

## The Effectiveness of Cognitive Behavioral Therapy and Psychodrama Therapy on Emotional Regulation in Women with Breast Cancer

Motaragheb Jafarpour L.,<sup>1</sup> Tajeri B.<sup>2, \*</sup>, Khalatbari J.<sup>3</sup>, Amrayi M.<sup>4</sup>

### Abstract

**Introduction:** The present study conducted to compare the effectiveness of effectiveness cognitive behavior therapy and psychodrama on emotional regulation in women with breast cancer.

**Method:** Research method was quasi-experimental with pre-test, post- test, three-month follow-up and control group. The statistical population consist of all diseases (30-50) suffering from breast cancer and applied to Clinic of breast cancer located in Tehran City. 45 available patients selected (fifteen in each experimental group) and replaced randomly in experimental group1 (psychodrama) and experimental group2 (cognitive behavior therapy). Fifteen other patients placed in control group and did not receive any psychotherapy. The emotional regulation Inventory (Garnophsky etall, 2001) was administered pre-test, post-test and follow-up. The therapeutic packages of psychodrama therapy and cognitive behavior therapy applied on experimental groups (ninety minutes each session) weekly and the control group did not receive any therapy.

**Results:** Results showed that both of cognitive behavior therapy & psychodrama are affected the same on increasing to emotional regulation level of patients with breast cancer. Three- month follow-up confirmed these results.

**Conclusion:** by use to cognitive behavior therapy & psychodrama (especially CBT) can to increase emotional regulation level in women with breast cancer. Then this component affective to raise the health of these patients.

---

<sup>1</sup> - Health Psychology, Department of Psychology, Dubai Branch, Islamic Azad University, Dubai, UAE  
ORCID: 3119-0860-0002-0000

<sup>2</sup> - Corresponding Author, Assistant Professor, Department of Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran. Email: btajeri@yahoo.com , ORCID: 9236-9575-0001-0000

<sup>3</sup> - Associate Professor, Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran ORCID: 9686-9519-0002-0000

<sup>4</sup> - Ph.D., Department of Psychology, Secretary General of the Iranian Drama Therapy Association DTCL, Professor of Allameh Tabatabaei University and Professor of Tehran University, Iran ORCID: 6307-8767-0002-0000

**Keywords:** cognitive behavior therapy" emotional regulation" psychodrama and breast cancer

**Citation:** Motaragheb Jafarpour L., Tajri B., \*, Khalatbari J., Amrayi M.. The Effectiveness of Cognitive Behavioral Therapy and Psychodrama Therapy on Emotional Regulation in Women with Breast Cancer, *Family and Health*, 2021; 11(A): 27-44

## **Introduction:**

Cancer is considered the major health problem in the 21st century. The increasing growth of cancer in about last two decades and the detrimental effects it has had on the physical, mental, social and economic aspects of human life have, more than ever, caused concern among experts. Cancer is a "life-threatening disease" that kills more than 6.7 million people each year (1). Breast cancer is the second most common cancer in women. It is a highly heterogeneous disease in which hereditary and environmental risk factors play a role, leading to the accumulation of masses and progressive genetic and epigenetic changes in breast cancer cells (2).

One of the major issues for these patients is emotional regulation, and the emotional consequence of breast cancer is a decline in emotional regulation. Emotion regulation can affect the quality of social relationships and interactions, and people with high ability to regulate emotion better understand their own and others' emotions, have more internal and interpersonal skills, and are in better health and social interaction. The processes that control emotional states are the process of controlling emotional states by modulating the intensity and timing of emotional experiences, so this setting may include suppressing, intensifying, or maintaining emotion. Emotion regulation develops in the first years of life and also very important skills and strategies develop in the first five years of life. However, emotion regulation is a goal-oriented process that is done to influence the intensity, duration and type of emotion experienced and is a process through which individuals modify their emotions consciously and unconsciously (3). Emotional regulation is a central process for all aspects of human functioning and plays a vital role in the ways in which people cope with stressful experiences and experience happiness. Emotional regulation has important clinical implications, the ways in which people manage their emotions affect their cognitive function (such as external problems and internal problems).

