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The Effectiveness of Cognitive Behavioral Training on The Body Image of Women with Eating Disorder Symptoms

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Abstract

Objectives: The present study was conducted to determine the effectiveness of cognitive behavioral training on the body image of women with eating disorder symptoms.
Method: The research method was semi-experimental (pre-test-post-test design with an unequal control group). The statistical population of the research included all women with eating symptoms who were referred to nutritional clinics, psychotherapy centers, and fitness and aerobics clubs in Kashan City in 2021. Among them, 20 people were selected through convenience sampling and randomly assigned into two control and experimental groups. The measurement tool included the satisfaction with body image questionnaire (2002). The experimental group was exposed to 10 sessions of cognitive behavioral training, and during this time, the control group was placed on the waiting list. Multivariate and one-way analysis of covariance was used for data analysis by SPSS software version 22.
Results: The results showed a significant difference in the linear combination of body image scores of women with symptoms of eating disorders and food between groups.
Conclusion: According to the results, the body satisfaction scores of the experimental group increased in the post-test compared to the control group. Also, the scores of dissatisfaction with body image have decreased in this group. In conclusion, the change in scores indicates the positive effect of cognitive behavioral training.

Keywords: Cognitive Behavioral Training, Body image, Eating disorder.

Introduction

Eating disorders are among the common mental and psychosomatic ones that cause many problems for the physical and mental health of people in any society (Nasehi et al., 2020; Bagheri Sheikhangofeshe et al., 2020; Kachoui & Shahmoradi, 2019). These disorders are divided into two categories anorexia nervosa and bulimia, which can cause nutritional disorders and threaten a person's health by changing the eating pattern and receiving inappropriate nutrients (Cooper et al., 2020; Sachdeva & Johnston, 2020). The diagnosis of eating disorders is associated with behaviors such as undereating, fasting, overeating, eating with vomiting, and using anti-constipation and diuretic drugs (Sachdeva & Johnston, 2020). These disorders can lead to malnutrition, osteoporosis, amenorrhea, cardiovascular diseases, and depression. Anorexia nervosa leads to overstimulation, weight loss, and mental distress (Nasehi et al., 2021). Anorexia nervosa and bulimia are common in 90-95% of women, and female adolescents and women are the most important group at risk of eating disorders (Klein & Walsh, 2004; Bagherzadeh et al., 2021).

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Behaviors and attitudes towards eating disorders are recognized by multiple factors such as psychological factors, stress and anxiety, and a person's attitude towards the body image, which can be investigated in the formation of this disorder. People with anorexia nervosa and bulimia are often dissatisfied with their body weight and shape. Some evidence showed that these people are more dissatisfied with their body image compared to people who do not have problems with overeating or anorexia (Michel et al., 2008). Although body image is a multidimensional structure of the mental image of the body, it is often defined as a degree of satisfaction with the physical appearance (Omidi & Ghofranipour, 2007; Pahlavanzadeh et al., 2010). Satisfaction with body image can include evaluation of appearance, which means overall evaluation of a person's appearance and feeling of physical attractiveness, satisfaction with her appearance, satisfaction with different parts of the body, and mental preoccupation with being overweight (Paygan et al., 2009). Inappropriate perception of body image and dissatisfaction can lead to physical and mental problems (Shamsuddin & Aziz Zadeh., 2010). In this field, many researchers have shown the connection of this dissatisfaction with anxiety and stress (Cornblue & Britkoff, 2007), smoking and alcohol use, nutritional disorders (Shamsuddin & Aziz Zadeh, 2010), and suicide (Kim, 2009), and various research also indicated the girls' high and traumatic sensitivity to the mental image of the body (Frisen et al., 2010).

