

# Review Article:

## The Effectiveness of Interventions to Decrease Body Image Dissatisfaction; A Systematic Review



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## ABSTRACT

**Background:** The prevalence of body image dissatisfaction is considered high in both developed and developing countries. Studies on obese individuals have shown associations between the risks of obesity and its hazardous effects both on physical and mental health as well as on the body image. 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. Preventing and alleviating body Image dissatisfaction among Iranian obese women is an important area for policy and practice, but the effectiveness of many interventions has been questioned because of the lack of evidence.

**Methods and Materials:** A systematic review was conducted to determine the effectiveness of health promotion interventions that target body Image dissatisfaction in Iranian obese women. Quantitative outcome studies between March 2016 and February 2021 in English and Persian language were included. Articles were identified by searching electronic databases, journals and abstracts, and contacting key informants. Information was extracted and synthesized using a standard form.

**Results:** 9 studies were identified. their design, methods, quality and transferability varied considerably. Just 1 of the 10 effective interventions were group activities.

**Conclusion:** The review suggests that all of interventions are effective, involving some form of mindfulness and emotion regulation training that targeted obese women.

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## 1. Introduction

Overweight and obesity is a chronic and nutritional disorder that is increasingly become an epidemic in the developed countries and is on an upward trend worldwide [1]. Obesity is defined as an abnormal fat accumulation and a Body Mass Index (BMI) which is associated with other health problems including low psychological functioning, anxiety, depression [2]. Based on the global estimate of World Health Organization (WHO), The prevalence of obesity is growing. Nearly 600 million adults aged 18 years are obese. In Iran 23.4% of women population are suffering from obesity [1, 3].

Previously conducted studies hypothesized that body mass index may result in body image dissatisfaction, and through which causes psychiatric illnesses [4].

Body image dissatisfaction is a multidimensional matter that cites one's concepts and attitudes, including persons related thoughts and feelings about the body, weight, and appearance negatively [5]. However, in past the fatty body was more attractive, recently cultural values are changed about ideal body. media emphasis that thin women and masculine men are more attractive, beautiful, healthier and more successful [5, 6]. Some findings indicate that the body image dissatisfaction and distortion is often associated with peers' opinion on body and seeking reassurance in their attitude [5]. Moreover, other findings have shown that Distorted self-perception of body image is more likely to be associated with narratives of loss, aging, decline and death. Another important factor in internalizing ideal body which differs from individual's real body is the parental attitude about the body, especially during development of children [3, 7, 8].

Some findings indicate that the difficulties about the appearance are usually a predisposing factor for low self-esteem, depression, sexual dysfunction, body dysmorphic disorder and anxiety which influence health and quality of life of affected people [8]. some of the unhealthy behavior of body dissatisfaction is diet, severe exercise, and cosmetic surgeries [4]. although This problem is a global issue, it seems in Iran that consequences of body image disturbances were increased recently [9]. Specially among women this rate has been reported by 70% which is almost the same as that in global studies [2].

The importance of these two factors in wellbeing mentally and physically may argue for the study of efficacy of psychological treatment in overweight and obese adolescents and adult women who have Body image dissatisfaction. Considering limited studies about interventions on body image and its related issues on obese Iranian women, the purpose of this study was to review the studies on this topic in Iran. The present study aimed to clarify the effectiveness of some of these interventions.

## 2. Materials and Methods

### Search strategy

In order to identify relevant studies, the systematic review of empirical papers published from March 2016 up to February 2021 was conducted. the databases of PubMed, Science Direct, Scopus, SID, Sivilika and Magiran were searched in addition, a manual search for relevant articles was also conducted using Google Scholar through the reference lists of articles included in the final review. using search term based on those used in existing literature. The search terms were: [body image\*, Body Image Distortion\*, Perceived Body Image\*] and [obesity\* or overweight\*] and [Iran\*] and were searched. after eliminating repetitive cases, 190 articles left. In this Study we used, Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA).

### Selecting studies

Search results based on title and abstract were included in Endnote software and duplicates 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, 286 articles were found in our initial search, from which 143 were duplicates and 68 identified through hand searching reference lists and research networks. In total, 171 records excluded after reviewing title and abstract. About 36 articles remain for fulltext assessment and 27 articles were excluded.

Titles and abstracts of the studies were screened and subsequently full texts of the selected studies were accessed and further screened against the eligibility criteria. The title and abstract screening were undertaken by two reviewers independently and any disagreements between them were solved.