Although people usually use each strategy automatically, this does not mean that they are immutable, and by changing ineffective with effective strategies to reduce negative emotions, one can help one's mental health. We know that attention control, problem solving, and healthy relationships are critical to academic success and personal satisfaction. Emotion regulation is critical to positive performance. In some cases, emotion regulation can improve performance. Emotion regulation is fundamentally related to behavior, as they organize behavior (4).

In recent years, the Psychodrama approach has been used in the psychological improvement of cancer patients. In this type of treatment, screening is used to promote the mental health of patients (5). Researchers have examined the usefulness of Psychodrama in the emotional regulation of patients. People who have a high level of interaction with others, their emotions are dominant and use less logical thinking in the face of different situations. These people are in dire need of approval from important people in their lives and therefore are more disposed to psychological problems such as depression in the event of stress and interpersonal problems.

Psychodrama can be effective in reducing their integration by developing the role of individuals and increasing their spontaneity and creativity (6). In fact, Psychodrama is a method of therapy that helps participants in a process to recreate their social and psychological issues in a real context, because this treatment provides an opportunity for them to be able to vent their emotions in the right direction (7).

Psychodrama is one of the types of group therapies that help a person to review and discover the psychological dimensions of his problem by showing them and not just through dialogue. This approach, which uses mental imagery, imagination, physical actions, and group dynamics, is a combination of art, play, emotional sensitivity, and outspoken thinking that facilitates the release of trapped emotions to help individuals acquire new and more effective behaviors and to open up undiscovered ways of resolving conflict as well as recognizing one's own form. Psychodrama connects cognitive analysis with experimental and action dimensions.

In practice, implementing interpersonal interaction in a problem, involving the body and mind that an event is taking place in the present, conveys ideas and feelings to a person's level of awareness that are not possible only in the case of talking about that issue. Non-verbal aspects not only affect the quantity and quality of the relationship, but are also clues to latent internal motivations and attitudes, such as behaviors with more anger or more obvious states of fear that raise awareness of emotions Which may be hidden in the person (8).

Cognitive-behavioral therapy is a combination of theories and techniques of behavior therapy and cognitive therapy. Behavioral and cognitive approaches both derive to some extent from the empirical tradition and its emphasis is on increasing cognitive skills and decreasing maladaptive cognitive activities, and it also uses behavioral tasks to change behavior and these methods are used for patients according to their progress in each session. In a research entitled "The effect of group training on cognitive-behavioral therapy based on improving quality of life on hope and happiness in people with breast cancer" Naqibi, Saeedi and Khazaei found that there is a significant difference between the experimental and control groups in the variables of hope and happiness after adjusting the pre-test scores (9).

Different areas of life of cancer patients are related to their areas of mental health, and cancer has affected various aspects of patients' lives, especially the image of their lives. In a study entitled "The effectiveness of psychological treatment on adaptation and emotional regulation of cancer

patients”, the results showed that the mean scores of adaptation and its dimensions and emotional regulation in the experimental group in the post-test significantly increased compared to the control group. Based on research findings the desired treatment leads to improved adaptation and emotional regulation of cancer patients (10).

Ainparast et al. Also conducted a study entitled "The effectiveness of cognitive-behavioral group therapy on the treatment of depressive anxiety disorder and creating hope in women with breast cancer." The results showed that group therapy significantly reduced depressive anxiety and Increased hope of women with breast cancer in the experimental group compared to the control group, but no such changes were observed in the control group (8). Cognitive-behavioral therapy is based on the essential connection of the components of thinking, feeling and behavior. Beck believes that therapists can help people rebuild their minds to better cope with psychological stress.

In fact, in this therapeutic approach, the patient is encouraged to consider the relationship between negative spontaneous thoughts and his psychological state as hypotheses that should be put to the test and use behaviors that are the result of negative thoughts as a criterion for assessing the validity or correctness of those thoughts. (11- 12).

