



## The effectiveness of psychological empowerment program on emotion regulation of patients with a history of sleeve surgery

Atefeh. Fattahi<sup>1</sup>, Mahdi. Zare Bahramabadi\*<sup>2</sup>, Azadeh. Farghdani<sup>3</sup>

1. PhD student, Department of Psychology, Saveh Branch, Islamic Azad University, Saveh, Iran.

2. Associate Professor, Department of Psychology, Saveh Branch, Islamic Azad University, Saveh, Iran.

3. Assistant Professor, Department of Psychology, Saveh Branch, Islamic Azad University, Saveh, Iran.

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### ABSTRACT

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Corresponding Author's Info

Email: Fakhri@iausari.ac.ir

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**Background and Aim:** psychological well-being is one of the important variables that should be considered in people after sleeve surgery. Psychological well-being is defined as the existence of favorable cognitive and emotional psychological documents. The purpose of the present study was to determine the effectiveness of the psychological empowerment program on emotion regulation in patients with a history of sleeve surgery. **Methods:** The present study is a quasi-experimental type in which a pre-test-post-test design was conducted with a control group with measurement at the baseline after the intervention and three-month follow-up. The number of 50 patients with a history of sleeve surgery referred to Parsian Hospital in Tehran between September 2020 and May 2021, taking into account the entry criteria, 40 of those who were willing to participate in the research (with written consent) were selected. It was done through random replacement in the following way and they were randomly assigned to the psychological empowerment program group and the control group (20 people in each group). All participants completed and measured Garnefski's emotion regulation questionnaire in three stages. The aforementioned treatment sessions of the psychological empowerment program (8 sessions of 2.5 hours) were conducted in groups. The data were analyzed using variance analysis with repeated measurements and SPSS-21 software. **Results:** The results of the present study showed that the psychological empowerment program was effective on emotional regulation of patients with a history of sleeve surgery, and the stability of this effectiveness continued until the follow-up stage ( $P < 0.001$ ). **Conclusion:** It can be concluded that the psychological empowerment program was effective in regulating the emotions of patients with a history of sleeve surgery and it can be used to reduce the problems of patients with a history of sleeve surgery.



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## Introduction

Obesity is one of the important fields of study in health psychology, which is directly and indirectly associated with many diseases and is considered a chronic and very common disorder (Sturmo and Hattori, 2013). Evidence shows that obesity, especially morbid obesity, has many negative effects on physical, mental, and social health. It is also related to serious and dangerous problems and diseases such as premature death, increased risk of diabetes, high blood pressure, cardiovascular diseases, menstrual irregularities and infertility, types of cancer, migraine, gallstones, and respiratory diseases such as obstructive sleep apnea. Malacarne, et al., (2022). The relationship between obesity and psychopathology has been the focus of many studies over the past years (Raven and Samaras, 2022). On the other hand, in addition to physical disease, obesity can also be associated with a high prevalence of mental disorders. The rate of some types of disorders, such as mood disorders such as depression, anxiety disorders, personality disorders, and risky behaviors (alcohol consumption and smoking) is higher in obese or overweight people (Podzolkov et al., 2022). Studies show that obesity, especially severe and morbid obesity, occurs in people who have psychological problems, and these people use food to solve their emotional problems, so that pleasant foods can be considered as a way to overcome depression, anxiety, and loneliness. Experiencing these emotions can also lead to overeating (Shaikh et al., 2015). Also, several studies have shown that obese people have deficiencies and inefficiencies in different areas of life compared to people with normal weight. This leads to deficiencies in their psychological well-being (Cameron, 2022).

One of the most important correlates of obesity and overweight is negative emotions such as depression and anxiety (Seirafi, Homayoonpoor, and Ghareh, 2022). Several studies have found that dieting or regaining weight among obese individuals is associated with a set of coping behaviors in response to life stressors and especially the desire to eat in response to negative emotions (Chen, Luo, & Li, 2022). Another important variable in maintaining lost weight is emotion regulation (Parrott et al., 2022). Studies have also shown that emotional overeating has a significant relationship with obesity and overweight (Cummings and Lansing, 2022). Many researchers aim to regulate the

consequences of emotion on eating behavior and cognition. For this reason, we should not forget that excitement is not always beneficial, and most of the time, it should be regulated and managed (Shaker et al., 2022).

