

Review of Body Image and some of Contributing Factors in Iranian Population

Abstract

Body image is the perception of individuals of their own body and it can be affected by many variables such as culture, social pressure, and media, but it is not limited to these factors. Body image disturbances are important because they lead to severe physical or psychological health problems. Development of body image dissatisfaction in Eastern communities has been increased in the past years. Despite many studies in Asian societies, In Iran, studies are scattered and limited. Our goal is a better understanding of this matter in Iran. A review of scientific literature about Body Image and Iran was conducted in PubMed, Web of Science, Science Direct, Scopus, and ProQuest, also in Persian scientific databases such as Scientific Information Database (SID) and Thematic Guide to Iranian Publications (MAGIRAN). This search has been conducted in January 2018. Out of 389 articles, 44 of them were selected. In these articles, study period, sample characteristics, type of study, contributing variables, type of statistical analysis, and the main result of each article were extracted. Despite using different methods for detection of body dissatisfaction, results showed that this problem has a high prevalence in Iranian population. Contributing factors were also similar to the world findings. Review of studies regarding body dissatisfaction in Iran, revealed a high prevalence of this problem. It seems there is a need for interventional programs to prevent the negative consequences of body dissatisfaction, especially in teenagers and young people. Future studies with scientific or longitudinal design, which lead to better results, are recommended.

Keywords: *Body image, Iran, review*

Introduction

Body image is a multidimensional matter that includes the perception of persons regarding self-appearance and related thoughts and feelings about this.^[1,2] These perceptions are influenced by many factors such as peers, family, social environment, and media.

West cultural values have introduced thin women and masculine men as attraction, health, and success models. In past decades in Eastern cultures fatty women were more attractive, because the fatty body is a symbol of health, wealth, and fertility. Masculinity also was accepted by men because of dominant gender-role, they were expected to be strong. In recent years, although the ideal body was changed to thin body for women, masculinity for men have been unchanged.^[3]

Body image-related problems can be discussed in different dimensions: (1) factors that affecting body image and (2) body image disorder consequences.

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The aim of this study was to determine the factors that affecting body image and its disorders in Iranian population.

Internalization of these schemas made individuals trying to achieve this Ideal body.^[4-6] The difference between the internationalized ideal body and the individual's real body causes body image disturbances. Despite the media, peers and family are other sources of pressure for having an ideal body.

Social attitude about ideal body can cause body dissatisfaction. Peers play an important role in body image perception. Some of the other studies have emphasized on effects of peers' opinion on body dissatisfaction.^[3] Young individuals who had thin friends were more prone to body dissatisfaction and low self-esteem, because they considered it as a goal.^[7] One of the important factors in body satisfaction is the parental attitude about the body, especially during development of children. Previous studies showed that parents with special attention to dieting and weight control behaviors had significant effects on children's body dissatisfaction.^[8]

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Body dissatisfaction was known as a predisposing factor for serious health-related matters. Lowself-esteem, isolation, preoccupation with appearance, depression, unhealthy body change behavior such as diet, severe exercise, muscle and performance-enhancing substances, and cosmetic surgeries are some of the complications of body dissatisfaction. Other than these problems, two major complications are body dysmorphic disorder and eating disorders.^[9-14]

Although body image dissatisfaction was a particular phenomenon of Western societies, recent studies have shown an increasing level of body image dissatisfaction and related issues, such as eating disorders in Asian countries.^[15-19] Globalization and increasing exposure to Western culture via communication technology or immigration to western countries were known as possible causes of these changes. Although some studies consider factors such as basic shifts in demographic characteristics and changes in the economy, gender role, and the traditional family structure as causes of these alterations.^[20]

Asia has a diverse range of cultures. It is not surprising that there is the difference in phenomena that are influenced by culture. Therefore, in Iran, independent studies from other Asian cultures are needed. It seems in Iran that consequences of body image disturbances were increased.^[21-24] Considering limited studies about body image and its related issues in Iran, the purpose of this study was to review the studies on this topic in Iran. Our aim was to clarify some of the contributing factors in body image disturbances in Iranian population.

Method

Search strategy

In order to examine the body image-related articles, the databases of PubMed, Web of Science, Science Direct, Scopus, and ProQuest were searched. This search has been conducted in January 2018. No time limit was considered for searching articles. The following words are combined with Boolean connectors.

The words Body Perception*, Body Concept*, Body Satisfaction*, Body Image*, Body Representation*, Body Reverence*, Perceived Body Image*, Body Image Distortion*, Body Size Dissatisfaction*, and appearance satisfaction *were searched after eliminating repetitive cases, 121 articles left. Also for searching Persian articles, we used Scientific Information Database (SID), Thematic Guide to Iranian Publications (MAGIRAN), and also free search was done in Google and Google Scholar sites. We included the original articles which consider the impact of body image in Iranian population. But we excluded articles regarding consequences of body dissatisfaction such as eating disorders, attempt to dieting, or cosmetic surgery. We excluded comments, letters, meta-analyses, and reviews, from this review.

