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The Comparison of the Effectiveness of Acceptance and Commitment Therapy and Spirituality Therapy in Reducing Anxiety in Women with Breast Cancer

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ABSTRACT

Background: The experience of anxiety as a bad experience creates a different behavioral, cognitive, and emotional response that preserves annoying thoughts and inefficient beliefs. The present study aimed to investigate the effectiveness of acceptance and commitment therapy (ACT) and spirituality therapy in reducing anxiety in women with breast cancer in Tehran.

Methods: This was a pre-test/post-test quasi-experimental design research with a control group and a three-month follow-up. The statistical population comprised women with breast cancer visiting the Gynecological Ultra-Specialized Cancer Center of Khatam-al-Anbya Hospital in Tehran in 2021. In total, 45 women with breast cancer were selected and randomly divided into two experimental groups and one control group (n=15). The first and second experimental groups underwent eight 60-minute sessions of ACT and eight 60-minute sessions of spiritual therapy, respectively. The research instruments included the Penn State Worry Questionnaire (PSWQ). The collected data were analyzed using repeated measures ANOVA.

Results: The results showed that ACT and spiritual therapy significantly reduced generalized anxiety scores in the experimental groups compared to the control group ($P<0.01$). Moreover, the absence of anxiety significantly increased in the two experimental groups that underwent ACT and spirituality therapy compared to the control group ($P<0.01$). However, ACT and spirituality therapy did not differ significantly in their effects on the dependent variables.

Conclusion: This study achieved promising results concerning the applicability of ACT and spirituality therapy in reducing anxiety in women with breast cancer. Based on the results, holding ACT and spirituality therapy workshops may exert beneficial effects on reducing anxiety in women with breast cancer.

INTRODUCTION

Breast cancer is the most common cancer and the second main cause of death in American women. In Iran, more than 7,000 women are diagnosed with breast cancer every year.[1,2] The crises caused by cancer result in imbalance and lack of coordination between the mind and the body; however, in the course of this disease, the worst effect on the patient is the feeling of hopelessness and stress.[3] Anxiety is prevalent in cancer patients.[4,5] Specifically, anxiety may begin automatically because of the positive thoughts about its benefit and persist due to the efforts made to stop it as it is created by a bad experience and

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can lead to avoidance of situations that the individual thinks will result in anxiety.[6] As a bad experience, anxiety can lead to different behavioral, cognitive, and emotional responses, which maintain intrusive thoughts and inefficient beliefs. Eventually, the emotional responses to bad experiences aggravate anxiety. This anxiety might be regarded as evidence that there are real threats and dangers.[7, 8] Therefore, these individuals require specialized help to end their bad anxieties.[9]

The acceptance and commitment therapy (ACT) approach is an experience-focused treatment that enjoys a coherent philosophical and theoretical framework. It applies acceptance and commitment-based strategies together with behavior change and commitment strategies to enhance psychological flexibility.[10] ACT is a structured program associated with cognitive-behavioral treatment strategies; i.e., self-supervision, homework assignments, etc. This program mainly seeks to increase psychological flexibility. ACT is based on the belief that psychological problems, disorders, and dissatisfactions are caused on account of poor psychological flexibility.[11,12] Numerous researchers have confirmed the efficiency of ACT in improving physical and psychological disorders.[13-15] Hadlandsmyth *et al.*[16] demonstrated that ACT significantly reduced catastrophizing pain and anxiety in women with breast cancer.

