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The effectiveness of acceptance and commitment therapy on identity crisis and distress tolerance in mothers of children with cancer

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Abstract:

BACKGROUND: Examining the psychological factors related to the disease and their treatment can be important. The present study was carried out with the aim of the effectiveness of acceptance and commitment therapy (ACT) on identity crisis and distress tolerance in the mothers of children with cancer.

MATERIALS AND METHODS: This research method was semi-experimental with a pre-test and post-test design. The statistical population included all mothers of children with cancer who were referred to Sheikh Mashhad Hospital in 2021. The sample consisted of 30 people who were selected by purposive sampling and were randomly replaced in two groups of experimental and control (equally 15 people in each group). The experimental group underwent ACT, and the control group did not receive any therapy. The identity crisis questionnaire of Rajaei *et al.* and the distress tolerance scale of Sevens and Gaher were used. Data were analyzed through SPSS 21 software and the analysis of covariance.

RESULTS: The results revealed that the effect of therapeutic intervention on identity crisis ($F = 53.601$, $P < 0.05$) as well as distress tolerance is significant ($F = 181.34$, $P < 0.05$). In addition, the effect was stable in the follow-up period ($P < 0.05$).

CONCLUSION: According to the results, it can be stated that ACT can reduce the identity crisis and increase the level of distress tolerance in the mothers of children with cancer.

Keywords:

ACT, Cancer, Identity crisis, Mothers

Introduction

Cancer is a common, debilitating disease and one of the main causes of death in the world.^[1] Recent advances in cancer treatment have helped a large number of patients to be saved from death,^[2] however despite these conditions; cancer compared to other diseases creates a prognosis of fear and worry for the patient and his family.^[3] From the point of view of medical science, cancer happens to a specific person, but the families of cancer patients, especially mothers, also

experience stressful events and a continuous state of anxiety.^[4] Therefore, examining the psychological factors related to cancer and their psychological treatment can be of great importance, although it seems that cancer has an effect on identity crisis and distress tolerance in mothers of children with cancer.^[5,6]

An identity crisis is a kind of disorder that alienates an individual in personal and social relationships.^[7] People who have an identity crisis suffer from signs of aimlessness, hopelessness, the lack of

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self-confidence, anxiety, aggression, and anger.^[8] Identity crisis may occur at any stage of human life. People who fail to achieve a coherent identity are those who have experienced an identity crisis. These people may withdraw from the scene of normal life or be drawn to crime or drugs in search of a negative identity.^[9]

Distress tolerance is also a meta-emotional concept,^[10] and it is called how people respond to negative emotions.^[11] Distress tolerance is a variable for individual differences that is concerned with the capacity to experience and resist emotional distress and is increasingly presented as an important construct in the development of new insight into the initiation and maintenance of psychological trauma.^[12] Distress tolerance is also a common construct for research in the field of emotional dysregulation and is defined as the ability to tolerate disturbing physiological states.^[13] In addition, distress tolerance involves refraining from responding to an opportunity for negative reinforcement.^[14] Distress may be the result of physical and cognitive processes, but its representation is in the form of an emotional state, which in most cases is characterized by the desire to act to get rid of that emotional experience.^[15] Several factors can affect distress tolerance, one of the important ones is the theories that examine the neurobiological basis of anxiety.^[16]

Today, the positive effect of psychological interventions in the healing process of chronic physical diseases has been confirmed.^[17] In the last few decades, significant progress has been made in the development of psychosocial interventions for cancer patients.^[18] The emergence of the identity crisis and the decrease in the level of distress tolerance in mothers with children with cancer and their great importance in personal and social life have doubled the need to investigate effective treatment approaches to improve the level of these components.

One of the new therapeutic approaches is acceptance and commitment therapy (ACT). This therapeutic approach includes active and conscious acceptance of negative thoughts, emotions, and physical sensations that arise during a person's life without unnecessary efforts to change their shape and frequency.^[19] The fundamental processes of this therapy include acceptance, mindfulness, living in the present moment, cognitive dissonance, values, and committed action.^[20] ACT believes that engaging with emotions makes them worse. In fact, this treatment method is a context-oriented approach that challenges clients to accept their thoughts and feelings and commit to the necessary changes.^[21] In ACT, the skills of mindfulness, acceptance, and cognitive dissonance are used to increase psychological flexibility.^[22] The studies of Marmarchinia and Zhoghipaydar^[23], and Twohig and Levin^[24] emphasize the effect of ACT on reducing psychological damage.

