

# The Effectiveness of Group Acceptance and Commitment Psychotherapy on Psychological Well-being of Breast Cancer Patients in Shiraz, Iran

Arash Mani\*, Zahra Mehdipour\*\*, Laaya Ahmadzadeh\*†, Sedigheh Tahmasebi \*\*\*, Leila Khabir\*\*\*\*, Ahmad Mosalaei\*\*\*\*\*

\*Research Center for Psychiatry and Behavioral Sciences, Shiraz University of Medical Sciences, Shiraz, I. R. Iran

\*\* School of Medicine, Shiraz University of Medical Sciences, Shiraz, I. R. Iran

\*\*\*Shiraz Breast Diseases Research Center, Shiraz University of Medical Sciences, Shiraz, I. R. Iran

\*\*\*\*College of Education and Psychology, Shiraz University, Shiraz, I. R. Iran

\*\*\*\*\*Radiation Oncology Department, Shiraz University of Medical Sciences, Shiraz, I. R. Iran

## Abstract

**Background:** Breast cancer is among the most prevalent types of cancers. Patients who suffer from cancer undergo many problems, including psychological complications. Acceptance and commitment psychotherapy can be used for psychological support and rehabilitation of patients with cancer. The present study investigates the effectiveness of acceptance and commitment group psychotherapy in improving the affective and psychological welfare of breast cancer patients in comparison with control cases.

**Methods:** This study enrolled 30 female patients with breast cancer. The patients were equally randomized to an experimental group and a control group. Acceptance and commitment psychotherapy group intervention consisted of eight, 2-h sessions per month. The control group received non-therapeutic group intervention. We assessed psychological well-being at 2 time points, before and at the end of intervention. All data were analyzed by the Statistical Package for the Social Sciences. *P*-values less than 0.05 were considered significant.

**Results:** The results showed significant differences between the two groups in their mean scores of negative affect ( $F=18.91, P=0.000$ ), positive affect ( $F=52.62, P=0.000$ ), hope ( $F=59.10, P=0.000$ ), and quality of life ( $F=22.12, P=0.001$ ).

**Conclusion:** Acceptance and commitment psychotherapy is a novel approach in group psychotherapy which can improve the psychological status of the patients who suffer from breast cancer.

**Keywords:** ACT, Breast Cancer, Psychological Welfare

### Corresponding Author:

Laaya Ahmadzadeh, MD  
Research Center for Psychiatry  
and Behavioral Sciences, Shiraz  
University of Medical Sciences,  
Hafez Hospital, Chamran Blvd.,  
Shiraz, Iran  
Tel: +989177159694  
Fax: +987136279319  
Email: ahmadzadel@sums.ac.ir

