

Effect of therapeutic reality on the body image and loneliness

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Abstract

The main objective of this study was to evaluate the effect of group-based reality therapy on loneliness and mental image of body in female high school students with eating disorder in district 13 of Tehran province. The design of this research was experimental with pre-test and post-test. The research population included all female high school students in district 13 of Tehran province who were studying in the academic year of 2016-2017. A cluster randomized sampling method was used in this study. First, one district was randomly selected among 13 districts. Then, one school was selected as the sample among the schools of this district. First, the eat-26 questionnaire was distributed among all school students and 30 students with eating disorder were identified. They were randomly divided into two experimental and control groups. Then, the loneliness questionnaire and the body image concern questionnaire were given for both groups. Experimental group received eight sessions of reality therapy, while control group received no intervention. After the completion of group-based reality therapy sessions for the experimental group, both groups were post-tested (loneliness and body image). The results were analyzed using multivariate covariance test. The results showed that group-based reality therapy significantly reduced the loneliness and body image concern.

Keywords: Eating Disorders, Reality Therapy, Mental Image of Body, Loneliness

Introduction

The main concern of adolescents, especially in early years of the adolescence, is their body. One of the natural stages of puberty in females is increase in body fat, which is often associated with dissatisfaction with their body and concern about their weight. Increased body weight does not predict adolescents' problems in eating, but the body image of adolescents on their weight is important in this regard. Adolescents who have a wrong image of their body are at risk of eating disorders (Amiri, 2010). The body mental image is a multidimensional structure. This structure includes attitude, perceptual and behavioral dimensions. The attitude dimension involves answers such as the evaluation of the physical image and dissatisfaction with it. The perceptual dimension involves individuals' perception of their bodies, and

behavior dimension involves behaviors that they perform with regard to their appearance (Atkinson, 1997). Therefore, body image reflects an individual's attitude to emotions and thoughts that can change his or her behavior in different situations and in the positive or negative direction. This mental image can be affected by factors such as physical growth, individual interactions with the social environment, accidents, injuries and physical injuries, and create body image concern (Sugar, 2003). The physical image is internal representation of the external appearance of the individual, which this representation reflects the physical and perceptual dimensions and positive attitude to them (Brozekowsh, Bayer, 2005).

Eating disorders are problems, which occur at any age, including childhood, adolescence, and adulthood and result in multiple psychological complications (Klein & Walsh, 2004). Eating disorder is one of the health-threatening factors, which is more common in the form of anorexia nervosa and bulimia nervosa, and it is the third leading cause of disease in the young population after asthma and obesity. Eating disorder among adolescents and young people is rooted in psychological factors, and its reason can be dissatisfaction with the body. Studies show that people with a negative mental image of their shape and weight of body are more likely affected by eating disorder (Gallahue, 2011). Loneliness is a universal phenomenon and it refers to the lack of close physical relationships with others. It is often viewed as a negative and unpleasant emotion and affects the negative attitudes towards oneself and the meaning of life. This feeling makes a person feel helpless, futility and incompetence, and does not care about his or her life. Loneliness can have many negative consequences both for the individual (mental health) and for the community in terms of coordination among the members to achieve the general goals of the community. The reality therapy in the sense of persuading the client to accept the realities is based on selection theory (Glaser 2000, translated by Seyyed Mohammadi, 2006). Group-based reality therapy means Glaser's Reality Therapy Training Pack (1986) taught to the subjects in 8 sessions, 90 minutes per session. Reality therapy is another form of therapy in psychology, which is based on three principles: 1. Reality. 2. Responsibility. 3. Legal (ethics).

Reality therapy stresses on ethical values of behavior and strengths correct and incorrect promotion of emotional link (Schultz, 2002). The base of reality therapy is the creation of a link, disapproval of responsibility aversion, and re-training. There

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is no consistent formula for its use in patient, when treated. Its implementation depends on responsibility aversion of the patient and his or her personality. Group therapy refers to a group of people who have gathered with the presence of specialist therapists for the purpose of treatment. In group therapy, more unconscious motivations of the individual are considered. One of the reasons making the group therapy special is that it is a safe and closed system. People who participate in group should accept to keep the group sessions' content confidential.

