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Original research

Comparison of Effectiveness of Schema Therapy and Behavioral Model-Based Diet Therapy on Emotional Adjustment and Body image in obese people with binge eating disorder

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Abstract

Introduction: Only a small percentage of individuals with eating disorders have responded positively to standard cognitive-behavioral therapy. This study compares the effectiveness of schema therapy and behavior model-based dietary dietin regulating emotions and body image in obese individuals with binge eating disorder.

Research Methods: This research employed a pre-post-test design with a control group. Thirty obese individuals with binge eating disorders attending nutrition clinics in Rasht were selected through convenience sampling and randomly assigned to two experimental groups and one control group. The experimental groups received schema therapy and behavior model-based dietary dietinterventions, respectively, while the control group received no treatment. Data collection tools included the Garnefsky and Craig Short Form Cognitive Emotion Regulation Questionnaire, Young Short Form Early Maladaptive Schema Questionnaire, Lilton, et al., Body Image Concern Questionnaire, and Body Mass Index. Data were collected before, after, and during the follow-up period. Descriptive statistics (mean, standard deviation, variance) and inferential statistics (covariance test) were used for data analysis using SPSS.

Findings: Both schema therapy and behavior model-based dietary regimens effectively reduced eating disorder symptoms and improved body image. There were no significant differences in the subscales of self-blame and catastrophizing between the two treatment approaches, although the schema therapy showed a greater impact. No significant effects were observed in the acceptance, planning, positive reappraisal, and perspective focus subscales. Both interventions targeted the blame and appearance rumination subscales. The behavior model-based dietary dietonly positively affected the positive emotion regulation subscale.

Conclusion: Both treatments effectively reduced body image concerns, but each approach had limited effectiveness in regulating emotions.

Keywords: binge eating disorder, body image, diet therapy, Schema therapy

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Introduction:

The severity of the disorder varies from mild to very severe based on the number of overeating episodes (2). Binge eating disorder (BED) is associated with significant physical and psychological problems and due to social role adjustment problems, poor quality and low life satisfaction, it causes an overall increase in medical complications and the death rate due to weight gain and obesity in patients (3). In the etiology of eating disorders, biological, psychological, social and cultural factors have been proposed (3).

Overeating disorder, first described by Stancard in 1950, is a different pattern of overeating associated with a sense of inability to control overeating without compensatory behaviors, such as cleansing and exercise [1]. In Badel et al.'s research (2018), it has been shown that negative emotions and excitence regulation problems are absolutely important in the etiology and psychopathology of eating disorders (4).

Clinical observations of eating behaviors in obese people led to the reveling the significance of emotions and some mental-psychological aspects in their states, studies in the field of emotional regulation of patients emphasize that eating is an effective response strategy to psychological disturbance or a transformational injury in people. (5); and Micanti et al. study (2017) showed that several abnormal emotion regulation strategies such as rumination, avoidance and emotional inhibition are related to eating disorders. In fact, emotional eating is defined as the tendency to overeat in response to negative emotions in people, which is related pathological personality and a disorder in the maladjusted system without control especially for anxiety, sadness, body image and impulses. Impulses, mood, body image and anxiety are mental dimensions that participate in emotion regulation and are effective in determining the characteristics of eating behavior in the two-way and mutual manner (5, 6).

It seems that overeating caused a disturbance in the regulation of people's emotions so that food itself becomes like a regulator, although this change and improvement in the mood after the overeating period of is not stable and significant (3).

Gupta et al. found that women with eating disorders are less aware of their emotions and face problems in controlling their emotions compared to the non-affected group. Apart from this, regulation of emotions can lead to correction and treatment of eating disorders symptoms (7). The concept of emotion regulation is a key goal of interventions in several treatment approaches for eating disorders, and on the other hand, clinically disturbed body image is extinsively considered to be the core aspect of eating disorders (8). As the prevalence of obesity and overweight has increased, it is reasonable to expect that the amount of body image dissatisfaction has ben also increased. The study of Blouet et al in 2016 has shown that treatments that target physical flexibility and body image can significantly reduce eating disorders in affected people (9). The negative body image includes a combination of body dissatisfaction with an examination related to body, avoidance behavior and the conceptual

body image is described as the mental manifestation or the indication of the shape and appearance of a person's body.