Because cognitive-behavioral approach and psychodrama are two theories of psychotherapy, each of which explains and describes the psychological problems of patients in the field of cognition, emotion, behavior and communication and offer unique strategies to address them, studies comparing cognitive-behavioral and psychodrama therapies have been rare, according to a review by sources. Given this issue and the high prevalence of breast cancer in women, the many problems they face, the need for intervention to improve their characteristics, little research on the effectiveness and comparing the effectiveness of each of these two approaches, the current study aims to determine the effectiveness of psychodrama and cognitive-behavioral therapy was performed on emotional regulation of women with breast cancer.

Considering this issue and also to compare the effectiveness of each of these two approaches, the researcher sought to answer the question of whether the effectiveness of psychotherapeutic and cognitive-behavioral therapy on emotional regulation of women with breast cancer was different or not?

### **Method:**

The current study was a quasi-experimental design of pre-test-post-test with a control group with follow-up.

The statistical population of this study included all women aged 30-50 years with breast cancer who referred to a specialist doctor's clinic for treatment and received a diagnosis of breast cancer. The sample of the current study consisted of 45 people (15 people for each group; ie 15 people in experimental group 1, ie 15 people in experimental group 2 and 15 people in control group). In this study, the available sampling method was used; Among the people who were introduced through surgical clinics or through other specialists. About 45 patients were selected and randomly

assigned again in three groups and 15 experimental (two groups) and control in each group. Inclusion criteria were; 1- Not using psychotropic drugs, narcotics and psychological therapies during the study, 2- Being over 30 years old, 3- Not having acute or chronic mental disorders, and 4- Expressing satisfaction for the participation of the subjects and criteria for leaving The study included; 1- Not attending the experimental sessions and intervention for more than two sessions, 2- Not wanting to continue attending the experimental sessions and intervention and 3- Having a severe psychiatric disorder that needs immediate treatment.

**Emotion Regulation Questionnaire:** This questionnaire was developed by Garnefski and Kraaij (13) in the Netherlands and has two versions, English and Dutch. This questionnaire is a 36-item self-report tool that is used to identify individuals' cognitive coping strategies. The Cognitive Emotion Regulation Questionnaire was developed for individuals over 12 years of age (both normal individuals and clinical populations) and has a good experimental and theoretical basis and has 9 subscales of self-blame, acceptance, rumination, positive refocus, and refocusing on planning, positive reassessment, visibility, catastrophizing and blaming others.

Each question is graded on a 5-point Likert scale from 1 (almost never) to 5 (almost always), and each subscale consists of four items. The total score of each subscale is obtained by adding the score of the items. Therefore, the range of scores for each subscale will be from 4 to 20. High scores in each subscale indicate a high level of use of the strategy in dealing with stressful and negative events. The Persian version of the Cognitive Emotion Regulation Questionnaire in Iranian culture has been standardized by Hassani. In this study, the reliability of the scale was calculated based on internal consistency methods (with Cronbach's alpha coefficients in the range of 0.76 to 0.92), and retesting (with a correlation range of 0.51 to 0.77). The validity of the questionnaire has been reported through principal component analysis using varimax rotation, correlation between subscales (with a correlation range of 0.32 to 0.67) and optimal criterion validity (14). In this study, the reliability of this scale was calculated using Cronbach's alpha method, which was obtained in its subscales in the range between 0.73 to 0.89.

In the current study, in order to collect information after obtaining the relevant research license and after presenting the research objectives, the body image questionnaire was given to three experimental and control groups. In order to perform group psychodrama and cognitive-behavioral therapy before the beginning of the treatment sessions, a briefing session for 45 minutes for the members of the groups in the present study to collect information after obtaining the relevant research license and after presenting the research objectives, the body image questionnaire was given to three experimental and control groups. In order to perform group psychodrama and cognitive-behavioral therapy, a 45-minute briefing session was held for the members of the experimental and control groups before the beginning of the treatment sessions, and the general principles, rules and goals of the group were discussed in general. After the pre-test, the treatment sessions were performed for two months and then, after 90 days of follow-up, they were re-evaluated.

