

Effectiveness of Acceptance and Commitment Therapy on health anxiety, body image and psychological well-being in women with mastectomy breast cancer

Pasyar S.,¹ Baghooli H.,*² Barzegar H.,³ Sohrabi N.⁴

Abstract

Introduction: Breast cancer is the most common cancer and the second leading cause of death in women with many physical and psychological complications, and the aim of this study is to compare the effectiveness of treatment based on acceptance and commitment on health anxiety, psychological well-being and body image in women with mastectomy breast cancer. It is the city of Shiraz where they visited Amir Shiraz Hospital in 2022.

Methods: The current research was of semi-experimental type, pre-test, post-test with control group and follow-up test. The subject population included a sample of 45 people who were randomly measured. The research tools included Weisman and Beck, health anxiety questionnaire, Riff psychological well-being questionnaire and Kash, Mikola and Brown body image questionnaire. The research data were used to test the hypotheses using the multivariate covariance method and the Sheffe and Benferoni post hoc tests, and the data were analyzed using the SPSS software.

Results: The findings of this research showed that the treatment based on acceptance and commitment had a significant effect on the research variables. health anxiety ($F=77.822$, $p<0.05$) body image ($F=37.609$, $p<0.05$) psychological well-being ($F=8.637$, $P<0.05$)

Conclusion: Because the underlying principles of the treatment are based on acceptance and commitment in order to increase psychological flexibility, therefore, this treatment can be used in clinical settings along with other common treatments.

Keywords: Health anxiety, psychological well-being, Body image, Therapy based on acceptance and commitment

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¹ - PhD student, Department of Psychology and Educational Sciences, Marodasht Branch, Islamic Azad University, Marodasht, Iran. saharpasyar88@gmail.com

² - Assistant Professor, Department of Psychology and Educational Sciences, Marodasht Branch, Islamic Azad University, Marodasht, Iran. (Corresponding author) Bhossein@gmail.com

³ - Assistant Professor, Department of Psychology and Educational Sciences, Marodasht Branch, Islamic Azad University, Marodasht, Iran. Mbarzegar55@gmail.com

⁴ - Assistant Professor, Department of Psychology and Educational Sciences, Marodasht Branch, Islamic Azad University, Marodasht, Iran. Sohrabi_sh@2006@yahoo.com

Introduction:

Cancer is one of the major problems and common diseases of human societies (1). In this disease, cells grow abnormally and their proliferation is uncontrollable (2). The increasing growth of cancer in the last few decades and its harmful effects on all dimensions of the patient's life (physical, emotional, spiritual, social, economic) have caused the attention of specialists to this disease. Among the different types of cancer that women suffer from, breast cancer is the most common type of cancer in the world. In 2011, 2.5 million people in developed countries and 3.5 million people in developing countries had breast cancer (3). In Iran, breast cancer is the most common cancer among women (4). The diagnosis of breast cancer for women is a big and painful event in life, which exposes women to stress and unwanted changes and causes symptoms of anger, anxiety and changes in thinking in the affected person, which is based on the level of symptoms of depression, stress and anxiety in cancer patients is much more (5).

Diagnosis and treatment of breast cancer is a significant stressful factor that is associated with numerous psychological disturbances and negative physical consequences. These patients have poor body image, pain, skin lesions, appetite disorders and reduced physical performance. In 1980, Mairots¹ identified three major psychological responses to breast cancer: 1- Psychological distress, including anxiety, depression, and anger. 2- Behavioral changes caused by physical discomfort, marital or sexual disorder and change in activity level. 3- Worries caused by the body image² of disease recurrence and death (6).

Health anxiety³ is a common anxiety in women with cancer, which may be persistent if untreated and has a significant cost in health care (7). Illness anxiety disorder is characterized by fear of serious illness, which interferes with daily functioning and with the existence of health assurance continues to be determined (8).

In addition to health anxiety, one of the many other psychosocial issues that these patients often experience is lack of psychological well-being. Wissing⁴ has defined psychological well-being as a sense of coherence and continuity in life, emotional balance and overall satisfaction with life (9). The psychological well-being⁵ of this group of patients can be severely affected and affect the quality of life and ultimately the course of the disease. New theories in the definition of psychological well-being emphasize health instead of the absence of disease (9). Many researchers have studied the well-being of cancer patients with different research methods (10). Since the diagnosis of breast cancer It is done well in developing countries, the long-term survivors⁶ who live with the consequences of breast cancer treatment

¹ Myroots

² Body image

³ Health anxiety

⁴ Wissing

⁵ psychological well-being

⁶ long-term survivors

are increasing, and it is important to address the mental health and well-being of these survivors. In general, threats to self-image, self-esteem, loss of freedom, physical comfort, denial, anger, depression, uncertainty, loneliness, and then a decrease in psychological well-being are the consequences of cancer (11).