Negative body image is a combination of symptoms of body dissatisfaction with a body-related check, and includes avoidant and disturbed behavior. The conceptual aspect of body image is described as a manifestation or mental manifestation of the shape and appearance of a person's body (10).

Compared to other eating disorders, disturbed body image is one of the most important and prominent risk factors in relation to the etiology, persistence and recurrence of binge eating disorder (BED) (3). Several studies have investigated the evaluative aspect of disturbed body image in binge eating disorder. The findings of Lore et al.'s (2017) study, shows that disturbed body image occurs in binge eating disorder, especially with high weight, larger than normal size, and body dissatisfaction (10).

Eating disorders treatment is a difficult task and relatively few affected people respond to cognitive behavioral therapy (11). Findings from numerous researches have shown that cognitive-behavioral treatment is necessary but not sufficient for various forms of eating disorders (12, 13). Considering the lack of effectiveness of the desired approach and similar issues, the point that schema therapy may be a valuable alternative to cognitive behavioral therapy in the case of a number of patients has been suggested (14).

schema therapy created by Yang and by combining cognitive, experimental or emotion-oriented interventions and behavioral pattern breaking to treat a wide range of psychological disorders; is a transdiagnostic model, and its application for eating disorders, post-traumatic stress disorder, personality disorders, and drug abuse has been explored and evaluated all over the world, and both patients and therapists have evaluated this approach positively (15, 16).

The schema therapy of eating disorders provides a framework in which cognitions, emotions, behaviors and dysfunctional interpersonal relationships that can be involved in the pathology of eating disorders are almost determined (16). It should be noted that the treatments that are performed in the form of group therapy can make the treatment more effective and increase the resilience of the patients by creating a supportive atmosphere (17, 18). In a study conducted by Calvert et al. (2018) to evaluate the schema therapy, it was found that the treatment plan is promising for these patients. The evidence that exists in the field of factors affecting the risk of binge eating, implicitly confirms the existence of maladaptive primary schemas in people with binge eating disorder (BED) (11).

Although research shows the advntages of schema therapy in a wide range of disorders and the use of schema therapy has increased, expanding the use of this therapy requires an adequate evaluation of its effectiveness. According to what has been said, the present study intends to compare the effectiveness of schema therapy and behavioral model-based diet therapy in emotional regulation, the body image of obese people with morbid binge eating disorder; and to answer the question whether schema therapy and diet therapy based on behavioral model are effective in reducing bulimia nervosa or not? And which one of these two methods works more effectively?

Research method:

The current study is a semi-experimental intervention study (pre-test-post-test design with control group). The statistical population of this study consisted women suffering from binge eating disorder who referred to nutrition clinics in Rasht within 2016-2017. The statistical sample of the research consists of 30 people who were selected by available sampling method. The criteria that were selected to enter the study include: Not suffering from other severe mental disorders, aging 25-45 years, having BMI above 25, lacking other severe psychiatric disorders, education level of 10 years or higher, lacking pregnancy, not taking psychoactive drugs or drugs affecting weight, lacking recent severe stressors during the last6 months (such as divorce), lacking a history of diseases such as thyroid, diabetes, kidney disease, cardiovascular disease. The participants in the study were those who did not receive any intervention program at the time of the study. At the beginning of the study, the weight of all study subjects was measured and recorded using a digital scale.

Subsequently, each subject was evaluated by two psychologists based on DSM-5 and clinical interview, and eventually, 30individuals were selected as obese individuals with BED. The cases were then randomly assigned into three groups groups (schema therapy experimental group, behavioral diet therapy group and control group without any intervention). Subjects in the second group received a low-calorie behavioral diet with weight control and a diet for 14days for 3months to control and manage nutrition and weight loss. In addition, the subjects were asked to adjust their physical activity plan according to the dietician's opinion and not to alter it during the study. In addition, at the beginning of the treatment program, the researcher informed about BED and the symptoms of this disorder, including periodic binge eating behavior and emotional eating to suppress their negative emotions.