One of the main reasons for women's dissatisfaction with their body image is that they psychologically invest more in their physical appearance (Zamani, 2020). The picture that a person forms of her body in her mind is constantly influenced by physical development (Shoraka, 2019). Physical appearance plays an important role in determining women's feelings about who they are (Sohrabi et al., 2019). One of the treatment methods to improve the body image of women with eating disorders is the cognitive-behavioral approach. So far, cognitive behavioral therapy, interpersonal therapy, dialectical behavioral therapy, weight control behavioral therapy, and appetite awareness training have been used to treat binge eating disorder, among which cognitive behavioral therapy is one of the most effective and popular methods (Green, 2000; EbrahimiKhbir, 2020; Shabib Asl & Alinaghilou, 2019). Considering the relationship between eating disorders and people's thoughts and important beliefs, they are the subject of cognitive distortions in this disorder. Cognitive distortions appear when information processing is incorrect or ineffective (Pourshirazi et al., 2021). In other words, sometimes the information processing is distorted in people's minds, and these types of distortions, called cognitive errors and distortions, appear in various forms (Zandi Payam & Mirzai Dostan, 2019). If these distortions occur continuously and frequently, they can lead to discomfort or psychological disorders (Goldin et al., 2009). In a study, Hosseini et al. (2019) showed that there was a positive relationship between worry about weight, anorexia nervosa, and bulimia with cognitive distortions.

The cognitive-behavioral approach to treating eating disorders focuses on cognitive distortions and efforts to change behavior (Madadi & Chin Ave, 2020). The cognitive-behavioral model can clarify how behaviors and cognitions create body image. At first, A, an activating event, is directed to B. Then, B, a bridge-like and self-talking thought, evokes C, an emotional response depending on the situation experienced as anxiety and disgust. Behavior also creates new cognitions that cause new feelings (like going on a diet, etc.). The therapist helps the patients identify their cognitive distortions and replace them with more positive and realistic thinking ways (Kalat, 2008). Research has even shown that cognitive-behavioral therapy with cognitive correction and

reconstruction has been able to reduce the severity of the disaster and increase the effectiveness of coping and behavioral activity of patients with other disorders like pain disorders (Fazeli Thani, Salehi, Rafieipour, & Khalatbari, 2019). According to the cognitive-behavioral approach, gaining the ideal weight and body, which is distorted thinking, plays a key role in maintaining the symptoms of bulimia nervosa (Kalat, 2008; Mohammadpour, 2019). Based on the cognitive-behavioral analysis of weight loss or weight gain, a new approach has been designed to overcome psychological barriers to learning and long-term adherence to effective weight control behavior. Hence, there is a clear need for new approaches to prevent weight regain (Cooper, Fairburn, & Hawker, 2003).

Considering that cognitive distortions lead to wrong perceptions and psychological disorders and trying to change behavior and replace positive ways of thinking about the image that a person forms of himself in his mind can play an effective role as a factor in adjusting the body image of women with eating disorders. Today, the media, advertisements, and Western culture are trying to show thinness as a positive thing. This has caused the number of eating disorders to increase among women. It seems that there is a gap in the field of effective psychological training to change and adjust body image, which shows the need for more studies on how psychological training affects women's body image. Therefore, the main question of the current research was whether cognitive behavioral training affects the body image of women with symptoms of eating disorders.

Method

The present research method was semi-experimental (pre-test-post-test design with the unequal control group). The statistical population of the research included all women with food and eating symptoms who were referred to nutrition clinics, psychotherapy centers, and fitness and aerobics clubs in Kashan City in 2021. The statistical sample consisted of 20 women with symptoms of eating disorders, who were selected by the convenience sampling method and randomly assigned into two control and experimental groups. The Satisfaction with Body Image Scale (SWBIS) was used to collect data.

The experimental group was exposed to 12 sessions of cognitive behavioral training, and the control group was placed on the waiting list. The summary of the treatment sessions is provided in the following. Multivariate and one-way analysis of covariance using SPSS version 22 software was used for data analysis.

Sessions 1 to 3:

Objective: Establishing a therapeutic relationship, teaching cognitive-behavioral principles and rules, examining the type of concern,

Agenda: Explaining the nature of the disorder in a clear and transparent language for patients, emphasizing the importance and role of homework,

Assignment and technique training: ABC model training to the patient, cognitive and behavioral model training to the patient.

Sessions 4 and 5:

Objective: Helping the patient understand the relationship between compensatory weight loss behaviors and recognizing unavoidable binge eating situations,

Agenda: Explaining the relationship between weight loss compensatory behaviors and excessive worry about weight gain,

Assignment and technique training: Using the awareness training technique, metaphor technique, and identifying areas of concern about weight and body.

