


A comparison of effectiveness of acceptance and commitment therapy and spiritual therapy on death anxiety of women with breast cancer

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Abstract

Background: Death anxiety is among disruptive factors in mental health of a patient with breast cancer. Therefore, the present study was conducted to compare effectiveness of acceptance and commitment therapy and spiritual therapy on death anxiety of women with breast cancer.

Methods: In this quasi-experimental study, 24 women with breast cancer referred to Haft-e-Tir Hospital, Tehran, Iran were included by available sampling method. The participants were randomly assigned to two groups experimental and one control group. They were asked to fill out the Templer Death Anxiety Questionnaire consisting of 15 questions in a 3-month period in 3 phases of pre-test, post-test, and follow-up. Experimental groups received acceptance and commitment therapy and spirituality therapy in eight, 90-minute sessions, and they were followed up 2 months after the interventions. Data analysis was performed using Repeated-Measures ANOVA by SPSS Ver. 21.0.

Results: Results of the study showed that, 16 of the participants (66.7%) were 30-50 years old, and 17 of the participants (70.8%) were married. In addition, 15 of the participants (62.5%) had a degree below high school diploma and 15 (62.5%) of the participants had been diagnosed with Breast Cancer for less than one year. Results of the study showed a significant difference in the effect of spiritual therapy on death anxiety compared to acceptance and commitment therapy ($P \leq 0.05$, $F=4.07$). On the other hand, the effect of spiritual therapy on death anxiety ($P \leq 0.001$, $F=10.09$) was significant. But, acceptance and commitment therapy did not have a significant effect on death anxiety ($P \leq 0.05$, $F=2.704$).

Conclusion: Since, spiritual involvement and beliefs could account for any of the variation in death anxiety, spiritual therapy was found to improve death anxiety indices in the patients with breast cancer and therefore, the therapists could use this method to improve death anxiety in these patients.

Keywords: Acceptance and Commitment Therapy; Breast Neoplasms; Anxiety; Spiritual Therapies

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Introduction

According to estimates of the World Health Organization (WHO), in the 21st century, cancer is going to be leading cause of death and the most important barrier to increasing life expectancy and among all types of cancer, breast cancer is the most common type of cancer in women worldwide (1). Results of the studies conducted at Shahid Beheshti University of Medical Sciences have reported that, rate of this disease is 33.21 per 100,000 populations with a total 5-year survival rate of 72% in women, and breast cancer is the most common cancer in Iranian women with a prevalence rate of 28.2 (2,3).

Among chronic diseases, cancer is one of the most common and costly diseases that can be prevented. Breast cancer is associated with high emotional, financial, spiritual, and physical costs among cancer patients (4,5). After being diagnosed with cancer, patients have very severe psychological reactions, including the feeling of imminent death that cannot dispel death-related thoughts even over time (6,7). In addition, psychological responses experienced by many of the patients may worsen course of the disease and its outcomes, which in turn increase costs of the disease (8). Hence, today, death anxiety is one of important psychological factors and among disruptive factors in mental health of cancer patients (6,9), who deal with thinking about their own deaths so that, on average, 22-55% of them experience anxiety death, defined as an unpleasant emotional feeling caused by multidimensional concerns of existential origin (10,11). In fact, cancer patients experience a dying process occurring simultaneously at the time of undergoing medical and psychological treatments; the death sense willingly or unwillingly enters treatment atmosphere, and as one of main issues requires attention of the therapists.

In recent years, various therapeutic programs have been introduced and evaluated to treat death anxiety in cancer

patients. Religious-based cognitive therapy, and mindfulness-based cognitive therapy include some programs (12,13). There are also studies used a combined therapy consisting of spiritual-cognitive group therapy and acceptance and commitment psychotherapy for cancer patients (14, 15).

Acceptance and commitment therapy is an effective contextual therapeutic approach based on communication framework theory, through which humans' psychological problems are considered mainly caused by psychological inflexibility characterized by cognitive fusion and experiential avoidance. In the context of a therapeutic relationship, acceptance and commitment therapy implements direct dependence, and indirect verbal processes to empirically create acceptance and defusion at first, followed by developing an over-empirical sense of self, connection with the present moment and values, and more psychological flexibility in person. More generally, acceptance and commitment therapy draws on acceptance and awareness processes as well as commitment and behavioral processes to create psychological flexibility (16). This treatment begins with the idea that; life is full of pain. No matter how good our life goes, it will be very painful. We, humans, all have many painful feelings, so how do we learn to live with them? How can we have a rich, complete, and meaningful life despite this situation (17)? Treatment of sense of suffering is considered as a clear difference between acceptance and commitment therapy and other therapeutic approaches (16).