## Introduction

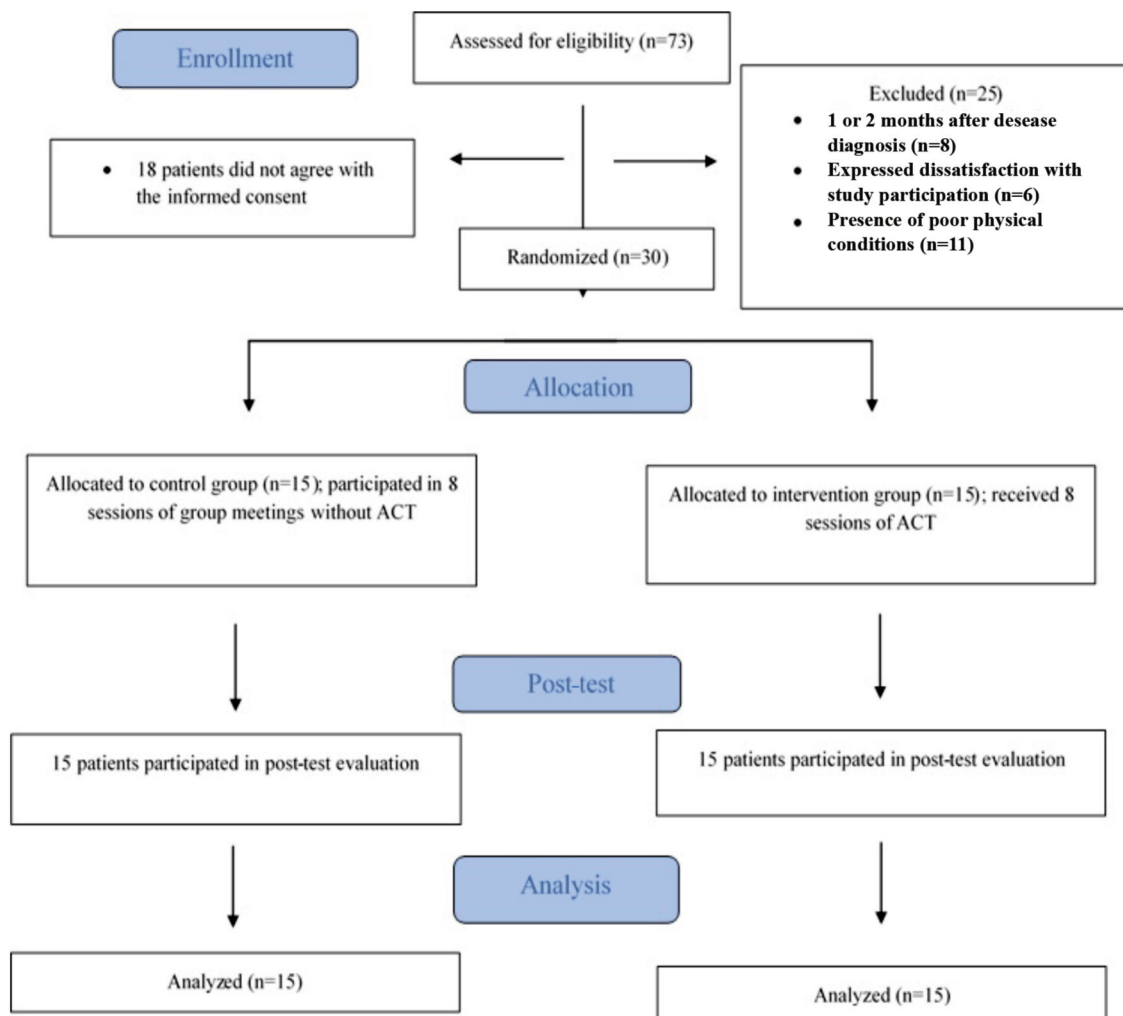
Breast cancer is one of the most prevalent cancers among women. Breast cancer accounts for 16% of female cancers and approximately 18% of cancer deaths.<sup>1</sup> The reaction to a cancer diagnosis depends on multiple factors that consist of the patient's personality, psychological structure, family, and social environment, as well as disabilities and deformities, which can affect a patient's quality of life, survival, function, ability to encounter cancer, duration of hospitalization, and therapeutic results.<sup>2</sup>

On the other side, patients with cancer may suffer from psychological distresses;<sup>3</sup> however, one-third of them deny these distresses.<sup>4</sup> Patients

can experience a range of feelings such as grief, fear, depression and anxiety in all phases of their treatment process, especially after a mastectomy.<sup>5-7</sup> At the same time, it seems that cancer is the main cause for depression in these patients.<sup>4</sup>

Regarding physical condition, some of them cannot refer for receiving taking professional support.<sup>8</sup> In some cases, distresses are considered predictors of cancer mortality.<sup>9</sup> These patients may avoid important activities and experiencing desirable thoughts and feelings.<sup>10</sup>

Affective and psychological problems related to the disease, diagnostic and therapeutic measures, stress, pain, depression, and other factors impact social, familial, economical and



