

Evaluating the Impact of Acceptance and Commitment Therapy (ACT) on the Mental Health of Mothers with Children Diagnosed with Cancer

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Abstract

Chronic illness in a child affects all aspects of family life and affects all family members. This study aimed to investigate the effectiveness of acceptance and commitment therapy (ACT) on the life satisfaction of mothers of children with cancer. The study included mothers of children with cancer, with a total of 32 participants selected through convenient sampling. These participants were randomly divided into 2 groups: an experimental group (16 mothers) and a control group (16 mothers). The Denier survey was used to assess life satisfaction. The data were analyzed using SPSS version 21 software. The results showed that ACT significantly improved life satisfaction among mothers of children with cancer. The effect size indicated that the significant improvement in life satisfaction could be attributed to acceptance and commitment-based therapy. Based on these findings, it can be concluded that acceptance and commitment therapy play a vital role in increasing life satisfaction by helping mothers to accept unavoidable negative emotions.

Keywords: Acceptance, Commitment, Mothers, Cancer, Children

Introduction

When a family member is diagnosed with a serious illness, it causes significant disruptions to the family's structure and daily life. The situation becomes even more challenging when the illness is cancer. Studies have shown that cancer impacts not only the patient but also the physical, emotional, and social well-being of the entire family, especially parents. Parents of children diagnosed with cancer tend to experience higher levels of stress, reduced family unity, and more conflicts compared to those with healthy children. Childhood cancer stands out among chronic illnesses due to its high

prevalence and the profound effects it has on both the child and their family members [1-3].

The diagnosis of a chronic illness in a child can affect every member of the family, altering various aspects of their lives. Over recent years, healthcare providers working with children with cancer have started treating the diagnosis and treatment process as a traumatic event for the parents as well. In addition to the child's health, cancer affects the social, psychological, physical, and financial well-being of the family [1-11]. Life satisfaction refers to an individual's subjective assessment of their overall happiness and well-being, which is influenced by the fulfillment of their needs and desires. As explained by Elston and Dudley, life satisfaction involves a person's ability to enjoy experiences and engage with life in a meaningful way [12-14]. The emotional responses to a cancer diagnosis vary widely, but common reactions such as shock, sadness, fear, anxiety, and guilt are often observed, all of which significantly impact the quality of life for both the child and their family [15, 16].

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Kostak and Avci [8] discovered that parents of children with chronic illnesses report lower life satisfaction compared to parents of healthy children. This finding underscores the pivotal role that the family plays as the primary support system for cancer patients. The family's attitude toward the disease and the emotional challenges it causes significantly influences the care provided. Nayak *et al.* [17] conducted a study on families of patients with advanced cancer, revealing that these families experience a lower quality of life than the general population, as determined through interviews with those involved in the patient's care.

Additionally, a study by Wu *et al.* [18] on parents of children diagnosed with leukemia showed that the diagnosis of cancer negatively impacted both the physical and mental health of the parents as well as their children. It was observed that mothers, in particular, had worse mental health and quality of life, reporting higher levels of depression and anxiety compared to fathers. A promising therapeutic approach for addressing such issues is acceptance and commitment therapy (ACT). ACT, introduced by Hayes about ten years ago, is distinct from traditional cognitive behavioral therapy, marking a shift toward third-generation behavioral therapies. This therapy emphasizes acceptance and mindfulness, encouraging individuals to embrace their thoughts, feelings, and bodily sensations without trying to alter or control them [19]. In ACT, the focus is on promoting psychological flexibility, enabling individuals to choose actions that are aligned with their values, rather than merely avoiding uncomfortable emotions or thoughts. By fostering greater psychological flexibility, ACT helps patients reduce the intensity of their reactions to distressing emotions [19, 20].

Various studies have explored the effectiveness of ACT on different outcomes. Wetherell *et al.* [21] investigated the benefits of combining ACT with cognitive-behavioral therapy (CBT) for patients with chronic pain. The study found that ACT helped reduce depression, pain, and anxiety associated with chronic pain. Although there was no significant difference between the two treatment methods, patients in the ACT group expressed higher satisfaction with their treatment compared to those in the CBT group. Similarly, Forman *et al.* [22] compared ACT and cognitive therapy in terms of their effects on patient recovery. Their results revealed that both therapies improved life satisfaction, work-related issues, depression, and anxiety in the participants, but the mechanisms driving these changes were different.

Cognitive therapy improved participants' ability to observe and describe their experiences, whereas ACT helped reduce experiential avoidance through mindfulness and acceptance. ACT has now become widely acknowledged as an effective treatment for depression and anxiety, conditions commonly experienced by cancer patients and their families. It has also been shown to improve the quality of life and mood in cancer patients [15]. However, research on parents of children with cancer has mainly focused on issues such as anxiety, depression, and post-traumatic stress, with less attention given to broader mental health outcomes such as life satisfaction [23-25].

The purpose of the current study is to evaluate the effectiveness of ACT in improving life satisfaction among mothers of children with cancer.

Materials and Methods

This research was conducted using a semi-experimental design with a pre-test and post-test approach, including a control group and random assignment. The target population comprised mothers of children with cancer, who were referred to a medical center. The sample consisted of 32 mothers, selected using available sampling from the center's clients. These participants were randomly assigned to either the test group (16 mothers) or the control group (16 mothers).

The test group received 8 group therapy sessions based on ACT, each lasting 90 minutes. The control group did not receive any intervention during the study period.

To assess life satisfaction, Diener's Life Satisfaction Scale was used, a widely utilized tool for evaluating individual happiness and well-being. The scale includes 48 items, rated on a 7-point Likert scale, ranging from "completely agree" to "completely disagree." It evaluates multiple aspects of life satisfaction, including cognitive, emotional, and affective components. For this study, a 5-item version of the scale, using a 7-point Likert scale, was chosen. The reliability and validity of this scale have been extensively validated in previous studies through convergent validity methods.