Also, physical appearance is the main part of body image and has an effect on establishing social interactions with others; Therefore, this factor has a fundamental role in determining beliefs and behaviors about the body (12). In addition, negative body image can have adverse psychological consequences such as depression, negative mood, anxiety and low self-esteem (13). The change in the patient's body provokes his emotional turmoil and alienation and harms his perception of his body (14). Therefore, due to the adverse effects that breast cancer has on the mental health, especially the body image of the patients, in recent decades, it has attracted the attention of clinical experts and treatment methods have been designed for it (15). They have an undeniable and important role (16).

Fobayer and Stewart¹ (17) showed that sexual function and body image problems are common problems of breast cancer patients. The many complications caused by a person's reaction to the diagnosis and treatment of breast cancer and being admitted to the hospital have various effects on different aspects of the life of the person and his family (1). Mastectomy surgery is one of the methods used to treat breast cancer. In this type of surgery, the entire breast tissue and in some cases, the side tissues are also removed (18). Women suffering from breast cancer lose an organ that is a symbol of their gender after surgery, this problem causes a disturbance in the mental image of a person about his body, which reduces self-confidence and feminine attractiveness, and then brings anxiety and depression for the patient. (19). Cancer treatment is very expensive and is increasing day by day. Therefore, cancer has caused concern in many different societies (20).

From 1990 onwards and with the beginning of the third wave of cognitive behavioral therapy, the tendency towards new treatment protocols based on cognitive therapy increased. Treatment based on commitment and acceptance is one of the suggested treatments for preventing health anxiety and negative body image, psychological well-being (21).

Acceptance and commitment therapy² changes the relationship between problematic thoughts and feelings so that people perceive them as pathological symptoms and even learn to perceive them as harmless even if they are uncomfortable and unpleasant (22). In the most recent research that has been conducted, the results show that acceptance and commitment therapy has been effective in reducing health anxiety symptoms (23). On the other hand, acceptance and commitment has shown its effectiveness in other psychological problems, including reducing the pain experience in women with cancer (24). In 2018, Ghasemi and Jabal Alami (25) in their research titled the effectiveness of treatment based on acceptance and

¹ Fobayer and Stewart

² Acceptance and commitment therapy

commitment on body image in women with breast cancer after mastectomy surgery, reached the conclusion that treatment based on acceptance and commitment can be effective in Improve the psychological problems of women with breast cancer after mastectomy surgery. Also, Moghadamfar et al. (26) in their research entitled the effect of acceptance and commitment therapy on life expectancy and psychological well-being Women suffering from breast cancer undergoing chemotherapy showed that following the treatment based on acceptance and commitment, the scores of life expectancy and psychological well-being variables of the experimental group increased in the post-test stage, and this type of treatment had significant positive effects on life expectancy. and the psychological well-being of women with cancer undergoing chemotherapy. In another study by Iri et al. (27) commented that dialectical therapeutic behavior is useful in reducing social, interactive and adjustment problems and anxiety of divorced women. Also, in the researches that have been carried out in recent decades, it has been shown that the treatment based on acceptance and commitment promotes the change in the behavior of the health and psychological well-being of heart patients, in the severity of pain, depression and anxiety related to pain, on mental distress, anxiety, depression and stress is effective (28).

In general, according to the above, the aim of the present study is to explain the effectiveness of acceptance and commitment therapy on health anxiety, psychological well-being and body image in women with mastectomy breast cancer.

Research method:

The present study was a semi-experimental study with a pre-test and a post-test with a control group and a follow-up test. The statistical population consisted of all women with mastectomy breast cancer who referred to Amir hospital Shiraz city Specialized and Oncology Hospital in 1400. 45 people were selected using the available sampling method and then they were randomly assigned to the control and experimental groups. . Among the criteria for entering the research: having 1- minimum education at the diploma level 2- minimum age of 20 and maximum 40 years 3- women who have undergone mastectomy surgery 4- being married and exit criteria 1- suffering from any physical and mental illness that leads to interference be researched with variables 2- There was a lack of desire to attend the meetings. After selecting the sample subjects, the subject, treatment courses and their goals were explained to the subjects and the ethical considerations of the research were explained to them. Health anxiety Salkoskis and Warwick responded. During this time, the control group remained waiting and no treatment was applied to them. After 4 months of the test, a follow-up test was performed on the subjects. The tools used in this research:

1. **Health anxiety questionnaire**¹: Salkoskis and Warwick ²(2002) has 18 paper-pencil items for self-assessment. Each item has four options, and each option includes a description of the

¹ Health anxiety questionnaire

² Salkoskis and Warwick

person's health and illness components in the form of a news sentence, and the subject must choose one of the sentences that best describes him. Scoring for each item is from zero to five. A high score is a sign of health anxiety, and the Cronbach's alpha of the questionnaire is 0.75 (29). The validity and reliability of the Persian version of the health anxiety questionnaire was conducted on a group of Iranian population among 500 students of Lorestan University of Medical Sciences, the results showed the high reliability of this questionnaire (30) the reliability coefficient of this scale by Cronbach's alpha test in the sample group mastectomies women in the present study obtained a score of 0.77. 2. Psychological well-being questionnaire¹ of Reif and Keyes² (1989), which includes six factors of acceptance (having a positive attitude towards oneself), positive relationship with others (establishing warm and sincere relationships with others and the ability to empathize), autonomy (a sense of independence and the ability to resist social pressures), a purposeful life (having a purpose in life and giving it meaning), personal growth (a sense of continuous growth) and mastering the environment (It measures a person's ability to manage and adapt to environmental changes (30). The main form consists of 120 questions, which in later revisions, shorter forms of 84 questions, 54 questions and 18 questions were also designed.

In this research, a form with 84 questions was used. In this form, each factor consists of 14 questions and each question is given a score from 1 to 6; A higher score indicates better psychological well-being (31). The reliability coefficient of this questionnaire has been reported as 0.82 in the statistical population (30). In their research, Lindfors et al. investigated the polysyllabic ruff structure in Swedish. They selected a sample of 1260 working men and women who were in the age group of 32-58 years. The internal consistency coefficients for the above questionnaire in this group were higher than the original English version. Confirmatory factor analysis confirmed its six-factor structure in the Spanish language as well (31). Bayani et al., in order to standardize psychological well-being scales in Iran, obtained a reliability coefficient of 0.82, which was statistically significant (32). The reliability coefficient of this scale was obtained by Cronbach's alpha test in the sample group of mastectomies women in the present study at 0.74. 3. The body image questionnaire³ was designed by Cash, Mikola and Brown⁴ in 1990, the questionnaire contains 68 items that are answered by the person himself and to evaluate the person's attitude about the different dimensions of the body image structure (related to the body itself, satisfaction with different parts body and the person's attitude about weight) is designed in 1985, Cash, Winstead and Janda used this questionnaire for international research on body image. Among the 30,000 participants, 2,000 were randomly selected and classified based on age and gender. The

¹ Psychological well-being questionnaire

² Reif and Keyes

³ Body image questionnaire

⁴ Cash, Mikola and Brown

validity of the main parts of the questionnaire was checked and confirmed by Bron, Cash and Miolka, and its reliability was reported as 0.81. The body image questionnaire includes three scales: 1. Questionnaire related to the body itself: all questions except the number of questions presented in the following two subscales

2. The scale of satisfaction with different parts of the body, questions 60 to 68

3. The scale related to the person's attitude about the weight of questions 5, 59, 66

Each of these areas has 5 points, in such a way that a score of 1 is considered to be completely disagree and a score of 5 is considered to be completely agree. A higher score indicates more satisfaction. In this questionnaire, the satisfaction of different parts of the body, including the face, upper body, middle body and lower body, muscle consistency, weight, height, and overall appearance were measured, with a score of 1 for completely dissatisfied and 5 for completely satisfied. The reliability coefficient of this scale was obtained by Cronbach's alpha test in the sample group of mastectomies women in the present study at 0.69. The current research was of semi-experimental type, pre-test, post-test with control group and follow-up test. The subject population included a sample of 45 people who were randomly measured. Research data were used using multivariate covariance method and Sheffe and Benferoni post hoc tests to test hypotheses and data were analyzed using SPSS software. The maximum level of alpha error was considered to be 0.05 to test the hypotheses. ($p < 0.05$)

Therapeutic intervention:

Table 1 shows a summary of the treatment protocol.