**Figure 1.** Consort flowchart of the study population. ACT: Acceptance and commitment psychotherapy.

other aspects of the patient's life. Psychological support, as a tremendous step to improve patients' quality of life, helps them to come to terms with their disease, tolerate physical complications, manage their family relations efficiently, and accept the cancer with all its dimensions.<sup>11</sup>

Positive psychology is the study of a human's positive side through the development of personal strengths, optimal functioning, and well-being.<sup>12</sup> Some studies have shown the effectiveness of positive psychology among breast cancer patients.<sup>13-18</sup>

Acceptance and commitment therapy (ACT) intends to reinforce psychological flexibility in contrast to other classical cognitive-behavioral therapies.<sup>19</sup> Thus, this therapy tries to help clients accept their unwanted life events and provide a meaningful life for themselves.<sup>20</sup> The interventions, based on ACT, increase the client's ability to adjust with important life challenges.<sup>21</sup> This therapy can promote quality of life<sup>22</sup> and decrease depression in patients with breast cancer.<sup>23</sup>

The high prevalence of depression and anxiety among Iranian women with in patients with breast cancer and the vast prevalence of this cancer in Iran make it necessary to use potentially effective therapies, including ACT, in order to minimize patients' psychological sufferings as much as possible.<sup>24-27</sup>

We conducted the present study to investigate the effectiveness of ACT group psychotherapy as one of the novel methods in improving the affective and psychological welfare of patients who suffer from breast cancer in comparison with control cases.

## Patients and Methods

This was a randomized clinical trial registered at the Iranian Registry of Clinical Trials (IRCT: 2016122131512N1). A total of 30 females with breast cancer participated. We determined the sample size in accordance with previous studies and by considering an alpha of 0.05 and beta of 80%. The studied cases were selected with the assistance of an oncologist who contacted all of the breast cancer patients whose names were

registered at Motahari Clinic, Shiraz University of Medical Sciences, Shiraz, Iran. The patients received invitations to participate in a psychiatric interview. Patients who met the inclusion criteria were randomly assigned to the control (n=15) or experimental (n=15) groups based on a randomization table. Figure 1 shows the consort flowchart of the study population.

The inclusion criteria consisted of no major psychiatric disorders, at least a primary school education, having undergone treatment, were at least three months after disease diagnosis, and breast cancer stages 2 or 3. We excluded any patients who did not participate in the sessions, expressed dissatisfaction with study participation, or the presence of any poor physical conditions that precluded their participation in the therapy sessions.

The Ethics Committee of Shiraz University of Medical Sciences approved this study (IR.SUMS.med.REC.1394.39). All participants signed informed consent forms for study participation. Patients received assurances that their data would be kept confidential and withdrawal from the study at any time would not influence their treatment process.

After selection of the cases in both groups, the experimental group participated in eight, 2-h group therapy sessions during one month. As the placebo, the control received non-therapeutic group intervention. We conducted pretest and post-tests for the experimental and control groups. Table 1 summarizes each of the eight session topics.

## Instruments

Data were collected by: demographic questionnaire, Positive and Negative Affect Schedule (PANAS), Adult Hope Scale (AHS), and a quality of life questionnaire.

The demographic questionnaire collected patients' age, education level, marital status and occupation. The PANAS is a self-reporting instrument with 20 items initially proposed by Watson, Clark, and Tolgram in 1988 to measure positive and negative dimensions of the affects. Each subscale has 10 items scored according to a