Considering the conditions created after the child's cancer diagnosis and the mother's special role as the main caregiver, the mother's helplessness is one of the factors that affect the child's adaptation.^[25] For various reasons, mothers may experience an identity crisis and confusion when their child is sick, which is caused by the overload that weighs on the mother's shoulders.^[26] In addition to this long treatment period, it creates emotional exhaustion that damages the physical and psychological system of the mother.^[27] Therefore, the mothers of children with cancer face many physical and economic problems during the care process, and their family life is negatively affected by the burden caused by child care.^[28,29] Most parents do not know how to deal with their feelings in these difficult days, they often do not have enough knowledge in dealing with their children and challenges such as the child's questions about his illness, non-cooperation in treatment, child's severe pain, etc., This issue greatly affects their relationship, and a mother who faces these difficult days sees life as absurd and does not know what to do with these feelings. One of the appropriate strategies to improve the psychological condition of patients and their relatives can be the use of psychological interventions. Considering the importance of the mental peace of parents, especially mothers, in the better treatment of their child, we decided to investigate ACT for the families of children with cancer to increase distress tolerance during treatment and reduce the identity crisis of these mothers with using the techniques of accepting and teaching efficient behaviors and with mindfulness exercises. Furthermore, considering the increasing prevalence of this disease in society and little research has been done in this field. The present study was conducted with the aim of investigating the effect of ACT on identity crisis and distress tolerance in mothers of children with cancer.

Materials and Methods

Study design and setting

This applied research was conducted as a semi-experimental design with a pre-test-post-test design with a control group.

Study participants and sampling

The statistical population included all mothers of children with cancer who referred to Sheikh Mashhad Hospital in 2021. In the present study, people were selected by purposive sampling. In this way, among the mothers who received a score higher than the cut-off in questionnaires and based on Carey's model, 30 people were selected and then were randomly replaced in two groups of experimental (15 people) and control (15 people).

The inclusion criteria included the age range of 25 to 45 years, education of at least ninth grade, not having an acute illness with cancer, and willingness to participate in the research. Exclusion criteria included the absence of more than one session in treatment sessions, non-cooperation in treatment and having any type of psychotic disorder, bipolar disorder and personality disorder as well as physical disability.

Data collection tool and technique

To conduct the present study, the people who met the criteria for participating in the study were randomly assigned to experimental and control groups. In this study, identity crisis questionnaires and distress tolerance scale were used, and the questionnaires were given to the participants. Necessary explanations were given about how to answer and the pre-test was performed, then the treatment was performed on the experimental group. In the sessions of ACT, the eight-session therapy protocol of Vowles and Sorrell^[30] was used, and the summary of the ACT is presented in Table 1. Afterward, the questionnaires were again provided to both groups, and after completion, the post-test was done.

Identity crisis questionnaire (ICQ): This questionnaire was created by Rajaei *et al.*^[31] and contains 50 questions. ICQ evaluates a total of ten signs of identity crisis,

Table 1: Summary of acceptance and commitment therapy sessions

Session	Content
First	Getting to know the goals of therapy—telling the “pain story” of each member in his own language and conceptualizing the problem, examining the client’s experiential avoidance, and creating creative frustration with the metaphors of the yellow jeep, the ball pool, the man in the well, etc.
Second	Explaining the concept of acceptance using the metaphors of Jack the Tramp, the baby on the plane, the exercise of compassion, the yo-yo metaphor, and the metaphor of the house on the side of the road.
Third	Teaching how to use the metaphors of leaves floating in the river and thoughts floating in the room and practicing hands as thoughts and practicing hands as thoughts and the metaphor of bus passengers and the metaphor of pickles
Fourth	Training on the use of popular news hour metaphors, practice of good moments with open and closed eyes, practice of writing autobiography, and ten steps to achieve values and scoreboard metaphor.
Fifth	Teaching the use of chess board metaphors, watching TV and self-conceptualized trial, and the prince and beggar metaphor.
Sixth	Training to use mindful walking exercises, eating raisins, dandelion practice, mindful breathing, practicing awareness of experiences
Seventh	Training and metaphor of bubbles and movement on the road and bicycle factory
Eighth	A blueprint for the future, reviewing committed action as a “lifetime commitment.”

which are aimlessness, emptiness, despair, the lack of self-confidence, worthlessness, dissatisfaction with life, anxiety, sadness, aggression, and anger. The scoring of this questionnaire is based on a five-point Likert scale from 1 completely disagree to 5 completely agree. Its validity has been confirmed by specialists, and its reliability was obtained by Cronbach’s alpha of 0.93.^[31] In the present study, its reliability was also checked and Cronbach’s alpha coefficient was 0.86.