Cancer is also a disease accompanied with pain and suffering. Parts of treatment of pain and suffering caused by cancer are beyond the control of the patient; purpose of the acceptance and commitment therapy is helping the referring patients to create a rich, complete, and meaningful life while accepting the suffering that is accompanied with life inevitably (18,19).

In addition, the acceptance and commitment therapy typically includes tasks dealing directly with death, such as writing texts in self-appraisal, as well as choosing a text for their own epitaph (20). Previous research has shown effectiveness of acceptance and commitment therapy in reducing anxiety, depression, experiential avoidance, psychological problems, increasing hope, improving perceived stress, and improving quality of life of women with breast cancer (21-24). But, only Nadimifar et al. (2017) investigated efficacy of group acceptance and commitment therapy on death anxiety, and their results indicated effectiveness of this treatment on death anxiety and patients' adaptation; although in their study, amount of effectiveness was not clear over time due to lack of follow-up phase (7).

Spirituality is another important factor influencing death anxiety (25). Elkin in describing the universal definition of spirituality, refers to it as one of innate abilities, desire to see oneself and life, belief in infinite energy and power in existence, love, and altruism. Also, spirituality is a deep and profound phenomenon and experience encompassing relations with self, God, human beings, and nature in a profound and abstract way, something that is well felt in the teachings and essence of all divine religions as illustrated in the following (Fig. 1) (26).

Spiritual therapy means considering spiritual beliefs of the patient in treatment

process (27). Also, according to medical and psychological research, spirituality and abstraction have been cited as important sources of coping with emotional and existential pain and suffering (28,29), nonetheless the issues of religion and spirituality in clinical applications need more research (30). On the other hand, researchers have identified spiritual concerns among patients with common cancer, so that 78% of patients report it and consider spirituality as an important contributor to cancer treatment (31,32).

Previous research has also shown effectiveness of spiritual therapy on regulation of cognitive emotion, reducing depression, anxiety, stress, and improving quality of life in women with breast cancer (33-35). But regarding effectiveness of spiritual therapy on death anxiety of cancer patients, only Salajeghe et al. (2013) investigated effectiveness of combined spiritual and cognitive group therapy on reducing death anxiety in these patients in which they had combined spiritual therapy with cognitive-behavioral therapy (14).

On the other hand, as the population grows and life expectancy increases, number of people living with the disease is increasing day by day. In addition, incidence of breast cancer is increasing among Iranian women (36,37), and this population needs therapeutic interventions in all areas including death anxiety.

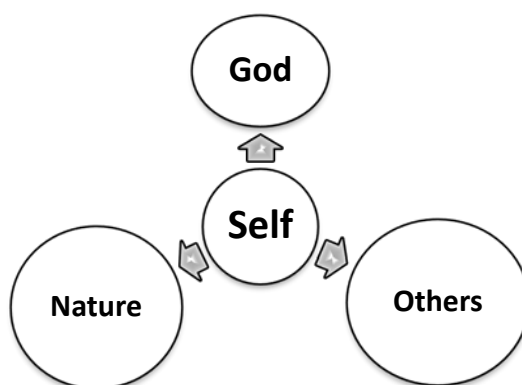


Figure 1. Spiritual skills

Furthermore, death anxiety plays a key role in development and maintenance of many mental disorders, and treatment of meta-diagnostic structures such as death anxiety may increase effectiveness of treatment in a wide range of disorders (38). Therefore, it is important to investigate effectiveness of different therapeutic approaches such as acceptance and commitment therapy and spirituality therapy. On the other hand, as mentioned above, regarding effectiveness of spiritual therapy and acceptance and commitment therapy on death anxiety in patients with breast cancer, some research has been conducted by Salajeghe, et al (2013) and Nadimifar, et al (2017) that also had some limitations, and no study has been done to compare efficacy of these two treatments so far (14,7).

Therefore, this study is performed to investigate effectiveness of acceptance and commitment therapy and spiritual therapy on death anxiety and compare them in patients with breast cancer.