Prenzlau (2006) examined the intervening effect of reality therapy based in the selection theory on PTSD patients. The results of this study showed that reality therapy interventions were effective in reducing the rumination of these patients. Nobakht (1998) conducted a study entitled "Epidemiology of Eating Disorders in Secondary School Students in Tehran". Based on the results of this study, eating disorders in students were 0.9% anorexia nervosa and 3.23% nerve bulimia nervosa, and there was a significant relationship between bulimia nervosa and maternal education level. Shafee Abadi et al. (2005) evaluated the effect of group-based reality therapy on the reduction of anxiety among female adolescent students. The results showed that group-based reality therapy reduced the anxiety of female students. Shamseddin (2008) examined the relationship between the body mental image and eating disorders in Kerman's female students. Based on the results, there was a mutual relationship between the two variables of mental image and eating disorder. Moradi Shahr (2010) examined the effectiveness of group-based reality therapy on increasing self-esteem of Ferdowsi University students in Mashhad. The results showed a significant difference between the follow up and the post-test stage and the effect of the group-based reality therapy in this group was not persistent. Mehdizadeh (2016) evaluated the effectiveness of group-based reality therapy on the quality of life and responsibility of married women in Mashhad. The results showed that group-based reality therapy reduced the quality of life in the experimental group significantly compared with that in control group ($P < 0.05$). The results also showed that the responsibility of the experimental group was significantly higher than that of control group ($P < 0.05$). In this study, the effectiveness of the group-based reality therapy on loneliness and body mental image among female high school students of District 13 of Tehran province with eating disorder was evaluated.

Research Methodology

Research method

The research method was experimental and pretest-posttest with control group. The objective of this study was to evaluate the effect of group-based reality therapy on the body mental image and the feeling of loneliness in high school female students with eating disorders in the academic year of 2016-2017 in District 13 of Tehran province. First, a list of high school female schools in district 13 of Tehran province was obtained from the district education department. Then, randomly, a school was chosen from among 16 girls' high school schools. After filling the school

eating disorder questionnaire, which numbered 320, it was found that 30 students had eating disorder. Then, one school was randomly selected among 16 high schools. After completing the eating disorder questionnaire by 320 students, it was found that 30 students had eating disorder. Then, they were randomly divided into two experimental and control groups (each group contained 15 subjects) and the effect of independent variable (reality therapy) on dependent variables (loneliness and body mental image) was examined. Then, subjects of both groups completed the loneliness and body mental image questionnaires. Then, the experimental group received eight 90-minute sessions of group-based reality therapy and both groups were then post-tested. The plan of the group-based reality sessions was as follows: session 1: Creating a relationship. Session 2: Increasing self-awareness of the subject. Session 3: subjects' acquaintance with the ways of accepting responsibility for their behaviors. Session 4: Focusing on your time and behavior. Session Five: recognizing the goals and values. Session 6: Reviewing of basic needs. Session 7: subjects acquaintance with the ways of planning for solving the problems and session 8 (end plan a problem solving and eighth session (ending).