**Cognitive-behavioral therapy protocol:** The plan of cognitive-behavioral therapy sessions had been as follows:

**Session 1:** Introduction and familiarization, discussion about the importance of lifestyle and stress and their role in the exacerbation and persistence of cancer and a review of the structure of the sessions

**Sessions 2 and 3:** Discussion about the relationship between thinking, feeling and behavior and how to influence each other, ways to recognize irrational thoughts and explain the errors of thought processing training.

**Session 4:** included anger management training, guided visual body relaxation to reduce anxiety and stress, and giving assignment for the following week.

**Session 5:** Reviewing and checking assignments of the previous session. Discussion on the cognitive theory of depression and the practice of classifying beliefs.

**Session 6:** Discussion about proper diet and observance of hygienic principles with four goals: a) reducing the consumption of foods containing sugar and some other carbohydrates, b) reducing the consumption of cholesterol, c) achieving and maintaining a proper weight, d) Consume nutrients in moderation.

**Session 7:** Reviewing and checking assignments of the previous session. Preparing the main list of beliefs, practice starting to prepare the main list of beliefs. Teaching cognitive plans, preparing the rating of mental distress units, practice and discussion.

**Session 8:** Reviewing and checking assignments of the previous session. Discussing the change of beliefs (beliefs that have changed during the human history and during the life of the participants) and testing the beliefs (judgment and arbitration)

**Psychodrama Therapy Protocol:** The psychodrama sessions (15) had been as follows:

**Session 1:** Introduction and training on psychodrama

**Session 2:** Coping with disease stress and introducing relaxation exercises

**Session 3:** Expressing patients' experiences and opinions about the emotions of facing the disease

**Session 4:** Explaining the body image, the game "in the mirror", practice sounds and positive self-talk

**Session 5:** Doing on-site exercises and walking with your eyes closed

**Session 6:** Communication and emotion regulation skills in the group and exchange opinions about it

**Session 7:** Selecting a theatrical position from the clients' memories and performing it by themselves

**Session 8:** Explaining the concept of welfare and play the role of a welfare person with a person without welfare

**Session 9:** Explaining emotion regulation and emotion management and exchange ideas about it

**Session 10:** Explaining the concept of welfare and use role inversion

**Session 11:** Recognizing emotions and stressors, desensitizing the body

**Session 12:** Selecting a theatrical position from the clients' memories and performing it by themselves

## **Results:**

The subjects of the study consisted of 45 women. The age range of the subjects was between 30-50 years. The average age of participants in this research sample is 43 and its standard deviation is 11.07. Subjects' education; 17 were equivalent to 37% of undergraduate and postgraduate participants, 19 were equivalent to 42% undergraduate, 6 were equivalent to 13% postgraduate and 3 were equivalent to 6% of doctoral students. High values of Cronbach's alpha indicated the high validity of the questionnaire. Mixed analysis of variance was used for statistical analysis. Before performing the analysis of variance, its presuppositions, namely: normalization of distribution, homogeneity of variances and homogeneity of linear slopes were examined.

Considering that the significance level in Kolmogorov-Smirnov test was greater than 0.05 normal, it can be concluded that the distribution of scores in the three groups was normal Levene's test also showed that the variances of the three groups were equal and homogeneous. Therefore, the assumption of homogeneity of variances for this variable was fulfilled. Because the significance level of the interaction between the three groups is greater than  $p < 0.01$ , so the calculated F was not statistically significant, so because the interaction did not show significant, the assumption of homogeneity of regression slopes was confirmed. After the study, because the naturalness of the distribution and the assumptions of variance homogeneity and the assumption of equality of variance error and homogeneity of linear slopes are not questioned, the researcher is allowed to use analysis of variance. Before testing the mean hypothesis and standard deviation of the emotional regulation scores of the three groups in the intervention stages are presented in Table 1.