Another method investigated by the researcher in this study was spiritual therapy. Pargament[17] acknowledged that when individuals entered the therapy and counseling room, they usually did not leave their spiritual dimension behind but brought their spiritual beliefs, activities, experiences, values, communications, and spiritual challenges into the therapy and counseling room. Spiritual therapy approaches encourage therapists to address the important spiritual issues of the clients at an appropriate time during their treatment and to utilize language and interventions that indicate the respect and value held by the therapists regarding the spiritual issues of the clients in order to use the potential power of belief and spirituality in the clients in their treatment and improvement.[18] In spiritual therapy, the therapist urges the patients to explore the spiritual issues and topics related to their improvement and recovery. The therapist's emphasis on spiritual issues is impartial and non-judgmental.[19] Gall and Bilodeau,[20] demonstrated that spiritual group therapy was effective in the attachment of women with cancer to God. Based on the presented materials and research background, this study aimed to investigate the effectiveness of ACT and spirituality therapy in reducing anxiety in women with breast cancer.

METHODS

Design and participants

The study was a pre-test/post-test quasi-experimental design with a control group and a three-month follow-up. The statistical population comprised women with breast cancer visiting the Gynecological Ultra-Specialized Cancer Center of Khatam-al-Anbya Hospital in Tehran in 2021. The inclusion criteria included being diagnosed with breast cancer (stage one or two), holding at least a middle school certificate, being in the age group of 40-60 years, not meeting the diagnostic criteria for distinct psychiatric disorders based on self-reports, not receiving anti-anxiety medications. Exclusion criteria included being absent in more than two sessions of the intervention program. Forty-five women with breast cancer were selected and randomly divided into two experimental groups and one control group (n=15 per group). In this study, the sample size was selected by the G-Power software (α= 0.05, test power= 0.90, and effect size= 1.71)[21]. The random coin-throwing method was used for allocating participants to experimental and control groups.

Procedures

Among the women with breast cancer who visited the Gynecological Ultra-Specialized Cancer Center of Khatam-al-Anbya Hospital, those with stage one or stage two cancer (per medical records) were selected. During a 6-month period, 100 women with cancer who visited this center were studied. Afterward, 45 women with breast cancer were identified and randomly placed in two experimental groups and one control group (n=15). The participants entered the research after obtaining informed consent and completed the worry questionnaire in three stages: pre-test, post-test and follow-up. The follow-up period was implemented three months after the post-test. In order to comply with ethical considerations, at the end of the research, an intensive therapy course was implemented for the control group. Moreover, to observe the ethical principles, the research objectives were explained to the participants to reach an informed agreement. In addition, they were informed that the information related to them would be kept confidential and that participating in the research would do no possible harm to them and might have possible benefits.

Intervention program

The first experimental group received eight 60-minute sessions of ACT.[22] The second experimental group received eight 60-minute sessions of spiritual therapy[23], but the control group received neither of these two types of therapy. Treatment sessions of the

experimental groups were provided once a week and on different days. Treatment sessions were performed by a psychotherapist who had passed specialized courses and workshops. Due to the COVID-19 pandemic, the treatment sessions were conducted in accordance with health protocols. A summary of ACT and spiritual therapy sessions are presented in Table 1 and 2.

Table 1. The content of acceptance and commitment therapy sessions[22]

Sessions	Content
Session 1	Introducing the treatment, discussing the limits of confidentiality, obtaining the informed consent from the participants to complete the therapeutic process, introducing the concept of creative hopelessness.
Session 2	Assessing the performance, investigating the effects of the previous session on the individual's life, continuing the discussion about creative hopelessness.
Sessions 3 and 4	Assessing the performance, investigating the effects of the previous session on an individual's life, examining homework assignments, introducing control as a problem not as a solution, introducing the concepts of tendency to accept and behavioral commitment.
Sessions 5 and 6	Increasing knowledge about underlying emotions, and desire positions, identifying negative interaction cycles and painful aspects of participants' experiences, observing emotional processing style, and identifying intrapersonal and interpersonal issues. The walking metaphor, the mindful bus metaphor, and reviewing defusion construction.
Sessions 7 and 8	Assessing performance, investigating the effects of the previous session on the individual's life, reviewing homework assignments, introducing the concept of values, increasing emphasis on behavioral commitments.