Selecting studies

After searching in different databases, title and abstract of the found articles were included in the EndNote software, and repetitive cases were removed based on the title, author and year of publication. Initially, the relevance of the articles was examined using the title and abstract by researchers. In total, 235 articles were found in our initial search and 154 identified through hand searching reference lists and research networks. In total, 164 records excluded after reviewing title and abstract. About 111 articles remain for full-text assessment and 67 articles were excluded.

The quality of articles evaluated by two reviewers according to the Joanna Briggs Institute critical appraisal checklist for cross-sectional studies. Any disagreements between the two reviewers were solved by referring to another expert reviewer.

These publications were excluded because of the following reasons: (1) Required data regarding body image was not available (like how the investigator assesses body image, they do not mention sample size) (2) the methodology was unclear and had different biases, and (3) the main result was unclear. We met these problems especially in Persian articles.

Data extraction

A data extraction template was created in Excel software and for the articles that had inclusion criteria, information, such as author's data, study period, population, type of study, confronted variable, and the measured outcome and the main result of each was recorded in Excel software.

Results

After screening through several steps, shown in Figure 1, 44 articles were selected for the review. The characteristics of these articles are summarized in Table 1. General summary of articles are shown in Table 2. The studies were from different parts of Iran.

Results from 20 studies in Persian and 24 studies in English have been published. Between them, 25 studies have been conducted on women and 1 study on men only, and participants of 18 studies have been selected from both genders. Among the reviewed articles, 26 of them had been on perception of body image or perception of weight, 7 were on body mass index (BMI), perceived physical fitness, body composition index, and weight status, as well as 14 articles body satisfaction and body dissatisfaction.

Participants of 23 articles were general population. Two studies were conducted among pregnant women. Participants of 17 studies were health center employees, military officers, and athlete women. Six studies examined the relationship between eating disorders, depression, and body dysmorphic disorder with body image. Also, three studies were about the relationship between the use of

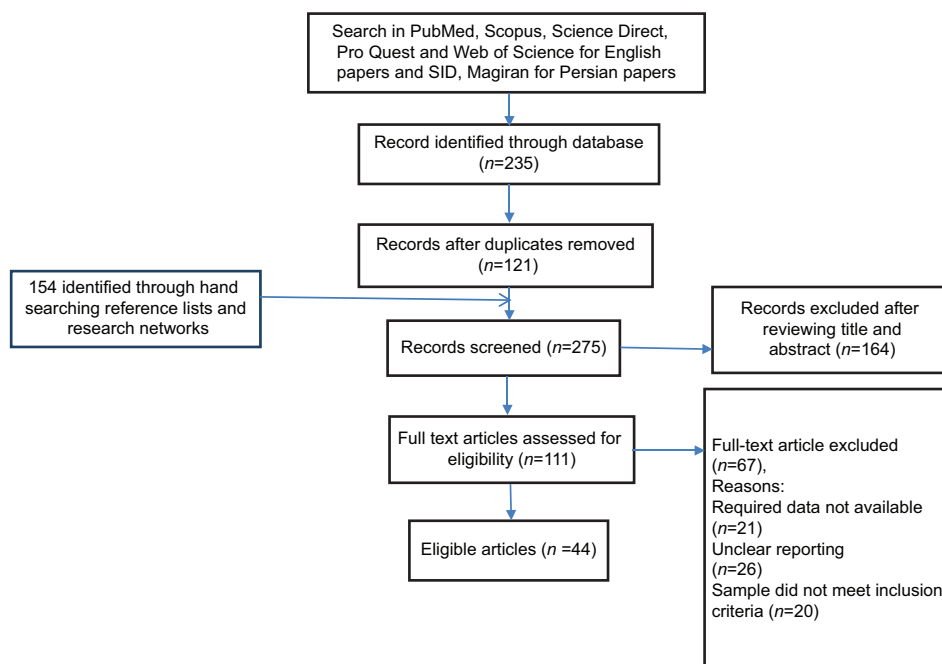


Figure 1: Steps to do a review

social networks and body image. Overall, 41 studies were cross-sectional studies. Two studies used the qualitative study and one was quasi experimental trial.

The studies included all age groups, but most of these studies (27 studies) were conducted in individuals <35 years of age; they were conducted between 1998 and 2017. The underlying variables examined in the study included the following: age, gender, socioeconomic status, parent's education, physical activity, marital status, number of children, weight, and height.

Discussion

There are few studies about body image, the factors affecting it, and its consequences in Iranian society. According to our information, this study is the first review of this subject in Iran.

