)
Age	12 years old	61(17.4)
	13 years old	253(72.3)
	14 years old	36(10.3)
Father's job	Unemployed	32(9.1)
	Employee	51(14.6)
	Worker	111(31.7)
	Self-employed	156(44.6)
Mother's job	Housewife	295(84.3)
	Employed	51(14.6)
Father's education	Illiterate and elementary	136(38.9)
	Secondary school	127(36.3)
	High school and higher	87(24.9)
Mother's education	Literacy Movement	161(46)
	Secondary school	102(29.1)
	High school and higher	86(24.6)
BMI	1 (thin)	77(22)
	2 (normal)	249(71.1)
	3 (obese)	23(6.6)
Weight	Thin	72(20.6)
	Normal	219(62.6)
	Overweight	56(16)
	Obese	3(0.9)

Table 2 shows the frequency of the respondents' answers to each question on the questionnaire. As shown, 141 students (40.3%) disagreed with the sentence "*Obesity often occurs as a result of an illness.*" and 74 ones (21.1%) totally disagreed. Or, asking a question about the eating habits of obese people ("*The majority of obese people have bad eating habits that lead to their obesity.*") indicated that 73 students (20.9%) totally agreed and 128 ones (36.6%) agreed with the idea. In addition, 15 students (4.2%) totally agreed with the sentence "*Obesity rarely occurs due to the person's lack of will.*" and 54 ones (15.4%) agreed with it (Table 2).

Table 3 shows the mean scores of the students' beliefs obtained from the BAOP questionnaire in different groups and their relationship with the students' characteristics. As shown in the table, the mean scores in different groups classified by age, mother's education and mother's job did not show a statistically significant difference, and the P-values were 0.827, 0.454 and 0.196, respectively. But in the groups classified based on father's education and father's job, the mean scores showed a significant difference. That is to say, regarding the father's education in illiterate, elementary, secondary and high school groups, the scores were 21.93, 23.03 and 23.06, respectively, which showed a significant difference ($P = 0.011$). Regarding the father's job, the mean scores for the unemployed, employee, worker and self-employed groups were 22.46, 23.6, 21.87 and 22.85, respectively, which showed a statistically significant difference ($P = 0.015$) (Table 3).

Table 2: Frequency distribution of the participating students' responds to the items asked

Items	Totally agree Frequency (%)	Agree Frequency (%)	No comment Frequency (%)	Disagree Frequency (%)	Totally disagree Frequency (%)
1. People get obese when they eat to attract others' attention	24(6.9)	71(20.3)	101(28.9)	105(30)	49(14)
2. Obesity often occurs as a result of an illness	17(4.9)	52(14.9)	66(18.9)	141(40.3)	74(21.1)
3. Obesity usually occurs due to overeating	77(22)	109(31.1)	64(18.3)	82(23.4)	18(5.1)
4. Lack of enough exercise is the reason for obesity of most people	74(21.1)	43(40.9)	66(18.9)	50(14.3)	17(4.9)
5. Most obese people eat more than non-obese ones	74(21.1)	120(24.3)	88(25.1)	56(16)	12(3.4)
6. The majority of obese people have bad eating habits that can lead to obesity	73(20.9)	128(36.6)	85(24.3)	50(14.3)	14(4)
7. Obesity rarely occurs due to the person's lack of will	15(4.3)	54(15.4)	107(30.6)	122(24.9)	52(14.9)
8. As some people become addicted to drugs, fat people may become addicted to eating and become obese	64(18.3)	134(83.3)	86(24.6)	47(13.4)	19(5.4)

Table 3: Mean score of students' beliefs using BAOP questionnaire and its relationship with demographic variables

	Subgroups	Standard deviation \pm Mean	P value
Age	12 years old	22.52 \pm 3.4	0.27
	13 years old	22.67 \pm 4.3	
	14 years old	22.33 \pm 3.3	
Father's education	Illiterate and elementary	21.93 \pm 3.43	0.01
	Secondary school	23.03 \pm 3.42	
	High school and higher	23.06 \pm 3.1	
Mother's education	Illiterate and Literacy Movement	22.37 \pm 3.2	0.45
	Secondary school	22.73 \pm 3.51	
	High school and higher	22.91 \pm 3.51	
Father's job	Unemployed	22.46 \pm 3.6	0.01
	Employee	23.60 \pm 2.77	
	Worker	21.87 \pm 3.41	
	Self-employed	22.85 \pm 3.43	
Mother's job	Housewife	22.73 \pm 3.46	0.19
	Employed	22.13 \pm 2.95	

The present study was conducted to investigate the beliefs of girl students in Pakdasht city about obese people and the factors related to it. In this study, the BAOP questionnaire was used to assess the students' beliefs. The questionnaire consisted of 8 items with a 5-point Likert scale. The lower the score obtained from the questionnaire, the weaker the belief about obese people would be. Although few studies on negative attitudes toward obesity or eating disorders in different population groups have been published in the country [12, 13]. The importance of the present study is that the researcher had tried to highlight the concern about the negative beliefs of students about obese people as one of the general health problems in the community, which has been neglected so far. This objective is important because the source of hatred and negative attitude towards obese people is the incorrect beliefs and lack of information about different causes of obesity. A general belief in society is that some personal characteristics such as height, sex and race are not under one's control, but obesity and weight of individuals can be controlled by oneself. The causes of obesity are overeating and laziness, and individuals themselves play a role in controlling their weight. In fact,

obesity is due to overeating and laziness, and the role of genetic is ignored [14, 15].