**Table 1. Mean and standard deviation of emotion regulation scores by group and measurement time**

Follow-up		Post-test		Pre-test		group
Standard deviation	mean	Standard deviation	mean	Standard deviation	mean	
7.12	59.92	9.02	61.11	9.12	50.17	psychodrama
7.76	56.72	9.36	57.38	8.56	51.61	Cognitive-behavioral therapy
5.44	50.27	5.51	50.22	10.66	53.83	control

The results of the table showed that there was no significant difference between the three groups in the pre-test stage. In the post-test stage, the mean of emotional regulation in the psychodrama group and the cognitive-behavioral therapy group were significantly higher than the control group. Therefore, it can be concluded that both types of interventions were effective in increasing emotional regulation in the post-test.

Also, in the follow-up stage, the mean of the psychodrama group and the cognitive-behavioral therapy group were significantly higher than the control group. It can be concluded that these two types of interventions significantly increased emotional regulation in the follow-up stage.

**Table 2. Result of mixed analysis of variance test results for the effect of group and measurement time on emotional regulation scores**

Power of a test	Eta	significance	F	MS	DF	SS	Source of changes between subjects
0.81	0.31	0.001	15.27	4871.14	2	98325.34	group
				4829.37	42	5723.07	error
Within-Subjects							
1	0.49	0.001	59.27	3952.63	2	3985.27	time
1	0.33	0.001	42.36	5893.48	4	18594.28	time and group
				95.13	39	3904.58	error

According to the findings of the above table, the two methods of psychodrama and cognitive-behavioral therapy are significant on emotional regulation scores in post-test ( $F(2, 42) = 15.27$ ,  $P < 0.001$ ). Also, the effect of time factor on emotional regulation scores in the follow-up stage is significant ( $F(2, 39) = 59.27$ ,  $P < 0.001$ ). Therefore, it can be concluded that there is a difference between the scores of emotional regulation in the three stages of pre-test, post-test and follow-up, regardless of the group. The effect of group-time interaction was also significant ( $F(2, 39) = 42.36$ ,



$P < 0.001$ ). Therefore, it can be concluded that the effect of the group varies according to the measurement time levels.

Also, considering the ETA squared (0.31), it can be concluded that the experimental intervention led to changes in the experimental group, which was 0.31 total changes due to the experimental operation. So treatment has an effect on emotional regulation. Then, in order to investigate the interaction between the group and the measurement time on the emotional regulation scores by keeping the time factor constant, the mean of the emotional regulation of the groups in each of the measurement stages was compared using Bonferroni post hoc test.

**Table 3. Bonferroni post hoc test to investigate the interaction between the group and the measurement time on emotional regulation**

upper bound	lower bound	significance	standard error	Means difference	group	independent variable levels
5	-14	0.001	3.23	11.69	Psychodrama	<b>Cognitive-behavioral</b>
-6	-25	0.000	3.23	16.78	control	
-2	-21	0.01	3.23	4.53	control	<b>Psychodrama</b>

The difference between the means of both experimental groups compared to the control group is negative and significant, so for the hypotheses related to the effectiveness of these two treatments in increasing patients' psychodrama, the null hypothesis is rejected and the researcher hypothesis is confirmed, which means that both approaches Experiments (cognitive-behavioral therapy and psychodrama) have been able to increase patients' emotional regulation. Comparing the effectiveness of the two experimental groups with respect to each other, the difference between the means at the 99% confidence level is significant, so the hypothesis of the difference in the effectiveness of the two treatments relative to each other is also confirmed. Due to the positive mean of the differences and the fact that the mean of the cognitive-behavioral therapy group was higher than the psychodrama group, so among the methods of cognitive-behavioral therapy and psychotherapy, cognitive-behavioral therapy was more effective in increasing patients' emotional regulation.

### Conclusion:

The results showed the difference between the effectiveness of psychodramatic and cognitive-behavioral therapy on emotional regulation in women with breast cancer and the continuity of the effectiveness of the results in the follow-up phase. These results have practical implications for health professionals and therapists in psychological service centers and clinics to improve health-related implications. Therefore, planning to use therapeutic methodology is essential to improve emotional and psychological health-related characteristics, especially emotional regulation. As a

result, therapists and health professionals can use behavioral methodology along with other therapies, including psychotherapy, to improve the characteristics of breast cancer patients, especially emotional regulation.