The body image has been studied in numerous articles from various aspects. Some articles have considered body satisfaction, and some aspects such as orientation toward the body or worry about the body appearance.^[24,45,46] Some articles have also talked about body conception and probability of overestimation/underestimation. In the reviewed articles, body dissatisfaction has been reported between 30% and 75%.^[18,21,26,31,35-37,43,45] Articles that have dealt with misperception about the body cited these cases up to 50%.^[17,22,25,27,28,39]

Putting Asian cultures as a general culture is a big mistake which some studies have done. In Asia, the developed countries such as Japan and South Korea are facing developing countries. Western Asian countries are mostly Muslim countries, whose type of coverage and religious

principles can affect the body image.^[9] Different studies have examined different aspects of the factors affecting the body image. In this study, we try to investigate these factors.

Body satisfaction varies in different age and gender groups. The highest levels of body dissatisfaction are seen in adolescence, early adulthood, and women. However, in the reviewing articles in this study, there were two studies conducted on girls and boys of elementary school age.^[36,37] The degree of body dissatisfaction in these two studies was about 50% in girls and 30% in boys in elementary school age. Only 10 articles have specifically addressed to adolescents,^[22,27,30,31,45] in which the rate of dissatisfaction, misperception, and tendency to have a lower body mass is seen about 40%–75% in adolescents. Except for three articles in which the age range of participants is unknown, three articles have covered a wide range of audiences between the ages of 15 and adulthood; the adolescent population did not include a large percentage^[20,25,39] and other articles also have been conducted in groups over the age of 18, such as female students or women. This degree of dissatisfaction is almost the same as global studies. In some studies, the rate of body dissatisfaction in women has been reported to be around 60% and in men about 30%.^[58] In various studies conducted in different parts of Asia, many differences are seen. In a study in Japan, about 68% of 16- to 18-year olds were dissatisfied with their body image despite their weight.^[59] Similar findings have also been reported in other studies in East Asia, such as Taiwan-Malesia, China, and Fiji.^[15,68,69]

On the other side of Asia, reports appear to be different. In the UAE, this number was reported by 66% of adolescent girls.^[70] That has been reported 11.4% in Pakistan,^[71] about

Table 1: Main characteristic of studies

ID	Authors, year, location	Population size	Ages	Mean topic	Study type	Sex	Other variables	Statistical analysis	Main results
1	Sotoudeh, 2003, EslamShahr ^[25]	704	19-65	Effect of husbands' opinion on women's self-perception	Cross-sectional	Female	Economic status, marital status, Parity, physical activity, BMI	Logistic regression	48% of respondents misclassified their weight (13.5% overestimated and 34.5% underestimated). Assessment of husbands' opinion was related to this estimation
2	Alipour, 2015, Tabriz ^[26]	184	18-35	Body image perception and its association with BMI and nutrient intakes	Cross-sectional	Female	Anthropometric indices, Family size, sleeping hours	ANOVA, Pearson's Chi-square	Body image dissatisfaction had seen in about 50% of respondents. They that perceived themselves as normal weight had a significantly lower intake of total fat and saturated fatty acids and higher physical activity
3	Bahaadinbeigy, 2014, Kerman ^[9]	255	Not reported	Body satisfaction among pregnant women with an emphasis on self-esteem and depression	Cross-sectional	Pregnant women	Economic status, marital status, self-esteem, depression	Regression analysis	About half of the women reported body dissatisfaction Depression, self-esteem, perceived social pressure by the person, planned pregnancy and using of Western TV had a negative correlation with body satisfaction
4	Garousi, 2017, Kerman ^[27]	17	18-28	Body change behaviors, and construction of flexible masculinity	Qualitative (grounded theory)	Male	Ideal body, body satisfaction, body change behaviors	Three coding methods i.e., open, axial and selective	Young Iranian men have combined components of traditional Iranian hegemonic masculinity with western hegemonic masculinity. Use of visual media, cultural globalization, and the changing social roles are the main causes of the creation of a new gender system in the society
5	Akiba, 1998, Tabriz ^[28]	95	Not Reported	Cultural variations in body esteem	Cross-sectional	Male, Female	Sex	ANOVA	Iranian participants had positively body perception than U.S. participants. In both cultures, male students had better body satisfaction
6	Heshmat, 2015, 27 provinces of Iran ^[29]	5570	10-18	BMI and perceived weight status with self-rated health and life satisfaction	population-based survey	Male, Female	Age, sex, socioeconomic status, parent's education, screen time activity, physical activity	Multiple logistic regressions	Misperception of body image was seen in about 40% of participants. Perceived weight status was different between both genders
7	Nikniaz, 2016, Tabriz ^[30]	500	18-65	Factors associated with body image dissatisfaction and distortion	Cross-sectional	Female	age, marital status and socioeconomic status	one-way ANOVA, regression	Body image dissatisfaction increased with increasing of BMI and physical activity

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Table 1: Contd...

