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USING STATISTICAL ANALYSIS AND EXPLANATORY POWER IN TWO APPROACHES TO EATING DISORDER PROBLEMS

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Abstract

This study compares the effectiveness of schema therapy and cognitive behavioral therapy (CBT) on modifying early maladaptive schemas in patients with bulimia nervosa considering parental bonding and examining the relative roles of statistical analysis and explanatory power. The study follows an experimental methodology with pretest-posttest design and follow-up with control group. The population for the study includes all patients aged 16 to 23 years with eating disorders who had been referred to psychiatry, psychotherapy, and obesity clinical treatment centers in Tehran. Purposive sampling was used in this study. 39 patients were diagnosed to have Bulimia nervosa by performing psychological screening. Finally, the selected patients were matched in two experimental groups and one control group. Data were collected through two questionnaires and diagnostic interviews based on diagnostic criteria for eating disorders and psychiatric diagnosis. The two questionnaires used in the study included: (1) Parental Bonding

Questionnaire (2) Young Schema Questionnaire. The main problems of the patients included having cuts, being rejected, autonomy, and impaired performance. However, they were less vulnerable in other areas including orientation and violating restrictions. The findings of this study can be helpful in the etiology of bulimia nervosa disorder based on the systematic approach and pave the way for further research in this area.

Keywords

Cognitive Behavioral Therapy, Bulimia Nervosa, Parental Bonding, Schema Therapy

1. Introduction

Eating disorders are complex problems that require timely treatments. Without proper intervention, eating disorders may lead to high mortality rates (Strigel, Moore & Bulik, 2007). Eating disorders include pica disorder, ruminal disorder, avoidant restrictive food intake disorder (ARFID), anorexia nervosa, bulimia nervosa, binge eating disorder and unspecified eating disorder (Colman, 2015). Bulimia nervosa is a disorder in which a person is afraid of weight gain and has unrealistic ideas about his or her body. The main feature of bulimia is that the person has frequent binge eating times, and begins the purification period immediately after these periods (Diagnostic and Statistical Manual of Mental Disorders, 2013).

The main features of bulimia nervosa are eating with craving and inappropriate compensatory methods to prevent weight gain. Additionally, self-knowledge of a person with a history of overeating is heavily influenced by the shape and weight of the body. To confirm this diagnosis, craving eating and inappropriate compensatory behaviors should occur on average at least twice a week for three months (Colman, 2015). Craving eating is defined as eating a certain amount of food in a given period more than what most people will eat under the same conditions. People with this disorder usually come to terms with eating feelings of shame and seek to conceal their symptoms. This course is also accompanied by a feeling of lack of control. Another major feature of bulimia nervosa is the repeated use of inappropriate compensatory behaviors to prevent weight gain. The most common feature is vomiting after a period of craving used by 80 to 90 percent of people with this disorder who were referred to treatment centers. Other discharges include involuntary laxatives and diarrhea. The 12-month prevalence of bulimia nervosa in young women is 1 to 1.5 percent and is higher in women than men (American Psychiatric Association, 2013). This disorder has multiple etiologies. Various biological, psychological, psychosocial, and environmental factors are involved (Stice, Presnell & Spangler,

2002; Saduk & Saduk, 2008). Family roles or well-established patterns of behavior are also related to eating behaviors for basic family functions (Lattimore, Wagner & Gowers, 2000). Children's diet, physical activity, and physical satisfaction are often affected by parents (Enten & Golan, 2009).

1.1 Literature Review

Helping patients is one of the most important goals for the practicing professionals (Cuijpers, Noma & Karyotaki, 2019; Correll, et al., 2018; Locher, et al., 2017; Farrell & Shaw 2018). The two approaches to eating disorder problems, namely, schema therapy and cognitive behavioral therapy are widely popular among practitioners for their effectiveness and acceptability (Cuijpers, Noma & Karyotaki, 2019; Farrell & Shaw 2018; Krug, et al., 2016, Turner et al., 2015); however, these two approaches were not compared directly in the past. Our research compares them directly with evidence from our clinical study.

Some of the studies have focused on causes of the eating disorders. Some studies have indicated inadequate parenting care with depressive environments for bulimia nervosa patients (Krug, et al., 2016; Swanson, et al., 2010). According to Parker's research, the parental contribution has been neglected in the child-parent bonding or, at best, only considered in attachment theory. In explaining the relationship between child and mother and the use of child-friendly strategies (such as eating disorder), Yang (1990) proposed a useful construct called "early maladaptive schemas". He stated that early maladaptive schemas are the result of the negative interpersonal experiences of the first years of life inside and outside the family (Yang, 1990). In the case of eating disorders, it has been argued that early negative and traumatic experiences lead to maladaptive patterns, which is often tied to resistance to change. For example, a child who receives little maternal care may relate it to personal inherent defect (Cella, Iannaccone & Cotrufo, 2014).