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

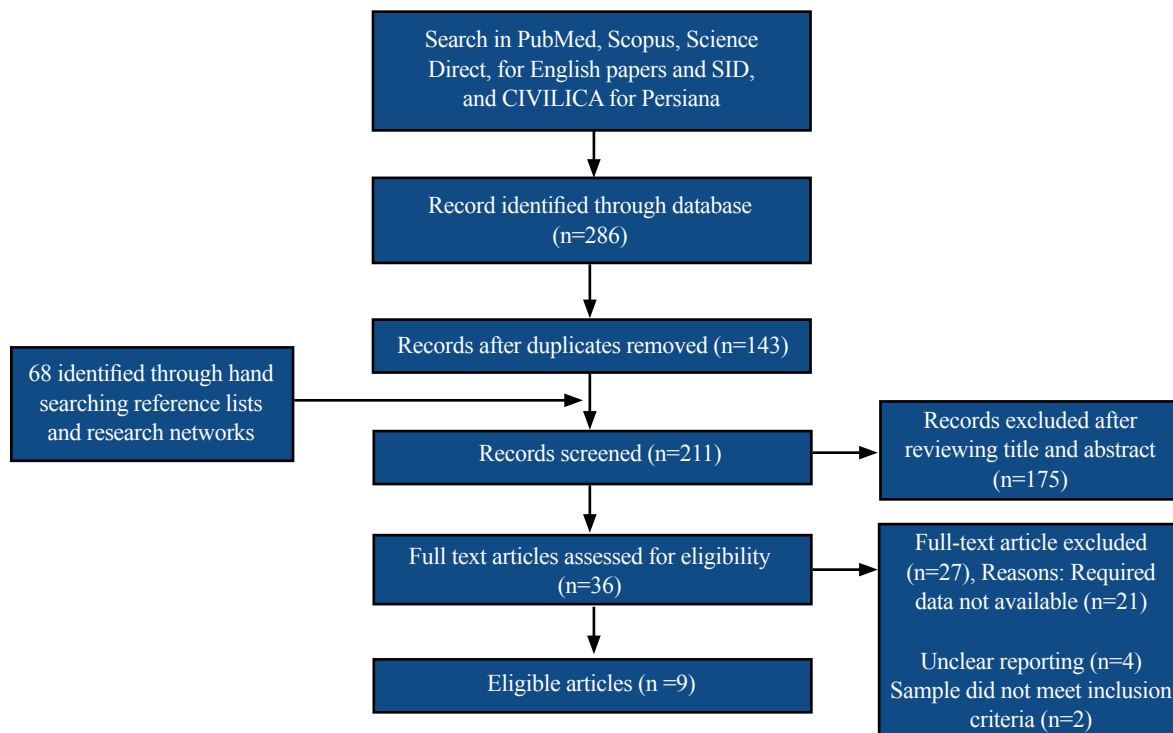


Figure 1. PRISMA Flow Diagram



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.

### 3. Result

After screening through several steps, shown in Figure 1, 9 articles were selected for the review. The characteristics of these articles are summarized in Table 1. The studies were from different parts of Iran.

Results from 2 studies in Persian and 7 studies in English have been published. Between them, 1 study had been on effect of narrative therapy, 1 on effectiveness of dialectical behavior therapy, 1 on The Effect of Aerobic Exercise Training Program, 1 on The Effect of Mindfulness Based Cognitive Therapy, 3 on The Effectiveness of Acceptance and Commitment Therapy, 1 on A comparison between effectiveness of integrated group psychotherapy and cognitive-behavioral stress management

and 1 on The Effect of Medical Diet Therapy. Among the reviewed articles, 3 articles were on women who had overweight, 6 were on women with obesity. As well as 9 articles were on body image.

The studies included all age groups, but all of them were conducted in individuals >18 and <50 years of age; they were conducted between 2016 and 2020. The underlying variables examined in the study included the following: age, gender, marital status, BMI, educational level, Occupation status, Exercise level, family history, exercise level and number of children.

