



Effectiveness of mindfulness training based on eating on body image and alexithymia of overweight women

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ABSTRACT

Background and aim: overweight is a complex disorder that can be explained by a large number of biological, psychological and social factors. The purpose of this research was to determine the effectiveness of mindfulness training based on eating on body image and alexithymia of overweight women. **Methods:** The current research design was a semi-experimental type of pre-test, post-test and follow-up with a control group. The statistical population in this research included all overweight women of Gonbadkavus city who referred to overweight and obesity treatment clinics in the first half of 1400. From the statistical population of the research, a sample group consisting of 30 overweight women who were selected in a purposeful way and then randomly assigned to two experimental groups (mind-awareness training based on eating) (15 people) and control (15 people) became Then overweight women in the experimental group underwent 8 sessions of 90 minutes each week, one session of mindfulness training based on eating, but the control group did not receive any intervention. The research tool was Littleton et al.'s Body Image Concern Questionnaire (2005) and Toronto's Alexithymia Scale (2007). Analysis of variance with repeated measurements and spss software were used to analyze the data. **Results:** The results showed that there is a significant difference in terms of improving embarrassment about one's appearance ($F=38.20, P<0.001$), concern about appearance with performance ($F=32.06, P<0.001$), Difficulty identifying emotions ($F=8.16, P<0.001$), difficulty describing emotions ($F=10.83, P<0.001$), and outward-oriented thinking ($F=10.89, P<0.001$) between the subjects of the experimental group compared to the control group. **Conclusion:** It can be concluded that mindfulness training based on eating was effective on body image and alexithymia of overweight women and this effect continued until the follow-up period.



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Introduction

The World Health Organization (2020) considers obesity and overweight as excessive or abnormal accumulation of fat that may harm health. The prevalence of obesity and overweight is increasing at an alarming rate in Iran; National surveys in different provinces have shown that 43% of women and 9% of men, as well as 28% of city residents and 23% of rural residents, have abdominal obesity (Masoumi, 2016). Over the past decades, the prevalence of overweight and obesity has increased worldwide and has become a major public health concern (Yu, 2019). Being overweight is one of the problems related to physical and mental health (Sobb, Siegrist, Hagemann, & Hartmann, 2021), which is associated with a wide range of negative consequences (Balantkin et al., 2021). In addition to biological and physical risk factors, psychological factors play a significant role in its occurrence and exacerbation (Hall et al., 2019).

One of the most important correlates of being overweight is the presence of negative and ineffective emotions concerning eating behavior (Robert & Duong, 2015), which can be effective in treating this problem if positive psychological characteristics can be replaced. Owing to the fact that overweight people face psychological and physical problems, one of the important variables in overweight people is body image. Body image is a person's perception of body size and proportion, which is associated with other people's thoughts, feelings, and views of his body (Tiggemann & Zaccardo, 2015). Alexithymia is also a psychological factor that has been considered concerning overweight (Baldaro et al., 2003). Alexithymia is defined as "difficulty in identifying emotions", "difficulty in describing emotions", and "difficulty in differentiating emotions and physical stimulations caused by emotional arousal and extroverted thinking style". Regarding Alexithymia and being overweight, Khodabakhsh and Kayani (2016) showed that Alexithymia could predict disordered eating behaviors to a high degree. Bonatio's (1993) study showed that women who avoid expressing negative emotions (anxiety, anger, sadness) are twice as prone to gain weight as other women. Some results also show high dyslexia scores in overweight people compared to normal people (Noli et al., 2010).

According to these results, psychological interventions have been used to treat overweight

in various ways. Among the primary interventions, we can mention behavioral therapy, followed by motivational interviewing, lifestyle change, and cognitive-behavioral therapy. (Hampa, 2016). Mindfulness is defined as a state of aroused attention and awareness of what is happening in the present moment (Brown & Ryan, 2003). Mindfulness is associated with better mental health, satisfaction with interpersonal relationships, and self-regulation. Mindfulness encourages people to understand their experiences and experience their emotions, to identify and challenge their beliefs, and to pay attention to their emotions consistently and be responsive (Kristeller & Velour, 2014). This study aimed to determine the effectiveness of mindfulness training based on eating on body image and emotional ataxia of overweight women.

Method

The current research design was a quasi-experimental type of pre-test, post-test, and follow-up with a control group. The statistical population in this research included all overweight women of Gonbadkavus city who were referred to overweight and obesity treatment clinics in the first half of 1400. From the statistical population of the research, a sample group consisting of 30 overweight women was selected via purposive sampling method and then randomly assigned to two experimental groups (mind-awareness training based on eating) (15 people) and control (15 people) (considering that the sample size in experimental studies should be at least 15 people in each group). The group homogenization method was based on gender (being female), average age between 24 and 45 years, education level, and average body mass index in overweight women.

Tools

1. Body image fear questionnaire: This questionnaire has 19 items and examines a person's dissatisfaction and concern about his appearance. Each statement is graded on a scale from 1 (never) to 5 (always). The range of scores is between 19 and 95, and getting a higher score indicates a high level of dissatisfaction with the body image or appearance of the person. The total scores of all the questions are summed together to calculate the overall score. This score will range from 19 to 95. Littleton et al. (2005) checked the reliability of this questionnaire using

the internal consistency method and obtained Cronbach's alpha coefficient of 0.93. The correlation coefficient of each item with the total score was from 0.32 to 0.72, with an average of 0.62. However, Cronbach's alpha coefficient of the first and second factors was reported as 0.92 and 0.76, respectively, and the correlation coefficient between the two factors was 0.69. In Iran, Entezari and Alavizadeh (2012) reported the internal consistency of this test to be 0.89 using Cronbach's alpha method.