At the beginning of the study, a pre-test (questionnaires on emotion regulation and body image and demographic factors) was performed in all groups, the intervention was implemented in experimental groups (i.e., schema therapy and behavioral therapy regimen), and a post-test was performed at the end of intervention. The follow-up procedure was completed after 2 months. For the first group, a 10- session treatment plan, based on Protocols for Eating Disorders, was provided in 1.5-hour sessions once a week. Research tools**:**

Cognitive Emotion Regulation Questionnaire-Short Form (CERQ- short Form): This 18-item questionnaire, was developed by Garnefski, N., & Kraaij, V (19). Each of its items is answered on a five-point Likert scale. The questionnaire has a multidimensional structure and is used to identify cognitive coping strategies after a traumatic experience. The developers of this questionnaire calculated its validity using the Cronbach alpha coefficient method and obtained 0.93, 0.87, and 0.91 for the total questionnaire, negative strategies, and positive strategies, respectively. The results of research conducted by Hosni showed that the Persian version of the short form of the Cognitive Emotion Regulation Questionnaire (CERQ) is validated. In this respect, the obtained Cronbach alpha coefficients (ranging from 0.68-0.86) showed that 9 subscales of the mentioned questionnaire have good validity [20].

Body Image Concern Inventory: This questionnaire, developed by Littleton et al. [36], was evaluated in Iran [21]. The questionnaire has 19 items that are scored as 5 choices ranging from 1 to 5. The researchers confirmed the reliability of this tool using the Cronbach alpha coefficient (α=0.93) and its validity through the Obsessive Compulsive Scale (0.63) and Eating Disorders Scale (0.40). In Iran, Mohammadi has reported 0.69 and 0.76 respectively through internal consistency and retesting of this questionnaire in Iran ($P<0.001$). Also, a significant

correlation has been obtained between this questionnaire and Cooper Smith's self-esteem scale (0.61) (21).

Young's early maladaptive schemas questionnaire short form (YSQ-SF): to measure primary maladaptive schemas from the questionnaire that Yang (2005) with 75 questions, 6-point Likert response scale (completely false = 1 to completely true = 6)) and 15 subscales including emotional deprivation, abandonment, mistrust/mistreatment, social isolation, defect/shame, dependence/incompetence, vulnerability to harm or disease, entanglement/trapping, obedience, emotional inhibition, self-sacrifice, criteria Stubbornness, self-restraint, insufficient self-discipline, entitlement and failure prepared and ready to execute, were used. All five questions of this questionnaire are related to one schema and to get the score of the schemas, the average score is calculated for each of 5 questions. This questionnaire has good face validity (22) and numerous studies have also shown its effectiveness in separating patients based on initial incompatible schemas (23).

Body mass index (BMI): Body mass index is calculated by dividing weight (in kg) by the square of height (in meters). Weight was measured using a digital scale with a sensitivity of 100 grams, and height was measured using a non-expandable tape measure to 0.5 cm accuracy.

In order to analyze the data, descriptive statistics and inferential statistics methods such as multivariate covariance analysis were used in SPSS-24 software.

Results:

Based on the results of demographic data, the mean ages of patients in the schema therapy, behavioral therapy, and control groups were calculated at31.4, 34.8, and 30.3 years, respectively. It was found that 37%, 46%, and 17% of the participants were respectively employed, housewives, and unemployed. All participants in all three groups were female.

The participants in the study (n=30) were divided into three groups of 10 cases. In the schema therapy group consisted of four and six subjects with less than bachelor's and bachelor's degrees, respectively. In the behavioral regimn therapy group, 1, 4, and 5 cases held a bachelor's, less than a bachelor's, and higher than a bachelor's degree, respectively. Also, there were 10 women in the control group, 4 of whom had less than a bachelor's degree, 6 had a bachelor's degree, and 1 had more than a bachelor's degree.