### 4. Discussion

Although numerous articles have studied the body image from various aspects, there are few studies about effectiveness of interventions on the body image of obese women in Iranian society. According to our information, this study is the first review of this subject in Iran. The findings provide clear evidence that all of interventions are effective, namely Acceptance and Commitment Therapy's involving some form of mindfulness and emotion regulation training that targeted obese women. The review encountered methodological problems, the first being whether to include studies published only in the Persian language or, alternatively, those in English. A pragmatic decision was taken to include studies in both

**Table 1.** Summary of articles in this review

| ID | Author, Year, Location            | Population Size | Age, Year    | Mean Topic   | Study Type                             | Sex    | Other Variables   | Statistical Analysis                                     | Main Results   |
|----|-----------------------------------|-----------------|--------------|--|--|--------|---|--|--|
| 1  | McKian, Tehran, 2019 [3]          | 30              | 18-36        | The effect of narrative therapy on body image and body mass index  | Pre-test, post-test with control group | Female | Age, marital status, education level, occupation status, number of children | Covariance analysis followed by Tukey post hoc test      | Narrative therapy along with diet therapy can be a useful intervention strategy for improving body image in overweight and obese women by focusing on positive experiences in outsider witnessing the process. |
| 2  | Dastan, Roudehen, 2019 [4]        | 40              | 18-50        | The effectiveness of dialectical behavior therapy for treating BED   | Pre-test, post-test with control group | Female | Marital status, educational status, age                                     | Not reported   | Dialectical behavior therapy-based skills training is efficacious not only in reducing weight and emotional eating but also in improving the body image of females with binge eating disorder.                 |
| 3  | Seddighian, Rasht, 2020 [6]       | 20              | 18-45        | The effect of aerobic exercise training program on mental health and body image concern  | Pre-test, post-test                    | Female | Age   | Uni/Multivariate analysis of variance                    | Exercise programs can influence women's obesity and its associated dimensions, along with psychological intervention.  |
| 4  | Soolari, Isfahan, 2020 [16]       | 30              | Not Reported | The effect of Mindfulness Based Cognitive Therapy (MBCT) on ability to control weight, satisfaction with body image, and life satisfaction | Pre-test, post-test with control group | Female | Not reported  | Covariance analysis                                      | Mindfulness Based Cognitive Therapy (MBCT) had a significant effect to control weight, Satisfaction with body image, and Life satisfaction in Overweight women.  |
| 5  | Hedayatzadeh, Tehran, 2019 [17]   | 30              | 26-40        | The effect of medical diet therapy on mental health, body image and weight   | Pre-test, post-test with control group | Female | Age, education level  | Multivariate covariance analysis                         | The results indicated the importance of the medical diet therapy method on the promotion of mental and physical characteristics in women with obesity.   |
| 6  | Ostadian Khani, Theran, 2020 [11] | 30              | 26-45        | The effectiveness of acceptance and commitment therapy on body image flexibility and affect control  | Pre-test, post-test with control group | Female | Age, education level  | Covariance analysis followed by Bonferroni post hoc test | Acceptance and commitment therapy improved body image flexibility. It affected control in women with binge eating disorder.  |

| ID | Author, Year, Location                | Population Size | Age, Year    | Mean Topic  | Study Type                             | Sex    | Other Variables   | Statistical Analysis                           | Main Results   |
|----|---------------------------------------|-----------------|--------------|---|--|--------|---|--|--|
| 7  | Babakhani, Karaj, 2020 [19]           | 45              | 20-45        | A comparison between effectiveness of integrated group psychotherapy and cognitive-behavioral stress management on body image and mindful eating. | Pre-test, post-test with control group | Female | Age, education level, exercise level, occupation status, family history | Covariance analysis                            | Integrated group therapy and cognitive-behavioral stress management was shown to have an effect on the body image and mindful eating in obese women. |
| 8  | Abbasi, Malayer, 2018 [12]            | 30              | Not reported | The effects of acceptance and commitment therapy on social anxiety and body image.  | Pre-test, post-test with control group | Female | Education level, occupation status, marital status                      | Multi-variate Analysis of Covariance (MANCOVA) | ACT has been effective on decreasing the social anxiety symptoms and improving the body image women with obesity.                                    |
| 9  | Shemirani Mortezaei, Karaj, 2017 [10] | 30              | Not reported | The effects of acceptance and commitment therapy on weight loss and body image.   | Pre-test, post-test with control group | Female | Not reported  | Covariance analysis                            | Acceptance and commitment therapy is effective on losing weight and improving body image.  |



languages identified through the source databases, by hand-searching.

Body image disturbance is different in age and gender groups, but the highest dissatisfaction is for adult women specially those who have overweight and obesity.