Several studies confirmed the parents' effect on children's eating-related behaviors (Mitchell et al., 2013; Lyke & Masten, 2013; Tetley et al., 2014; Morris, 2006; Oei & Baranoff, 2007; Ganty, 2008; Tim, 2010). Haines et al. (2016) confirmed the quality of mother-to-child relationship in eating disorder.

There has been much emphasis on the role of nuclear beliefs and schemas in the development and continuity of bulimia disorder (Cooper et al., 2004). These beliefs that grow from the initial experiences or in the later stages of life (Yang et al., 2003) may exist in different domains, but beliefs that are related to themselves are often thought to play a decisive role in

psychopathology (Beck and Freeman, 1990; Fairchild & Cooper, 2010; Weatherholes et al., 2013).

Shayeghian, et al. (2011) investigated schemas and parental bonding in obese and normal teenage girls. In this study, obese teenage girls had a higher incidence of maladaptive beliefs, especially shame/defect compared to normal weight girls. Also, in the results of Bohn et al (2013) and Cooper and Yang (2016) confirmed the existence of early maladaptive schemas in bulimia nervosa cases.

Waller, Dickson, and Ohanian (2002) also used the concept of central beliefs to represent the center of bulimia pathology cognitions. It is generally assumed that early maladaptive beliefs are related to impaired autonomy and functioning that causes cognitive vulnerability in parent-child relationships, which in turn increases the perception of nutritional problems in getting inappropriate relationships and reinforcing early maladaptive beliefs.

In fact, family impairment is associated with the psychopathology of eating disorders, and in this context, the beliefs that activate psychosis are raised as mediators. For example, the psychic of shame acts as a mediator in the relationship between family infertility and eating pathology. Family inefficiency is an influential factor in the development and pathology of bulimia (Strober & Humphrey, 1987). Masen et al. (1986) suggests that this internal shame may be caused by shame in relation to the family environment (Mason's 1986 report, as cited in Patrice, 2005). When parental bonding relationships are examined in relation to eating disorder symptoms, maladaptive nuclear beliefs play a mediating role in this regard, and nuclear beliefs should be investigated considering the effects of parental relationships on eating disorders (Jones, Long & Harris, 2006; Mayer & Gilliggs, 2004; Turner, Rooz & Cooper, 2005).

Based on the model theory proposed by Young, schemas are developed in childhood and used as templates for the processing of future experiences. By reflecting inconsistent patterns, unconditional beliefs are mostly created about one's self (Tetley et al., 2014). Research has shown that scheme therapy (Waller, Kennerley, and Ohanian, 2007; Swanson et al., 2010; Pugh, 2015) and cognitive behavioral therapy (Fischer, et al., 2014; Turner et al., 2015; Dalle Grave et al., 2015) have a significant role in reducing the symptoms of eating disorder. Further research also confirmed the effectiveness of schema therapy in reducing the symptoms of eating disorders (Cecero & Yang, 2001; Waller, Kennerley & Ohanian, 2005). Treatment of eating disorders presents a wide variety challenges and opportunities. Cognitive behavioral therapy is also found

to be effective by many practitioners in several modes (Wilson, et al. 2002; Cuijpers, Noma, & Karyotaki,).

1.2 Primary Focus

The primary focus of this study was to compare schema therapy and cognitive behavioral therapy assigning patients randomly to two experimental groups and one control group. The schema therapy is applied to the first experimental group and the cognitive behavioral therapy was applied to the second experimental group and results were compared. Therefore, the present study seeks to answer the question whether the application of the schema therapy method is effective on improving the early maladaptive schemas formed among bulimia nervosa patients? What are the relative merits of cognitive behavioral therapy? Is there a significant difference between cognitive behavioral therapy and schema therapy in improving patient treatment? Statistical analysis and explanatory power are used for answering these questions effectively.