Also, similar findings that showed the effectiveness of these two types of treatment due to the interaction of two factors of group and time were rarely found in Iran. The findings of this study are similar to the findings reported in similar studies by other researchers including Shariati et al. (2017). Bakhtiari, Eslami, Fesharaki and Koosha (1397), Rezaian (1997), Nouhi et al. (2018), (Jennings (2018) and Morris (2017) are in the same direction.

Emotional regulation is an inherent aspect of tendencies related to emotional responses in individuals. It is actually actions that are used to modify or change emotional states. Some emotions have high qualities that can cause both negative and positive reactions in the person. Emotions play an important role in life, and this treatment as a treatment method in modulating emotions is associated with self-esteem and positive social interactions that effectively deal with stressful situations that can affect a person's performance. And increase activity in response to social situations. Therefore, emotional regulation can play an important role in social support and mindfulness by informing people about positive and negative emotions. For example, people who use emotional regulation in an evaluative way, because they focus their attention on external sources such as the quality of the relationship or another person before starting an interpersonal relationship, have the ability to control the quality of the relationship is more and as a result, in their performance, they get more help from others and thus increase their social support and mindfulness. Findings indicate that emotion regulation can be a good ground for creating a favorable environment for effective communication, through which people can freely express their needs and expectations for support from others (18).

At the same time, life satisfaction is created, strengthened and established in the process of living together. However, in some couples, this process is damaged from the beginning, and sometimes stabilization causes serious problems or delays. One of the determining factors in the process of life satisfaction in couples is sexual satisfaction, which is even mentioned as one of the main signs of life satisfaction of couples. Reconstructing self-supportive reactions in relationships and interactions is done by helping spouses access basic emotions and underlying needs, and ultimately creating new cycles of relationship conflict. Emotions have a central place in couples' interactions and the reconstruction of emotions in the form of secure attachment bonds between spouses is emphasized. These approaches encourage people to talk about their emotions, to discuss related topics in therapy sessions. Emotional responses can meet a person's needs, and as a result, one of the main goals of such therapies is to improve one's awareness of emotions. In fact, in this type of treatment, "emotion" is the goal and agent of change (17).

In fact, people who have a high level of empathy with others, their emotions are dominant and use less logical thinking in the face of different situations, these people are in dire need of approval

from important people in their lives and therefore in the event of mental stress and interpersonal problems are more likely than others to have psychological problems, including depression.

Psychodrama can be effective in reducing their integration by developing the thesaurus role of individuals and increasing their spontaneity and creativity. In this way in a meta-analysis of the relationship between emotion regulation and mental health, Berking and Wupperman (19) concluded that emotion regulation is associated with different types of mental pathology and can be considered an acceptable factor in the diagnosis and treatment of mental disorders.

Dealing with cancer itself is a stressful event, and endangers the patient's various aspects of personal health, including physical, mental, and family health. People with cancer have high levels of mental disorders ranging from depression, anxiety, maladaptation and low self-esteem to mental disorders and fear of relapse and death; Meanwhile, women are more vulnerable than men. In order to better understand the experience of coping with stress caused by life-threatening illnesses, the impact of the consequences of such illnesses should be considered in a contextual context, that is, by considering the mental state of the patient and the patient's spouse and children. Because the consequences of this experience can also affect the patient's spouse with fundamental lifestyle changes - including nursing the patient spouse, performing family duties, limiting social activities, and experiencing psychological problems. In addition, the stress of uncertainty and unpredictability can expose them to anxiety, depression, lack of preparation to help their spouse, and physical consequences. Each couple's maladaptive responses to the consequences of life-threatening illnesses, especially breast cancer that afflicts the mother of the family, can pose a serious challenge to their marital relationship. Therefore, it is appropriate to consider cancer as a major threat to the functioning of couples and families. This is why some experts refer to breast cancer as "relationship cancer" (8). In the meantime, interpersonal relationships and interactive patterns, the degree of emotional intimacy and emotional expression of couples with each other can undergo many changes and make couples inevitably make major changes in behavioral patterns based on marital patterns.

