

Factors associated with body image dissatisfaction and distortion among Iranian women



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ABSTRACT

The prevalence of body image dissatisfaction is considered high in both developed and developing countries. It has been shown that many factors affect the body image dissatisfaction. However, because of the economical and cultural differences, it seems that these affecting factors should be determined in each region. So, the present study was designed to evaluate the prevalence and associated factors with body image dissatisfaction and distortion among Iranian women. Body image perception was analyzed in 500 women through the Stunkard figure rating system. The International Physical Activity Questionnaire was used for assessing physical activity level. The information about age, marital status and socioeconomic status was recorded by general questionnaire. The one-way ANOVA and regression were used for statistical analysis. By increasing the BMI categories from underweight to obesity, participants tended to perceive their body size thinner than real body size. The regression models indicated that the body image distortion was significantly increased with increasing the BMI ($p = 0.002$) and physical activity level ($p = 0.008$). Besides, dissatisfaction by being heavier than ideal was significantly associated with higher BMI (OR (95% CI). 1.21 (1.03, 1.17)). Considering the high prevalence of body image dissatisfaction among Iranian women, for preventing psychological problems and eating disorders, appropriate public health programs for increasing awareness about healthy body size were needed.

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1. Introduction

Obesity is the most common nutritional disorder in the developed countries and is assuming to become a health problem in developing countries (Mirzazadeh, Sadeghirad, Haghdoost, Bahrein, & Rezazadeh Kermani, 2009). Based on the global estimate of World Health Organization (WHO), there were about 1.9 billion overweight adults aged 18 years and above and among them at least 600 million adults were obese in 2014 (World Health Organization 2014). Obesity is a serious health issue by itself; it is also associated with other health problems including psychiatric illnesses (Gavin, Rue, & Takeuchi, 2010).

Some studies hypothesized that obesity may increase the risk of depression through a pathway involving body image dissatisfaction (Markowitz, Friedman, & Arent, 2008; Simon et al., 2008). Body image dissatisfaction is usually associated with low self-esteem, depression (Pimenta, Sanchez-Villegas, Bes-Rastrollo, López, & Martinez-

Gonzalez, 2009) and eating disorders (Altabe & Thompson, 1992). Such conditions directly influence health and quality of life of affected people.

Prevalence of body image dissatisfaction is considered high in both developed and developing countries. For example, it has been reported that in the United States about 66.1% of the adult population was affected by body image dissatisfaction (Kruger, Lee, Ainsworth, & Macera, 2008). Moreover, in Brazil 66.6% of females and 43% of males were dissatisfied by being heavier than ideal (Santos Silva, Nahas, de Sousa, Del Duca, & Peres, 2011). In developed countries, having high levels of income and education (Luo, Parish, & Laumann, 2005), being physically inactive (Kruger et al., 2008), being obese (Algars et al., 2009), and the presence of symptoms of depression (Pimenta et al., 2009) have been reported to be associated with body image dissatisfaction. However, because of the economical and cultural differences, it seems that these three indicators cannot be generalized in developing countries like Iran. Besides, Iran is an Islamic country with Islamic culture. These cultures emphasize on some Islamic laws, such as requiring the covering of the body, especially by women and this may result in better body satisfaction and reduce preoccupation with the body (Abdollahi & Mann, 2001). However, recently, media emphasis that thinness is the sign of attractiveness, beauty, social acceptance and success. So, in the present study, the prevalence of body image dissatisfaction and distortion and

Abbreviations: BID, body image distortion; FID, Feel Minus Ideal Dissatisfaction.

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its association with and body mass index, socioeconomic status, education and physical activity level were studied.

2. Materials and methods

2.1. Participants

In the present cross-sectional study, a total of 500 volunteered women were recruited through advertisement from an outpatient clinic belonging to Tabriz University of Medical Sciences from March to June 2013. Participants were eligible for this study if they had Iranian nationality, aged 18–65 years, were not professional athletes and were not pregnant or breastfeeding. The Nutrition Research Center of Tabriz University of Medical Sciences approve this study and a written informed consent document was obtained.

2.2. Measures

Body-weight was measured to the nearest 0.1 kg on a Seca digital weighing scale, and height was measured to the nearest cm, with bare feet using a stadiometer. Body mass index (BMI) was calculated from body-weight and height (kg/m^2). WHO definition of overweight as a BMI of 25–29.9 kg/m^2 and obesity class I as a BMI of 30–34.99, class II as a BMI of 35–39.99 and class III as BMI of greater than 40 was used.