Distress tolerance scale (DTS): This scale was developed by Sevens and Gaher in 2005 and has 15 items and four subscales including tolerance of emotional disturbance, absorption by negative emotions, mental estimation of disturbance, and regulation of efforts to relieve disturbance. The options of the scale are scored based on a five-point Likert scale from 1 as complete agreement to 5 as complete disagreement, respectively. High scores in this scale indicate high distress tolerance. In Hawkins’ research^[32], the internal consistency of DTS was obtained as 0.91. This scale translated to Persian and standardized by Azizi *et al.*,^[33] and Cronbach’s alpha for the subscales of tolerance, absorption, evaluation, and adjustment was 0.75, 0.77, 0.70, and 0.75, respectively.

The collected data were analyzed using SPSS 21 software, and covariance analysis was used to investigate the effect of therapeutic intervention on the variables of identity crisis and disturbance tolerance.

Ethical consideration

The ethical issues of the study were as follows: At the beginning of the research, the subjects were given the necessary information about the objectives, duration of the research, and how to cooperate during the study, and then informed written consent was obtained from them. Subjects were assured that the collected information would be considered confidential and the results would be kept private. At the end of the study, the control group also participated in the therapy.

This study was approved by the ethics committee of Islamic Azad University, Torbat-e Jam Branch with the code IR.IAU.TJ.REC.1400.002.

Results

Mean and standard deviation of identity crisis and distress tolerance is presented in Table 2. Based on the results, there was a significant difference between the average pre-test and post-test scores of identity crisis and distress tolerance of the experimental group ($P < 0.05$).

Table 3 shows the results of the normality of the study variables. The results of the Kolmogorov–Smirnov test

showed that the distribution of the research variables is normal.

The Box’s M test was used to check the assumption of homogeneity of the covariances of the research variables. The results of the Box’s M showed the similarity of covariances in the experimental and control groups ($P = 0.089$, $F = 1.25$, $\text{Box} = 59.26$). Moreover, the results of Levine’s test revealed that the variables of identity crisis ($F = 0.57$) and distress tolerance ($F = 0.48$) are not significant ($P > 0.05$). Therefore, the assumption of equality or homogeneity of the variances of the research variables in the experimental and control groups is confirmed.

In Table 4, the results of the covariance analysis of identity crisis and distress tolerance are presented. The results of analysis of covariance indicated that by removing the effect of pre-test identity crisis scores, the effect of therapeutic intervention on identity crisis scores in the post-test is significant ($P < 0.05$,

$F = 53.601$, $\text{Partial } \eta^2 = 0.665$). Likewise, according to the results of covariance analysis, the effect of therapeutic intervention on distress tolerance scores in the post-test was significant ($F < 0.05$, $P = 181.34$, $\text{Partial } \eta^2 = 0.87$). Therefore, it can be stated that ACT is effective on the identity crisis and distress tolerance in the mothers of children with cancer.

As can be seen in Table 5, there is no significant difference between the post-test and follow-up scores of the studied variables in the experimental group ($P > 0.05$). Therefore, the treatment intervention of ACT has had a lasting effect in reducing the identity crisis and increasing distress tolerance in the mothers of children with cancer.

Discussion

The aim of this study was to investigate the effectiveness of ACT on identity crisis and distress tolerance in the mothers of children with cancer. The results showed that ACT is effective on the identity crisis in the mothers of children with cancer. This finding confirmed the results of the research of Roohi *et al.*,^[34] Annunzia *et al.*,^[21] and Peterson and Eifert.^[35] In its explanation, it can be argued that people who have an identity crisis are suffering from signs of aimlessness and despair.^[8] In fact, identity crisis is a kind of disorder that occurs in an individual and alienates the person from social relationships.^[36] However, the fundamental processes of ACT include acceptance, mindfulness, living in the present moment, cognitive dissonance, principles, and committed action, and also the core of change in this therapy is the change in internal and external verbal behaviors. ACT is a contextual approach that challenges clients to accept their thoughts and feelings and commit to necessary changes.^[21] In this therapy, mindfulness, acceptance, and cognitive dissonance skills are used to increase psychological flexibility.^[21]

