The Relationship between the Satisfaction of Body Image and Self-esteem among Obese Adolescents in Abadan, Iran

Fahimeh Sabeti[1], Zahra Gorjian[2 *]

1- Faculty of Nursing, Abadan Medical Sciences College, Abadan, Iran
2- MSc in Nursing, Nursing Department, Abadan Medical Sciences College, Abadan, Iran

*Correspondence:
Zahra Gorjian, Department of Nursing, Medical Sciences College, Abadan, Iran.
Email: gorjianzah@gmail.com
Tel: (98) 631 446 5494

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Abstract

Objectives: Adolescence is a period of life in which the individuals face many mental problems concerned with mental body image. Obesity could be the cause of dissatisfaction and makes adolescents' self-esteem to decrease.
This study aimed to examine the adolescents' satisfaction of their body image correlated to their self-esteem.

Materials and Methods: In this cross-sectional study all of the boy and girl students (N=8,510) aged 15-17 in Abadan high schools were examined for their body mass index (BMI). Students with BMI above 95% were selected as the research sample. Instruments of the study included: (1) the Multidimensional Body-Self Relations Questionnaire (MBSRQ) and (2) the Cooper Smith self-esteem Questionnaire. Individuals' data also included age, gender, education, parents' education and parents' work. Data were analyzed using SPSS version 17. Descriptive and inferential statistics including Chi-Square (χ^2), Pearson and Spearman correlation analyses were used.

Results: The prevalence of obesity among the adolescents aged 15-17 years was 5.99%. Obese adolescents could be divided into the categories of low (42.2%), moderate (43.9%) and high (13.9%). Low and high self-esteem was found in 63.3% and 36.7% of fat adolescents, respectively. There were significant relationships between the satisfaction of body image with self-esteem (P<0.001) and with BMI (r=-0.093, P=0.036) among fat adolescents.

Conclusion: Obesity could be one of the main factors decreasing adolescents' body image and consequently their self-esteem. Encouraging adolescents to do the exercises and healthy diet could prevent this problem. Further research may be done on this issue around Iran.

Keywords: Body image, Self-esteem, Adolescent, Obesity, Body mass index

Introduction

Body image is defined as the extent which causes physical satisfaction (i.e., size, form and general appearance) and includes two dimensions: 1) cognitive dimension (i.e., the individuals' evaluation of their body size) and 2) metacognitive dimension (i.e., the individuals' attitudes towards their body form (1-3). If the individual have a good sense towards their physical appearance, they have a good chance to

acquire a positive body image. Having a positive and real body image is necessary to achieve a healthy life and pleasant to make adaptation with self and the others (4). Body image is one of the most important evaluations throughout adolescent period since it may psychologically affect mental concepts which are critical in this period of life (5-7).

According to the previous studies, when an adolescent sees him/herself below the ideal criteria, he/she may face low self-esteem, inappropriate attitudes, depression, anxiety, educational mortality (8,9), social maltreatment, criminal activities (9-11), sexual problems and suicide (12). Self-esteem is defined as the value which any individual can acquire (13,14). Several findings showed that the less body image, the less self-esteem there will be (15-17). Therefore, with regard to the effect of this concept in adolescent period, there is a need to discover this issue and prevent the existence of body image disorders (18). One of the issues, which affects body image and self-esteem and could be often prevented and managed is obesity. It makes many physical problems and diseases which cause mental complexity including low self-esteem and depression (10). This problem is very important since the adolescents are in the period of biological, social and psychological development including behavioral changes such as the achievement of independence and the social patterns of being acceptable outside their family. There are several reports on the outbreak of obesity among children and adolescents, especially in urban areas in Iran. Recent epidemiological studies showed that obesity is equal or more than European or American countries (19, 20). Iran is one of the seven countries with the highest rate of obesity among the adolescents in the world. This rate has recently doubled (21, 22).

Findings of the recent studies showed that with the increase of obesity, the body image decreases (2,23). With regard to the importance of adolescence period, their physical and mental sensitivity is concerned with the outbreak of obesity (19,20) as well as the factors such as race, culture (24), gender and weight (15) which affect body image.

Since there have been a few studies on obese adolescents in Iran, this study aimed to examine the obese adolescents' satisfaction rate of their body image and its correlation with their self-esteem.

Materials and Methods

Sample: This cross-sectional study was conducted from December 2012 to May 2013 in Abadan high schools. Body mass index (BMI) was examined in the high school adolescent students (n=8,510) aged 15-17 years. Their parents' educational level (above or below diploma) was also asked.