Sessions 6 to 8:

Objective: Cognitive restructuring,

Agenda: Teaching the participatory empiricism

method to the patients,

Assignment and technique training: Using the advocate technique to challenge the five beliefs of patients with eating disorder.

Sessions 9 and 10:

Objective: Improving the orientation towards the problem and then teaching the problem solving process,

Agenda: Correcting the negative cognitive attitudes of the patients towards the problem and how to solve the problems,

Assignment and technique training: The patient's orientation towards the problem was corrected.

Session 11:

Objective: Addressing the perpetuating factors of eating disorders,

Agenda: Using scenario techniques, the problem of cognitive avoidance was addressed,

Assignment and technique training: Teaching the underlying logic of avoidance and neutralization and teaching visual confrontation task.

Session 12:

Objective: Reviewing the previous sessions and getting ready to face the real life problems after the end of the intervention,

Agenda: Specifying and reviewing the strategies that the patient learned during the treatment with the help of the therapist,

Assignment and technique training: Providing strategies related to reducing weight and body concerns.

The treatment plan is derived from the cognitive-behavioral intervention of Mahmoudian et al. (2016).

Ethical statement

This research has the ethics code IR.IAU.ARACK.REC.1400.035.

Before the implementation of the intervention, sufficient explanations about the study were given to the subjects. After the informed signing of the written consent form by the participants, the intervention was implemented. During and after conducting the research, the principle of confidentiality and privacy of individuals was respected, and the personal information of the study subjects was used only in this research. If it was necessary to publish their data, it was done with their consent.

Measures

Satisfaction with Body Image Scale (SWBI): This questionnaire contains 22 items and examines and evaluates individuals' satisfaction or dissatisfaction with their bodies. Cueto and Garcia introduced this scale first in 2002. The scoring of the scale is based on a five-point Likert scale, ranging from never to always. The original version of this scale had more items, and by examining those with the same meaning, the number of items was reduced to 22. Cronbach's alpha of 0.91 for the reliability of this test was reported by its developers. In Akhundzadeh's research (2011), the validity of the questionnaire has been confirmed, and the reliability of this questionnaire has been calculated by Cronbach's alpha method of 0.89.

Results

In this part, the data related to the mean and standard deviation of the participants' scores in the body image variable are presented.

As can be seen, the mean scores of body image satisfaction in women with symptoms of eating disorders in the experimental group have increased in the post-test, and the body image dissatisfaction scores have decreased. This finding means that the implementation of cognitive behavioral training has led to changes in body image scores in women with eating disorder symptoms. But to conclude the differences obtained and the effectiveness of the treatment, it is necessary to examine the data from the statistics.

Table 1: Descriptive results of dependent variables

Dependent variables	Group	Pre-test		Post-test	
		Mean	SD	Mean	SD
Body image satisfaction	Experimental	16.90	3.07	24.50	6.60
	Control	15.20	4.57	15.50	4.89
Body image disatisfaction	Experimental	52.10	7.48	35.30	6.72
	Control	48.90	6.93	48.50	5.68

The results show that the t value calculated for the pre-test of body image in women with eating disorder symptoms was not significant. Box's test was used to test the equality assumption of the covariance matrix, and the results showed that this assumption was observed (Box's coefficient = 11.501 and significance level = 0.124). Levine's test was used to test the equality assumption of variances of two groups in society, and the results showed no significant difference in the variance of the two test groups in any of the variables of body image in women with eating disorders symptoms. In the following, the Shapiro-Wilk test was used to check the normal distribution of the variables.

Table 2: Independent t-test results for dependent variables in the pre-test

Dependent variable	Group	Mean	Df.	T	Sig,
Body image satisfaction	Experimental	16.90	18	0.845	0.409
	Control	15.20			
Body image disatisfaction	Experimental	52.10	18	1.128	0.274
	Control	48.90			

Table 3: Shapiro-Wilk test results for the normality of data distribution

Variable	Statistics	df	Sig.
Body image satisfaction	0.939	20	0.174
Body image dissatisfaction	0.913	20	0.073

The results show that the statistics calculated for satisfaction and dissatisfaction with body image in women with symptoms of eating disorders in the pre-test were not significant; therefore, the assumption of normal distribution of data scores is confirmed. Finally, due to the non-significance of the interaction between the group and the pre-test in body image variables in women with symptoms of eating disorders ($p > 0.05$), the assumption of homogeneity of interactive effects has been met, and covariance analysis could be used to analyze data.