Instruments

The Penn State Worry Questionnaire (PSWQ) by Meyer *et al.*[24] was used to assess worry. This 16-item self-report scale measures chronic, excessive, and uncontrollable worry. It is used as a screening tool for generalized anxiety disorder. This questionnaire was scored on a 5-point Likert scale. Each question received a score from 1 to 5 and the total score ranged from 16 to 80. Eleven questions of this questionnaire were used to measure generalized anxiety and 5 questions (questions 1, 3, 8, 10, and 11) were used to measure the absence of anxiety. The scores of the 5 questions related to the absence of anxiety are scored inversely.[24] In this research, the Persian version of the PSWQ was used. The validity and reliability of the Persian version of this instrument was confirmed by Salehpoor et al.[25] The authors reported the reliability of this questionnaire equal to 0.74 based on Cronbach's alpha coefficient.[25] In the present study, Cronbach's alpha coefficient was 0.80 for the questionnaire.

Statistical analyses

Data were analyzed by descriptive and inferential statistics, such as mean, standard deviation, and repeated measures analysis (ANOVA). Levene's test was performed to examine the equality of variances. The Shapiro-Wilk test was performed to examine the normal distribution of data. SPSS-23 software was further used to analyze the data.

Table 2. The content of spiritual therapy sessions[23]

Sessions	Content
Session 1	Introduction of the therapy, discussion of the limits of confidentiality, acquisition of informed consent from the participants to complete the therapeutic process. Introduction of participants to each other and discussion of the concepts of spirituality and religion and their effects on an individual's life.
Session 2	Self-awareness and intrapersonal communication, and listening to the inner voice; Strengthening Self-image (the word God, relationship with God and/or any higher power that the clients believe in, praying, etc.).
Session 3	Communion with God, establishment of relationships with sanctities, introduction of exercises, and assessment of the previous session.
Session 4	Altruism (performing group spiritual activities), annoyance and unforgiveness, guilt feeling and self-forgiveness.
Session 5	Death and fear of death and pain.
Session 6	Believing and trusting in God
Session 7	Appreciation and gratitude.
Session 8	Final session, review of previous sessions, and summation.

RESULTS

The mean and standard deviation (SD) of the age of women with breast cancer in the ACT, spiritual therapy and control groups were 48.22 (4.72), 47.54 (5.16) and 48.81 (5.43) years, respectively. The results of demographic variables of women are presented in Table 3. The descriptive findings of the research showed that, compared to the control group, the scores for anxiety of participants in ACT and spiritual therapy groups in the posttest stage differed from those of the pretest stage (Table 4).

Table 3. Results of demographic variables of women with breast cancer in experimental and control groups

Variable		ACT	Spiritual therapy	Control
Mean (SD) age (years)		48.22 (4.72)	47.54 (5.16)	48.81 (5.43)
Duration of illness (years)		3.68 (1.86)	2.81 (1.28)	4.27 (2.06)
Marital status	Married	12 (80.00%)	13(86.67%)	11 (73.33%)
	Single	3 (20.00%)	2 (13.33%)	4 (26.67%)
Education	Middle school	4 (26.67%)	3 (20.00%)	6 (40.00%)
	High school	6 (40.00%)	7 (46.67%)	6 (40.00%)
	Academic education	5 (33.33%)	5 (33.33%)	3 (20.00%)

The results of Shapiro-Wilk test suggested that the calculated statistics for the anxiety variables were non-significant in the preset. Therefore, the hypothesis that the scores received by the data followed a normal distribution was accepted (Table 4). The results of Box's M test for the homogeneity of variance in the covariance matrix showed that the calculated F values for the dependent variables were not significant (Box's M=12.25, P=0.09). Thus, the hypothesis of homogeneity of variance in the covariance matrix was accepted. The results of Levene's test indicated that the calculated F values for all the dependent variables were non-significant. Therefore, the hypothesis of homogeneity of variance was accepted.