**Table 1.** Schedule of intervention.

Session number	Session
One	The patients became acquainted with each other and the therapist. The therapist described the goals and rules of the sessions and presented a short story about a woman who suffered from breast cancer. The patients shared their own experiences, feelings, fears, and emotions based on rephrasing the story. Finally, they were asked to think of the story at home and write their feelings in detail.
Two	After reviewing the homework from the previous session, the concept of acceptance was presented completely. Patients aimed to accept their problems as a part of life. They were also expected to widen their attitude towards life beyond breast cancer. Then, the therapist requested that the patients think about a short prayer during the next days and the meaning of acceptance based on their own viewpoints.
Three	After reviewing the homework, the patients expressed their attitudes towards the acceptance concept. The therapist asked patients to explain the negative and positive aspects of breast cancer and encouraged them to express positive changes which the consequent problems made in their lives.
Four	The homework was completed and the patients practiced the meaning of living “at the present time”. Then, their responses were challenged in the group.
Five	Personal experiences were reviewed and the meaning of “values” was presented. Patients were encouraged to talk about their life’s values. Finally, the therapist asked the patients to write 10 important values of their life in the following days.
Six	Patients’ written values were discussed. They were requested to replace themselves, as a story character, and rewrite that story based on their own values. It was explained that values generally direct our lives. Patients were requested to write their 3 most important values and describe what they did to achieve them during the next days.
Seven	The homework was presented followed by a discussion of the barriers against attaining these values. The therapist asked the patients to write internal and external obstacles in front of their values and goals over the next days.
Eight	After completion of the homework, a story about commitment to values was narrated and discussed in the group. Finally, the group members said goodbye and the intervention was terminated. Of note, each of these sessions ended by performing relaxation practices and breathing rehearsals. The control group also participated in relaxation training group therapy for the same amount of time as the experimental group.

5-point scale from 1 (very few) to 5 (very much). The total scores for each subscale ranged from 10 to 50. Cronbach’s alpha of positive and negative scales of the PANAS was previously determined (0.85).<sup>28</sup>

The Snyder Hope Scale contains 12 items with a 4-point Likert type scale. Snyder et al. (1991) have reported a coefficient alpha that ranged from 0.74 to 0.84 for the total scale.<sup>29</sup>

The quality of life questionnaire consisted of 26 questions in four parts of physical health dimension, psychological dimension, social relations and life environment, and two other questions that did not belong to any dimension that assessed health condition and life quality. An acceptable correlation was found among those subscales that were related to each other.<sup>30</sup>

### Statistical analysis

We used ANCOVA to compare the effectiveness of the intervention in the experimental group with the controls. In this method, the pretest was considered to be the co-variable. All statistical analyses were performed with the Statistical Package for the Social Sciences (SPSS) version 16 software. The significance level was  $P < 0.05$ .

### Results

#### Participants’ demographic characteristics

All of the participants were women diagnosed with breast cancer who resided in Shiraz, Iran. The mean age of the studied cases in the experimental group was  $44.38 \pm 6.1$  and  $41.46 \pm 4.76$  years for the control group. The groups had no significant

**Table 2.** Comparison of psychological variables between groups after intervention.

Variable	Group	Baseline Mean ± SD	After intervention Mean ± SD	F	P-value	Eta
Positive affect	Intervention	25.92 ± 5.96	33.03 ± 1.14	18.91	0.000	0.46
	Control	26.57 ± 6.56	26.12 ± 1.10			
Negative affect	Intervention	31.46 ± 7.06	20.07 ± 0.91	52.62	0.000	0.67
	Control	28.66 ± 6.10	29.26 ± 0.85			
Quality of life	Intervention	76.58 ± 13.74	89.51 ± 0.18	59.10	0.000	0.72
	Control	78.20 ± 9.87	77.79 ± 0.96			
Hope	Intervention	59 ± 12.44	89.51 ± 1.16	22.12	0.000	0.44
	Control	58.26 ± 10.60	77.79 ± 1.08			

demographic differences in terms of age, education level, marital status, and occupation.

### *Effectiveness of acceptance and commitment psychotherapy (ACT) on psychological variables*

Data analysis revealed that the groups had no significant difference in variables before intervention in the pretest stage. The experimental group had a higher mean score compared to the control group in terms of positive affect, quality of life, and hope after the intervention. The mean score of the experimental group was lower than the control group in terms of negative affect after the intervention. Lack of significance of the Levene test was established to estimate equality of variance. The pretest was considered to be the covariate variable.

