

Investigating the Effectiveness of ACT (Acceptance and Commitment Therapy) Treatment on Mothers of Children with Cancer

Abstract

Chronic illness in a child affects all aspects of family life and all family members. In the present study, the aim is to investigate the effectiveness of treatment based on acceptance and commitment to the life satisfaction of mothers of children with cancer. The study population was all mothers who had a child with cancer. In this study, which was conducted as a semi-experimental type of post-test and pre-test with a control group, 32 people were chosen using available sampling and randomly divided into two groups (16 people in the experimental group and 16 people in the control group). A Denier questionnaire was used to evaluate life satisfaction. SPSS version 21 software was applied for statistical analysis of data. The obtained results showed that treatment based on acceptance and commitment increases life satisfaction in mothers of children with cancer. The effect size obtained indicated that a significant percentage of improvement and increase in life satisfaction of mothers of children with cancer can be attributed to treatment based on acceptance and commitment. According to the results obtained regarding the effectiveness of acceptance-based treatment and commitment on life satisfaction in mothers of children with cancer, it can be concluded that many mothers deny the fact that acceptance-based treatment and Commitment lead to improved life satisfaction through acceptance of unavoidable unpleasant feelings.

Keywords: *Commitment, Mothers, Acceptance, Children, Cancer*

Introduction

The appearance of a disease in one of the family members leads to fundamental changes in the family structure. When this disease is cancer, the situation becomes worse.^[1-3] Research shows that cancer hurts the physical, emotional, social, and quality of life dimensions. Parents who have a child with cancer experience a lot of distress and have less cohesion and more conflicts and differences than parents who have healthy children.^[4, 5] Among the chronic diseases of childhood, cancer is more prominent due to its high prevalence rate and its impact on the life of the child and the family.^[1, 6, 7]

Chronic illness in a child affects all aspects of family life and all family members.^[8-10] In the past decade, teams serving children with cancer have attempted to treat childhood cancer diagnosis and treatment as a post-traumatic event for parents. In addition to the patient himself, cancer also affects the social, psychological, physical, and economic aspects of the life of the patient's family and caregivers.^[1, 11] Life satisfaction is a person's perception of the level of well-being and happiness. Life

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satisfaction is a subjective evaluation of the quality of life and usually refers to the happiness resulting from the fulfillment of needs and desires that cause pleasure. As Elston and Dudley^[12-14] explained, life satisfaction is the ability to enjoy experiences with a degree of excitement. The intensity and range of distress experienced when diagnosed with cancer varies from person to person. Common reactions include shock, sadness, fear, anxiety, anger, embarrassment, and guilt. This distress hurts the patient's quality of life.^[15, 16]

Kostak and Avci^[8] found in their research that the life satisfaction of parents of children with chronic diseases is lower than that of parents of normal children. Since the family is considered the first source of care and support for cancer patients, the type of attitude of the family towards the disease and the emotional disorders caused by it have a special effect on the care of the patient. In his study, Nayak *et al.*^[17] examined the life quality in the family of patients with advanced cancer.

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Data were collected through interviews with the family who cared for the patient; the findings showed that family members have a lower quality of life than normal people.

In research conducted by Wu *et al.*^[18] on parents with a child with leukemia, the results showed that the diagnosis of cancer had negative effects on the physical and mental health of parents and their children. Also, compared to fathers, mothers had lower levels of mental health and mental quality of life and experienced more depression and anxiety. One of the newest treatment approaches in this case is Acceptance and Commitment Therapy (ACT). This therapeutic approach is different from traditional cognitive behavioral therapy. Almost a decade ago, Hayes proposed the third generation of behavioral therapies as a representative of the treatments that were developed in the last twenty years and emphasized the role of acceptance and conscious attention to creating change.^[19] Acceptance refers to the active willingness to experience bodily sensations, emotions, and thoughts without trying to control or manipulate them.^[20] In ACT, the main motivation is to create psychological flexibility,^[19] that is, to create the ability to select an action among various options that is more appropriate, rather than an action imposed on the individual simply to avoid disturbing thoughts, memories, feelings, or desires. The flexibility created through the acceptance and presence of the mind helps the patient to show less reaction to his bodily sensations.^[20] The ultimate goal of ACT therapy is to help a person gain a sense of direction in life in a way that includes his or her life values and then act by those values.^[18]