ID	Authors, year, location	Population size	Ages	Mean topic	Study type	Sex	Other variables	Statistical analysis	Main results
8	Akbarbegloo, 2010, Urmia ^[31]	260	18-25	Perception of body image	Cross-sectional	Male, Female	Age, sex, major, marital status	t-Test, Pearson's correlation	Perceived body image concerns in participants were moderate, Females had greater concerns Perceived body image concerns were different between medical and non-medical students, also between married and single students
9	Dorosty, 2014, Tehran ^[32]	542	All age groups	Perception of weight and health status among women	Cross-sectional	Female	BMI, age, education, years of service, marital status, job	Multivariate analyses	Weight overestimation was seen in about 40% of participants' especially younger females. BMI was the most important factors in weight overstimulation. Actual fat indices had no relation to health status
10	Bagheri, 2013, Tehran ^[33]	362	15-46	Prepregnancy, body size, dissatisfaction, and excessive gestational weight gain	Cross-sectional	Pregnant women	Age, education level, parity and employment, family income, gestational age	ANOVA and Pearson test, multivariable logistic regression	Women with thinner body size preference had relation with excessive gestational weight gain. Age, parity, and pre-pregnancy BMI were related to prepregnancy body size satisfaction
11	Rastmanesh, 2009, Tehran ^[34]	1771		Body dissatisfaction and cosmetic rhinoplasty with levels of veil practicing	Cross-sectional	Female	Female	multiple linear regression, ANOVA	Islamicveil practicing had lower BD, BMI was another contributing factor
12	Farid, 2016, Karaj ^[35]	537	14-18	The tendency toward weight loss among Iranian adolescent girls	Cross-sectional	Female	Age and parental occupation and education status, BMI	Chi-square, ANOVA and t-test	Persons with normal BMI, in comparison with overweight and obese persons had greater correct weight estimation. About one-quarter of participants had a disordered attitude toward eating disorders. 66.3% of the participants had a desire to lose weight
13	ZamaniSani, 2016, Tabriz ^[36]	82	20-60	Body image, perceived physical fitness, physical activity, BMI, and age	Cross-sectional	Female	Age, educational background, health and marital status, number of children, weight, height and BMI	Pearson's correlation coefficient and regression	Body image had a positive relation with BMI and body composition. Aerobic endurance negatively was associated with BMI. Physical self-perception, aerobic endurance, body composition, muscular strength, flexibility, and BMI were the significant predictors of body image
14	Habibpour 2003, Rafsanjan ^[37]	400	Teenagers	Body dissatisfaction	Cross-sectional	Male, Female	Gender	Chi-square, t-test	There was a correlation between body image and gender. Body dissatisfaction is greater in the female

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ID	Authors, year, location	Population size	Ages	Mean topic	Study type	Sex	Other variables	Statistical analysis	Main results
15	Ahmad, 2014, Kerman ^[38]	376	Teenagers	Body image with social anxiety	Cross-sectional	Male, Female	Not Reported	Pearson's correlation coefficient and regression	Negative body image was a predictor of social anxiety in adolescents. cognitive distortions acted as a mediator in the relation between body image and fear of negative evaluations (most important component of social anxiety)
16	Hatami, 2015, Tehran ^[39]	2109	10-18	Body image, body dissatisfaction and weight status in Iranian adolescents	Cross-sectional	Male, Female	Sex, age BMI	Chi-square, logistic regressions	About one-quarter of respondents were satisfied with body size. Overweight and obese persons had greater dissatisfaction than the normal weight peoples Age and Gender were associated with body dissatisfaction
17	Sharifi, 2016, Tehran ^[40]	12	24-34	Impact of Instagram use on body image	Qualitative (phenomenological approach)	Female	Increasing confidence attitude toward cosmetic surgery, achieving health, attracting attention, social comparisons, the nature of beauty, a health risk for beauty, Instagram opportunities and Instagram threats	Phenomenology	Body change behaviors, health and Beauty and effects of social media such as Instagram were the main themes of body image concerns
18	Allah-gholilo, 2012, Shahrood ^[41]	200	20-25	Friendly behavior and body image with life satisfaction	Cross-sectional	Female	Marital status, education	Pearson correlation coefficient and multiple regression analyses	There was a positive correlation between body image with life satisfaction in women
19	Haghighian Roudsari, 2016, Tehran ^[42]	722	30-64	Concordance between self-reported BMI with weight perception	Cross-sectional	Male, Female	BMI, marital status,	t-test, Chi-square, Cohen's Kappa	The most of participants in all age group moderately satisfied by their body. Overweight men and normal weight women had greater body satisfaction
20	Zeighami Mohammadi, 2012, Karaj ^[43]	200	19-34	Correlation between BMI, body image, and depression among women	Cross-sectional	Female	Marital status, occupation and education, age	Pearson correlation coefficient, ANOVA and t-test	About 29% of the women had mild body dissatisfaction. A negative correlation was present between BMI and body image. There was a positive correlation between body dissatisfaction and depression

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Table 1: Contd...