In the post-test phase, the mean of variables positive affect ( $P < 0.001$ ), quality of life ( $P < 0.001$ ), and hope ( $P < 0.001$ ) increased and the mean of negative affect ( $P < 0.001$ ) decreased. Therefore, the results indicated that intervention was effective in increasing positive affect ( $d = 0.46$ ), quality of life ( $d = 0.72$ ), and hope ( $d = 0.44$ ) and decreasing negative affect ( $d = 0.67$ ) in the intervention group (Table 2).

## Discussion

The results of this study revealed the effectiveness of ACT group psychotherapy in improving the affective and psychological welfare of patients who suffered from breast cancer in comparison with control cases. These results agreed with the results of other studies.<sup>13-18</sup>

Patients who suffer from breast cancer are

prone to experiencing a wide range of psychological problems that range from adjustment disorders to considerable mood disorders such as depression and anxiety. Most seems to be unable to express their negative feelings and concerns, which may be caused by limited time spent in consultation with their doctors, disregard of psychological problems by their therapists in the therapy process, and their lack of awareness of the importance of these problems.<sup>31</sup>

While the studied cases in both groups had similar conditions of negative and positive affects before the intervention, they differed significantly after the intervention. The patients were encouraged to talk about their experiences and learned how to sympathize. Patients had adequate chances to express their feelings, which they had not disclosed before the group therapy. This finding supported other investigations.

A systematic study conducted in 1989 compared the results of three studies from various countries participated in group therapy. The results indicated that anxiety, tension, and depression decreased with this type of therapy.<sup>32</sup>

Another research of female cancer patients in experimental and control groups received psychosocial support. However, the experimental group participated in six group therapy sessions based on cognitive-behavioral approaches. The results showed that the women in the experimental group experienced less depression and mood disorders, and had increased quality of life compared to the control cases for the two years.<sup>33</sup>

The results of the present study have shown that



the patients' levels of hope increased significantly in the experimental group after the intervention in comparison with the control group. Based on the ACT principles, the individuals should accept their life's events and make a meaningful life for themselves. It indicates the effectiveness of ACT in diminishing patients' distress and negative emotions, improving their positive emotions and well-being. They learn how to find the value of their life and live "at the present time".<sup>20,34</sup>

Another study found the same results in improving the meaning of the life among patients with cancer.<sup>35</sup> The effectiveness of ACT in the mean hope score of the patients who suffer from breast cancer has been reported<sup>29</sup> and was the same as the present study's results.

As previously mentioned, the experimental group had significantly improved quality of life after the intervention in comparison with the control group. The study investigated the effectiveness of ACT in cancer patients' life quality. The researchers stated that ACT decreased the patients' distress and developed their psychological flexibility in a way that led to promotion of their quality of life.<sup>26</sup>

Different studies have illustrated the impact of ACT on decreasing anxiety and depression of cancer patients,<sup>36</sup> which seems to indirectly develop their quality of life.

The present study has limitations. First, we disregarded the demographic characteristics when selecting the cases. Follow-up of the cases was not performed after the intervention. Finally, this study enrolled a small number of cases; therefore, caution should be taken when generalizing the results.

Nevertheless, more studies should be conducted on a larger number of patients, other types of cancers, and follow-up of patients after a longer time. On the other hand, the use of narrative stories and memories in the present study that described the main concepts of acceptance, values, and commitment could be a novel approach in group psychotherapy. This would make it possible to understand people with low levels of education and cognitive capabilities.

Additionally, this approach may be used by clients in their daily life.

## Conclusion

This study investigated the impact of ACT on affective and psychological welfare constructs. We have found that 2 dimensions of affects, hope and quality of life of female patients with breast cancer significantly improved in the experimental group in comparison with the control group. The ACT is known as a novel approach among psychotherapy group methods and can be used to improve the remedy of the patients with chronic diseases.

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## Conflict of Interest

None declared.

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