The results indicate that cognitive behavioral training affects the body image of women with eating disorder symptoms. This means that the implementation of cognitive behavioral training sessions has led to an increase in body image satisfaction scores and a decrease in body image dissatisfaction scores in women with eating disorder symptoms. In other words, the results state that by removing the effects of pre-test scores as a pre-test effect variable, the main impact of the training protocol based on cognitive behavioral training on the post-test of body image is significant, and training intervention in the experimental group increased the scores of body image satisfaction and decreased the scores of body image dissatisfaction in women with eating disorder symptoms. On the other hand, a look at the values of the significance level and eta square shows that the training protocol was effective and meaningful in the experimental group, and the amount of this effectiveness in practice for body image satisfaction and body image dissatisfaction was approximately

Table 4: One-way covariance analysis for the effects of training on body image

Variable	Source of variation	Sum of squares	df	Mean squares	F	Sig.	Eta coefficient
Body image satisfaction	Pre-test effect	164.762	1	164.762	4.215	0.057	0.209
	Training effect	353.929	1	353.929	9.054	0.008	0.361
	Error	625.441	16	39.090			
	Total	9238.000	20				
Body image dissatisfaction	Pre-test effect	321.841	1	321.841	2.350	0.145	0.128
	Training effect	1020.333	1	1020.333	7.452	0.015	0.318

36.1% and 31.8%, respectively.

According to the follow-up test results, the body satisfaction scores of the women with symptoms of eating disorders in the experimental group increased in the post-test compared to the control group. And also, the scores of dissatisfaction with body image have decreased, and hence, this change in scores indicates the positive effect of cognitive behavioral training.

Table 5: The results of the LSD follow-up test

Dependent variable	Group 1	Group 2	Mean difference	Standard error	Sig	Reliability coefficient 0.95	
						lowest	highest
Body image satisfaction	Experimental	Control	8.847*	3.002	0.010	2.449	15.244
Body image dissatisfaction	Experimental	Control	-14.982*	5.665	0.018	-27.056	-2.908

Discussion and Conclusion

Eating disorders are among the common mental and psychosomatic ones that cause many problems in the public health system. It seems that multiple factors such as psychological factors and a person's attitude toward body image can be investigated in the formation of this disorder. As a result, the present study was conducted to determine the effectiveness of cognitive behavioral training on the body image of women with eating disorder symptoms.

The results showed that cognitive behavioral training affects the body image of women with symptoms of eating disorders, meaning that the implementation of cognitive-behavioral training sessions has led to an increase in body image satisfaction scores and a decrease in body image dissatisfaction scores in women with eating disorder symptoms. This finding is in line with the findings of Kayklon et al. (2021), Costarelli and Costarelli (2010), Ebrahimi Khabeer (2020); Karimi Thani et al. (2020), Kalantari Hormazi (2020), Shabib Asal, Nadereh, and Alinaqi Lou (2019), and Rajabi et al. (2018). For instance, Kalantari Hormazi (2020) conducted a meta-analysis to evaluate the studies conducted on the effectiveness of cognitive-behavioral therapy in reducing psychological disorders, whose results confirmed the effect of cognitive-behavioral therapy in reducing psychological disorders. In explaining this finding, it can be said that the cognitive-

behavioral approach to treating eating disorders focuses on attempting to change behavior and attitude. Cognitive-behavioral therapy is feelings, behaviors, and emotions formed by our thoughts and cognition. Therefore, the therapist helps the patients identify and improve their body image and replace them with more positive and realistic ways of thinking (Kalat, 2008). Based on the cognitive-behavioral approach, gaining ideal weight and body is distorted thinking that plays a significant role in maintaining the symptoms of bulimia nervosa. On the other hand, understanding body image is vital in explaining these findings because it affects emotions, thoughts, and behaviors, affecting the quality of a person's life.