2. Methodology

The study had an experimental method with pretest-posttest design, follow-up with control group. In this design, the pre-test was performed for the subjects before the intervention and the maladaptive schemas of the patients were identified, then the treatment was implemented in accordance with the vulnerable schemas. At the end of the treatment sessions (12 sessions), a post-test was performed. Finally, after 3 months after the therapy, follow-up (re-test) was carried out. The proposed pattern of Yang Cleosco and Yashar (2003) was used for schema therapy in the treatment plan. The Cognitive-Behavioral Therapy is designed for eating disorder by Murphy et al. (2010). In this study, a combination of Murphy et al., protocol and Cognitive and Behavioral Techniques of Lehey et al. (2010) were used. In fact, the eating disorder protocol is similar to that of anxiety patients (Firebon, 2008). After the results were extracted, based on the conditionality of the parametric tests, factor analysis of variance was used using SPSS software version 22.

3. Statistical Population, Sampling Method and Statistical Sample

The study population included all patients aged 16 to 23 years with eating disorders who had referred to psychiatry, psychotherapy, and obesity clinical treatment centers of in Tehran. Purposive sampling was used in this study. By referring to the treatment centers and receiving the files of patients, the selected sample included subjects with bulimia nervosa identified

according to the symptoms by psychiatrist's diagnosis in accordance with the fifth edition of the Diagnostic Manual of Psychiatric Disorders. It should be noted that all subjects used sedative medications and SSRI and SSRIs to reduce the disorder's symptoms.

Considering the fact that in the present study patients were considered to have weak parental bonding, after subjects were diagnosed with bulimia nervosa, they first completed parental bonding questionnaire and subjects with poor parenting bonding (low care and over-control) were selected. 39 patients had bulimia nervosa among the 72, of which 90% had poor maternal bonding and 10% had poor paternal and maternal bonding. For this purpose, the role of poor maternal bonding was investigated. Finally, the selected patients were matched in two experimental groups and one control group (each having 13 patients). It should be noted that three groups were examined in terms of inclusion criteria (having criteria for eating disorder according to DSM-V, age range of 16 to 23 years old) and exclusion criteria (having other psychiatric disorders with eating disorder). In the first experimental group, schema therapy intervention was performed while the second experimental group received cognitive-behavioral therapy. There was no intervention in the control group. However, due to ethical principles, they received education on several self-awareness techniques in one session (1 hour). In terms of severity, patients were classified into mild group according to the fifth edition of criteria for the diagnosis and classification of mental disorders (1-3 periods of inappropriate compensatory treatment per week on average).

4. Instruments

The instruments included questionnaire and diagnostic interview based on the criteria for diagnosis of bulimia nervosa (DSM-5) and psychiatric diagnosis. In this research, two questionnaires were used:

4.1 Parental Bonding Instrument (PBI): It was developed by Parker, Tupling and Brown (1979) and measures parental bonding styles. This scale is a retrospective tool for teenagers over the age of 16. To use this tool, which has 25 multiple-choice questions and three subscales of care, excessive protection and encouragement of behavioral freedom (as cited in Mayer and Gilengz, 2004), a subject must remember the parental bonding style during his first 16 years of life. High scores on care scale reflect warm, sympathetic, and empathic parents. Low scores on care scale are reflections of dismissive and neglected parents. High scores on excessive support scale represent controlling and disturbing parents who tend to keep their children as kids. On the

other hand, low scores on excessive support scale reflect the parents who give the child freedom and provide their independence (Kanty et al., 2008). The preliminary assessments of the instrument's reliability were conducted by Parker (1983) through Cronbach's alpha reporting the reliability of 0.62 to 0.63 for the subscale of care, 0.66 to 0.87 for excessive support scale. High scores in excessive support scale and low scores in care scale indicate problematic bonding (Mayer and Gilengz, 2004). Lewis (2005) estimated a reliability of 0.92 through the Cronbach's alpha for the care scale and 0.87 for excessive support scale (Parker, 1983).

4.2 Young Schema Questionnaire-Short Form (YQ-S): This instrument examines central beliefs or early maladaptive schemas. The original version of Schema Questionnaire was developed by Yang and Brown (1994) to measure early maladaptive schemas, but its short form was developed by Yang (1998) to measure 15 early maladaptive schemas (Ahi, 2006). This is self-descriptive tool including 75 six-choice questions. Scoring ranges from "one" (absolutely wrong about me) to "six" (absolutely true about me). High scores in each of the mentioned beliefs indicate that the person is more likely to use maladaptive beliefs and schemas (Yang, 2007).