Measures: To identify the obese adolescents, their body mass index (BMI) was calculated based on the formula of the division of weight (kg) to the square of height (m) (23). Their weight (by a Seca spring scale with accuracy of 100 grams) was measured with the minimum clothes and bare feet. Their height (by a Rasa wall-meter with accuracy of 0.1 centimeter) was measured without shoes. The students were considered obese if the BMI was higher than 95th percentile of their age and gender based on the criterion of the Center of Disease Control and prevention (CDC). The adolescents who were sick or took drugs such as corticosteroids which could increase their appetite or weight were excluded from the study.

Multidimensional Body-Self Relations Questionnaire (MBSRQ) was developed by *Cash et al* in 1986. It evaluates body image from six perspectives including Appearance Evaluation (AE), Appearance Orientation (AO), Fitness Evaluation (FE), Fitness Orientation (FO), Self-Classified Weight (SW) and Body Areas Satisfaction Scale (BASS) in 46 items. This questionnaire is a 5-point Likert scale ranging from one (strongly disagree) to five (strongly agree). Its subcategories include 1) AE which evaluates the appearance of the body from physical attractiveness and satisfaction or dissatisfaction of the person. It includes seven items. Its highest score is 35

and lowest score is seven. 2) AO evaluates the importance of body image and indicates the personal behavior in keeping the representation of appearance. It includes 12 items. Its highest score is 60 and lowest score is 12. 3) FE evaluates personal judgment of the overall fitness. It includes three items. The highest score is 15 and the lowest one is 3. 4) FO evaluates the personal attention on the physical fitness related to athletic profession and includes 13 items. The highest score is 65 and the lowest one is 13. 5) SW evaluates obesity anxiety and observing personal concern on the obesity and diet. It includes two items with the highest score of 10 and the lowest one is 2; and finally 6) BASS evaluates personal specific parts of body such as facial properties, muscles, etc. It includes 9 items. Its highest score is 45 and the lowest one is 9. It should be noted that the internal reliability of these subcategories was estimated based on the research conducted by Annis et al (2004); the reliability indexes were: AE as r=0.92, AO as r=0.85, FE as r=0.80, FO as r=0.91, SW as r=0.72 and BASS as r=0.84 (25).

Cooper Smith's self-esteem questionnaire (1967), which dealt with adolescents, includes 58 items among which 8 items are evaluating cheaters. Scoring of this questionnaire is based on zero and one method. When a taste gets four out of eight cheating items, it means the validity of the questionnaire is low and a respondent is trying to show him/her better than what he/she actually is. Thus the highest score is 50 and the lowest one is zero. Getting more than 25 scores, the respondent has a high self-esteem and lower scores indicate low self-esteem. The construct validity of the subscales used to measure the self-esteem proposed by Coopersmith was confirmed in a study. Test-retest reliability for the CSEI was originally reported by Coopersmith to be 0.88 for a sample of 50 children in grade V and 0.70 for a sample of 56 children of 12 years old. In this study, the Cronbach's alpha coefficient for CSEI was 0.86 (26). This questionnaire has been used in several researches (27,28).

Data analysis: Data were collected and analyzed through descriptive and inferential statistics including Chi-square (χ^2), Pearson and Spearman correlation analysis at the level of significance (*P*) less than 0.05.

Results

The research population included 8,510 high school students, who enrolled in high school junior and senior levels during 2012 and 2013 in Abadan, Iran. Sample population included 4,185 girls and 4,325 boys. 171 girls and 347 boys had BMI higher than 95th percentile. Three girls and five boys were not taken into consideration due to their diseases and using drugs. In short, the prevalence of obesity among study population was 5.99%. Boys were more obese than the girls (7.91% vs. 4.01%).

The mean age of girls and boys were 16.29±0.78 and 16.09±0.79 years, respectively. The mean weight of girls was 86.86±9.80 kg and was boys as 94.08±13.61 kg in boys. The mean height of girls was 163.74±6.75 cm vs. 172.28±8.23 cm for boys. The satisfaction of the boys' mass image was classified into low (42.2%), moderate (43.9%) and high (13.9%). Six dimensions of body image among the students with high, moderate and low levels are presented in Table 1.

Table 1 indicates that the males and females have low body image and get the lowest scores regarding diet concerned with their conceptual weight of obese anxiety. The participants who have high body image get the highest scores of their body image. This shows that the adolescents who have high conceptual weight show a satisfaction of their body image.