The findings indicate that the emotional regulation variable scores in the post-test of the schema therapy group are 900.49 in the behavioral diet therapy group, 010.52 and in the control group 800.61. Also, the body image variable scores in the post-test of the schema therapy group are 500/50 in the behavioral diet therapy group, 900/53, and 000/66 in the control group.

To investigate the assumptions of using parametric analyzes, initially, the normality of the data was examined using the Kolmogorov-Smirnov test.

The findings indicate that the data of the study variables in both pre-test and post-test are more than 0.05, which indicates the normality of the data. In order to check the equality of variances matrix, Box's test was used. The data shows that the significance level in the Boxer test is greater than 0.05 and the next assumption of the parametric analysis has been satisfied.

The findings indicate that both schema therapy and behavioral diet therapy have an effect on emotion regulation and body image variables. Now, in order to compare the effectiveness of these two treatment methods, the LSD post hoc test is used in Table 5.

Table 1. Comparison of schema therapy and behavioral diet therapy with LSD post hoc test for dependent variables

Variable	Group 1	Group 2	Change average	Meaningful level
	Schema therapy	**Behavioral therapy diet**	**-1.185**	0.573
Adjust the excitement	**Schema therapy**	**control**	**-11.784**	0.001
	Behavioral therapy diet	**control**	**-10.562**	0.001
	Schema therapy	**control**	**-2.271**	0.611
Body image	**Schema therapy**	**control**	**-15.690**	0.002
	Behavioral therapy diet	**control**	**-13.418**	0.004

The findings of Table 1 show that there is no significant difference between schema therapy and behavioral diet therapy on any of the research variables, so the main hypothesis of this research regarding the difference between these two treatment methods on emotion regulation and body image variables is rejected. However, the findings show that both treatments were effective on both research variables. Based on this, the sub-hypotheses of this research based on 1) the effectiveness of schema therapy on emotion regulation and body image, and 2) the effectiveness of behavioral therapy dieton emotion regulation and body image, are both confirmed. Now, using multivariate covariance analysis in Table 2, the effectiveness of these two treatments on the subscales of the research is examined, then using the LSD post test, table 3 compares these two treatments on the subscales of the research.

Table 2. Investigating multivariate covariance analysis for research scales

Source	Dependent variable	sum of squares	mean square	Freedom degree	F	Significance level
Pre-test	self-blame	26.408	13.204	2	9.773	**0.002**
	the reception	6.675	3.308	2	1.952	**0.174**
	Rumination	48.682	24.341	2	11.117	**0.001**
	Positive refocusing	9.707	4.853	2	4.355	**0.031**
	Focus on planning	1.214	0.607	2	0.278	**0.761**
	Positive reassessment	4.303	2.152	2	1.980	**0.171**
	opinion	6.840	3.420	2	2.057	**0.160**
	Catastrophe	30.216	15.108	2	12.843	**0.001**
	blame others	64.531	32.266	2	16.354	**0.001**
	Ashamed of your appearance	387/762	۱۹۳/۸۸۱	2	4.674	**0.025**

0.019	Anxiety interferes with performance	219.231	109.615	2	5.145

Table 3. Comparison of schema therapy and behavioral diet therapy with LSD follow-up test for eating scales

variable	**first group**	**The second group**	**Average variation**	**Significance Level**
Self-blame	Schema therapy	Behavioral therapy diet	251.2	**.004**
	Schema therapy	Control	-2.716	**0.001**
the reception	Behavioral therapy diet	Control	-0.464	**0.490**
	Schema therapy	Behavioral therapy diet	-0.730	**0.342**
	Schema therapy	Control	-1.453	**0.066**
	Behavioral therapy diet	Control	0.723-	**0.342**
Rumination0	Schema therapy	Behavioral therapy diet		**.539**
	Schema therapy	Control		**0.001**
	Behavioral therapy diet	Control		**0.002**
Positive refocusing	Schema therapy	Behavioral therapy diet		**0.021**
	Schema therapy	Control		**0.971**
	Behavioral therapy diet			
Focus on planning	Behavioral therapy diet	Control	0.491	**0.563**
	Schema therapy	Control	-0.091	**0.915**
	Schema therapy	Control	1.179	**0.65**
Positive reassessment	Schema therapy	Control	0.0661	**0.276**