Table 4. Mean and standard deviation (SD) of research variable in experimental and control groups

Variable	Phases	ACT	Spirituality therapy	Control	Shapiro-Wilk	P
		Mean ± SD	Mean ± SD	Mean ± SD	Statistic	
Generalized anxiety	Pretest	35.26 ± 5.56	34.93 ± 4.83	35.80 ± 6.16	0.988	0.515
	Posttest	26.13 ± 8.98	29.06 ± 7.80	36.93 ± 6.59	0.984	0.303
	Follow-up	26.66 ± 8.74	29.86 ± 7.24	35.92 ± 6.30	0.986	0.399
Absence of anxiety	Pretest	10.06 ± 2.89	10.40 ± 3.13	9.53 ± 2.61	0.987	0.450
	Posttest	14.40 ± 3.64	12.93 ± 4.31	9.20 ± 1.69	0981	0.175
	Follow-up	14.46 ± 3.41	12.46 ± 3.60	9.06 ± 1.43	0.984	0.287

Table 5 shows that there were significant differences between the mean scores of the variables in the pretest, posttest, and follow-up stages (P<0.01). Furthermore, taking into account the significance of the interaction effects of time × group, and the significance of the effects of group on generalized anxiety and absence of anxiety, it can be concluded that the changes in generalized anxiety and absence of anxiety in women with breast cancer in the course of pretest, posttest, and follow-up stages were not identical in the changes in the two experimental groups and the control group. In light of that, it can be argued that ACT and spirituality therapy influenced generalized anxiety and the absence of anxiety in women with breast cancer.

Table 5. Repeated measurement results for the effects of time, group, and interaction of time and group

Variable	Source	SS	df	MS	F	P	η^2
Generalized anxiety	Time	268.82	1	268.82	10.84	0.002	0.28
	Group	1276.90	1	1276.90	9.09	0.005	0.26
	Time × group	286.02	1	286.02	11.53	0.002	0.29
Absence of anxiety	Time	58.02	1	58.02	9.93	0.004	0.26
	Group	309.88	1	309.88	21.45	0.001	0.43
	Time × group	88.82	1	88.82	15.19	0.001	0.35

According to the results of the post hoc test, there were significant differences between the mean scores for generalized anxiety and for the absence of anxiety in the pretest and posttest stages (P<0.01). However, there were no significant differences between the scores for generalized anxiety and those for the

absence of anxiety in the posttest and follow-up stages (Table 6). Thus, the execution of treatment sessions had appropriate stability in reducing generalized anxiety and improving the absence of anxiety in women with breast cancer.

Table 6. LSD post-hoc test results of pairwise comparisons

Variable	Phase A	Phase B	Mean difference (A-B)	SE	P	95% Confidence interval	
						Lower limit	Upper limit
Generalized anxiety	Pretest	Posttest	4.50	1.34	0.002	1.76	7.24
	Pretest	Follow-up	4.23	1.29	0.003	1.60	6.87
	Posttest	Follow-up	-0.27	0.19	0.181	-0.67	0.13
Absence of anxiety	Pretest	Posttest	-2.00	0.64	0.004	-3.31	-0.69
	Pretest	Follow-up	-1.97	0.62	0.004	-3.24	-0.69
	Posttest	Follow-up	0.03	0.10	0.745	-0.17	0.24

DISCUSSION

This study aimed to investigate the effectiveness of ACT and spirituality therapy in reducing anxiety in women with breast cancer in Tehran. The research findings indicated that there were no significant differences between the effects of ACT and spiritual therapy on generalized anxiety and absence of anxiety. Nevertheless, both therapeutic approaches reduced generalized anxiety and improved the absence of anxiety. In agreement with the results of this research, Mohabbat-Bahar *et al.*[26] demonstrated that ACT reduced emotional distress and anxiety. Waters *et al.*[27], stated that ACT reduced anxiety and perception of illness in patients with anxiety disorder. Jafari *et al.*[28] showed that spiritual group therapy significantly improved quality of life and pain severity in patients with breast cancer.