Table 1- Protocol of 8 sessions of treatment based on acceptance and commitment by Todd and Bohart, translated by Firouzbakht (32)	exercise	Section
the therapeutic relationship between the therapist and the client is completely equal, that is, the two walk the same path together, and the metaphor of two mountains helps to understand this, the patient and the therapist both climb the mountain together. None is ahead or higher	the therapeutic relationship between the therapist and the client	First section
It is possible to ask the client to examine his body sensations while sitting on a chair in the treatment room. For this reason, he is encouraged to assume a contemplative posture as he sits; That is, he relaxes his shoulders, closes his eyes, and places his hands on the handle of the chair or its edge. He is then asked to pay attention to the tingling, temperature, and sensation he experiences in each part of his body, respectively.	Mindfulness practice	Second section
clients will be asked to imagine that their life has ended and that their soul is present at the funeral. Then they are asked to describe what they would like to hear from their spouse,	the value clarification exercise	Third section

friends, family members, relatives, locals, and colleagues. In the same way, it is possible to ask therapy seekers to write what they would like to be engraved on their tombstones in order to clarify the issue in which field they would like to be famous. These exercises help clients become aware of painful discrepancies between current or past behavior patterns and preferred values		
the beneficial parable of acceptance and commitment in this regard, inviting the neighbors to visit the new house. In this parable, the therapist has invited all his neighbors to the new house, and as a result, the annoying neighbor will also attend the party. Desire is a fundamental skill that is implemented throughout acceptance and commitment	The parable of the disturbing neighbor	Forth section
This exercise is especially useful for those seeking treatment who struggle with rumination or intrusive cognitions. In this exercise, the therapists are asked to close their eyes and seriously try not to think about a specific issue. Practicing thought suppression helps clarify that trying not to think about a particular subject is rarely successful.	the thought suppression exercise	Fifth section
A group of beads is a diagram of negative psychological content and another group is a diagram of more positive psychological content.	the allegory of the chess board	Sixth section
purpose of acceptance and commitment is not to help the client understand the monster, but to encourage her to let go of the rope	The allegory of the tug-of-war with the monster	Seventh section
expressing negative thoughts in a funny voice (for example, the voice of a brave boy, a male cat, a trumpet, etc.), basically breaking language rules in ways that cause problematic words to lose most or all of their meaning, i.e., thoughts Be only words or thoughts, not real things, cognitive dissonance techniques	cognitive dissonance strategies	Eighth section

In cases where the data from the research is collected quantitatively (numbers and figures), quantitative analysis of events is done. For this purpose, SPSS software was used in this research to analyze the obtained data, and research data were collected and analyzed at two levels:

a) At the descriptive level, from frequency distribution tables, percentages related to demographic characteristics, and

Descriptive statistics were used to examine the research variables in the sample by groups.

b) At the inferential level, according to the level of data measurement and statistical assumptions (normality, homogeneity of variances, homogeneity of variance-covariance matrix and sphericity assumption), mixed variance analysis test, Manova multivariate variance analysis method and covariance were used. Scheffe and Benferoni post hoc tests were used to test the hypotheses.

Results:

The results of the research in the data description section show that the highest frequency belongs to the age group of 30 to 40 years (61%), in terms of education, the highest frequency was diploma (55.6%) and the lowest was doctorate (2.2%). In order to check the normality of the data in the pre-test, post-test and follow-up stages, the Kalmogorov-Smirnov test was used for both groups (experiment and control). The significance level calculated for all variables is greater than 0.05 ($p > 0.05$). Therefore, the assumption of normality of the distribution of grades is accepted.

The mean and standard deviation of the research variables for the control and educational groups in three stages (pre-test, post-test and follow-up) are given in Table 2.

Table (2): Mean and standard deviation of the research components separately for two groups of control and treatment based on acceptance and commitment in three measurement stages (pre-test, post-test and follow-up)

stage		Follow up		Pre-test		Post-test	
		Standard deviation	mean	Standard deviation	mean	Standard deviation	mean
Psychological wellbeing	control	43/24	161/16	42/95	161/00	44/11	161/20
	act	70/10	267/20	68/74	266/40	42/08	174/46
Body image	control	25/21	127/40	26	128/06	26/48	127/73
	act	47/87	169/73	47/53	169/66	31/40	114/26
Health anxiety	control	3/91	35/80	3/82	35/93	3/89	36/06
	act	3/94	15/86	4/15	16/40	5/04	37/13

Descriptive statistics related to the mean and standard deviation of psychological well-being scores, body image, health anxiety for two groups of control and treatment based on acceptance and commitment in three measurement stages (pre-test, post-test and follow-up) are shown in Table 2. As can be seen, in the control group, the average scores of the three research components (psychological well-being, body image, health anxiety) in the post-test and follow-up do not show much change compared to the pre-test stage. But in the treatment group based on acceptance and commitment, we see a significant reduction of health anxiety in the post-exam and follow-up phase compared to the pre-exam phase.