### Acceptance and Commitment Therapy (ACT)

In studies that have examined the effectiveness of Acceptance and Commitment Therapy, the role of mindfulness and self-regulating have been emphasized as a determinant factor [10]. They concluded that by reducing anxiety through mindfulness women can chose another way but eating, so they lose weight which result in positive body perception [10-12]. Moreover, they included ACT by training people to differentiating assessment from their own experiment and observing thought without any judging, reducing negative feelings and perceive body image satisfaction. In general, they recommended that therapists and clinical psychologists use from acceptance and commitment therapy method along with other ways to improve psychological characteristics, particularly improving body image flexibility and affect control in women [12].

### Dialectical Behavior Therapy (DBT)

Researchers investigate the effect of a DBT-based skill training intervention on emotional eating behaviors, body Image and weight management [4]. they suggest that dialectical behavior therapy-based skills training is efficacious not only in reducing weight and emotional eating but also in improving the body image of females with binge eating disorder. The results demonstrated that since challenging weight and shape beliefs as components of body image is less helpful, a more flexible approach like mindfulness is necessary to be used for patient with eating disorders. Moreover, present-moment experience resulting from mindfulness may also decrease body surveillance which is a strong moderator of the relationship between body dissatisfaction and eating disorder [13].

### Narrative therapy

Some authors suggested ways to help people confront their problems effectively. They believe that problems are initiated from social, cultural, and even political contexts. so, narratives about oneself can become problematic when they restrict cognitive and affective diversity,

thereby limiting behavioral possibilities [3]. people using narrative therapy identify their values and the skills and knowledge they have to live according to those value [14]. It was found to be effective in reducing body image disturbances, richness of women's self-metaphors, and in re-constructing the problem saturated narratives a woman has about her body image and weight, through reframing women's narratives of obesity and overweight [3]. women subjected to narrative therapy, achieved a positive attitude towards their body image, which can subsequently aid in the weight loss process more effectively and guarantee long lasting results [3]. Finally, they suggested that interventions for weight loss which incorporate psychological components may be more effective approaches than the traditional focus on weight loss alone.

#### Aerobic exercise training program

One of the important internalized concepts in women who have Obesity stigma is psychiatric wellbeing and perception of body image [6]. People mostly have negative attitude toward obese women, such as lazy, unsuccessful, not intelligent and disordered [15]. Exercise can help reducing the negative perception of body image, not only by improving physical state but also by recovery of their attitude toward their body image [6]. Therefore, exercise programs can influence women's obesity and its associated dimensions, along with psychological intervention.

#### Mindfulness Based Cognitive Therapy (MBCT)

Interventions based on mindfulness can be effective more, cause focus on physical and mental dimension by the time [16]. Being mindful help people notify their mental auto function and control their thoughts, emotions and body state by moment-by-moment awareness [16]. Studies showed that Mindfulness Based Cognitive Therapy (MBCT) had a significant effect to control weight, Satisfaction with body image, and Life satisfaction in Overweight women.

#### Medical diet therapy

In recent years taste of people have been changed. Unhealthy food has been becoming more popular that caused serious problems such as increasing the rate of obesity, diabetes and high levels of cholesterol [17]. It has been cleared that Medical Diet Therapy accompany with physical exercise can result in positive changes in eating habits and being healthy [17, 18]. results indicated the importance of the medical diet therapy method on

the promotion of mental and physical characteristics in women with obesity. Therefore, nutritionists can use this method to promote mental health, body image, and weight loss.

A comparison between effectiveness of integrated group psychotherapy and cognitive-behavioral stress management

Integrated group therapy and cognitive-behavioral stress management was shown to have an effect on the body image and mindful eating in obese women. Actually, there is not significant difference between them [19].

### 5. Conclusions

A review of studies on effectiveness of various interventions on body image dissatisfaction in obese women indicates that this subject is important in Iran. Although all of them showed effectiveness, it is difficult to compare the results of various studies due to different methodologies. Other limitations of these studies can be listed as follow: The short period of intervention prevented the evaluation of the long-term efficacy of interventions, small sample size and pilot nature of some studies, using self-report assays, and they investigate moderate economic-social groups.

Increasing body dissatisfaction, reducing the age of the initiation of physical dissatisfaction in women, and the probability of its negative effects indicate the importance of research in this field and finding the most effective intervention. 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. 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.

### Ethical Considerations

#### Compliance with ethical guidelines

This article is a review study with no human or animal sample.

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## Authors' contributions

All authors equally contributed in preparing this article.

## Conflict of interest

The authors declared no conflict of interest.

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