To explain the effectiveness of spiritual therapy in reducing anxiety, it can be argued that spirituality– searching for meaning and purpose to communicate with a sacred source or ultimate reality– reduces anxiety in patients. In other words, religion and spirituality provide a collection via which individuals can perceive the meaning of their lives.[29] Therefore, spirituality is a strong predictor of hope and mental health. In addition, it is a crucial resource for physical health and improvement of disease and is correlated with reduction of anxiety in patients. To put it differently, spiritual therapy approaches encourage the therapist to address the important spiritual issues of the clients at an appropriate time during their treatment, and to utilize language and interventions that indicate the respect and value held by the therapist regarding the spiritual issues of the clients in order to use the potential power of belief and spirituality in their treatment and improvement. To help the clients improve and recover, the therapists in spirituality-oriented therapy urge the clients to explore spiritual topics and issues.[30] These therapists emphasize the spiritual issues via psychological approaches used impartially and nonjudgmentally along with other treatment methods such as drug consumption.

The therapist guides the clients toward spiritual issues to improve the process of treatment for mental and physical health, and the clients make efforts to reduce anxiety and enhance hope for the future through strengthening spirituality and obtaining peace bearing in mind spiritual needs.[18] On the other hand, the threatening nature of cancer increases the spiritual needs of these patients. Patients with cancer often utilize their spiritual and religious beliefs to gain meaning in life and hope during their disease and improvement. They also use these beliefs to cope with the concept of death. Hopeful thoughts and cancer are related in two ways. Hopeful individuals concentrate on resolving problems. In addition, they manifest less distress and more adjustment when diagnosed with cancer and in the course of treatment. It appears that the threatening nature of cancer increases the spiritual needs of humans.[18] Patients with cancer regard their spiritual and religious beliefs as a resource for gaining meaning for life during the disease and treatment and utilize it to cope and deal with the concept of death. In light of that, spirituality is an effective resource for coping with the physical and mental responses in order to reduce worry in patients.[28] In other words, spirituality can strengthen the psychological adjustment of individuals through providing supportive resources and also indirectly via influencing hope.

To explain the effectiveness of ACT in reducing anxiety, we can say that the features and capabilities of ACT help women with cancer to confront their emotions, experiences, and physical symptoms of their disease differently from before. In light of that, ACT decreases the struggle with negative thoughts and increases thought acceptance. Consequently, it reduces anxiety in patients. Thus, women in the experimental groups were able to considerably reduce their sensitivity and control by engaging in acceptance and concentration exercises, and as a

result, decreased their anxiety significantly. On the other hand, experimental avoidance often increases the frequency or severity of avoided thoughts and feelings such as anxiety. When an individual is asked to avoid thinking about a special subject, they act in the exact opposite way and focus more on that subject.[27] Accordingly, it intensifies anxiety, which is addressed in ACT, in which individuals are trained to develop skills in order to be aware of and observe their negative feelings and thoughts. Thus, having accepted their thoughts, individuals can develop the ability to reduce the signs of anxiety and to decrease it. ACT trains patients to emphasize creating a valuable life instead of changing and reducing symptoms and accept their thoughts, feelings, memories, and bodily sensations without judgment and with no need to defend themselves against them. Through defusion, this treatment can be effective in reducing anxiety.[28]