Research tools

Three questionnaires were used in this study. 1- Loneliness questionnaire: The 20-item loneliness scale is the only one-dimensional scale of loneliness. This questionnaire was standardized by Bahiraei in Iran in 2006, with an alpha coefficient of 0.88, which is comparable to the alpha coefficient reported by Russell in a student sample. The correlation level of convergent validity was also 0.55. Pasha and Ismaili have also used a Cronbach's Alpha and split-half method and obtained their value 0.75 and 0.71, respectively and its validity through anxiety test was obtained 4%. 2- Body Image concern inventory (BICI). Lilton et al (2005) body image concern inventory was used to measure body image. The questionnaire consisted of 19 items set in a 5-point Likert scale (from strongly agree to strongly disagree), and our range of responses is between 1 (strongly agree) to 5 (strongly disagree). The validity and reliability of this questionnaire was conducted in a study conducted by Lilton et al. (2005) on a sample of students. The results of this study showed that the reliability of this questionnaire was 0.93 using Cronbach's alpha, and the general correlation was between 0.32 and 0.73, indicating an acceptable level of reliability. Validity (validity coefficient) of this questionnaire was reported significant by calculating the correlation of the 19-items BICI with the BDD-SR ($P = 1\%$), ($R = 83\%$). In Iran, Cronbach's Alpha of this questionnaire was for male and female, and total students was reported 0.93, 0.95, and 0.95, respectively (Mohammadi and Sajjadi Nejad, 2007). 3- Eating Disorders Questionnaire (EAT_26). In this 26-item questionnaire 26, each question is scored in the 6-point Likert scale. In questions 1 to 25, for each phrase, the answer always receives score 3, most often receives score 2, very often receives score 1 and the remaining 3 options including sometimes, rarely and never receives score 0. However, question 26 is scored reversely. Thus, 26-item EAT questionnaire scores can range from zero to 78. If the total score of a person is higher than the cutoff point of EAT_26, she is

suspected to disorder, the score of 20 and above for this questionnaire (cut-off score for the original form) indicates the likelihood of an eating disorder for those who are hospitalized. In addition to the total score, in this questionnaire, scores have been allocated for diet, bulimia nervosa, and preoccupation with food and oral eating control. The validity of this questionnaire in Iran has been examined by Dejkam and Nobakht (1998) and it has been well approved. To calculate Cronbach's alpha, a pilot study with 30 questionnaires was conducted in this study. The reliability coefficient of the whole questionnaire was obtained 0.83.

Statistical analysis

To measure and analyze the data obtained in this study, descriptive statistics such as mean, frequency, percentage, standard deviation were used, and in the inferential statistics section, MANCOVA analysis was used, given the design of the research, which was a pre-test-post-test with a control group.

Results

Among the 30 participants in the study to evaluate the effectiveness of group-based reality therapy on loneliness and body image in high school female students with eating disorders in district 13 of Tehran province, 15 of them were included in control group and 15 of them were included in the experimental group. The results showed that 6 participants in this study were 14 years old, 9 were 15 years old, 9 were 16 years old, and 6 were 17 years old (Figure 1).

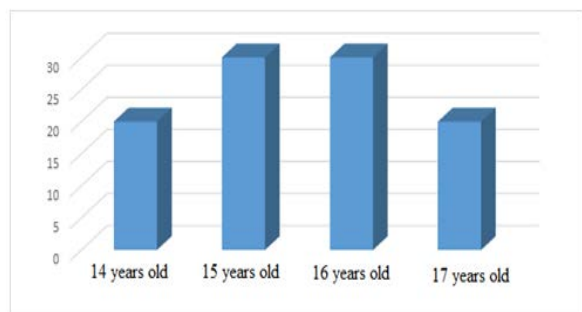


Chart 1- percentage of frequency of samples

In Table 1, the descriptive statistics of the mean and standard deviation of body mental image and loneliness scores are shown separately for the subjects in the experimental and control groups in two stages of measurement (pre-test and post-test). As seen, the mean scores of the control group in both variables in the post-test are not significantly different from that in pre-test stage. However, in the experimental group, we see a decrease in post-test scores compared to pre-test scores. As seen, the mean scores of the control group in the post-test are not significantly different from those in pre-test.

However, in the experimental group, we see a decrease in post-test scores compared to the pre-test scores in in both variables.