	Behavioral therapy diet	Control	-0.518	0.392
		Control	1.168	0.132
undercount	Schema therapy	Control	-0.211	0.775
	Behavioral therapy diet	Control		
	Behavioral therapy diet	Control	-	
Catastrophe	Schema therapy	control	-2.960	0.001
	Behavioral therapy diet	Control	-0.668	0.292
	Schema therapy	Behavioral therapy diet	-1.396	0.101
blame others	Schema therapy	control	-4.413	0.001
	Behavioral therapy diet	control	-3.018	**0.002**
	Behavioral therapy diet	Control	-0.999	0.789
Ashamed of your appearance	Schema therapy	Control	-10.034	**0.014**
	Behavioral therapy diet	Control	-9.036	0.024
	Schema therapy	Control	-2.930	.0282
Interfere of concern with performance	Schema therapy	control	-8.206	0.006
	Behavioral therapy diet	Control	-5.276	0.060

The findings of Tables 2 and 3 show that there is no significant difference in the self-blame and catastrophizing scales of people treated with behavioral diet therapy and the control group, while this difference is significant in people treated with schema therapy. This means that schema therapy had an effect on these subscales, but behavioral therapy diet had no effect on them. In the subscales of acceptance, focus on planning, positive reappraisal, and low importance, none of the two treatments, schema therapy and behavioral diet therapy, had any effect on these variables. In the subscales of rumination, blaming others, and being ashamed of one's appearance, both treatments were effective, but no significant difference was found between their effectiveness. In the subscale of positive refocusing, schema therapy had no

effect on this variable, while behavioral therapy diet was effective on this variable. In the performance anxiety interference subscale, behavioral therapy dietdid not have an effect on this variable, while schema therapy was effective. In Table 4, using analysis of variance with differential scores, the follow-up period of the interventions was investigated.

Table 4. Variance analysis with mean differential scores for the follow-up period

		The Sum of squares	Freedom degree	Mean square	F	Significance Level
Excitement regulation	between groups	864.067	2	432.033	17.520	**0.001**
	within groups	665.800	27	24.659		
Body image	between groups	1410.867	2	705.433	8.767	**0.001**
	within groups	2172.500	27	80.463		

The findings of Table 4 show that during the follow-up period, both treatments were stable on emotion regulation and body image variables. Now, two methods of treatment are compared using Shefe's post hoc test.

Table 5. Comparison of two treatments in the follow-up period with the post-test Sheffe test

Variable	First group	Second group	Change mean	Significance Level
Excitement regulation	Schema therapy	Behavioral therapy diet	-1.600	**0.773**
	Schema therapy	Control	-12.100	**0.001**
	Behavioral therapy diet	Control	-10.500	**0.001**
Body image	Schema therapy	Behavioral therapy diet	-3.900	**0.628**
	Schema therapy	Control	-16.100	**0.002**
	Behavioral therapy diet	Control	-12.200	**0.019**

The findings of Table 5 show that in the follow-up period, there is still no significant difference between the effectiveness of schema therapy and behavioral therapy dietin any of the research variables.

Discussion and conclusion:

In the present study, the aim was to compare the effectiveness of schema therapy and behavioral diet therapy on emotion regulation and body image in people with BED. There is no significant difference between schema therapy and behavioral diet therapy on any of the main variables of the study, i.e. body image and emotional regulation, so the main hypothesis of this research based on the difference between these two methods of treatment on the variables of emotional regulation and body image is rejected. However, the findings show that both treatments were effective on both research variables. The sub-hypotheses of this research based on the effectiveness of schema therapy on emotion regulation and body image, and the effectiveness of behavioral therapy dieton emotion regulation and body image, are both confirmed. In the subscales of self-blame and catastrophizing, people treated with behavioral diet therapy have no significant difference with the control group, while this difference is significant in people treated with schema therapy, which means that schema therapy has an effect on these subscales transition, but the behavioral therapy diet did not affect them.