Emotion regulation can be defined as how people can influence their emotions, when they have them, and how they experience and express those (Treasure et al., 2022). When a person faces emotional situations, he needs the best cognitive functions to regulate his emotions and tries to control his emotions (Francesconi, Flouri, and Harrison, 2022). Although bariatric surgery is the most effective intervention method for severe obesity, a small number of people (up to 30%) succeed in reaching the ideal weight or maintaining it. Therefore, it is recommended that these people follow the instructions after bariatric surgery, including attending follow-up meetings, observing diet and eating habits, consuming fluids and medicinal and nutritional supplements, performing physical and physical activities, consuming fruits and vegetables, and protein management of dumping syndrome (Rezazadeh. Talebi, 2022). After bariatric surgery, people are expected to give up unhygienic and unhealthy habits such as overeating, emotional eating, and night eating, drinking high-calorie liquids, or returning to their previous lifestyle (Chiang and Jang, 2008). Following the treatment orders can lead to the improvement or disability of the patients and affect the therapeutic achievements. Adherence to changes in diet, physical activity, and consumption of nutritional supplements are also recommended as the primary focus of self-care behaviors after bariatric surgery and plays an important role in maintaining lost weight (Garnefski and Kraaij, 2007). The present study aimed to determine the effectiveness of the psychological empowerment program on emotion regulation in patients with a history of sleeve surgery.

## Method

The current research is a controlled quasi-experimental study in which it was pre-test-post-test design with the control group. The statistical population of this research consisted of all patients with a history of sleeve surgery referred to Parsian Hospital in Tehran from September 2020 to April 2021. Forty people were selected from among them and placed in random groups.

## Tools

### 1. Demographic Information Questionnaire:

The purpose of this questionnaire is to collect the necessary demographic data as basic information, including age, marital status, education, socio-economic status, educational background, and employment history; there were also questions about weight control by patients with a history of sleeve surgery.

### 2. Questionnaire of cognitive regulation of emotion (Garnefski, 2001):

The questionnaire of cognitive regulation of emotion was used to investigate this concept. Garnefski et al. (2007) invented it to evaluate how people think after experiencing life-threatening or stressful events. This questionnaire has 36 statements. Conceptually, they form 9 distinct subscales, each representing a specific emotion regulation cognitive strategy with four terms. These strategies include: blaming oneself, blaming others, acceptance, re-attention to planning, re-attention positively, focusing on thinking, and re-evaluation positively, which has been disastrous. The reliability of "positive" and "negative" strategies, "total," using Cronbach's alpha coefficient, has been obtained as 0.91, 0.86, and 0.93, respectively (Gökdağ, Günay, and Demir, 2022). The reliability of the questionnaire in Iranian culture has been reported by Yousefi (2012), in a sample consisting of 15-25-year-old subjects, using Cronbach's alpha coefficient for "total" equal to 0.82 (Aminabadi, 2012)..

## Results

In this research, the effectiveness of the psychological empowerment program on emotion regulation of patients with a history of sleeve surgery was investigated on 40 patients with a history of sleeve surgery (20 people in the control group and 20 people in the experimental group). Examining the frequency of marital status, education, and income in the two groups indicated that the demographic variables were the same in the two groups (examination and reference). The mean and standard deviation of emotion regulation variable scores are presented separately for two research groups (psychological empowerment program and evidence) and three times test implementation (pre-test, post-test, and follow-up). Given that the observed chi-square indices (for all three demographic variables examined) are smaller than the critical chi-square index, taking into account 5% error and for 2 degrees of freedom (5.991). Therefore, the null hypothesis that there is no difference between observed and expected frequencies is confirmed with 95% confidence.

The two research groups are homogeneous in terms of demographic variables. The mean and standard deviation of the scores of the research variable (emotion regulation) are presented separately for two research groups (psychological empowerment program and proof) and three times test implementation (pre-test, post-test, and follow-up).

Considering that the significance level of the Kolmogorov Smirnov z index in the investigated variables in all three measurement occasions and in both research groups is greater than 0.05, therefore, with 95% confidence, the data distribution of the investigated variables in the present study is normal. The data obtained from the research are continuous data with an interval measurement scale, considering that one of the presuppositions of parametric statistical tests is the normality of data distribution. In order to use this category of tests, this presupposition should also be examined; for this purpose, the normality of the distribution of the data obtained from the measurement of the research variable was examined using the Kolmogorov-Smirnov statistical test. The significance level of Kolmogorov Smirnov's z index in the investigated variables was greater than 0.05 in all three measurement occasions and all three research groups. Therefore, with 95% confidence, the data distribution of the variables investigated in the present study is normal. Variance analysis with repeated measurements was used to check the homogeneity of the three research groups (experimental/control) in the pre-test scores. The results showed that the F ratio obtained in the groups factor is significant in the dimensions of emotion regulation ( $p < 0.01$ ). This finding indicates that mindfulness training based on eating improved emotion regulation. In this regard, an analysis of variance with repeated measurements was performed for the experimental group in three stages of therapeutic intervention. The F ratio observed in the improvement of emotion regulation dimensions was ( $p < 0.01$ ). The changes in the experimental group over time in Table 4 showed that the dimensions of emotion regulation in the psychological empowerment training group were significant in the post-test compared to the pre-test ( $P < 0.001$ ). Also, a significant difference was observed in the follow-up phase compared to the pre-test ( $P < 0.001$ ). The difference in the follow-up stage compared to the post-test was not significant.