Table 1: Mean and standard deviation of the body mental image scores in two stages of measurement separately for experimental group and control group

variable	Group	stage	n	mean	SD
Mental image of body	Control	Pre-test	15	67/13	13/63
		Post-test	15	65/80	13/31
	experimental	Pre-test	15	66/33	10/16
		Post-test	15	44/13	7/26
Feeling loneliness	Control	Pre-test	15	61/80	9/19
		Post-test	15	59/73	8/17
	experimental	Pre-test	15	60/33	10/43
		Post-test	15	42/93	12/09

The Kolmogorov-Smirnov test was used to examine the normal distribution of data. For this purpose, the distribution of data related to the variables was examined at a significance level of 0.05. Based on the results presented in Table 2, the significance level of the calculated statistic for all variables is greater than 0.05. Thus, the assumption of the normal distribution of scores is accepted.

Table 2: Kolmogorov-Smirnov test results to examine the normal distribution of scores

variable	n	Z Kolmogorov-Smirnov	p-value
Pre-test of body mental image	30	0/09	0/20
Pre-test of loneliness	30	0/10	0/18
Post-test of body mental image	30	0/10	0/20
Post-test of loneliness	30	0/07	0/25

One of the assumptions of the implementation of the multivariate covariance analysis test is the covariance matrix equality, which box test was used to examine this assumption. The results of this test are shown in Table 3. As shown in Table 3, the significance level of the box test is 11.50. As this value is larger than the significance level (0.01) required for rejecting the null hypothesis, our null hypothesis is confirmed. Thus, the covariance matrix equality assumption is considered as one of the assumptions of the multivariate covariance analysis test is established.

Table 3: The result of the covariance matrix equality test (box)

Box's	F	df1	df2	p-value
11.50	1.03	3	141120.00	0.14

Another assumption of the implementation of the multivariate covariance analysis test is the equality of the dependent variables variance among the groups, which Levine test was used to test this assumption. The results of this test are shown in Table 4. According to the data in this table, Levine test results are not significant in any of the variables. Therefore, our null hypothesis on equality of the variables variance is confirmed. Thus, it is concluded that the other assumption of the multivariate covariance analysis, the equality of variances, is established.

Table 4: Levine test result for equality of variances

variable	F	Df 1	Df2	p-value
Body mental image	0/77	1	28	0/62
Feeling loneliness	1/54	1	28	0/69

As seen in Table 5, the significance level of all four relevant multivariate statistics, including Pillais trace, Wilks Lambda, Hotelling's trace, and the Roy's largest root is less than 0.01 ($p < 0.001$). Thus, the null hypothesis is rejected and it is found that there is a significant difference between the two groups of experimental and control in the scores body mental image and feeling loneliness in the post test. Thus, it can be said that the group-based reality therapy has been effective on the mental image of body and feeling of loneliness of the subjects.

Table 5: Multivariate covariance analysis results to compare mental image of the body and feeling loneliness in experimental and control groups

trace	subjects	values	F	trace df	Error df	p-value
group	Pillais Trace	0/84	66/47	2	25	0/001
	Wilks Lambda	0/15	66/47	2	25	0/001
	Hotelling's Trace	5/31	66/47	2	25	0/001
	Roy's largest root	5/31	66/47	2	25	0/001

In Table 6, the results of Test of Between- Subject Effects for comparing the mental image of body and feeling loneliness of the subjects in the experimental and control groups in the post-test phase have been shown. According to the results presented in Table 6, the F value was obtained 104.42 and 24.87, respectively, and it is significant at the alpha level of 0.001. Therefore, the null hypothesis is rejected and the research hypothesis is confirmed. Given the low mean value of the test scores in the post-test phase, it is concluded that the group-based reality therapy approach is effective and reduces the mental image and loneliness of high school female students with eating disorder in district 13 of Tehran province.