In the subscales of acceptance, focus on planning, positive reappraisal, and low importance, none of the two treatments, schema therapy and behavioral diet therapy, had any effect on these variables. In the subscales of rumination, blaming others, and being ashamed of one's appearance, both treatments were effective, but no significant difference was found between their effectiveness. In the subscale of positive refocusing, schema therapy had no effect on this variable, while behavioral therapy regimen was effective on this variable. In the performance anxiety interference subscale, behavioral therapy regimen did not have an effect on this variable, while schema therapy was effective for this variable. Both schema therapy and behavioral diet therapy have had an effect on emotion regulation and body image variables.

Although there are not many similar studies with which the present findings can be compared, the results of the present study are indirectly consistent with the results of studies that have used schema therapy to improve and treat the psychological symptoms of people with eating disorders. The results of the research indicated the effectiveness of schema therapy in regulating emotion and body image in people suffering from binge eating disorder. These findings are consistent with the results of Simpson et al. (25), Calvert et al. (11).

In general, in explaining these results, it can be said that people who use weak cognitive styles such as rumination, catastrophizing and self-blame are more vulnerable to emotional problems than other people, while in people who use favorable methods such as positive evaluation, the level of vulnerability is less (26, 27). Positive evaluation is a cognitive strategy of emotion regulation, which consists changing thought methods, in order to reduce emotional pressures, in potentially exciting situations, which leads to a reduction of expressive behaviors and negative emotional experiences.

However, whether schema therapy is the final treatment for treating patients with eating disorders, although according to the findings, the results indicate the effectiveness of this treatment method, but it is still too early to draw conclusions in this regard, future researches will clear the way for better conclusions but what is somewhat clear and obvious in explaining the findings of this research is that schema therapy is effective on some basic components related to eating disorders such as emotion regulation due to the nature of the treatment.

What was obtained in the present research indicates that in BED, any intervention that can lead to individual awareness for the patient's insight into overeating as a way to increase the ability of indication and description of emotional states which can lead to emotion regulation and impulsive eating reducing behaviors, especially carbohydrate overeating. However, in the current study, both diet therapy and schema therapy have been effective on emotion regulation in affected patients compared to the control group, there are differences in the emotion regulation subscales of the two treatment methods. According to the theory of escape theory, which believes that binge eating disorder is an attempt to escape from personal awareness, intervention in emotion regulation can result to a change in self-awareness and increased awareness of the individual towards impulsive binge eating behavior.

According to the obtained results, it can be said that both treatments were effective in reducing body image anxiety, but for emotion regulation, each of these methods was only partially effective.

Ethical considerations

In order to comply with ethical codes, ethical considerations such as the ethical principle of scientific trustworthiness, intellectual rights of authors, confidentiality and informed consent of all participants have been observed in all stages of this research. This research has been approved by the Research and Ethics Council of Rasht Azad University with the code of ethics (IR. IAU.RASHT.REC.1399.013).

Research limitations

Among the limitations of the current research, we can point out the limitation in identifying and controlling the intra-familial variables affecting the dependent variable, the lack of knowledge of the accuracy and correctness of the answers of the statistical sample, and the limitation in controlling underlying physical and mental diseases. The research community was limited to the city of Rasht, and in order to generalize the findings to the entire community, additional studies with wider dimensions are needed, but due to the limited facilities, this research group was prevented from conducting follow-up studies.

Suggestions

Therefore, it is suggested that in future research, other third wave psychotherapies such as acceptance and commitment Therapy (ACT), mindfulness-based stress reduction (MBCT) can be used in the treatment of eating disorders, especially binge eating disorder. It is also recommended that in psychiatric and psychological service centers, in the treatment of binge eating disorder, both schema therapy and behavioral diet therapy methods are used to treat and reduce the symptoms of the disorder.