ID	Authors, year, location	Population size	Ages	Mean topic	Study type	Sex	Other variables	Statistical analysis	Main results
21	Garousi, 2012, Kerman ^[44]	535	18<	Body satisfaction and management behaviors	Cross-sectional	Male, Female	age, sex, education course, grade, parental education, body management	Chi-square, <i>t</i> -test and ANOVA and Pearson correlation test	About 62% of the students had moderate to severe body dissatisfaction that had no relation with gender. Residence of the family in big cities and maternal educational level had a positiverelation with body dissatisfaction About, 40% of the students were using body management methods
22	Momeni, 2016, Qazvin ^[45]	394	18<	Predictors of body image dissatisfaction among students	cross-sectional	Male, Female	Gender, BMI, Diet	Mann-Whitney <i>U</i> -test, Spearman rank correlation, Generalized Linear Models	Over 2/3 of participants had body satisfaction. Gender, BMI and diet had confirmatory effects on body dissatisfaction
23	Rahmani-Nia, 2015, Gilan ^[46]	434	35-50	Body satisfaction in middle-aged athlete and non-athlete females	Cross-sectional	Female	Exercise, BMI, Body change behaviors	Mann-Whitney <i>U</i> and Spearman correlation	Body dissatisfaction, social pressure to change weight and actual BMI had a significant difference between athlete and non-athlete females
24	AzaliAlamdari, 2015, Tabriz ^[47]	453	All age groups	Body image in sedentary and active women	Cross-sectional	Female	Exercise, Body image	<i>t</i> -test and ANOVA and Pearson correlation test	The most of participants had a slim perception of themselves
25	Fekrat, 2014, Kerman ^[48]	380	22<	Body image and self-esteem with marital adjustment in female	Cross-sectional	Female	Age, education, body image, self-esteem, marital adjustment	linear regression model	There was a significant correlation between body image and self-esteem
26	jouybari, 2011, Golestan ^[49]	225	21<	Body image, employment	Cross-sectional	Male, Female	gender, type of work, appearance, height and weight	Chi-square, ANOVA	Body image had significant relation with gender, appearance, and height
27	Ghasemi, 2014, Esfahan ^[50]	347	18<	Social media and body image among students	Cross-sectional	Male, Female	age, education	Confirmatory factor analysis	Social media (Facebook) had effects on body image, body satisfaction and body management attitude
28	Haghighatian, 2013, Esfahan ^[51]	385	18-40	Social determinants of body image	Cross-sectional	Female	Marital status, education, age, family, media	Pearson correlation test	Educated, younger and single had better body image perception. Close relatives, family, media and school environment had affect body image. The media had a most confirmatory effect
29	Abaszedeh, 2014, Tabriz ^[52]	316	15<	The impact of Western values and mass media on body image	Cross-sectional	Female	Media, Western values	Pearson correlation test, linear regression mode	There was a positive correlation between internalization of Western values and media with body image

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Table 1: Contd...

ID	Authors, year, location	Population size	Ages	Mean topic	Study type	Sex	Other variables	Statistical analysis	Main results
30	Esmashari, 2013, Yazd ^[53]	371	Teenagers	Body dysmorphic disorder in female adolescents	Cross-sectional	Female	Age	Cronbach's alpha, mean	About 41% of respondents had mild to moderate worry regarding their appearance
31	EmamiGhaffari 2015, Tehran ^[54]	415	18-30	Social acceptance, worry regarding body	Cross-sectional	Female	Age, Socialacceptance, Marital status	Pearson correlation test, Chi-square	The young people had more worry regarding their body. Educational level and the employee had significant relation with body image. General social acceptance had a negative correlation with body image
32	Garrusi 2017, Kerman ^[55]	1200	15-55	Predictors of body image dissatisfaction among the general population	Cross-sectional	Male, Female	Demographic characteristics, socioeconomic status, BMI (BMI) and use of the media	Pearson's correlation. Two-way analysis of variance (ANOVA), linear regression	Approximately two-thirds of the participants were satisfied with their body. The mean score of body dissatisfaction in women was greater than men. Age, gender, marital status, and BMI had a significant relationship with body dissatisfaction
33	Moghimian, 2012, Najafabad ^[56]	360	20<	The relationship between body image satisfaction and academic field of study	Cross-sectional	Female	Demographic characteristics, socioeconomic status	Chi-square, Kruskal Wallis, Mann-Whitney U and Spearman correlation tests	About 1/3 of participants had body dissatisfaction. Art students had more preoccupation with their body than other students. Economic status had a positive correlation with body satisfaction
34	Omidvar, 2003, Tehran ^[57]	894	14-18	Body satisfaction and BMI.	Cross-sectional	Male, Female	Demographic characteristics, BMI and weight perception, dieting, physical activity	regression mode	About half of adolescents had body dissatisfaction
35	Shahyad, 2015, Tehran ^[58]	477	Teenagers	Prediction of body image dissatisfaction	Cross-sectional	Female	Demographic characteristics, and thin-ideal internalization and appearance-related social comparisons, self-esteem	Stepwise regression, Pearson's correlation	Female sex, overweight, lack of regular physical activity, and previous history of dieting were predictive factors of body image misperception
36	Dehghani, 2011, Rasht ^[59]	450	14-17	Body image satisfaction and sociocultural variables	Cross-sectional	Female	Demographic characteristics, BMI, athletes	Spearman correlation tests, Logistic regression	The direct correlation is between body image dissatisfaction and thin-ideal internalization and appearance-related social comparisons. There was a negative correlation between self-esteem and body image dissatisfaction
									There was a significant relationship between body satisfaction based on BMI and general patterns of the society and athletes