ACT utilizes mindfulness skills, acceptance, and cognitive defusion to increase psychological flexibility. Accordingly, it increases the patients' abilities to develop a relationship with their current experiences. At the same time, by combining and strengthening these concepts, ACT gives meaning to life, raises hope, and increases future purposes in these individuals, all of which reduce anxiety.[28] In other words, living in the moment refers to psychological presence, which means a conscious relationship and involvement with whatever is happening in the moment. ACT and its techniques encourage observation and description of experiences in the moment free of judgment. This enables patients to experience changes in the world as they really are, not as their mind creates them. ACT describes behaviors for consistent performance; i.e., how an individual can act consistently in a specific situation. On the other hand, setting distinct and clear values is a basic step toward creating a meaningful life. In ACT, values are regarded as directions chosen in life, and they are compared to a compass since they direct individuals and constantly guide them in their journey. At the end of this duality, the committed act is discussed. A value-based action arouses a broad spectrum of desirable and undesirable thoughts and feelings.[31] Therefore, committed action means to do whatever is necessary to have a valuable life even if it is followed by pain and suffering. Thus, in ACT, cancer patients learn about three valuable courses of action. First, they learn to live with their current experiences here and now. Then, they will learn to select values and live a goal-oriented life in order to promote their health. Finally, they will be stimulated to take on a committed role in regard to these two courses of action. This is a role that finally leads patients to combining life in the moment and future-focused living.

This research was conducted on women with breast cancer referred to the Gynecological Ultra-Specialized Cancer Center of Khatam-al-Anbya Hospital in Tehran. Therefore, caution should be taken in generalizing the results to other study populations. Not controlling the history of surgery of the participants and using a questionnaire as the only data collection tool were other limitations of the present study. It is suggested future studies control the history of surgery in patients. Also, in future studies, the use of the interview tool in addition to the questionnaire can be used to collect data.

CONCLUSION

ACT intervention programs and spiritual therapy reduced anxiety in women with breast cancer. This research achieved promising results concerning the applicability of ACT and spirituality therapy in reducing anxiety in women with breast cancer. Based on the results, holding ACT and spirituality therapy workshops may exert beneficial effects on reducing anxiety in women with breast cancer. These interventions can be provided along with other psychological interventions in order to reduce the psychological and physical burden of caring for women with breast cancer.

ETHICAL CONSIDERATIONS

The study was approved by the Ethical Committee of Islamic Azad University-Karaj Branch (code: 940000210). The written consent was obtained from all research units. Also, the authors affirm their observance of ethical rules when processing the results of the studies.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest.

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REFERENCES

1. Ghavami S B, Zarani F. Cancer, Covid-19 and the perspective of treatments. Rooyesh. 2021; 10 (4) :207-218. doi: 20.1001.1.2383353.1400.10.4.6.2.
2. Vanni G, Pellicciaro M, Materazzo M, Palombi L, Buonomo OC. Breast Cancer Diagnosis in Coronavirus-Era: Alert From Italy. Front Oncol. 2020;10:938. doi: 10.3389/fonc.2020.00938.