The alpha coefficient of the questionnaire was 0.83-0.96 for each early maladaptive schema and the test-retest coefficient in the non-clinical population was estimated between 0.50 and 0.82 (Shayeghian, 2011). In this study, the reliability of the questionnaire was calculated and the results indicated that the total questionnaire had a reliability of 0.892, and the Cronbach's alpha coefficient was 0.81-0.94 for each early maladaptive schema.

5. Findings

Descriptive statistics (mean and median) and inferential statistics (factor analysis of covariance analysis) were used to analyze the data. The results of describing the demographic characteristics are shown in Table 1.

Table 1: *Statistical Description of Demographic Variables (n = nN = 39)*

	M	Mdn	SD	Highest	Lowest
Age	18.61	18.50	1.55	22	16
Body Mass	30.86	30.46	1.58	34.55	27.02

Table 1 indicates the statistical description of the age and body mass of patients. The mean age of the patients is 18.61 and the body mass is 30.86 and the age is between 16 and 22 years old. For inferential statistics, a covariance test with repeated size design was used. To run

this test, assumptions are to be tested. The results indicated that the assumptions were established and the statistical indicators were identified. Homogeneity of covariance matrix was investigated using Box's M. The results showed that the covariance matrices of the dependent variables (cut and rejection areas, disturbed constraints, other orientation domains, and being vigilant and excessive support) were equal in groups. However, there is no harmonization of the covariance matrix in the domain of self-regulation and impairment. Regarding the results obtained and the equation of the covariance matrix observed in the multivariate analysis of variance, Wilks Lambda Index was considered were considered for variables that were consistent with the condition and Pillai's Trace was considered for the non-conditional variable (self-regulation and impaired performance).

- Cut and rejection (P= 0.965, df2= 1622.95, df1= 12, F= 0.399, Box's M= 5.80).
- Self-regulation and impaired performance (P= 0.001, df2= 848.93, df1= 15, F= 3.54, Box's M= 68.65).
- Disturbing restrictions (P= 0.234, df2= 668.95, df1= 12, F= 1.86, Box's M= 20.32).
- Other orientations (P= 0.302, df2= 848.93, df1= 15, F= 2.18, Box's M= 16.35).
- Being vigilant and inhibition (P= 0.593, df2= 848.93, df1= 15, F= 2.13, Box's M= 17.97).

Also, the homogeneity of variances was evaluated using Levine's test. Results showed that the probability of F statistics in each of the 5 schema domains was significant ($p > 0.05$). In other words, in all schema areas, the equation of the dependent variable variance was established on all scales.

As can be seen, in all domains, the random variable (pre-test) is significant meaning that the pre-test is significantly related to the dependent variable. The group effect is shown in the third row of the above table for all domains. After adjusting the pre-test scores, the factor had a significant effect between the subjects of the group. Hence, it was significant in the case of cut and rejection ($f= 163.47$; $p= 0.001 < 0.05$, partial $\eta^2 = 0.911$), self-regulation and impaired performance ($f= 132.21$; $p= 0.001 < 0.05$, partial $\eta^2 = 0.892$), disturbing restrictions ($f= 72.51$; $p= 0.001 < 0.05$, partial $\eta^2 = 0.819$), other orientations ($f= 125.01$; $p= 0.001 < 0.05$, partial $\eta^2 = 0.887$) and being vigilant and inhibition ($f= 59.08$; $p= 0.001 < 0.05$, partial $\eta^2 = 0.787$).

According to the results, there was a difference between the two groups in all the components. Therefore, for the treatment of the therapeutic groups, a Bonferroni follow-up test was used and the results are presented in Table 3.

Table 2: Covariance Test Related to the Effect of Inter-Group Factors

Schema Domain	Source of change	SS	Df	MS	F	Sig.	Eta Coefficient
Cut and rejection	Pre-test	5.03	1	5.03	9.92	0.004	0.237
	Bonding	2.39	1	2.39	4.72	0.037	0.129
	Group	165.9	2	82.96	163.47	0.001	0.911
	Group & bonding	5.31	2	2.65	5.23	0.011	0.247
	Error	16.24	32	0.507	-	-	-
Self-regulation	Pre-test	4.86	1	4.86	8.83	0.006	0.216
	Bonding	11.36	1	11.36	20.61	0.001	0.392
	Group	145.7	2	72.86	132.21	0.001	0.892
	Group & bonding	7.18	2	3.59	6.51	0.004	0.289
	Error	17.63	32	0.551	-	-	-
Disturbing restrictions	Pre-test	27.78	1	27.78	58.42	0.001	0.646
	Bonding	0.694	1	0.694	1.46	0.236	0.044
	Group	68.97	2	34.48	72.51	0.001	0.819
	Group & bonding	1.68	2	0.841	1.76	0.187	0.100
	Error	15.21	32	0.476	-	-	-
Other orientations	Pre-test	23.33	1	23.33	71.75	0.001	0.692
	Bonding	1.72	1	1.71	5.28	0.028	0.142
	Group	81.29	2	40.64	125.01	0.001	0.887
	Group and bonding	3.83	2	1.92	5.89	0.007	0.269
	Error	10.40	32	0.325	-	-	-
Being vigilant and inhibition	Pre-test	28.38	1	28.38	24.79	0.001	0.437
	Bonding	0.060	1	0.060	0.052	0.821	0.002
	Group	135.27	2	67.63	59.07	0.001	0.787
	Group & bonding	2.50	2	1.25	1.09	0.347	0.064
	Error	36.63	32	1.14	-	-	-