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Table 1: Contd...

ID	Authors, year, location	Population size	Ages	Mean topic	Study type	Sex	Other variables	Statistical analysis	Main results
37	Garousi 2014-Kerman ⁽⁶⁰⁾	500	6-14	Body concerns and antifat attitude	Cross-sectional	Male, Female	Demographic characteristics, BMI, antifat attitude	Chi-square tests, one-way analysis of variance, t-test, Pearson and Spearman correlation	About 50% of girls and 1/3 of boys had different body dissatisfaction. There were no differences between BD and other demographic characteristics. Antifat attitudes were related to BMI in girls
38	Malekpour ⁽⁶¹⁾	400	6-11	Body dissatisfaction and life satisfaction	Cross-sectional	Male, Female	demographic characteristics, family, friends, society	t-test, Pearson correlation	There is no difference between BD in both genders. Body satisfaction was related to life satisfaction
39	Riahi, 2010, Mazandaran ⁽⁶²⁾	360	18-29	Body dissatisfaction and gender	Cross-sectional	Male, Female	demographic characteristics, Social comparison, Self-steam	Chi-square tests, regression	There is insignificant difference between BD in both gender, Self-Stream washemain predictor of BD in students
40	Khajehnoori, 2008, Tehran, Shiraz, Estahban ⁽⁶³⁾	2200	16-45	Relationship between globalization and Body Image	Cross-sectional	Female	Demographic characteristics, attitude, behaviors	Not reported	Modernity, Awareness about Globalization, Lifestyle, negotiation in the family, Cultural Capital and Marriage
41	Zokaei, 2006, Tehran ⁽⁶⁴⁾	355	18-30	Body and culture	Cross-sectional	Male, Female	Gender stereotypes, media	Qualitative	Status had contributing effects on body image Participants had some of degree of body dissatisfaction. Body dissatisfaction was related to gender, social pressure and media There is a significant difference between BD and BMI
42	Amidi, 2007, Esfahan ⁽⁶⁵⁾	384	14-18	Body image and BMI	Cross-sectional	Female	Demographic characteristics, BMI	t-test, ANOVA,	In particular we have seen that male are 53% less likely to follow surgical treatments, but 125% were more likely to use substances
43	Garrusi, 2013, Kerman ⁽⁶⁶⁾	1200	14-55	Predictive factors in body image	Cross-sectional	Male, Female	gender, age, BMI, use of media and socio cultural factors	Logistic Regression	
44	Fadaei, 2012, Isfahan ⁽⁶⁷⁾	72	18-65	Cognitive behavioral counseling on body Image following mastectomy	Quasiexperimental trial	Female	Husbands' age, Occupation, Education, age	Paired t-test	The body image score was significantly lower in the intervention (9.03±6.11) group compared to control (17.18±5.27) group ($f=-6.07$; $P<0.001$) after the intervention and high body image score equals to more body imaging disorder

BMI=Body mass index, ANOVA=Analysis of variance

Table 2: General summary of articles

	Articles (n)	Sample size (combined studies)	References
Persian	20	9,723	[37, 43, 45-54, 56, 57, 59, 61-65]
English	24	18,282	[9, 25-36, 38-42, 44, 55, 58, 60, 66, 67]
Female	25	12,045	[9, 25, 26, 30, 32-36, 40, 41, 43, 46-48, 51-54, 56, 58, 59, 63, 65, 67]
Male/Female	18	15,792	[28, 29, 31, 37-39, 42, 44, 45, 49, 50, 55, 57, 60-62, 64, 68]
Male	1	167	[27]
Cross-sectional study	40	22,334	[9, 25, 26, 28, 30-39, 41-66]
Qualitative study	2	29	[27, 40]
Population base study	1	5,570	[29]
Quasiexperimental trial	1	72	[67]
Perception of body image, perception of weight, perceived physical fitness, body composition index, weight status	26	14,852	[25, 26, 31, 32, 35, 36, 38-41, 43, 45, 48-52, 54-58, 60, 63, 64, 66]
Body mass index,	7	8,036	[26, 29, 36, 42, 43, 57, 65]
Body satisfaction, body dissatisfaction	14	8,982	[9,30, 32, 34, 39, 44-46, 53, 58, 59, 61, 62, 65]
Life satisfaction	3	682	[36, 41, 61]
Self-esteem	2	857	[48, 58]
Pregnant women	2	617	[9, 33]
Students, health center employee, military officer, athlete women	17	5,863	[9, 27, 31, 32, 40, 44-50, 54, 56, 59, 61, 65]
Social factor, social acceptance	5	2,103	[38, 51, 54, 58, 59]
Eating disorders, depression, body dysmorphic disorder, mastectomy	6	3,385	[34, 35, 43, 46, 53, 67]
Instagram, Facebook, Mass Media	3	675	[40, 50, 52]