## Conclusion

The present study aimed to determine the effectiveness of the psychological empowerment program on emotion regulation in patients with a history of sleeve surgery. The results showed that the psychological empowerment program package effectively improves the emotional regulation of patients with a history of sleeve surgery and has a lasting effect (sustainability) over time. In explaining this finding, it can be said that patients with a history of sleeve surgery have learned inconsistent patterns of understanding and responding to the environment, lack effective emotion regulation strategies, and use automatic and continuous response patterns. Using emotional empowerment therapy, therapeutic sessions, and perceptual change of patients, their processing style changes and new emotional regulation methods are proposed to solve problems. The stress caused by surgery and weight gain can lead to many psychological complications for the patient. For example, we can mention depression, anxiety, physical symptoms and social dysfunction. Since stress in its chronic state helps to create a permanent state of alertness in the body, it causes the erosion of the physical and mental reserves of the affected person (Oladipo, 2009). Through following the treatment as a result of learning to regulate emotions properly, it can be said that although bariatric surgery is the most effective intervention method for severe obesity, a small number of people (up to 30%) succeed in reaching the desired weight or maintaining it. Therefore, it is recommended that these people follow the instructions after bariatric surgery, including attending follow-up meetings, observing diet and eating habits, consuming fluids and medicinal and nutritional supplements, performing physical and physical activities, consuming fruits and vegetables and protein and management of dumping syndrome; Instead of consuming fatty and inappropriate foods and snacks to control their emotions (Egner, Cummings, Smith, Olson, Anderson, & Warren, 2010). After bariatric surgery, people are expected to engage in unhealthy and unhealthy habits such as overeating, emotional eating avoidance, eating at night, drinking high-calorie liquids, or returning to the previous lifestyle (Ergeneli, Arı, and Metin, 2007). Adherence to changes in diet, physical activity, and consumption of nutritional supplements are also recommended as the primary focus of self-care behaviors after bariatric surgery and plays

an important role in maintaining lost weight (Bordin, Bartram, and Casimir, 2007).

Cognitive distortions such as catastrophizing, feeling helpless, and assessing the situation and the degree of control over it, in general, the cognitive system and beliefs related to the situation are related to depression (Stander and Rothmann, 2010). Emotional regulation is considered to determine well-being and efficient functioning (Carless, 2004). Emotion regulation can be used to refer to a wide range of biological, social, behavioral processes, as well as conscious and unconscious cognitive processes; after experiencing negative life events, people use different coping strategies. These cognitive strategies play a significant role in the relationship between experiencing negative life events and reporting symptoms of depression and anxiety. These strategies may be valuable in disease prevention and treatment. Therefore, although all types of emotion regulation are important and should be investigated, it is suggested that its different forms be distinguished (Cameron, 2022), and it is also suggested to distinguish between the regulation of internal states (behavior regulation). Garnefski et al. (2007), regarding coping strategies (emotion-based coping, problem-based coping), believe that although this classification is widely accepted, it has some flaws. In a research, Garnefski et al. (2002) investigated the relationship between conscious emotion regulation strategies and mental health in a group of clinical and non-clinical people. This research investigated the relationship between the dimensions of cognitive emotion regulation strategies and different aspects of psychopathology separately. Findings have shown that clinical colleagues significantly obtain higher scores and low positive reappraisal in self-blame, rumination, and catastrophizing dimensions. Also, the clinical population was higher in other dimensions of blame and acceptance. However, the difference in the significance of the reports related to undercounting, positive refocusing, and refocusing on the design was not found between the clinical and non-clinical groups. According to researchers, how to evaluate a person's cognitive system when facing a negative incident is of great importance. People's mental health results from a two-way interaction between the use of certain types of cognitive emotion regulation strategies and the correct assessment of the stressful situation (Francesconi et al., 2022).



### Conflict of Interest

The authors of this article have no conflict of interest in conducting and writing it.

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