Methods

The present study was an applied research with a quasi-experimental design and a control group performed on three study groups in pre-test, post-test, and follow-up phases. The study was performed in the form of a group therapy at Haft-e Tir hospital in Tehran, Iran.

Statistical population comprised all women with breast cancer referring to Haft-e Tir hospital in 2017. This study was performed from January 2017 to August 2017 at Oncology Clinic of Haft-e Tir Hospital. After obtaining the hospital's consent on implementing the research, all medical records of the patients were studied in February and March 2017. Then, considering records of the patients, eligible patients were selected based on available sampling method according to inclusion and exclusion criteria, using Structured

Clinical Interview for DSM-IV Axis I Disorders (SCID_1), and they were included in the study when a written informed consent was obtained from all of them.

24 individuals were selected and studied. Sample size was considered as 8 patients in each group. The groups consisted of 2 experimental groups and 1 control group. Sampling was done using available sampling method. Then, the subjects were matched according to stage of disease, duration of disease, age, marital status, level of education and were randomly assigned to one of three parallel groups of experimental 1, experimental 2, and control group at 1: 1: 1 proportion. Each group was unaware regarding assignment of the other groups. Protocols of treatments were randomly implemented on the groups, the experimental group 1 received 8 90-minute sessions of acceptance and commitment therapy twice a week, and the experimental group 2 received 8 90-minute sessions of spiritual therapy twice a week. The control group did not receive any intervention during this period. Following the follow-up session, to adhere to the ethical codes, the control group received 4 2-hour sessions of therapy. All three groups of the study completed the research questionnaire before, after, and 2 months following the intervention (follow-up).

As shown in Table 1, the protocol of sessions for the acceptance and commitment group therapy was adopted from books of *Case-Based Conceptualization in Treatment of Acceptance and Commitment, and Acceptance and Commitment Therapy: Distinctive Features* (16, 39). In addition, the protocol of the sessions for the spiritual therapy group was adapted from books of *Integrated Psychotherapy and Spiritual Approaches in Treatment of Women with Eating Disorders* (32, 40).

Table 1. Summary of acceptance and commitment therapy and spiritual therapy sessions

Treatment sessions	Title of sessions	Title of sessions
	Acceptance and commitment therapy sessions	Spiritual therapy sessions
Session One	Introduction of participants, description of group rules, general description of therapeutic approach, establishment of therapeutic relation, learning the model related to stages of change	Introduction of participants, description of group rules, general description of treatment approach, discussion about the meaning of spirituality and religion and their difference as well as spirituality and fit and unfit religion
Session Two	Making creative helplessness, explanation about controlling the problem, not providing a solution, positive and negative aspects of controlling	Talking about self-awareness and self-communication, identifying needs and spiritual needs, identifying one's own goals and values in life and spiritual values
Session Three	Teaching the desire to look for better substitution regarding controlling the problem, teaching about avoiding painful experiences and knowing the consequences of avoidance	Talking about the concept of God from perspective of therapy seeker, correcting it, communicating with the God, praying and supplementation, helping to find the best practices of prayer and supplementation to the God
Session Four	Expressing the concept of cognitive diffusion, self-observer training, and looking at thoughts not by thoughts	Connection with sanctity and altruism, implementing guided imagination, performing an altruistic and spiritual act
Session Five	Presenting the relationship, and self-concept as background and differentiation of self-conceptualization, self-observer	Paying attention to irritation and not forgiving, paying attention to negative emotional feelings related to lack of forgiving, paying attention to forgiveness
Session Six	Identification and clarification of values, differentiation of values from goals and programs	Attention to the meaning of death and suffering, examining the views of patients about death and suffering, the difference between pain and suffering
Session Seven	Teaching commitment to action, identifying behaviors according to values, creating commitment to action, differentiating between desires and wants	Going on to work on death, talking about the meaning of faith and trust in the God, expressing thanks and gratitude (to the God)
Session Eight	Reviewing all previous sessions, performing somatic relaxation and practicing mind-awareness, implementation of post-test	Reviewing all previous sessions, performing somatic relaxation, implementation of post-test

Inclusion and Exclusion Criteria

Inclusion criteria were being diagnosed with breast cancer in stages one and two, having the age between 20-60 years old, having education level higher than junior high school, having the ability of verbal communication, and written consent to participate in the research. Exclusion criteria included having a history of physical diseases such as severe pain and

undergoing chemotherapy, having mental diseases such as psychotic disorders including schizophrenia, severe depression, bipolar disorder, and drug and alcohol abuse. These criteria were considered by studying medical records of the patients and using Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I).