Negative thoughts about shape, appearance and weight play an important role in starting and maintaining overeating and undereating problems. Binge eating disorder also leads to negative feelings and emotions towards appearance, which can stimulate more overeating. In the cognitive-behavioral perspective, the body is understood as a psychological phenomenon during a set of multidimensional cognitive organizations, visual images are probably the first means of thinking and information processing, and the body, as an image, plays a role throughout life. This image is not limited to visual images, but the data of all the sensory receptions inferred internally and externally and the experiences processed and visualized in a mature mental apparatus.

Indeed, the virtual body is not static but grows as part of a dynamic process through which we attempt to organize and understand our experiences. A person experiences her body through two multidimensional cognitive structures: body schema and body image. According to the results of the studies in this field, schematization is a part of the individual's body that acts as a body data plan, an interpretation of cultural-social effects, and a weak body image. Furthermore, the schema is very significant in understanding why some people are technically influenced by socio-cultural impacts while others are not, and this data plan evolves during childhood. Given that both perceptual processes and attitudes are important in the study of body image, a cognitive-behavioral approach provides the most logical framework to explore thoughts, feelings, and behaviors related to altered appearance and allow the development of resulting strategies theoretically.

The cognitive behavioral approach shows that self-concept is the interaction between beliefs that have been formed by previous experience about oneself and have gradually changed over time and depends on factors that originate from current situations, thoughts, and events, which include the maintenance or unexpected effect on the body image. Any bias in processing information by people or the value they place on information shapes body image determination. The cognitive behavioral approach provides the best evidence of effectiveness in changing and transforming body image distress. Therefore, body image changes based on internal, external, and contextual factors, and through external and contextual factors, we can refer to social realities such as expectations and judgments that a person thinks others form in her. On the other hand, there is the behavioral structure, in which behavior reflects cognitions and affects the body through effective cognitions.

Cognitively, distress and body image practice is an experience of irrational thoughts, unrealistic expectations, and wrong comparisons. Here, the body does not create problems for the person, but the person is the cause of the problem. On the other hand, one of the most basic principles of cognitive behavioral therapy is those unrealistic and illogical thoughts, or more precisely, distorted thoughts that cause discomfort and troublesome behaviors (Wright, 2017). Instead, with reasonable thoughts

based on the objective facts of life, one can not only avoid disorders such as depression and anxiety but also react appropriately to the most difficult challenges in life. Cognitive-behavioral therapy is a treatment method in which the patient is helped to recognize his distorted thinking patterns and dysfunctional behavior and to change this inefficient behavior, precisely organized discussions and behavioral tasks are used.

Indeed, this method focuses on a person's perception of life events, attention to behavioral reactions, the connection of ideas and actions, and the organization of thoughts. Cognitive behavioral therapy is based on the common opinion that negative behaviors and patterns can significantly affect personal emotions. Cognitive behavioral therapy helps to diagnose, analyze, and change thoughts and behaviors, that is, to relieve dissatisfaction with body image. In addition, this therapy method includes accurate identification of problems, creation of attainable goals, empathic communication, reality checks, training, and various assignments. Various people can make positive and constructive changes in their lives by doing these things. Cognitive behavioral therapy is a short-term psychotherapy method that psychotherapists use to train people and change their feelings and behaviors by changing their thought patterns and beliefs.

Based on the results of studies, in cognitive behavioral therapy, therapeutic progress occurs following changes in cognitive schemas, especially when the false beliefs of the patient are directly corrected or disabled by using other schemas. Cognitive behavioral therapy provides a range of exercises for the patient to moderate or deactivate her anxiety-provoking beliefs and expectations and to provide her with new thoughts and interpretations. Indeed, the basis of cognitive behavioral therapy is that the type of thinking and thought patterns and our understanding of the surrounding environment and ourselves, and of course, our interpretation of life events, cause our behaviors and feelings to express and, in general, no matter how we think, we feel the same way, and our behaviors are shaped according to the same thoughts and feelings.

References

Abrin, M., Zemestani, M., Rabiei, M., & Bagheri, A. (2017). Efficacy of cognitive behavioral hypnotherapy on body dysmorphic disorder: a case study. *Iranian Journal of Psychiatry and Clinical Psychology.* 23(4): 394-407.