3. Kianpour Barjoee L, Amin N, Keykhosrovani M, Shafiabadi A. Effectiveness of Positive Thinking Training on Perceived Stress, Metacognitive Beliefs, and Death Anxiety in Women with Breast Cancer. Arch Breast Cancer. 2022; 9(2):195-203. doi: 10.32768/abc.202292195-203.
4. Naser AY, Hameed AN, Mustafa N, Alwafi H, Dahmash EZ, Alyami HS, Khalil H. Depression and Anxiety in Patients with Cancer: A Cross-Sectional Study. Front Psychol. 2021;12:585534. doi: 10.3389/fpsyg.2021.585534.
5. Wells A, Carter K. Further tests of a cognitive model of generalized anxiety disorder: Metacognitions and worry in GAD, panic disorder, social phobia, depression, and nonpatients. Behavior Therapy. 2001;32(1):85-102. 9. doi: 10.1016/S0005-7894(01)80045-9.
6. Tsaras K, Papathanasiou IV, Mitsi D, Veneti A, Kelesi M, Zyga S, Fradelos EC. Assessment of Depression and Anxiety in Breast Cancer Patients: Prevalence and Associated Factors. Asian Pac J Cancer Prev. 2018;19(6):1661-1669. doi: 10.22034/apjcp.2018.19.6.1661.
7. Villar RR, Fernández SP, Garea CC, Pillado MTS, Barreiro VB, Martín CG. Quality of life and anxiety in women with breast cancer before and after treatment. Rev Lat Am Enfermagem. 2017;25:e2958. doi: 10.1590%2F1518-8345.2258.2958.
8. Charalambous A, Kaite CP, Charalambous M, Tistsi T, Kouta C. The effects on anxiety and quality of life of breast cancer patients following completion of the first cycle of chemotherapy. SAGE Open Med. 2017;5:2050312117717507. doi: 10.1177/2050312117717507.
9. Hashemi SM, Rafiemanesh H, Aghamohammadi T, Badakhsh M, Amirshahi M, Sari M, Behnamfar N, Roudini K. Prevalence of anxiety among breast cancer patients: a systematic review and meta-analysis. Breast Cancer. 2020;27(2):166-178. doi: 10.1007/s12282-019-01031-9.
10. Johns SA, Stutz PV, Talib TL, Cohee AA, Beck-Coon KA, Brown LF, Wilhelm LR, Monahan PO, LaPradd ML, Champion VL, Miller KD, Giesler RB. Acceptance and commitment therapy for breast cancer survivors with fear of cancer recurrence: A 3-arm pilot randomized controlled trial. Cancer. 2020;126(1):211-218. doi: 10.1002/cncr.32518.
11. Mosher CE, Secinti E, Li R, Hirsh AT, Bricker J, Miller KD, Schneider B, Storniolo AM, Mina L, Newton EV, Champion VL, Johns SA. Acceptance and commitment therapy for symptom interference in metastatic breast cancer patients: a pilot randomized trial. Support Care Cancer. 2018;26(6):1993-2004. doi: 10.1007/s00520-018-4045-0.
12. Ghorbani V, Zanjani Z, Omidi A, Sarvizadeh M. Efficacy of acceptance and commitment therapy (ACT) on depression, pain acceptance, and psychological flexibility in married women with breast cancer: a pre- and post-test clinical trial. Trends Psychiatry Psychother. 2021;43(2):126-133. doi: 10.47626/2237-6089-2020-0022.
13. Mahdavi A, Aghaei M, Aminnasab V, Tavakoli Z, Besharat M, Abedin M. The Effectiveness of Acceptance-Commitment Therapy (ACT) on Perceived Stress, Symptoms of Depression, and Marital Satisfaction in Women with Breast Cancer. Arch Breast Cancer. 2017;4(1): 16-23. doi: 10.19187/abc.20174116-23.
14. Shari NI, Zainal NZ, Ng CG. Effects of brief acceptance and commitment therapy (ACT) on subjective cognitive impairment in breast cancer patients undergoing chemotherapy. J Psychosoc Oncol. 2021;39(6):695-714. doi: 10.1080/07347332.2020.1856283.
15. Sadeghi F, Hassani F, Emamipour S, Mirzaei H. Effect of Acceptance and Commitment Group Therapy on Quality of Life and Resilience of Women with Breast Cancer. Arch Breast Cancer. 2018;5(2):111-117. doi: 10.19187/abc.201853111-117.
16. Hadlandsmyth K, Dindo LN, Wajid R, Sugg SL, Zimmerman MB, Rakel BA. A single-session acceptance and commitment therapy intervention among women undergoing surgery for breast cancer: A randomized pilot trial to reduce persistent postsurgical pain. Psychooncology. 2019;28(11):2210-2217. doi: 10.1002/pon.5209.
17. Pargament KI. Spirituality integrated psychotherapy: understanding and addressing the Sacred. New York: Guilford Press. 2007.
18. Leão DCMR, Pereira ER, Pérez-Marfil MN, Silva RMCRA, Mendonça AB, Rocha RCNP, García-Caro MP. The Importance of Spirituality for Women Facing Breast Cancer Diagnosis: A Qualitative Study. Int J Environ Res Public Health. 2021;18(12):6415. doi: 10.3390/ijerph18126415.
19. Movafagh A, Heidari MH, Abdoljabbari M, Mansouri N, Taghavi A, Karamatinia A, Mehrvar N, Hashemi M, Ghazi M. Spiritual Therapy in Coping with Cancer as a Complementary Medical Preventive Practice. J Cancer Prev. 2017;22(2):82-88. doi: 10.15430/JCP.2017.22.2.82.
20. Gall TL, Bilodeau C. Attachment to God and coping with the diagnosis and treatment of breast cancer: a longitudinal study. Support Care Cancer. 2020;28(6):2779-2788. doi: 10.1007/s00520-019-05149-6.
21. Khoshvaght N, Naderi F, Safarzadeh S, Alizadeh M. Comparison of the Effects of Metacognitive Therapy and Compassion-Focused Therapy on Anxiety in the Mothers of Children with Cerebral Palsy. Women. Health. Bull. 2021;8(1):1-9. doi: 10.30476/whb.2020.88585.1087.
22. Hayes SC, Levin ME, Plumb-Vilardaga J, Villatte JL, Pistorello J. Acceptance and commitment therapy and contextual behavioral science: examining the progress of a distinctive model of behavioral and cognitive therapy. Behav Ther. 2013;44(2):180-198. doi: 10.1016/j.beth.2009.08.002.
23. Richards PS, Bergin AE. Religious and Spiritual Assessment. A spiritual strategy for counseling and psychotherapy, 2nd ed. Washington, DC, US: American Psychological Association; 2005. p. 219-49. doi: 10.1037/11214-008.