Research Instruments

Research instruments used for collecting data included Templer Death Anxiety Scale (DAS), a demographic questionnaire, and Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I).

As illustrated in Table 2, demographic questionnaire included 7 questions to obtain information on age, level of education, marital status, occupation, economic status, and duration of the disease. The questionnaire was distributed among the patients, and they were asked to fill it out.

Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) was conducted to assess psychiatric disorders in order to measure inclusion and exclusion criteria before sampling by the researcher. SCID-I is a semi-structured interview whose results regarding reliability and practicality in Iranian clinical population were as follows: Diagnostic agreement for most general and specific diagnosis was moderate to good (kappa coefficient was higher than 0.6). Total agreement (total kappa) was equal to 0.52 for all current diagnoses, and it was equal to 0.55 for total lifetime diagnosis (41).

Templer Death Anxiety Inventory was developed in 1970 by Templer. As a self-executing questionnaire, this scale consists of 15 true-false questions. Scores range from 0 – 15, and a high score represents a high degree of death anxiety. A score of 1 reveals full anxiety in the individual's response and a score of 0 reveals absence of anxiety in the individual's response. This scale is a standard questionnaire frequently used worldwide in various research studies to measure anxiety. It has been translated, analyzed by Factor Analysis (FA), and validated in Iran as well. Its reliability coefficient has been reported as 60% and its internal consistency coefficient has been reported as 73% (42). Correlation of the questions has also been reported to be 95% (43). In addition, Cronbach's Alpha of Templer Death Anxiety Scale was equal to in the present study.

The data collected from all the participants related to dependent variable in three stages of pre-test, post-test, and follow-up were analyzed by Repeated Measures ANOVA in IBM SPSS software Ver. 21.0. Assumptions of Repeated Measures ANOVA including normality of data distribution were evaluated using the Shapiro-Wilk test, and assumption of homogeneity of variances was tested by Levene's test; also, assumption of independence of pretest variable from group membership variable was studied by One-Way ANOVA. Results of this study showed that, the Shapiro-Wilk's index related to death anxiety variable was not significant at the level of 0.05 in all three stages of pre-test, post-test, and follow-up, and in all three treatment groups of acceptance and commitment therapy, spirituality therapy, and control. This finding implies that distribution of data was normal in all three groups and in all three stages. In addition, Levene's test showed that the difference between variance of error for dependent variable was not significant in all three stages at the level of 0.05, indicating homogeneity of error variances in the data. One-Way ANOVA also showed no significant difference between the groups before implementation of independent variables regarding death anxiety variable at the level of 0.05 ($F = 0.311$). In this regard, it was concluded that, the assumption of independence of the pre-test variable of the group membership variable has been established among the data.

The present study was approved by the Ethics Committee of the Islamic Azad University, Karaj Branch, Karaj, Iran, and was registered with the following ethics code: IR.IAU.K.REC.1396, 52.

Results

As shown in Table 2, demographic findings indicated that, 16 of the participants (66.7%) were 30-50 years old and 17 (70.8%) of them were married. In addition, 15 of the participants (62.5%) had an

education level below than high school diploma and 15 (62.5%) of the participants had been diagnosed with the disease for less than one year.

Data were analyzed using Repeated Measures ANOVA considering the assumptions of variance analysis with repeated measures mentioned in the Method Section.

Descriptive characteristics and statistical indices of the three experimental and control groups in relation to dependent variable of the research in pre-test, post-

test, and follow-up stages are presented in Table 3.

Although, interaction effect of time \times conditions for dependent variable (Wilks' Lambda = 0.563, $\eta^2 = 0.250$, $P = 0.019$, $F = 0.33$) (40 and 4) was significant at 0.05, considering significance of result of the Mauchly's test at the level of 0.05 ($\chi^2 = 8.925$), the degree of freedom was modified using the Greenhouse-Geisser estimation method.