Body image perception, assessed through the Figure Rating Scale (FRS), was presented in Fig. 1 (Stunkard, Sorensen, & Schulsinger, 1983), with the first figure being the thinnest body type (underweight) and ninth being the largest (morbidly obese). Acceptable reliability and validity of the Persian version of FRS have been reported (Zanjani & Goodarzi, 2007). The participants were asked to select the images which best represented their current body shape (“think they look” most like), their desired body shape (“wish they looked” most like) and the figure which best represented the attractive figure for men. Following other studies, these figures were classified into underweight (Figs. 1 and 2), normal weight (Figs. 3 and 4), overweight (Figs. 5 through 7) and obese (Figs. 8 and 9) (Bhuiyan, Gustat, Srinivasan, & Berenson, 2003). Psychometric research on the scale indicates good test–retest reliability and adequate validity (Keshtkar et al., 2010). Body dissatisfaction score was calculated as the difference between perceived current image and ideal image. Besides, body image distortion was calculated as the difference between perceived current image and real image. In this study, positive and negative scores of body image dissatisfaction indicated that the subject is dissatisfied with being heavier than ideal and lighter than ideal respectively. When the score was equal to zero, this specified satisfaction with body shape. The positive and negative scores of body image distortion were indicating that the subjects overestimate and underestimate their current size.

In addition, by using the general information questionnaire, subjects were asked to indicate their age, goal weight, marital and socioeconomic

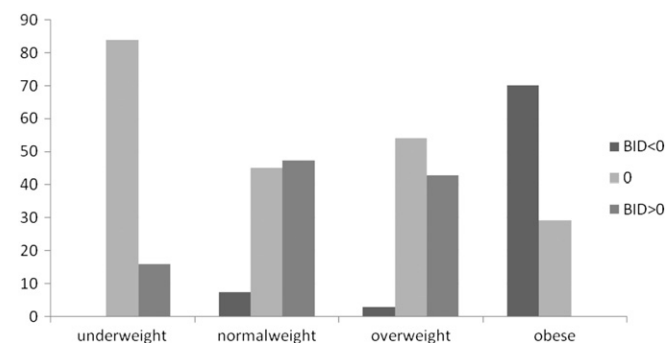


Fig. 1. Distribution of participants in different BMI categories by body image distortion (n = 500). BID < 0: underestimation of current body size. BID > 0: overestimation of current body size. BID = 0: no body size distortion.

status (including employment, educational status, salaries and material endowments).

Physical activity level was assessed using a translated and short version of the International Physical Activity Questionnaire (IPAQ). The validity of the translated form of this questionnaire was tested in the previous study on Iranian subjects (Asheghani-Farahani et al., 2011). The test–retest reliability of the questionnaire was tested in a pilot study in a random sample of 30 women and it had accepted intraclass correlation coefficient ($\text{ICC} > 0.7$). Physical activity levels were also classified into three categories: inactive, minimally active and health-enhancing physically active, according to the scoring system provided by the IPAQ (Guidelines for Data Processing and Analysis of the International Physical Activity Questionnaire—Short and Long Forms 2005).

2.3. Statistical analysis

Participants' characteristics were described using means, standard deviations, and percentages whenever appropriate. Normal distribution was assessed using Kolmogorov Smirnov test. One-way ANOVA was used for comparison between group analyses. For the correlate analyses, regression models were used for investigating the association between independent variables and body image distortion (1—undistorted body image; 2—distorted body image) and dissatisfaction (1—dissatisfied with being LI; 3—dissatisfied with being HI). All statistical analyses were performed using STATA (version 13.0), and statistical significance was determined using an α level of 0.05.

3. Results

Table 1 outlines the demographic and anthropometric characteristics of subjects. Mean age of participants was 26.62 ± 9.17 ranging from 18–60 years. The mean weight for participants was 66.97 ± 15.39 kg and BMI was 25.58 ± 6.43 kg/m^2 . Approximately, 20% had a college degree and 35.4% were married. About 45.4% of participants were physically inactive.

Table 1
Characteristics of participants (n = 500).

Continuous variables	Mean	SD
Age (years)	26.62	9.17
Weight (kg)	66.97	15.39
BMI (kg/m^2)	25.58	6.43
Feel	4.36	1.92
Like	3.44	1.28
Attractive for men	3.58	1.54
Categorical variables	Frequency	Percentage
<i>BMI categories</i>		
< 18.5	25	5
18.5–24.99	251	50.2
25–29.99	101	20.2
> 30	123	24.6
<i>Marital status</i>		
Single	323	64.6
Married	177	35.4
<i>Education</i>		
Diploma and under high school or low	132	26.4
BSc degree	269	53.8
MSc/Ph.D degree	99	19.8
<i>Socio-economic status</i>		
Low	260	52
Medium	170	34
High	70	14
<i>Physical activity category</i>		
Inactive	227	45.4
Minimally active	273	54.6

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