Table 6: Inter-subject effects test to compare the mental image of the female body of the test and control group in the post-test

Table 6-Test of Between- Subject Effects to compare the mental image of body in subjects of control and experimental groups in post-test stage

variable	source	Sum of squares	df	Mean of squares	F	p-value
Mental image of body	Inter-group	3315/99	1	3315/99	104/42	0/001
	Intra-group	825/64	26	31/75		
Feeling loneliness	Inter-group	1939/11	1	1939/11	24/87	0/001
	Intra-group	20/26	26	7/795		

Discussion and Conclusion

In this research, the result of the multivariate covariance test at the significant level of all four multivariate statistics, including Pillais trace, Wilks Lambda, Hotelling's trace was less than 0.01 ($p < 0.001$). Thus, the statistical null hypothesis is rejected and it

is seen that there is a significant difference between the two experimental and control groups in the scores of mental image of the body and feeling loneliness in the post test. Thus, it can be stated that the group-based reality therapy approach was effective on the mental image of the body and feeling loneliness in students with eating disorder. This result is in line with the results of the studies conducted by Ghanbir Nejad (2011), Razi Moradi et al (2010), Shafee Abadi et al (2005) and Khalghi Abbas Abadi (2009). In explaining the reasons for the effect of group-based reality therapy on the self-efficacy of academic treatment and emotional regulation, it should be said that the group provides an opportunity for a person to talk about his or her problem and express his or her feelings. Moreover, many people think that they are the only ones who have the problem, and group therapy, which strengthens factors such as group cohesion, strengthens a kind of communication network, in which the person experiences hope, altruism and peace of mind as a result of mutual communication. In the selection theory, it is believed that the only person can do something for himself or herself, and no one can do this without his allowance (Jones and Parish, 2005). Humans can create a better position by selecting the effective and right ways to achieve recreation, power, freedom, love and belonging (Donato, 2004).

In fact, in this therapeutic approach, coping with reality, accepting responsibility, recognizing basic needs, ethical judgment on the appropriateness or inappropriateness of behavior, the emphasis on here and now, internal control and thus achieve to identity are emphasized. Given what was stated, the study tries to train the students with eating disorder that the behavior of anyone is selected by himself or herself and the only person who controls his or behavior is himself or herself. With regard to the effect of group-based reality therapy on the mental image of the body of students with eating disorder compared to the group did not receive such training, the f-value of was obtained 104.42 and is significant at the alpha level of 0.001. Given the lower mean score of the experimental group in the post-test, it is concluded that the group-based reality approach is effective in reducing the mental image of high school female students with eating disorder in District 13 of Tehran province. This result is consistent with the results of the studies conducted by Ghanbari Nejad (2011), Razi Moradi, Etemadi and Naeemabadi (2010), Shafee Abadi et al (2005), Khaleghi Abbas Abadi (2009), Princela (2006), and Klagh (2006). The reality therapy is emphasizes on the tasks which clients can do them to improve their current problematic relationship. By doing it, they can save their time and consultation becomes more focused and effective (Golsar, 2013). With regard to the effect of group-based reality therapy on the mental image of the body of students with eating disorder compared to the group did not receive such training, the covariance of group-based reality therapy training result showed that f-value is 24.87 and significant at the alpha level of 0.001. Given the lower mean score of the experimental group in the post-test, it is concluded that the group-based reality approach is effective in reducing feeling of loneliness among the female students with eating disorder in District 13 of Tehran province.

This result is consistent with the results of the studies conducted by Ghanbari Nejad (2011), Razi Moradi et al (2010), Shafee Abadi et al (2005), Khaleghi Abbas Abadi (2009), Fallahi Yakhbandan (2002), Princela (2006), and Klagh (2006). One of the advantages of participating in group sessions is to enable people to express feelings and ask the questions. The questions and answers are associated with some important information about people most of the time and help them learn how to cope with unpleasant emotions while expressing their feelings. Thus, information can reduce concern and anxiety (Mazaheri et al., 2011). As selection theory and reality therapy stress on basic human needs, especially the two needs of the exchange of love and affection, and the need for a sense of belonging, individuals require others to satisfy their need for love and affection and sense of belonging. People who have no close and intimate relationship with others are feeling always loneliness and discomfort (Golsar, 2013). As reality therapy sessions have been organized based on the basic needs of reality therapy, this can have a significant effect on reducing loneliness.

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