Table 3: Bonferroni Test on Comparing the Effectiveness of Treatment on Early Maladaptive Schemas in Patients with Bulimia Nervosa

Schema Domain	Adjusted M	Groups		DM	Sig.
		I	J		
Cut and rejection	19.43	Cognitive behavioral	Schema	2.78*	0.001
	16.65	Schema Therapy	Cognitive behavioral	-2.78*	0.001
	20.27	Control	Cognitive behavioral Schema Therapy	0.835 3.62*	0.112 0.001
Self-regulation	16.07	Cognitive behavioral	Schema	1.65*	0.001
	14.41	Schema Therapy	Cognitive behavioral	-1.65*	0.001
	17.95	Control	Cognitive behavioral Schema Therapy	1.88* 3.54*	0.001 0.001
Disturbing restrictions	15.05	Cognitive behavioral	Schema	1.93*	0.001
	13.12	Schema Therapy	Cognitive behavioral	-1.93	0.001
	15.38	Control	Cognitive behavioral Schema Therapy	0.330 2.25	0.141 0.001
Other orientations	16.23	Cognitive behavioral	Schema	2.11*	0.001
	14.12	Schema Therapy	Cognitive behavioral	-2.11*	0.001
	16.56	Control	Cognitive behavioral Schema Therapy	0.325 2.43*	0.080 0.001
Being vigilant and inhibition	15.84	Cognitive behavioral	Schema	1.89*	0.001
	13.94	Schema Therapy	Cognitive behavioral	-1.89*	0.001
	17.38	Control	Cognitive behavioral Schema Therapy	1.54* 3.43*	0.001 0.001

In the Bonferroni test, the null hypothesis is shown as no difference between the control and experimental groups and the opposite assumption is the difference between the control and experimental groups and the difference between the experimental groups with each other. As can be seen, only schematic therapy has been effective in the area of cuts and rejection, disturbing restrictions, and other orientations indicating a statistically significant difference between the control group and the second experimental group (schema therapy). Also, there was a significant difference between the first experimental group (cognitive-behavioral) and the second experimental group (schema therapy), so that the schema therapy had a higher effectiveness.

Both CBT and schema therapy had a statistically significant effect on self-regulation and impaired performance and being vigilant and inhibition. The differences between the control group and the first experimental group (cognitive-behavioral) and the second experimental group (schema therapy) were statistically significant. Additionally, there was a significant difference between the first experimental group (cognitive-behavioral) and the second experimental group (schema therapy), so that the schema therapy had a higher effectiveness.

Table 4: Paired Comparison Test for the Survival of the Effectiveness of Cognitive-Behavioral Therapy and Schema Therapy with Regard to Parental Bonding

	Variable	Cut and rejection		Self-regulation		Disturbing restrictions		Other orientations		Vigilant	
		After treatment	Follow Up	After treatment	Follow up	After treatment	Follow up	After treatment	Follow up	After treatment	Follow up
CBT	Low care	18.95	19.89	16.19	15.61	14.71	15.41	15.97	16.65	15.57	16.09
	Excessive support	19.12	19.76	15.71	16.93	14.93	15.13	15.89	16.42	15.68	16.00
	Total	19.03	19.82	15.95	16.27	14.82	15.27	15.93	16.53	15.53	16.05
Schema therapy	Low care	17.09	17.37	14.42	15.96	13.04	13.84	14.80	14.43	13.64	14.80
	Excessive support	16.50	15.61	13.96	13.30	13.08	12.51	14.08	13.18	13.87	13.45
	Total	16.80	16.49	14.19	14.63	13.06	13.18	14.44	13.81	13.75	14.13
Total		17.92	18.16	15.07	15.45	13.94	14.23	15.19	15.17	14.64	15.09
After treatment			- 0.173* 0.041		- 0.230* 0.044		- 0.142 0.156		0.238 0.087		- 0.176 0.123
Follow up		0.173* 0.041		0.230* 0.044		0.142 0.156		-0.238 0.087		0.176 0.123	