Various studies have investigated the effectiveness of treatment based on acceptance and commitment to different variables. Wetherell *et al.*^[21] studied the effectiveness of treatment based on commitment and acceptance and cognitive-behavioral therapy in patients with chronic pain. The researchers' findings showed that pain, depression, and anxiety caused by pain in patients in the intervention group ACT had improved; there was no significant difference between the treatment groups in terms of improvement, but patients in the commitment and acceptance therapy group were more satisfied than the cognitive behavioral therapy group when they completed the treatment report. Forman *et al.*^[22] compared the effectiveness of ACT and cognitive therapy in the recovery of patients. The results of their research showed that both treatments improved work problems, satisfaction with life, depression, and anxiety in both groups, but the mechanism of action of the two treatments was different. Change in Observing and describing experiences was one of the results of cognitive therapy, while experiential avoidance was an action with awareness and acceptance of the results of acceptance and commitment therapy. Today, ACT is an effective treatment for depression and anxiety, both of which are prevalent in cancer patients and their families. It is known to have a high level; also, according to research, ACT has a positive effect on the life quality and mood of cancer patients.^[15] However, in the case of parents of children with cancer, research has often focused on measuring aspects of mental health such as anxiety, depression, or post-traumatic

stress, and has paid less attention to a wider range of mental health outcomes such as life satisfaction.^[23]

The current study aimed to investigate the effectiveness of treatment based on acceptance and commitment to the life satisfaction of mothers of children with cancer.

Materials and Methods

The current study was a semi-experimental type of post-test-pre-test with a control group and random assignment. The research population included mothers with children with cancer who were referred to the hospital. The number of samples included 32 mothers of children with cancer, who were chosen by available sampling from the clients of the treatment center and were randomly divided into two groups of 16 people, test and control. Then the members of the experimental group received intervention sessions according to the acceptance and commitment in 8 sessions of 90 minutes as a group. While the control group did not receive any treatment from the psychologist.

Diener's life satisfaction scale was prepared to measure the overall satisfaction with life and is used as an indicator of happiness in research.^[24] This scale consists of 48 items. Its grading is based on a 7-option Likert scale from completely agree^[1] to completely disagree.^[18] It also consists of 5 propositions that measure cognitive, well-being, and affective components. Subjects state, for example, how satisfied they are with their life or how close it is to their ideal life. Its 10 questions are related to life satisfaction. The validity and reliability of the "life satisfaction scale" has been examined in many studies. The scale was verified using the convergent validity method.^[25] After collecting the information, the data were analyzed. In this research, the version five questions with a Likert scale ranging from 1 to 7 degrees from completely disagree to agree were used.

After coordinating with the medical centers, obtaining permission and introduction of the parents by the doctor, and obtaining the consent of the subjects, the aim of the research was said to them and they wanted to participate in this treatment program. First, in the pre-test phase, the questionnaires were provided to them and they were asked to read the questions carefully and choose the desired answers according to their characteristics and not to leave any question unanswered as much as possible. Then mothers of children with cancer were randomly assigned to control and experimental groups. People in the experimental group received 90-minute acceptance and commitment-based therapy (ACT) in a group manner during 8 sessions, and the control group did not receive any therapy from a psychologist. In this research, the criteria for the subjects to enter the study were the expert diagnosis for the children as cancer patients who had been diagnosed for one year, the absence of a history of neurological and psychological disease, and the absence of substance abuse. The exclusion criteria were the death of the child and the mother's inability to continue participating in the research. Before the beginning of the treatment sessions and

after the end of the sessions, pre-tests and post-tests were done for both groups. The structure of the sessions was according to the Acceptance and Commitment Therapy (ACT) protocol.^[26] SPSS version 21 software was applied for data analysis.

Results and Discussion

Statistical indicators related to life satisfaction scores in two groups in the post-test and pre-test are given in **Table 1**.

Table 1. Descriptive statistics of research variables.

Variables	Test	Group	Number	Average	Criterion
Life satisfaction	Pre-test	Experimental group	16	12.81	2.49
		Control group	16	12.61	2.90
	Post-test	Experimental group	16	16.45	2.96
		Control group	16	12.92	2.86

According to **Table 1**, the average pre-test scores of the control and experimental groups in the life satisfaction variable are close to each other, but in the post-test, the average scores of the experimental group are higher. To determine whether this difference is significant or not, a univariate analysis of covariance was applied. To study the normality of the distribution of dependent variable scores in two groups, the Kolmogorov-Smirnov test was applied.

Based on the results, the distribution of life satisfaction scores of the two control and experimental groups was not significantly different at the 95% level and the assumption of the normality of the scores distribution is maintained. Levine's test was utilized to check the homogeneity of variances of the two control and experimental groups.

Table 2. Levine's test for variances equality of two groups in life satisfaction.

Variables	Degree of Freedom 1	Degree of freedom 2	F	The significance level
Life satisfaction	1	30	0.257	0.616

According to **Table 2**, the homogeneity of variances in life satisfaction scores of mothers of children with cancer is maintained at the level of 95%. According to **Table 3**, the significance level of the contrast effect (life satisfaction group) is greater than $\alpha = 0.05$, therefore the hypothesis of homogeneity of the slope of the regression line is accepted. Due to the validity of this assumption, there is no prohibition on to use of covariance analysis.