Emotional regulation is an inherent aspect of tendencies related to emotional responses in individuals. It is actually actions that are used to modify or change emotional states. Some emotions have high qualities that can cause both negative and positive reactions in the person. If these emotions are appropriate to the situation and circumstances, they cause a positive emotional reaction, otherwise they cause negative emotional reactions in the person. Therefore, when emotions become intense or prolonged or are not compatible with the situation, then the person needs to regulate them (20).

The current study was associated with such limitations; The protocols implemented in this study were not implemented as a specific program for breast cancer patients, but a general education program was used.

The research sample was also available, and given the time constraints, if the time and conditions for study and follow-up in a longer period of time are possible, we can talk about treatment outcomes with more certainty and confidence.

In this regard, it is suggested; Training packages in the field of treatment, suitable for different groups, based on the latest scientific methods to improve body image, be developed. Also, a special program has been designed by specialists for breast cancer patients and the formal integration of this training in the treatment-patient care programs should be considered by the experts and institutions active in this field. At the same time, in order to increase the validity and justifiability of the research, similar studies should be performed on a wider sample with random selection.

### **Research Limitations**

This research has been done sectional and it is necessary to control comorbidities.

The available research sample may not be representative of all patients. The results of the present study can be generalized to breast cancer patients with demographic characteristics related to this study and if it needs to be generalized to other women, this should be done with caution and sufficient knowledge.

The treatment protocols implemented in this study were not implemented as a specific program for breast cancer patients, but a group training program was used.

Due to the time constraints, if the time and conditions for follow-up and follow-up are possible in a longer period of time, we can talk about the treatment results with more certainty and confidence. However, due to executive and financial problems and time limitations of the dissertation, this opportunity was not provided in this study.

### **Ethical considerations**

The researchers followed the ethical protocols of Helsinki Studies, and the subjects' information remained anonymous, and after the study, all this information will remain safe. In addition, all participants signed an informed consent form to participate in the research, the purpose, importance and necessity of the research were explained to all of them and the control group was treated with behavioral cognitive methodology after determining the effectiveness of the intervention method.

This study was performed by obtaining consent based on complete patient's knowledge.

The code of ethics of this research is IR.SBMU.RETECH.REC.1399.387 from Islamic Azad University, Dubai Branch.

### **Conflict of interest**

There is no conflict of interest between the authors of the present study.

### **Practical application of the study**

In this study, women with breast cancer, in addition to cancer-related problems, had psychological problems and cognitive-therapy could improve each of their variables. Therefore, therapists and health professionals can use the results of this study as a new perspective to improve emotional and psychological characteristics in women with breast cancer and even other vulnerable groups. As a result, the use of cognitive-therapy method in preventive, health and treatment policies for vulnerable groups, including women with breast cancer, can play an important role in improving their characteristics, especially emotional regulation.

### **References**

1. Deka, S. J., Mamdi, N., Manna, D., & Trivedi, V. Alkyi cinnamates induce protein kinase C translocation and anticancer activity against breast cancer cells through induction of the mitochondrial pathway of apoptosis. *Journal of Breast Cancer*, 2016, 19(4), 358-371.
2. Antoniou, A. C., & Easton, D. F. Models of genetic susceptibility to breast cancer. *Oncogene*, 2018, 25(43), 5898-5905.
3. Gross, J. J. & Thompson, R. A. *Emotion regulation: Conceptual foundations*. 2017. New York, NY: Guilford Press. p. 3-24.
4. Gross, J. J. Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, 2016, 39(3): 281–291. Doi: 10.1037//0021-843x.106.1.95.
5. Abolghasemi S. Surveying the impact of teaching drama therapy on the happiness and selfesteem per-university girls' student. *Journal of Social Work*. 2014; 3(4); 22-7.
6. Rezaeian MP. The usefulness of psychodrama in the treatment of depressed patients. *Indian J Clin Psychol*; 2017, 24(1): 82-8.
7. Fong J. Psychodrama as a preventative measure: Teenage girls confronting violence. *J Group Psychother Psychodrama Sociom*, 2016; 59(3): 99-108.
8. Sharifabadi, F, Yazadi, S, Zarei, S., The role of emotion regulation and the positive and negative effects in women with breast cancer. *Iranian Journal Psychoneursing*, 2018, 4(2), 28-49.
9. Naghibi, Seyede hamide, Saeedi, Zahra, Khazayi, Fatemeh. The effectiveness of group training based on improving the quality of life on hope and happiness of people with cancer. *Scientific journal of counseling research*. 2016, 65(17), 22-35.