Table 4 shows Bonferroni test regarding the efficacy of cognitive-behavioral therapy and schema therapy in patients with bulimia nervosa due to parental bonding. The results show that patients with excessive parental support had longer and more influential treatments results than low care patients in scales of cut and rejection and self-regulation and impaired performance. In other scales, there was a mean decrease in excessive parental support, but the mean difference was not statistically significant.

6. Concluding Remarks

The results of the current study show that schema therapy was more effecting than cognitive behavioral therapy in treating bulimia nervosa patients. Regarding parental bonding, it was also shown that the role of parental bonding was important and appropriately handled in schema therapy. Consistent studies include Maurice (2006), Oei Baranoff (2007), Ganty (2008)

and Tim (2010). In addition, according to the obtained results, it is estimated that the treatment of the schema therapy can illustrate the past relationship between the parent and the patient due to past influence using empirical techniques. In the study of the interaction between parents and the child, patients who have difficulty in self-regulation and impaired function, their parents were able to many things for the well-being and comfort of the child in the process of child development. While satisfying comfort is necessary for the healthy growth of the child, children's minds of schemas related to self-regulation and impaired function are created as a result of perceptions. Hence, the child's emotional needs are not satisfied in domains of self-regulation and realistic constraints due to excessive involvement of the child in the child's issues. In this regard, we can refer to Wells et al. (2013).

In the conducted screening, the results showed a poor maternal bond which was consistent with Young (2003). According to Yang's theory, patients having difficulty with domains of cuts and rejection, their feeling of being secure has not been fulfilled and they have not received something called "emotional stability from mother". Also, congruent studies include Dashtbozorgis (2013), Long, Thomas and Waller (1999), Anokaf Tagles and Simon (2010), Turner Rooz and Cooper (2005), and Tamer et al. (2005).

The superior efficacy of schema therapy than CBT in improving the early maladaptive schemas of patients with bulimia nervosa can be explained as follows. Since cognitive-behavioral therapy expects patients to view and record their thoughts and feelings at the beginning of treatment, but patients with bulimia nervosa reject from doing homework, it seems that the knowledge and excitement of these patients are out of reach. These patients block their mental and disturbing images and do not want to root out their problems. Patients use compensating and avoiding behaviors such as dieting, fasting or exercising too much, and overeating/clearing avoid many anxious situations and behaviors. This avoidance pattern, which is an instrumental response, is reinforced by the reduction of negative emotions. Negative excitement like anxiety is excited by stimuli associated with childhood memories, and the patient tries to avoid negative emotions to avoid these stimuli. Since this avoidance is habituated over time, so changing the strategy of coping with negative emotions becomes extremely difficult and overwhelming. As a result, schema therapy is superior to cognitive-behavioral therapy in this group of patients since it is an integrated approach and involves a combination of cognitive-behavioral therapy, gestalt, psychotherapeutic and interpersonal therapeutic models, and also has a significant impact on the therapeutic relationships, excitements and early experiences of life

(Yang, Kaltsko and Visha, 2003). In this regard, Young (2003) viewpoint can be cited. According to this view, the activation of the abandonment scheme leads to an increase in food intake as a way to avoid the negative emotions resulting from it. In fact, binge eating behaviors may be related to patterns in order to reduce an individual's awareness of intolerable emotions.

As a final point, the findings of the present study clarify the perception of therapists by a possible underlying mechanism for the treatment of bulimia nervosa and the development of the pathology of this disorder in adolescents and young people and has a therapeutic effect for people at-risk and a preventing effect for other people by giving awareness to their families. Psychiatrists and clinical therapists are also recommended to treat this group of patients in a long-term and multi-factorial way, and to apply the schema therapy approach to longer sessions and longer periods because as the efficacy of treatment is important, the survival of the treatment is more important. Additionally, due to the significant role of parental bonding in the formation of early maladaptive schemas and the subsequent persistence of bulimia nervosa disorder, advisers are suggested to provide the necessary training on the impact of interactions with children, parenting practices and parenting methods. From the practical point of view the positive effect of parental bonding provides good results; explanatory power in contexts has a crucial role.

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