References

1. Saules KK, Carey J, Carr MM, Sienko RM. Binge-eating disorder: prevalence, predictors, and management in the primary care setting. J Clin Outcomes Manag. 2015; 22: 512–28.
2. Burton, Amy L. and Maree J. Abbott. "Conceptualising Binge Eating: A Review of the Theoretical and Empirical Literature." Behaviour Change, 2017; 34: 168 - 198.
3. Hilbert A. Binge-Eating Disorder. Psychiatr Clin North Am, 2019 Mar; 42(1): 33-43. Doi: 10.1016/j.psc.2018.10.011. Epub 2018 Dec 22. PMID: 30704638.
4. Bodell LP, Pearson CM, Smith KE, Cao L, Crosby RD, Peterson CB, Crow SJ, Berg KC. Longitudinal associations between emotion regulation skills, negative affect, and eating disorder symptoms in a clinical sample of individuals with binge eating. Eat Behav. 2019 Jan; 32: 69-73. Doi: 10.1016/j.eatbeh.2018.12.005. Epub 2018 Dec 28. PMID: 30654193; PMCID: PMC7043891.
5. Micanti F, Iasevoli F, Cucciniello C, Costabile R, Loiarro G, Pecoraro G, Pasanisi F, Rossetti G, Galletta D. The relationship between emotional regulation and eating behaviour: a multidimensional analysis of obesity psychopathology. Eat Weight Disord. 2017 Mar; 22(1): 105-115. Doi: 10.1007/s40519-016-0275-7. Epub 2016 Apr 11. PMID: 27068173; PMCID: PMC5334401.
6. Moradi A, Ebrahimi ME, Rad I. The relationship between psychological hardiness, demographic variables, and mental disorders of the nursing staff at Be'sat Hospital. J Res Med Dent Sci. 2018; 6(3): 198–205.
7. Gupta S, Zachary Rosenthal M, Mancini AD, Cheavens JS, Lynch TR. Emotion regulation skills mediate the effects of shame on eating disorder symptoms in women. Eat Disord. 2008 Oct-Dec; 16(5): 405-17. Doi: 10.1080/10640260802370572. PMID: 18821364.
8. Monell E, Clinton D, Birgegård A. Emotion dysregulation and eating disorders-Associations with diagnostic presentation and key symptoms. Int J Eat Disord. 2018 Aug; 51(8): 921-930. Doi: 10.1002/eat.22925. Epub 2018 Jul 21. PMID: 30030942.
9. Bluett EJ, Lee EB, Simone M, Lockhart G, Twohig MP, Lensegrav-Benson T, Quakenbush-Roberts B. The role of body image psychological flexibility on the treatment of eating disorders in a residential facility. Eat Behav. 2016 Dec; 23: 150-155. Doi: 10.1016/j.eatbeh.2016.10.002. Epub 2016 Oct 19. PMID: 27776279.
10. Lewer M, Nasrawi N, Schroeder D, Vocks S. Body image disturbance in binge eating disorder: a comparison of obese patients with and without binge eating disorder regarding the cognitive, behavioral and perceptual component of body image. Eat Weight Disord. 2016 Mar; 21(1): 115-25. Doi: 10.1007/s40519-015-0200-5. Epub 2015 Jul 16. PMID: 26178486.
11. Calvert F, Smith E, Brockman R, Simpson S. Group schema therapy for eating disorders: study protocol. J Eat Disord. 2018 Jan 9; 6: 1. Doi: 10.1186/s40337-017-0185-8. PMID: 29344359; PMCID: PMC5761160.
12. Mathisen TF, Rosenvinge JH, Pettersen G, Friborg O, Vrabel K, Bratland-Sanda S, Svendsen M, Stensrud T, Bakland M, Wynn R, Sundgot-Borgen J. The PED-t trial protocol: The effect of physical exercise -and dietary therapy compared with cognitive behavior therapy in treatment of bulimia nervosa and binge eating disorder. BMC

Psychiatry. 2017 May 12; 17(1):180. Doi: 10.1186/s12888-017-1312-4. PMID: 28494809; PMCID: PMC5427572.