2. Toronto Alexithymia Scale (TAS-20): To measure Alexithymia, the Persian version of the Toronto Alexithymia Scale of Besharat (2007) was used, which is derived from the Toronto Ataxia Scale of Bagby, Parker, and Taylor (1994). The purpose of this questionnaire is to evaluate a person's ability to express emotions. This self-assessment scale has 20 statements and three dimensions: difficulty in identifying emotions (7 statements), difficulty in describing feelings (5 statements), and external thinking (8 statements). The grading method is on a 5-point Likert scale between 1 = completely disagree, and 5 = completely agree. The sum of these three subscales scores is the overall Alexithymia score. Scores of 60 are considered high Alexithymia,

and scores below 52 are considered low alexia (and without Alexithymia). Cronbach's alpha coefficient in the Persian version for general Alexithymia and subscales of difficulty in identifying emotions, difficulty in describing emotions, and objective thinking were 0.85, 0.82, 0.75, and 0.72, respectively.

3. Mindfulness training based on eating (MB-EAT): This treatment method was created by integrating mindfulness-based stress reduction therapy, cognitive behavioral therapy, and guided eating meditation for problems related to body shape, weight, and processes related to eating, such as appetite and the like. It is used and designed in such a way that it can be effective in creating and maintaining internal change (Kristeller et al., 2014). Hampa (2016) translated and standardized this intervention for the first time in Iran.

Results

The mean (standard deviation) age of the experimental group participants was 38.5 (8.7), and the control group was 36.9 (7.7). Moreover, the minimum and maximum age in the experimental group was 26 and 43 years, and in the control group, 27 and 42 years.

Table 1. Descriptive statistics of research variables by stage and groups

Variable	Deminition	Stage	Experimental group		Control group	
			Mean	SD	Mean	SD
Body image	Dissatisfaction and embarrassment with appearance	Pre-test	27.20	4.36	25.93	4.02
		Post-test	20.81	3.48	24.22	3.42
		Follow-up	19.93	13.49	24.33	3.19
	Concern about appearance with performance	Pre-test	20.26	3.01	19.66	3.41
		Post-test	15.46	3.20	19.46	3.24
		Follow-up	14.46	3.41	19.33	2.84
Alexithymia	Difficulty identifying emotions	Pre-test	17.53	3.22	17.86	3.87
		Post-test	13.60	3.54	17.80	3.05
		Follow-up	12.40	2.61	16.60	3.01
	Difficulty describing feelings	Pre-test	13.46	2.23	14.26	2.63
		Post-test	11.06	2.40	13.93	2.43
		Follow-up	10.11	2.26	13.86	2.69
	Outward thinking	Pre-test	23.20	2.56	24.13	3.73
		Post-test	19.20	3.04	25.40	3.45
		Follow-up	17.53	3.13	25.53	2.61

According to the results of Table 2, the average dimensions of all the variables that have a negative semantic load, in the post-test and follow-up phase of the experimental group, were associated with a decrease in the average if this change was not observed in the control group. The analysis of variance of the repeated measurement of several variables among the studied groups in the variables of body image and Alexithymia showed that the effect between the

subject (group) is significant. This effect means that at least one of the groups differs from the other in at least one of the variables of body image and Alexithymia are different. The within-subject effect (time) was also significant for the research variables, meaning there was a change in at least one of the average variables from the pre-test to the follow-up.

The results from Table 4 showed that the F ratio obtained in the group's factor is significant in the

dimensions of body image ($p < 0.01$) and emotional dyslexia ($p < 0.01$). This finding indicates that mindfulness training based on eating improved body image and Alexithymia in overweight women. In this regard, an analysis of variance with repeated measures was performed

Conclusion

This study aimed to determine the effectiveness of mindfulness training based on eating on body image and emotional ataxia in overweight women. This treatment aims to help clients achieve a rich, valuable and satisfying life created through psychological flexibility. It is also essential to perform behaviors that serve one's chosen goals and values. If a person can process these unhealthy emotions correctly by relying on the self-regulation system, he will achieve successful results. People with a negative body image due to being overweight use a form of weight-related self-stigma to motivate themselves to lose weight and get rid of this unfavorable body image (Griffiths et al., 2018). These systematic efforts to get rid of internal psychological experiences are effective in the short term and increase their intensity in the long term, and the person gets stuck in the cycle of avoiding experience instead of acting towards his values (Hayes & et al., 2013). In this treatment, it is assumed that experiential avoidance, that is, a systematic effort to get rid of unpleasant thoughts, increases their intensity (Hayes, 2019). Considering clinging to negative thoughts and feelings, including the exaggerated perception of disproportionate body image, lack of self-efficacy, and the fact that a person thinks that the contents of his mind are a reality, and generalizing it to the dimensions of life in his personal and social spheres. Finally, the person concludes that he does not have control over weight management.

The limitations of the research include the exit of the subjects during the execution of the tests, and the lack of a suitable place for the treatment group. Considering the small number of studies in the field of emotional processing, it is suggested that this research should also be done on the social relationships of overweight people

for the experimental group in three stages of therapeutic intervention, where the observed F ratio was in the improvement of body image dimensions ($p < 0.01$) and Alexithymia ($p < 0.01$).

to prevent the occurrence of problems for these people. Based on the research results, it is suggested that medical centers pay attention to lifestyle education and healthy management of emotions for overweight people. Considering the importance and role of emotional factors in overweight women, it is suggested that future studies investigate the effectiveness of mindfulness therapy on other variables such as emotional regulation, emotional schemas, and emotional styles.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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