The final aim of ACT is to help increase psychological flexibility, which makes a person aware and changes his behavior or stabilizes himself in the direction of the chosen values.^[37] In psychological flexibility, a more proportionate ability to make a practical choice among different options occurs.^[38] Here, by applying ACT in the

Table 2: Mean of components of identity crisis and distress tolerance in the studied groups (n=30)

Variable and Group	Pre-test	Post-test	P	
Identity crisis	Experiment	166.60±30.09	114.43±25.73	0.023
	Control	158.02±28.21	156.84±27.42	
Distress tolerance	Experiment	54.66±16.17	44.95±18.14	0.045
	Control	42.96±19.33	44.03±16.87	

Table 3: Kolmogorov–Smirnov test for the normality of research variables

Variable	Group	Z	P
Identity crisis	Experiment		
	Pre-test	0.162	0.091
	Post-test	0.137	0.074
	Control		
	Pre-test	0.124	0.093
	Post-test	0.146	0.073
Distress tolerance	Experiment		
	Pre-test	0.165	0.111
	Post-test	0.286	0.96
	Control		
	Pre-test	0.119	0.087
	Post-test	0.187	0.114

Table 4: Results of covariance analysis of identity crisis and distress tolerance

Variable	Source	SS	df	MS	F	P	Eta-squared
Identity crisis	Pre-test	1128.139	1	1128.139	53.087	0.001	0.657
	Group	1138.976	1	1138.976	53.601	0.001	0.665
	Error	684.208	27	25.341			
	Total	70184	30				
Distress tolerance	Pre-test	1285.25	1	1285.25	128.61	0.001	0.826
	Group	1812.24	1	1812.24	181.34	0.001	0.87
	Error	269.82	27	9.993			
	Total	89325	30				

Table 5: Results of changes in mothers' identity crisis and distress tolerance in the follow-up phase

Variable	Mean±SD		t	P
	Post-test	Follow-up		
Identity crisis	114.43±25.73	116.14±18.12	1.96	0.078
Distress tolerance	44.95±18.14	48.41±17.28	0.721	0.472

internal and external verbal behaviors in the mothers of children with cancer, their identity crisis was reduced.

The results of the present study showed that ACT has significantly increased distress tolerance in mothers of children with cancer. In the studies of Amirian *et al.*,^[39] Mansouri *et al.*,^[40] and Feros *et al.*,^[41] mothers' distress tolerance was increased, which is consistent with the findings of our study. It can be said that distress tolerance is the tendency to refrain from performing behaviors that provide quick relief from experiencing an unpleasant feeling. In behavioral terms, distress tolerance involves refraining from responding to an opportunity for negative reinforcement.^[14] Actually, distress tolerance is a variable for individual difference that refers to the capacity to experience and resist emotional distress and is the ability to tolerate and accept negative emotions, so that problem solving can be done through it.^[42] In emotional distress, the inability to completely surround the experience of annoying and uncomfortable emotions is evident.^[43] Distress may be the result of physical and cognitive processes, and people who have a child with cancer usually have a reduced level of distress tolerance. Therefore, its representation is in the form of an emotional state, which in most cases is characterized by the desire to perform an action to get rid of that emotional experience.^[15] ACT with active and conscious acceptance of negative thoughts, emotions, and physical sensations that have been created during a person's life can have an effect on distress tolerance. In dealing with cognitive processes, this treatment uses experimental methods such as mindfulness and acceptance with the aim of reducing experiential avoidance and cognitive confusion and encourages clients to make behavioral changes based on personal values to improve life.^[44-46] These encouragements are effective in distress tolerance caused by having a child with cancer.

Limitation and recommendation

The present study had limitations, including the impossibility of participating the mothers of children with cancer who were from surrounding areas due to the distance, and limited the sample to a specific geographic area (Mashhad city) and reduces the generalizability. It is suggested to check the effectiveness of this therapy on the fathers of children with cancer. In addition, screening and identifying the mothers of children with cancer suffering from mental disorders in the early stages of diagnosis and referring them to a psychologist can be

effective in preventing and reducing the mental problems of this group.

Conclusion

The results showed that the ACT is effective on identity crisis and distress tolerance in the mothers of children with cancer, so using this treatment approach can reduce the level of identity crisis and improve the level of distress tolerance in the mothers of children with cancer.

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Conflicts of interest

There are no conflicts of interest.

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