Table 2. Demographic findings of experimental and control group

		Index			Total
		Spiritual therapy Group	Acceptance and Commitment Therapy Group	Control Group	
		N (%)	N (%)	N (%)	N (%)
Age	30-50	6 (75)	5 (62.5)	5 (62.5)	16 (66.7)
	50-60	2 (25)	3 (37.5)	3 (37.5)	8 (33.3)
Education	Below Diploma	5 (62.5)	5 (62.5)	5 (62.5)	15 (62.5)
	Diploma	3 (37.5)	3 (37.5)	3 (37.5)	9 (37.5)
Marital Status	Single	3 (37.5)	1 (12.5)	3 (37.5)	7 (29.2)
	Married	5 (62.5)	7 (87.5)	5 (62.5)	17 (70.8)
Job	Employed	4 (50)	3 (37.5)	2 (25)	9 (37.5)
	Housewife	4 (50)	5 (62.5)	6 (75)	15 (62.5)
Economic Conditions	Weak	4 (50)	5 (62.5)	5 (62.5)	14 (58.4)
	Medium	4 (50)	3 (37.5)	3 (37.5)	10 (41.6)
Duration of the Disease	Less than 1 Year	5 (62.5)	4 (50)	6 (75)	15 (62.5)
	2-5 Years	3 (37.5)	3 (37.5)	1 (12.5)	7 (29.2)
	Over 6 Years	-	1 (12.5)	1 (12.5)	2 (8.4)

Table 3. Mean \pm SD of death anxiety in experimental and control groups in pre-test, post-test, and follow-up stages

Statistical index	Mean \pm SD		
	Pre-test	Post-test	Follow-up
Group 1	2.55 \pm 4.2	2.82 \pm 9.00	2.17 \pm 4.1
Group 2	3.01 \pm 7.7	2.63 \pm 6.2	2.05 \pm 5.7
Group 3	4.80 \pm 7.7	4.76 \pm 8.1	3.38 \pm 8.5

Group 1: Spiritual Therapy

Group 2: Acceptance and commitment therapy

Group3: Control

As shown in Table 4, the results of Repeated Measures ANOVA are significant in comparing the effect of independent variable on death anxiety with a degree of freedom of ($F_{4, 40}$) and at the level of 0.05. This indicates significant effect of independent variables on death anxiety.

Also, Table 5 shows that, after modifying the degree of freedom, interaction effect of time \times conditions ($\eta^2 = 0.364$, $P = 0.003$, $F(2, 941) = 6.010$) on death anxiety is significant at the level of 0.01, suggesting that at least the effect of one of independent variables is significantly different from that of the other independent variable or control group on death anxiety.

To perform pair-wise group comparisons regarding the effects of groups on death anxiety, post hoc analysis was used. As shown in Table 6, the effect of acceptance and commitment therapy on death anxiety is not significant compared to the control group ($F = 2.704$) at the level of 0.05, and the effect of spiritual therapy was significant compared to the control group ($F = 10.098$) at the level of 0.01. In addition, the effect of implementation of spiritual

therapy and acceptance and commitment therapy on death anxiety was significant at the level of 0.05 ($F = 4.070$), showing that spiritual therapy has significantly influenced death anxiety in comparison with the control and acceptance and commitment therapy groups.

Fig. 2 illustrates well the results of the research. As illustrated in Fig.2, death anxiety reduced in the spiritual therapy group in the post-test and follow-up stages compared to the pre-test. However, unlike spiritual therapy group, in the control group, mean death anxiety gradually increased in the three stages.

As shown in Fig. 2, although mean death anxiety scores gradually decreased in the acceptance and commitment therapy group in three stages, the decrease is not significant compared to the control group on the one hand, and the spiritual therapy group, on the other hand, reflecting consistent effect of spiritual therapy on death anxiety compared to the control and acceptance and commitment therapy groups.