The results of this study showed that the mean scores of the beliefs obtained from the questionnaire were 21 to 23, which indicated inadequate knowledge of the students about the causes of obesity. This is close to the results of similar studies that had used the same questionnaire.

For example, in the study by Poostchi et al. (2013) it was shown that the mean score of beliefs were 19/7, which is close to the numbers reported in the present study [16]. Also, another study carried out by Edward et al. (2013) indicated that the mean score of beliefs in women using the BAOP questionnaire was 18.1 [17]. Furthermore, in another study by Swift et al. (2013) the mean score of beliefs was reported 20.4% [18]. Although it is lower than the number reported in the present study, it is generally close to the result of this study.

There was a significant relationship between BMI and belief scores. That is, the higher the individual's body mass index, the higher her belief score was. This result was consistent with that of the study conducted by Swift et al. (2013). It was shown in this study that the lower the BMI, the higher the negative belief about obesity was [18].

However, this result is against the relationship found by Raeis et al. (2006) who studied the relationship between weight and attitude of nursing students ($P = 0.01$) [12].

The results of the present study showed that there was no relationship between mother's education and job and the mean score of the students' beliefs, but a significant relationship was observed between father's education and job and the students' beliefs. This is slightly different from the results of similar studies. For example, a study by Ruffman et al. (2016) showed that socioeconomic status, such as parents' education or job had no significant relationship with the children's belief and attitude towards obesity [19].

The reasons for the significant relationship between father's job and education and student's belief score were probably related to the different culture of our country because in Iran, girls are usually more affected by their father than their mother, and have a closer relationship with their fathers, which can affect the significant results of this study.

In this study, about 74 (21.1%) and 143 (40.9%) people totally agreed and agreed, respectively, that the reason for obesity was laziness or lack of enough exercise. This percentage can be considerable as a reflection of the negative beliefs of the subjects under study. Other studies, like the present one, showed that a large percentage of people in the society considered obesity to be the same as laziness. For example, a study conducted by Raeis et al. (2006) on Iranian nurses showed that 28.7% of the research samples agreed or totally agreed with the sentence "Obese people are lazy and self-indulgent." [12]. In addition, a study conducted in Germany found out that nearly 33% of the people surveyed agreed that obese people were lazier than those who had normal weight [20-22]. However, some famous athletes who have even been the world champions are obese. Therefore, ignoring the role of genetic and hormonal and metabolic factors in getting obese in common beliefs has led to a negative attitude towards obese people.

3.1. Limitation and strength

The main of the present study is that it is the first study in the country that used a standard questionnaire to examine the beliefs of the students about obesity, and can be the beginning of further studies in this field in the country.

One of the main limitations of this study is its generalizability. It was conducted on the students aged 12-14 years and in Pakdasht city; so, it can only be generalized to the same age group and the students of the same city because this age group can be different from other ones in terms of influence and beliefs. On the other hand, given that these students are from the same city and from the middle class of society with a modest socioeconomic status, and their parents' cultural and educational level is moderate, it may be said that the present study can be generalized to the same group. Another limitation of this study was the lack of some

variables (such as depression) that may have correlation with beliefs about obesity.

4. Conclusion

The results of the present study indicated that female high school students had little information about the causes of obesity, and it seems that these results indicate the need for implementing intervention programs with an emphasis on education with the aim of changing students' beliefs and, consequently, reducing negative attitudes of adolescents in the future.

Since various studies have shown that changing attitudes and beliefs with interventions is very difficult, the duties of health policymakers and decision-makers become harder.

Reforming and changing people's beliefs about obesity is one of the fundamental rights of obese people in societies.

Recommendations

Considering the importance of the subject, it is suggested that other similar studies be carried out on different demographic, age and sex subgroups in the future in order for their results to be compared to those of the present study.

In addition, some studies should be designed to measure and evaluate the variables that are likely to be associated with poor beliefs about obesity so that the relationship between more variables with poor beliefs would be examined.

This can contribute to future interventions. Thus, it seems that the Education Ministry and the Ministry of Health should work together to make these changes through educational programs and use of various educational methods.

Authors' Contributions

Gh. M., and BF. S., Designed the study and wrote the manuscript; M.Y., Analyzed the data; R.S., editing the manuscript. All authors revised and approved the final manuscript.

Conflict of Interest

There is no conflict of interest.

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