Following coordination with medical centers and obtaining permission, the mothers were introduced to the study by their doctors and provided with informed consent. The purpose of the research was explained, and the participants were invited to take part in the treatment program. During the pre-test phase, the participants completed the questionnaires, with clear instructions to

read each item carefully and respond honestly, ensuring all questions were answered.

Participants were randomly assigned to either the test or control group. The test group participated in 8 ACT sessions, each 90 minutes long, conducted in a group format. The control group did not receive any form of therapy. Inclusion criteria required that the child had been diagnosed with cancer for at least one year, had no history of psychological or neurological disorders, and was not involved in substance abuse. Exclusion criteria included the child's death or the mother's inability to continue with the study.

Both pre-tests and post-tests were administered to the two groups before and after the treatment sessions. The structure and content of the therapy sessions followed the standard ACT protocol [26]. Data were analyzed using SPSS version 21 software.

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	Test group	16	12.81	2.49
		Control group	16	12.61	2.90
	Post-test	Test group	16	16.45	2.96
		Control group	16	12.92	2.86

According to **Table 1**, the average life satisfaction scores before the treatment for both the control and test groups were nearly identical. However, after the intervention, the test group exhibited higher average scores. To determine if this difference was statistically significant, a univariate analysis of covariance was applied. To evaluate the normality of the scores in both groups, the Kolmogorov-Smirnov test was used.

The results showed that the life satisfaction scores for both the control and test groups followed a similar distribution, with no significant deviation at the 95% confidence level, confirming that the normality assumption held. To verify whether the variances between the groups were consistent, Levine's test was conducted.

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

Variables	Degree of freedom 1	Degree of freedom 2	F	Significance level
Life satisfaction	1	30	0.257	0.616

Based on **Table 2**, the assumption of equal variances in life satisfaction scores for mothers of children with cancer holds at the 95% confidence level. In **Table 3**, the significance level for the contrast effect (life satisfaction

group) exceeds $\alpha = 0.05$, meaning that the hypothesis of homogeneity of regression slopes is accepted. Since this assumption is valid, there is no restriction on using 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	
Group * Life satisfaction	44.14	1	44.14	0.14	0.707	0.343
Error	8612.40	29	296.97	-	-	-
Total	405835	32	-	-	-	-

The data presented in **Table 3** reveal a significant difference between the two groups in terms of life

satisfaction (F-value = 15.16; $P < 0.001$). As indicated in **Table 1**, the experimental group had a higher average

post-test life satisfaction score (16.45) compared to the control group (12.92). The calculated effect size suggests that 34% of the observed difference between the groups can be attributed to the ACT.

The findings of this study are consistent with previous research, such as that by Wetherell *et al.* [21], which demonstrated that ACT was effective in alleviating pain, depression, and anxiety. Similarly, Forman *et al.* [22] found that ACT positively impacted life satisfaction, functional issues, and both depression and anxiety levels. In terms of explaining how ACT affects life satisfaction in mothers of children with cancer, it is important to consider the emotional toll cancer diagnosis and treatment can take on families. Mothers often experience an initial shock upon learning of their child's illness, and as the disease progresses, both the child and the caregiver's physical and emotional well-being can deteriorate [27]. Studies have shown that parents, especially mothers, commonly suffer from anxiety, depression, and psychological stress, which also impacts their social and familial relationships. The strain on family dynamics and marital relationships further diminishes overall life satisfaction for these parents [28]. Experiential avoidance, in which individuals attempt to avoid confronting painful emotional experiences, is common when dealing with such life-altering diagnoses. This avoidance can lead to greater psychological distress. People with higher levels of experiential avoidance tend to have lower life satisfaction and a diminished sense of purpose. ACT works by reducing this avoidance, which, in turn, leads to improved emotional well-being and life satisfaction [29].

In ACT, mindfulness is cultivated to reduce excessive attachment to thoughts and to clarify personal values that guide behavioral goals. The individual is encouraged to engage fully with their experiences, moving towards valuable life goals while accepting emotions and thoughts without judgment, whether they are perceived as right or wrong. This approach increases motivation to change, despite inevitable obstacles, and drives individuals toward pursuing meaningful life goals. The primary goals of ACT are twofold: first, to increase acceptance of difficult or unhelpful thoughts and feelings that cannot or should not be controlled; and second, to commit to living a life aligned with chosen values. By reducing avoidance and enhancing flexibility in responding to anxiety and other unpleasant emotions, individuals are empowered to act based on their goals,

even in the presence of negative emotions or thoughts [30].

By accepting thoughts, feelings, and emotions as they are, cognitive fusion is weakened. Moreover, when an individual ceases to fight against their internal struggles and disturbances, they open up a space for expanded behavioral choices. This space allows them to engage in meaningful activities, commit to a purposeful life, and pursue personal values. In turn, this approach leads to a greater sense of life satisfaction, as individuals are better able to live according to their values and find purpose and fulfillment in their actions [29].

Conclusion

The impact of a child's chronic illness is far-reaching, influencing all aspects of family life and affecting each family member. This study sought to evaluate the effect of ACT on improving life satisfaction in mothers of children with cancer. The results revealed that ACT significantly enhanced life satisfaction for these mothers. The effect size indicated that a substantial portion of the improvement in life satisfaction was attributed to the ACT intervention. Based on these findings, it can be concluded that while many mothers may not initially recognize it, acceptance-based treatment and commitment can significantly contribute to greater life satisfaction by helping them embrace unavoidable negative emotions.

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