Ahmadnia Sh (2007). Sociology of the body and the Woman's body. Women Quarterly: 143-132. [text in Persian]

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders5 th ed. Washington, DC: American Psychiatric Publishing

Bagheri Sheikhangfeshe, F., Sadeghi Choukami, E., & Hossein Khanzadeh, A.A. (2020). Eating disorders during home quarantine caused by the coronavirus (Covid-19): letter to the editor. *Journal of Rafsanjan University of Medical Sciences*. 19(7): 765-770.

Bagherzadehledari R, Hosseini H, Forughi A A, Farhoush M (2021). Acceptance and Commitment therapy and Eating Disorders: A Theoretical and Research Review. Clin Exc. 10(4): 24-32.

Cooper M, Reilly EE, Siegel JA, Coniglio K, Sadeh-Sharvit S, Pisetsky EM, Anderson LM (2020). Eating disorders during the COVID-19 pandemic and quarantine: an overview of risks and recommendations for treatment and early intervention. *Eating Disord*; 2(4): 1-23.

Costarelli, V.D. & Costarelli, X. (2010). Emotional intelligence, body image and disordered eating attitudes in combat sport athletes. Journal exercise science fitness, 4(4): 11-104.

Ebrahimi Khabir, N. (2020). The effectiveness of cognitive behavioral therapy on improving eating disorders, body image, self-esteem, and positive self-concept among overweight women referring to treatment centers in Isfahan city, *the fourth scientific conference of applied research in science and technology of Iran, Ilam.*

Fazeli Thani, Fatemeh, Salehi, Mahdia, Rafieipour, Amin, & Khalatabari, Javad. (2019). Comparing the effectiveness of emotion-oriented and cognitive behavioral therapy on pain coping strategies and pain catastrophizing in patients with pain disorders.

Iranian Journal of Health Psychology, 4(1), 29-46. doi: 10.30473/ijohp.2021.54241.1107.

Fett AK, Lattimore P, Roefs A, Geschwind, Jansen A (2009). Food cue exposure and body image satisfaction: The moderating role of BMI and dietary restraint .J Body Image: 6:14–18.

Frisen A, Holmqvist K (2010). Physical, Sociocultural and Behavioral Factors Associated with Body-Esteem in 16- Year-Old Swedish Boys and Girls. Sex Role, 63: 373-385.

Goldin, P.A., Manber-ball, T., Werner, K., Heimberg, R. & Gross. J.J. (2009). Neural oomechanisms of cognitive reappraisal of negative self-beliefs in social anxiety disorder. Biological Psychiatry, 66(7): 99-1091

Hudson, J. I., Hiripi, E., Pope Jr, H. G. & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey Replication. Biological psychiatry, 61(3): 348-358

Karimi Sani, P., Zinali, Sh., Tabatabai, S.M., Rostami, H., Fathi, A., & Alamshahi Vaiqan, P. (2020). The effectiveness of the cognitive behavioral therapy group based on Lazarus' multifaceted approach on mental weakness and in the fusion of thoughts of diabetic patients. *Armaghane knowledge*. 25(2): 287-300.

Kechoui, M. & Shahmoradi, S. (2019). The relationship between body mass index and body esteem and symptoms of eating disorders: the moderating role of self-compassion in college girls. *Iranian Journal of Diabetes and Metabolism*. 19(2): 103-113.

Kim DS (2009). Body Image dissatisfaction as an important contributor to Suicidal ideation in Korean Adolescents: Gender difference and mediation of parent and peer relationships .Journal of psychosomatic Research: 66: 297-303.

Klein, D. A. & Walsh, B. T. (2005). Eating disorders: Clinical features and pathophysiology. Physiol Behavior, 81(2): 74-359

Lauren, F.N. (2012). The Role of Perception in Eating Disorders. A Senior Honors Thesis Submitted to the Faculty of The University of Utah In Partial Fulfillment of the Requirements for the Honors Degree in Bachelor of Science In The Department of Psychology

Levine, M. & Piran, N. (2004). The role of body image in the prevention of eating disorders. Body image, 1:57-70.