Self-esteem was low among obese adolescents (63.3%). The correlation between satisfaction of body image and self-esteem was calculated through Chi-square (χ^2) analysis which was significant (P<0.001). This showed that the more low satisfaction of body image leads to the low self-esteem. There was also a significant and negative correlation between satisfaction of body image and BMI (r=-0.093,

Table 1. Satisfaction of body image among adolescents in six dimensions of body-self relationship

Dimensions of body / Satisfaction of body image	AE	AO	FE	FO	SW	BASS
Low	48.4	44.5	72.5	50.2	40.4	60.4
Moderate	44.7	48.4	24.9	46.7	30.8	34.1
High	6.9	7.1	2.5	3.1	28.8	5.5

Data are presented as percent. AE: Appearance Evaluation; AO: Appearance Orientation; FE: Fitness Evaluation; FO: Fitness Orientation; SW: Self-Classified Weight; BASS: Body Areas Satisfaction Scale.

P=0.036). In other words, when there was more BMI, there was low satisfaction of body image.

There was a significant correlation between obese adolescents' age (*P*=0.001), educational level (*P*=0.034), father's educational level (*P*=0.024), and mother's educational level (*P*=0.02). In this respect, the adolescents who were 17 years old had low satisfaction of their body. The adolescents who had the parents with the educational level under diploma showed lower satisfaction of their body. However, there was not a significant correlation between age and body image (*P*=0.079).

The relationship between self-esteem and age (*P*=0.02), educational level (*P*=0.05) as well as fathers' educational level (*P*=0.01) was significant. However, there was not a significant correlation between self-esteem and gender (*P*=0.079). However, there was a significant correlation between self-esteem and mothers' educational level (*P*=0.85). In other words, obese adolescents at the age of 17 showed low self-esteem. This was also true among the adolescents whose fathers were under the diploma level.

Discussion

Body image is a part of personal issue which is developed throughout the life. Adolescence is a period of life in which the boys and girls notice their body more than the other periods of life. It is also clear that the body image disturbance could lead to individual's depression, isolation, and decreased self-esteem. There are many factors which could change the satisfaction of body image among which obesity is very common. Recently, obesity is a great problem. For instance, 4.2% of adolescents in Brazil are obese (29). In another study, obesity was found in 5.98% of boys and 6.75% of girls in Saudi Arabia (30). In Iran, there is just one study which has been conducted on adolescents in Tehran in which the prevalence of obesity has been reported 7.8% (20).

According to the findings of the present study, the obese adolescents with the age ranging from 15 to 17 in Abadan had the rate of obesity as 5.99% and the boys were more obese than the girls. This is lower than Tehran which shows that adolescents in Abadan notices their fitness and appearance as a cultural background which is common among the people in this city. Besides, the satisfaction of mental image among the most obese adolescents was at the low and average levels. This finding was matched with studies on the obese adolescents (31-32).

As it was mentioned above, dissatisfaction of body image could affect self-esteem of adolescents. This study showed that the rate of self-esteem was low among the two-third of the adolescents. There was seen a significant correlation between mental concept of body and self-esteem. In other words, if adolescents have a dissatisfaction of their body image, they have low self-esteem respectively. This finding was matched with Pesa (8) in 2000, Van den Berg (15) in 2010, and Huang (17) in 2007, which reported a high correlation between both mental body image and self-esteem. This study found a significant correlation between body image and BMI. In other words, the higher BMI, the lower satisfaction of the body image is. This shows that if an adolescent is obese and has a fat appearance, he/she cannot have an ideal image of him/herself in the mind. The present study

found significant correlations between obesity, age, educational level and parents' educational level, and body satisfaction. Therefore, the students at higher educational level who had the parents with educational levels under diploma showed less satisfaction of their body image. Clay et al. found that the rate of body satisfaction is lower at the beginning of adolescent's period compared with the end of this period (33). However, there was not a significant correlation between body satisfaction and gender. Contrarily, the study by Van den Berg et al. found that satisfaction of boys is more than girls (15).

Conclusion

This study faced several research limitations including the lack of control group and weight concerns among adolescents. It is suggested that future researches consider these limitation. There is also a need to study other intervening factors in reviewing the related issues. Findings of the present study showed that obesity at the adolescent age could be one of the main factors in decreasing body image and eventually low self-esteem. Although its rate is lower in Abadan than other cities, this rate is rising. This situation could be managed through appropriate programs, good diet, changing of lifestyle and regular exercises among adolescents. These activities may raise their self-esteem and positive body image. This can make a preventive factor in social disorders and the isolation of adolescents in the society to have a safe community of the adolescents with healthy physical and mental stats.

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