Table 4. The results of repeated measures ANOVA to compare the effect of implementation of independent variable on death anxiety

Wilk's Lambda	F	Between group Degree of freedom	Error Degree of freedom	Level of significance	η^2
0.563	0.330	4	40	0.019	0.250

Table 5. Significance of interaction effects of conditions \times time for death anxiety

Sum of Squares	Degree of freedom	Mean of Squares	Mean of Squares Error	F	Level of Significance	η^2
79.083	2.941	26.888	4.474	6.010	0.003	0.364

Table 6. Comparison of significance of interactive effect of conditions×time in paired groups on death anxiety

Groups	Sum of Squares	Mean of Squares	Mean of Squares Error	F	Level of Significance	η^2
Groups 1 and 2	25.302	19.77	4.850	4.070	0.049	0.225
Groups 1 and 3	77.54	50.602	5.011	10.098	0.002	0.419
Groups 2 and 3	15.792	11.174	4.132	2.704	0.106	0.162

Group 1: Spiritual Therapy

Group 2: Acceptance and commitment therapy

Group3: Control

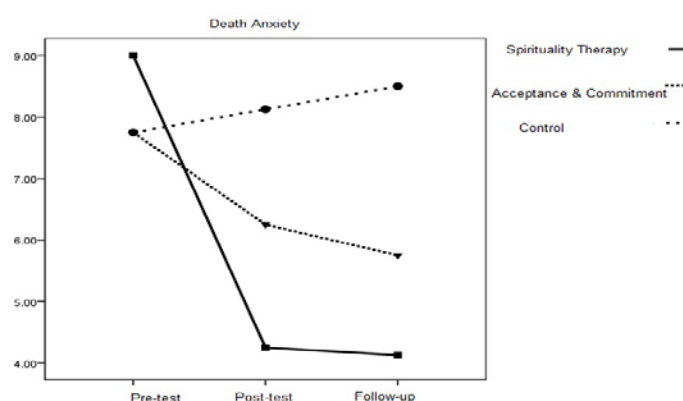


Figure 2. Effectiveness of spiritual therapy and acceptance and commitment therapy on death anxiety.

Discussion

Results of this study showed a significant difference between acceptance and commitment therapy and spirituality therapy. Spiritual therapy was more effective than acceptance and commitment therapy. The follow-up phase also showed a stable effect of spirituality therapy on reduction of death anxiety. It also showed effectiveness of group spiritual therapy on reducing death anxiety in the patients. Although, death anxiety gradually reduced in the acceptance and commitment therapy group in the three phases, it was not significant compared to the spiritual therapy group.

As noted by Grossman, et al (2018), short-term approaches including spiritual rehabilitation that generate feeling of abstraction in individuals are most beneficial (44). In addition, Salajeghe, et al. (2017) in their study on effectiveness of

combined spiritual and cognitive group therapy on reducing anxiety of cancer patients showed that, this treatment is effective on reducing death anxiety of cancer patients (14). Death anxiety has a complex structure experienced with varying intensity throughout life, and people deal with it in their own ways, and most studies showed that, death anxiety is influenced by various factors including religiosity, spirituality, health, gender, age, and culture (25). Regarding explaining the results, it can be said that, religion and spirituality have a special place in our society, and religion is one of the most effective mental supports that can provide meaning to life throughout life and protect the patient from absurdity, especially in hard and critical occasions like breast cancer and replace it with hope and positive beliefs in an individual (45). This process has been shown to result in a significant

reduction in the death anxiety in cancer patients following administration of spirituality therapy. In spiritual therapy sessions, women with breast cancer got rid of negative emotions, maladaptive thoughts, and also anticipation of futile death by means of prayer and invocation. Because the belief in God's power and will in their destiny was intensified; as the God was believed to play a key role in all the elements of their lives, and they also considered existence of disease as a divine test from which they could pass. Thus, they experienced relaxation and reduction of death anxiety and stepped into the cause of living with abstraction. Therapeutic sessions also led patients to search for abstraction, purpose, and truth in life as well as beliefs and values, which led to new daily spiritual experiences in patients' lives. Based on the results, it can be said that, life threat, a sense of fear of death, and expecting an impending death are among main concerns of patients facing cancer diagnosis. However, it is too difficult to talk about it in clinical practice (11). But, spirituality and abstraction are important sources to cope with emotional pain and suffering including encountering death (29); entering a world full of suffering and pain, one may be afraid of death; also, individuals may be involved with a negative image of the God and realize the God in the form of a punishing and angry judge. They may believe that, the God sees them as a sinful, worthless, and apostate creature (40,46). At meetings, patients were encouraged to challenge their strict beliefs that they attributed to the God; for example, they were asked to challenge the view that the God thinks or reacts negatively to them. Because these beliefs harm the ability to accept God's love; patients were helped to realize that negative thoughts are only their own thoughts, not thoughts of the God, nor thoughts of those whom they love (40). Treatment sessions, by meeting the patients' spiritual needs and helping them to change their type of connection with the God, communicating with self and

connecting with others, in turn, improved death anxiety of the patients. As Alkins (1980) states, the fruits of spirituality change all aspects of being and ways of living; among these, one can mention the change in how to look at death (47).