Table 3. The findings of univariate covariance analysis of the difference between the adjusted averages of life satisfaction scores in the groups.

Sources of changes	Sum of squares	Degrees of freedom	Mean square	F value	The significance level	The effect size
Pre-test	5692.28	1	5692.28	19.17	0.001	0.398

Groups	4502.68	1	4502.68	15.16	0.001	0.343
Group* Life satisfaction	44.14	1	44.14	0.14	0.707	
Error	8612.40	29	296.97	-	-	-
Total	405835	32	-	-	-	-

According to the results of **Table 3**, there is a significant difference between the two groups in terms of life satisfaction (F value = 15.16; $P < 0.001$). Based on **Table 1**, the average life satisfaction of the experimental group in the post-test (16.45) is greater than the average life satisfaction of the control group in the post-test (12.92). The effect size obtained shows that 34% of the difference between the two groups can be attributed to acceptance-based treatment and commitment.

The results of the research that treatment according to acceptance and commitment is effective on life satisfaction are consistent with the results of Wetherell *et al.*'s research^[21] which showed that treatment based on commitment and acceptance is effective in reducing pain, depression, and anxiety caused by pain. Forman *et al.*^[22] also showed in their research that acceptance and commitment therapy is effective in improving functional problems, satisfaction with life, depression, and anxiety.

In explaining the effectiveness of treatment based on acceptance and commitment to life satisfaction in mothers of children with cancer, it can be said that the diagnosis of cancer and its treatment process leaves a negative impact on the family environment and the initial reaction of mothers in connection with the diagnosis of cancer in their children, often with It is accompanied by a complex shock.^[27] Research shows that as the disease progresses, the physical health of caregivers also declines. Psychological problems including anxiety, depression, and psychological distress are quite common in parents. Their social problems are mostly related to economic, social, and relational support factors. Family relationships and marital relationships can also become dark and parents' depression can affect their marital relationships and life satisfaction in them.^[28]

Many parents deny the reality when their child is diagnosed and avoid facing the reality.^[27] People experience experiential avoidance when faced with painful events, including incurable diseases such as cancer. Experiential avoidance is a process in which a person deliberately tries to avoid the form or frequency of private experiences (including physical, emotional, thoughts, memories, and behavioral contexts) and the context in which they occurred, regardless of the behavioral, cognitive, and emotional consequences and change the society that may result.^[29]

According to studies, people who have more experiential avoidance experience less positive emotional experiences and less life satisfaction and feel that their lives are meaningless, but acceptance and commitment-based therapy reduce experiential avoidance and increase life satisfaction.^[22]

Also, in the therapy according to acceptance and commitment,

the cultivation of mindfulness is done to neutralize the excessive involvement with the constructions and specify the personal values related to the behavioral goals, and the person is encouraged to move towards his valuable goals while moving, communicate with his experiences fully and without resistance and accept them without judging their rightness or wrongness when they appear. It increases the motivation to change despite the inevitable obstacles and motivates the person to strive towards the realization of the worthwhile goals of his life. Treatment based on acceptance and commitment, clarifying communication values, and meditation to act consistently give people the opportunity to act in a way that leads them to life satisfaction. This treatment has two main goals; the first goal is to increase the acceptance of unhelpful and problematic thoughts and feelings that cannot or do not need to be controlled, and the second goal is to commit to and act in life based on the chosen values. Less avoidance and more flexibility in responding to anxiety and other unpleasant emotions create a space for people to act based on their goals even when they have unpleasant thoughts and feelings.^[30]

Accepting thoughts, feelings, and emotions as they are leads to the weakening of cognitive fusions, and in addition, accepting internal events when a person is not fighting with his troubles and disturbances allows him to expand his behavioral treasury. He can utilize the time he gains in this way to carry out his valuable activities and commit himself to a purposeful and valuable life, and thus to the aim and meaning that a person considers for life and the values that in life, he pursues, achieves, and as a result, the level of satisfaction with life increases in a person.^[29]

Conclusion

Chronic illness in a child affects all aspects of family life and all family members. This study aimed to investigate the effectiveness of treatment based on acceptance and commitment to the life satisfaction of mothers of children with cancer. The obtained results showed that treatment according to acceptance and commitment increases life satisfaction in mothers of children with cancer. The effect size obtained indicated that a significant percentage of improvement and increase in life satisfaction of mothers of children with cancer can be attributed to treatment according to acceptance and commitment. According to the results obtained regarding the effectiveness of acceptance-based treatment and commitment on life satisfaction in mothers of children with cancer, it can be concluded that many mothers deny the fact that acceptance-based treatment and Commitment lead to improved life satisfaction through acceptance of unavoidable unpleasant feelings.

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Conflict of interest

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Ethics statement

None.

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