13% in Palestine,^[72] and about 16% in Saudi Arabia.^[73] In the study of adolescents in Jordan, about 20% of adolescents felt dissatisfied with the body.^[74] Therefore, Asia cannot be considered as a unified culture. There are more developed countries and developing countries in Asia. The majority of the West Asian population are Muslims, whose type of coverage may have an effect on their satisfaction of body.^[9]

In reviewing these articles, except an article which is specifically devoted to men,^[20] which is also a qualitative study, 24 articles in women examine this subject.^[9,17-19,23,25,26,27,28,32,33,35,38-40,43-46,48,50,51,55,57]

Other articles talk about both sexes. In these studies, despite the high amount of body dissatisfaction in both genders, dissatisfaction in women is higher than men. This is similar to other studies. In a comparative study on Iranian and American students, male students in both cultures had higher satisfaction from their body.^[21]

The presence of western beauty criteria that introduce slim women as an ideal sample, on one hand, and the traditional roles of women, especially in oriental societies, can make the body image and related issues more visible in women. In recent years, this trend has been increasing in Iran. Globalization and the change in the level of education and new job positions have made women more present in the society than the past, but at the same time they are expected to have their own traditional and family position such as being elegant and beautiful.

Sexual socialization and gender stereotypes are considered in various ways, such as family, media, peers, that the men must be “strong” and stubborn, and the women “elegant” and “beautiful,” make women tend to be slim and men tend to have a muscular physique. An increasing percentage of young men reports body dissatisfaction. The interest in being physically fit has grown as a major factor in the body dissatisfaction in boys. It should be noted that at the moment, our teenage boys are also facing a male-dominated pattern (muscular and athletic man) that is also encouraged by the society. However, its prevalence is less than women’s ideal body. In the only article that explores the tendency toward muscularity in the men’s group,^[20] young men preferred a combination of body and strength according to both western and traditional cultures.

BMI

One of the most important factors affecting body image and body satisfaction is BMI. Considering that today slimness is one of the criteria of beauty and sexual attractiveness especially for women, the media modeling on one hand and social pressures on the other can be effective in increasing the feeling of body dissatisfaction in obese people. BMI can be interpreted, particularly in relation to gender. Women compare themselves more than men with others, and this comparison causes body dissatisfaction in women when faced with images which are promoted as ideal bodies.^[3] Although this concern in boys, like girls

and young women, makes even more difficult for them to estimate their weight, even in normal conditions; in this state they imagine themselves more obese than what they really are. This error in estimating weight and appearance will cause serious health problems.^[75]

In Iran, according to surveys, the rate of obesity is increasing. Overweight is estimated at 27.0%–38.5% and obesity at 12.6%–25.9%.^[76] The reason for this can be a reduction of mobility, change in the type of nutrition, etc. This increase in weight can increase the amount of dissatisfaction with the body and the following problems. Among these articles, about seven articles^[18,22,28,34,35,49,57] have directly shown BMI as one of the most effective factors in body satisfaction. Some other articles have also emphasized BMI's impact on body changes or body misconceptions. Such as articles pointing to body composition index or weight status. Considering the increase of obesity in Iran, it seems that this factor can be a serious predictor of dissatisfaction with the body and the use of body management techniques.

Social pressures

Social acceptance is the degree of membership of a person in a social unit. The need for social acceptance causes individuals to develop behavioral responses that increase the likelihood of social acceptance and their social desirability. This is especially important in adolescents for gaining acceptance in peer groups. Despite the mental nature of body image, it can be seen as a social phenomenon. This subject can be studied, in particular, through the role of the process of socialization and the transformation of an individual into an acceptable member in the society in which she/he lives.^[46] Social learning occurs through the observation of others, imitation, and behavior reinforcement.

Social pressures are one of the most important causes of dissatisfaction with the body. One of the most important reasons for dissatisfaction with physical image in adolescents is the social standards and cultural atmosphere created through mass media, magazines, and satellite channels among individuals. In addition to its direct impact on the view and behavior of individuals, these media can lead to a change in the attitudes of influential people in family networks and peers, causing indirect pressure on people. When a person feels that his or her appearance is lower than the ideal criteria, she/he may face inappropriate feelings and attitudes toward him/herself, such as low self-esteem or self-confidence, or depression and, even in some cases, academic failure.