In spiritual therapy sessions, women with breast cancer got rid of negative emotions, maladaptive thoughts, and also anticipation of futile death by means of prayer and invocation. Because the belief in God's power and will in their destiny was intensified; as the God was believed to play a key role in all the elements of their lives, and they also considered existence of illness as a divine test from which they could pass. Thus, they experienced relaxation and reduction of death anxiety and stepped into the cause of living with abstraction. Therapeutic sessions also led patients to search for abstraction, purpose, and truth in life as well as beliefs and values, which led to new daily spiritual experiences in patients' lives.

Other explanations point to the fact that, religion and spirituality have a special place in our society, and religion is one of the most effective mental supports that can provide meaning to life throughout life and protect the patient from absurdity, especially in hard and critical occasions like breast cancer and replace it with hope and positive beliefs in an individual. This process has been shown to result in a significant reduction in death anxiety in cancer patients following administration of spirituality therapy.

Although, the acceptance and commitment therapy typically includes tasks dealing directly with death such as writing texts in self-approbation, as well as choosing a text for their own epitaph (20), it does not investigate death anxiety from different aspects as much as spirituality therapy.

Acceptance and commitment therapy approach is a type of empowerment always looking at life based on values, richness, and meaningfulness as accessible to all (48).

General purpose of the acceptance and commitment therapy is increasing flexibility. Psychological flexibility emphasizes on the six pivotal stages of acceptance, defusion, self as context, contact with the present moment, values, and committed action; each of which results in a change or insistence concerned with the values chosen (49).

Yet, due to recurrence of one patient's disease in the acceptance and commitment therapy group in the final intervention sessions, the patients' contact with the present moment was fraught with fear of recurrence of disease and death anxiety, which posed a big challenge to the group members.

For patients, accepting recurrence of the disease, defusion of their thoughts, and getting away from them in the half-way of acquisition of the commitment therapy skills required a greater number of sessions, which was not possible due to circumstances of the research. Another explanation in this regard is low level of education of the group members. 62.5% of the participants had a education level below than high school diploma and 37.5% of them had a diploma. Results of a previous research showed that, uneducated patients and patients with poor economic status had higher death anxiety (50).

In addition, effectiveness of the acceptance and commitment therapy on death anxiety was not significant in patients with breast cancer. This finding was inconsistent with results of the study by Bayati, et al (2017), who showed that, acceptance and commitment therapy is effective in alleviating death anxiety in the elderly (51). Also Nadimifar and Bouliati (2017) showed that, acceptance and commitment therapy is effective in compatibility and reducing of death anxiety in women with breast cancer (7).

Regarding explaining results of the research, it can be noted that, the difference in effectiveness of acceptance and commitment therapy in physical activity index can be seen as main difference

between the acceptance and commitment therapy and other psychotherapy including spirituality therapy. Studies have shown that, people treated by acceptance and commitment therapy for chronic pain, reported an increase in activity and quality of life and reduced pain behaviors despite lack of pain reduction. Also, depressed patients treated with acceptance and commitment therapy and did not show any change in a depression scale reported that, their activity and willingness to participate increased in activities that they have previously avoided, which was due to an increase in the depression. Certainly, these findings are considered to be counterproductive from standpoint of other approaches and are completely logical for purposes of acceptance and commitment therapy (39).

There were some limitations in the current study including sampling method (non-random sampling), small sample size, and language differences of a large number of patients as a result of which a group of statistical population was eliminated leading to restriction of available sample, as well as cultural and ethnic differences of the participants in the research, low level of education, and limitation on inclusion of patients from Haft-e-Tir Hospital (Tehran, Iran).

According to the results obtained for spiritual therapy, it can be said that, this therapy is justified to be more effective on death anxiety regarding its specific involvement with death threats and death anxiety. Nevertheless, generalizations of findings should be done with great caution, and more research is recommended to be done in this area.

Conflict of interest

Authors declare no conflict of interests.

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