Madadi J, Chinave M (2020). The effectiveness of group therapy based on cognitive-behavioral approach on eating attitude and mental health of overweath people. IJRN. 6(3): 103-108

Mahmoudian, T., Amiri, Sh., Neshat Doust, H.T. Monshiei, H.T. (2017). Comparison of the effectiveness of schema therapy and cognitive behavioral therapy on eating disorder symptoms in patients aged 16-23 years with bulimia nervosa, according to parental bonding. *Journal of Contemporary Psychology.* 12(1): 1-13.

Mirzaei M, Rahnejat A, Taheri N, Moeeni F, Roostaei M, Nazemi M (2020) . Effectiveness of Group Compassion Therapy on Improving Symptoms and Quality of Life in Bulimia Nervosa. Paramedical Sciences and Military Health. 15 (1) :35-42

Mohammadpour, F. (2019). The effectiveness of group therapy with a cognitive-behavioral approach on reducing anxiety in championship athletes on the eve of national championships, the second international conference of new horizons in basic and technical sciences and engineering, Tehran.

Nashi, N., Rah Najat, A.M., Taheri, N., Moini, F., Roustaei, M., & Nazemi, M. (2020). Investigating the effectiveness of group compassion therapy on improving symptoms and quality of life in bulimia nervosa. *Paramedical sciences and military health*. 15(1): 35-42.

Pahlavan zadeh S ,Maghsoudi G, Ghszavi Z (2006). Evaluation mental satisfaction and its relationship with BMI in the high school students in Isfahan. Journal of Behavioral Sciences. 2006:3(1). pp: 44-39. [text in Persian].

Paigan N (2009). Guidance of body image(psychology of body image).(Cash DF): Danzheh publication: 127.

Poorshirazi K, Nasrolahi B (2021). The Comparison of Emotional Intelligence, Cognitive Distortions and Social Behavior between Substance-Dependent and Non-Dependent Individuals. etiadpajohi. 15(59): 227-250.

Rajabi, S., Alimoradi, Kh. (2018). Investigating the effectiveness of cognitive-behavioral therapy on the clarity of self-concept, depression, anxiety and stress, and self-esteem in students with love trauma syndrome. *Journal of psychological studies*. 14(3): 136-143.

Sachdeva M, Johnston H (2020). Eating disorders in the age of COVID-19. *Psychiatry Res* 2020; 290: 113122.

Sadeghi, M., & Mir Mohammad Tabar, F. (2019). Social-psychological analysis of body image. International Conference of Interdisciplinary Studies of Psychology, Counseling and Teaching of Educational Sciences.

Development Engineering Conference Center. Tehran.

Safarzadeh, S., Mahmoudi Khorandi, Z. (2015). Investigation of eating disorders (anorexia nervosa and bulimia nervosa) in adolescents aged 13 to 18 in Gonabad city. Jo*urnal of Rafsanjan University of Medical Sciences*. 14(5): 393-404.

Shabib Asl, N. & Alinqi Lou, Sh. (2019). Eating disorders and their cognitive-behavioral treatment, the fifth international research conference in psychology, counseling and educational sciences.

Shams oddin Saeed N, Azizzade FM, Mohammad Alizadeh S, Haghdoost AA, Gross B (2010). Relationship of body image and eating disorders. Journal of Nursing Research. 2010:4(15). pp: 43-33. [text in Persian]

Shoraka, H. A. (2019). Review of body image and some of contributing factors in Iranian population. International journal of preventive medicine,, 10.

Sohrabi, Z., Kazemi, A., Faraj Zadegan, Z. & Jani Ghorban, M. (2019). Body image in pregnancy: a *qualitative approach, national women's health promotion conference, Isfahan*.

Wright, J.H., (2017). Learning cognitive-behavior therapy: An illustrated guide: American Psychiatric Pub.

Zamani, M. (2020). Body deformities. *Apple Monthly Journal*, 57(3).

Zandi Payam A, Mirzaeidoostan Z (2019). Online Game Addiction Relationship With Cognitive Distortion, Parenting Style, and Narcissistic Personality Traits in Students. IJPCP. 25(1): 72-83.

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