13. Azari S, Haddadi A, Ebrahimi M I. The Effect of Cognitive-Behavioural Stress Management Training on Reducing Depressive Symptoms in Women with Premenstrual Syndrome. hrjbaq. 2021; 7 (1): 32-42. Doi: 10.52547/hrjbaq.7.1.32.
14. Rania M, Aloi M, Caroleo M, Carbone EA, Fazia G, Calabrò G, de Filippis R, Staltari F, Segura-Garcia C. 'Impaired Autonomy and Performance' predicts binge eating disorder among obese patients. Eat Weight Disord. 2020 Oct; 25(5): 1183-1189. Doi: 10.1007/s40519-019-00747-z. Epub 2019 Jul 13. PMID: 31302882.
15. Zamani N, Haddadi A. The Effect of Dialectical Behavior Therapy Skills on Reducing the Risky Behaviors of Patients with Borderline Semi-Clinical Symptoms. hrjbaq. 2019; 5(1): 64-70. Doi: 10.29252/hrjbaq.5.1.64.
16. Meneguzzo P, Cazzola C, Castegnaro R, Buscaglia F, Bucci E, Pillan A, Garolla A, Bonello E, Todisco P. Associations Between Trauma, Early Maladaptive Schemas, Personality Traits, and Clinical Severity in Eating Disorder Patients: A Clinical Presentation and Mediation Analysis. Front Psychol. 2021 Mar 31; 12: 661924. Doi: 10.3389/fpsyg.2021.661924. PMID: 33868136; PMCID: PMC8044897.
17. Haddadi A, Ebrahimi M E. The Effect of Yalom Group Therapy on Resiliency and Communication Skills in Students. hrjbaq. 2020; 5 (3): 188-198. Doi: 10.29252/hrjbaq.5.3.188.
18. Haddadi A, Ebrahimi M E, Zamani N, Zarabian N. Effects of Yalom Group therapy on the Resilience and Meaning in Life of the Nurses in Covid-19 Centers. Avicenna J Neuro Psycho Physiology. 2021; 8 (4): 209-214. Doi: 10.32592/ajnpp.2021.8.4.107.
19. Garnefski N, Kraaij V. The cognitive emotion regulation questionnaire. Eur J Psychol Assess. 2007; 23(3): 141–9.
20. Hasani J. The reliability and validity of the short form of the cognitive emotion regulation questionnaire. J Res Behav Sci, 2011; 9(4): 9 Available from: http://rbs.mui.ac.ir/article-1-207-en.html
21. Mohammadi, N., Sajadinejad, M. The Relationship Among Body Image Concern, Fear of Negative Evaluation and Self-Esteem with Social Anxiety. Journal of Modern Psychological Researches, 2007; 2(5): 55-70.
22. Oei T.P.S. Baranoff J.. Young Schema Questionnaire: Review of psychometric and measurement issues. Australian Journal of Psychology, 2007; 59: 78-86. https://doi.org/10.1080/00049530601148397
23. ghahari S, viesy F, kavand H, yeke fallah M, zandifar H, farrokhi N et al . Psychometric Properties of Early Maladaptive Schemas Questionnaire Short Form-75 Items (YSQ-SF). NPWJM. 2020; 8 (27): 31-40. Doi: 10.29252/npwjm.8.27.31.
24. Weir CB, Jan A. BMI Classification Percentile and Cut off Points. In Treasure Island (FL); 2022.
25. Simpson SG, Morrow E, van Vreeswijk M, Reid C. Group schema therapy for eating disorders: a pilot study. Front Psychol. 2010 Nov 16; 1: 182. Doi: 10.3389/fpsyg.2010.00182. PMID: 21833243; PMCID: PMC3153792.
26. Videler AC, van Royen RJJ, Legra MJH, Ouwens MA. Positive schemas in schema therapy with older adults: clinical implications and research suggestions. Behav Cogn

Psychother. 2020 Jul; 48(4): 481-491. Doi: 10.1017/S1352465820000077. Epub 2020 Mar 10. PMID: 32153260.

27. Barati A, Ebrahimi M E, Firoozeh Z. Comparison of the effectiveness of gestalt coaching training and acceptance and commitment-based therapy on emotional intelligence and self-efficacy. RBS. 2021; 18 (4): 470-480. URL: http://rbs.mui.ac.ir/article-1-937-en.html