24. Meyer TJ, Miller ML, Metzger RL, Borkovec TD. Development and validation of the penn state worry questionnaire. Behav Res Ther 1990;28:487-95. doi: 10.1016/0005-7967(90)90135-6.
25. Salehpoor G, Kafi SM, Hatamiyan HR, Mohammadpoor K, Rezaei S. Validation of Persian Version of the Penn State Worry Questionnaire among Multiple Sclerosis Patients. Knowledge and Health in Basic Medical Sciences. 2017;12(1):16-27. doi: 10.22100/jkh.v12i1.1596.
26. Mohabbat-Bahar S, Maleki-Rizi F, Akbari ME, Moradi-Joo M. Effectiveness of group training based on acceptance and commitment therapy on anxiety and depression of women with breast cancer. Iran J Cancer Prev. 2015;8(2):71-6. Available at: https://pubmed.ncbi.nlm.nih.gov/25960844.
27. Waters CS, Annear B, Flockhart G, Jones I, Simmonds JR, Smith S, Traylor C, Williams JF. Acceptance and Commitment Therapy for perinatal mood and anxiety disorders: A feasibility and proof of concept study. Br J Clin Psychol. 2020;59(4):461-479. doi: 10.1111/bjc.12261.
28. Jafari N, Zamani A, Farajzadegan Z, Bahrami F, Emami H, Loghmani A. The effect of spiritual therapy for improving the quality of life of women with breast cancer: a randomized controlled trial. Psychol Health Med. 2013;18(1):56-69. doi: 10.1080/13548506.2012.679738.
29. Sanaeinasab H, Saffari M, Sheykh-Oliya Z, Khalaji K, Laluie A, Al Zaben F, Koenig HG. A spiritual intervention to reduce stress, anxiety and depression in pregnant women: Randomized controlled trial. Health Care Women Int. 2021;42(12):1340-1357. doi: 10.1080/07399332.2020.1836643.
30. Durmuş M, Ekinci M. The Effect of Spiritual Care on Anxiety and Depression Level in Patients Receiving Hemodialysis Treatment: a Randomized Controlled Trial. J Relig Health. 2022;61(3):2041-2055. doi: 10.1007/s10943-021-01386-4.
31. Khoramnia S, Bavafa A, Jaberghaderi N, Parvizifard A, Foroughi A, Ahmadi M, Amiri S. The effectiveness of acceptance and commitment therapy for social anxiety disorder: a randomized clinical trial. Trends Psychiatry Psychother. 2020;42(1):30-38. doi: 10.1590/2237-6089-2019-0003.

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