Family, as the first factor influencing body image, plays an important role in shaping the concept of body in children. Children of all ages are confronted with opinions about their own body, or the bodies of others, and the standards of beauty of the parents, peers, and others. In

addition, the media offer slimness as a measure of beauty. Watching these images creates this mentality in children that their bodies are not desirable, and thus, it leads to an undesirable and negative image of their body. The antiobesity perspectives that make obese people to be seen as lazy, futile, and inappropriate individuals develops from childhood. In a study, it was observed that obesity was considered as a negative characteristic of children and they tended their friends to be slim. This attitude was higher among girls than boys.^[36]

In studies that have examined the impact of family on body image and body dissatisfaction, the role of the family has been emphasized as a determinant factor. In some studies, the rate of body satisfaction in single women is higher than married women, although the reasons for this rate such as wife's opinion are not discussed in these studies, but the influence of the views of the close relative especially the spouse can be considered as one of the social pressures.^[24,27] Only one study has investigated the opinions of the spouse on the satisfaction with the body and considered the spouse's views about the appearance of an individual, effective in the satisfaction with the body for a woman.^[17] Some studies have considered the role of parents, especially mothers, in the body satisfaction of teenage girls, but in Iranian studies, even those who referred to family pressures for body change,^[19,20,43,48,55,56] have not directly mentioned the role of parents.

Some family features, such as the socioeconomic status of the family,^[9,20,48] living in large cities,^[36] have also been among the subjects that have contributed to the satisfaction of the body. The role of the peer group has not been clearly mentioned.

In the field of social factors, one of the cases that have been addressed is the role of the media. Nowadays, the media determine the need for beauty and attention to the body. Providing attractive and successful models with standard appearances (artists, athletes, etc.) will internalize these appearance standards and people's efforts to achieve them.

Globalization, rapid social change, and the increasing growth of technology, such as the Internet, satellite channels, and social networks, have made it possible to achieve western beauty standards easily, and individuals, by comparing themselves with these criteria, try to achieve these ideals. Few Iranian studies have been about the media and body satisfaction,^[19,20,32,42–44,48] and major studies have investigated the impact of media on body management that is not within the scope of this study. Few types of research investigated the impact of using social networks on body image in students.^[20,56] These studies showed that the use of Facebook and Instagram changed participants' perceptions of their body, and there was a correlation between the duration of membership, the rate of usage, and the rate of activity in this social network has a direct effect on body satisfaction.

Self-esteem

One of the factors that can affect the satisfaction of the body, as well as being the consequent of satisfaction with the body, is self-esteem. Physical dissatisfaction is one of the strong predictors of several negative outcomes such as depression and self-esteem reduction.

One of the important aspects of shaping the identity and self-esteem of individuals is physical appearance and body image. People who feel good about their body image will have a good sense of life. When the society's view is oriented to apparent attractiveness as a factor for social success and acceptance, especially for women, the physical image becomes gradually a source of concern. This view leads to depression, social anxiety, and low self-esteem

Some articles examining self-esteem^[19,20,24,40,54] have shown a negative relationship between body satisfaction and self-esteem, and some articles^[9] have considered it without effect in body satisfaction. The effect of body dissatisfaction on social anxiety,^[57] social acceptance,^[46] and life satisfaction^[53] were also some subjects which only a few articles have referred to them.

Interestingly, in spite of the attention of some studies paid to the positive impact of believing in Islamic laws and coverage on body satisfaction,^[77] in Iran, no study has been conducted on the influence of religious views or observance of Islamic Hijab on body satisfaction; only one article has studied explicitly the relationship between belief in Islamic hijab and body satisfaction,^[9] and another article has indirectly focused on this subject; due to the differences between the Asian countries, especially religiously this can be important.

Conclusions

A review of studies on body dissatisfaction indicates that this subject is serious in Iran. This phenomenon is prevalent in different age and social groups. It is difficult to compare the results of various studies due to different tools and methodologies. Other limitations of these studies can be listed as follow: they are mainly conducted in large cities, their sample size is limited, lack of control group, they are conducted in cross-sectional methods, and they investigate moderate economic–social groups.

Increasing body dissatisfaction, reducing the age of the initiation of physical dissatisfaction in children, and the probability of its negative effects indicate the importance of research in this field and finding predictive variables and factors affecting it. However, it seems that the cause of difficulties has been studied at the individual level without paying sufficient attention to the social and cultural factors. Although the factors affecting body dissatisfaction in these studies are similar to those conducted in other parts of the world and Asia, it should be considered that despite the fact that the process of globalization affects the homogeneity of

cultures, the native culture of each region can keep some of its trends because of the internal mechanisms. Therefore, it is recommended that future examinations should be carried out in endangered populations, using native and valid tools and through a deeper examination of the role of social factors, such as family, peer groups, and new media.

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