10. Hashemi, Elham, Noroozi, Hasan. The effectiveness of cognitive-behavioral therapy on emotional regulation of breast cancer patients. *Iranian Breast Deases Journal*, 2016, 2(10), 38-48.
11. Ayinparast, Neda, Naziri, Qasem, Mohamadi, Masood, Pedram, Mohamad. The effectiveness of cognitive-behavioral group therapy on the treatment of depressive anxiety disorder and creating hope in women with breast cancer. *Women Shociology*, 2018, 4(3), 32-42.
12. Bakhtiari, M, Eslami, M, Fesharaki, M, Koosha, S. The effectiveness of mental health education on women with breast cancer undergoing chemotherapy at Imam Khomeini Institute, Tehran . *Iranian Breast Deases Journal*, 2015, 4(1), 42-47.
13. Garnefski, N., & Kraaij, V. Cognitive emotion regulation questionnaire–development of a short 18-item version (CERQ-short). *Personality and individual differences*, 2006, 41(6), 1045-1053.
14. Hasani, Jafar. Assessing the validity and reliability of the short form of the Cognitive Emotion Regulation Questionnaire . *Behavioural Sciences Research Journal*, 2014, 9(4), 28-49.
15. Sadeghzadeh, Z, Navabineghad, S. The effectiveness of psychoanalysis on increasing women's happiness and self-expression. *Women Research Joutnal*. 2018. 5(2), 78-93.
16. Jennings S. *Dramatherapy and social theatre: Necessary dialogues*. 2018, London, UK: Routledge.
17. Vant spijker, A., Trisburg, R.W. & Duivenvoorden, H. A meta-analytic review of 58 studied of cancer. *Pschometric medicine*, 2017, 59, 10-28.
18. Sharifibastan F, Yazdi S, zahraei S. Cognitive Emotion Regulation and Positive and Negative Affect in Therapy of Women with Breast Cancer. *IJPN*. 2016; 4 (2) :49-38, URL: <http://ijpn.ir/article-784-1-fa.html>
19. Berking, M., & Wupperman, P. Emotion regulation and mental health: recent findings, current challenges, and future directions. *Current opinion in psychiatry*, 2016, 25(2), 128-134.
20. Pollatos, O., & Ferentzi, E. Embodiment of Emotion Regulation. In *Embodiment in Psychotherapy* (pp. 43-55). 2018, Springer, Cham.

## Emotional Regulation Questionnaire

never	sometimes	usually	often	always	When unfavorable conditions happens or an bitter experience occurs	Row
					I feel that I am responsible for the situation	1
					I think that in fact I am the cause of the situation	2
					I think I have to admit that something happened	3
					I think I have to accept the situation	4
					I often think about my feelings about what I have experienced	5
					My mind is constantly occupied with my thoughts and feelings about what I have experienced	6
					Instead of thinking about what happened, I think of other interesting and pleasant things	7
					Instead of thinking about what happened, I think about the more interesting experiences I have had	8
					I think about how I can change the conditions.	9
					I think that what better thing can I do.	10
					I think I can learn from the situation	11
					I think as a result of what has happened, I can be a stronger person	12
					I think it has not been so bad compared to other experiences and events	13
					I tell myself there are worse things in life	14
					I keep thinking about what a bad experience it was	15
					I keep thinking that it was a terrible situation	16
					I feel that others are responsible for the situation	17
					I feel that in fact others are the cause of the situation	18