In order to investigate the difference between the averages of the two groups after adjusting the effects of the pre-test, the multivariate analysis of variance test was used, the result of

which is reported in Table 3. According to the results presented in Table 3, the F value obtained for all variables is significant at the alpha level of 0.05. ($p < 0.05$). Therefore, the treatment method based on acceptance and commitment at least causes a significant change in one of the variables, psychological well-being, body image and health anxiety.

Table (3): Test of inter-examiner effects to compare research sub-components in treatment groups based on acceptance and commitment and control in post-test and follow-up

Dependent variables	Sum of squares	Degree of freedom	Mean square	F	Significant level	Eta square
Psychological well-being	126262.678	1	126262.678	37.609	.000	.302
body image	12413.878	1	12413.878	8.637	.004	.090
Health anxiety	3686.400	1	3686.400	77.822	.000	.472

In order to compare the pairs of groups with each other, the Ben Feroni test was used, the results of which are presented in Table 4. Group variable stage, group difference, mean, standard error, level of significance

Table (4): Benferoni test for comparison between the control group and treatment based on acceptance and commitment

stage	variable	group	group	Difference means	Standard error	Level of significance
Pre test	Psychological well-being	control	act	-13.267	15.743	.407
	Body image	control	act	13.476	10.607	.215
	Health anxiety	control	act	-1.067	1.646	.522
Post-test	Psychological well-being	Control	act	-105.40	20.930	.000
	Body image	control	act	-41.600	13.990	.006
	Health anxiety	control	act	19.533	1.458	.000
	Psychological well-being	control	Act	106.607	21.268	.000
	Body image	control	Act	-42.33	13.971	.005
	Health anxiety	control	act	19.933	1.434	.000

As can be seen in Table 4, there is no significant difference between the variables of psychological well-being, body image and health anxiety in the samples under control and treatment based on acceptance and commitment in the pre-test stage, but in the post-test and

follow-up stages between There is a significant difference in the variables of psychological well-being, body image and health anxiety. ($p < 0.05$).

Discussion and conclusion:

The present study shows that the treatment based on acceptance and commitment led to a decrease in health anxiety, an increase in body image satisfaction, and an increase in the psychological well-being of women with breast cancer who underwent mastectomy in the experimental group. This research is consistent with the researches of Ghasemi and Jabal Ameli (25), Esfahani, Zinali and Kiani (31), Hoffman et al. (32).

The results of the research show that using some adaptive emotion regulation strategies, such as cognitive re-evaluation in the face of stress, in many cases, in addition to reducing negative emotions, can increase positive emotions. In a clinical study on women with breast cancer to evaluate the effectiveness of group therapy based on acceptance and commitment on anxiety related to pain and emotional cognitive regulation, the researchers concluded that treatment based on commitment and acceptance can help the patient to accept negative thoughts and the conditions of his illness and this is an effective method on the psychological components related to cancer (31).

Connecting with the present means being here and now, fully aware of the experiences we have instead of being lost in our thoughts, which itself includes flexible attention to the inner psychological world and the outer material world. Communication with the present is very important in the process of fusion and acceptance. The first step in disassociating from a thought or accepting a feeling is to pay attention to it (34). Cancer patients usually face many psychological problems such as stress, anxiety, depression and mood swings. The existence of these problems is due to the lack of recognition of emotions, efforts are made to restrain and control emotions and thoughts related to them. This treatment method with the component of acceptance and commitment helps patients to see them as less threatening and accept them instead of trying to control and restrain emotions. (35). In general, it can be said that the main goal of this treatment is to create psychological flexibility, that is, to create the ability to choose an action among different options that is more suitable, not that an action is performed or actually imposed on a person simply to avoid disturbing thoughts, feelings, memories or desires. In this treatment, it is first tried to increase the person's psychological acceptance of mental experiences (thoughts, feelings) and reduce the ineffective control actions, and this will lead to the improvement of psychological components in people.

Research limitations:

Among the limitations of this research, it can be said that the sample of this research was unable to cooperate due to the condition of the disease and also the presence of the corona virus, and the samples were collected with difficulty and during the treatment many times the samples were not able to continue.

Research proposal:

According to the results of this research, it is suggested that programs to increase awareness of cancer and its complications and life after cancer, as well as mindfulness and relaxation techniques in these patients in order to identify negative thoughts and emotions and reduce mental problems, by psychologists in the hospital and To be done in more medical centers.

Ethical considerations:

This article is taken from the doctoral dissertation of psychology in 1400 with the code of ethics IR.IAU.A.REC.1400.009.

Conflict of interest:

The authors hereby declare that this work is the result of an independent research and does not have any conflict of interest with other organizations and individuals.

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