



Original Article

# The effectiveness of group counseling based on acceptance and commitment on resilience and marital adjustment of mothers of children with leukemia

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## Abstract

**Introduction:** Having a child with leukemia is a major challenge for the mother, which can affect her personal and marital life. The present study aimed to determine the effectiveness of group counseling based on acceptance and commitment therapy on resilience and marital adjustment of mothers with children who have leukemia.

**Materials and Methods:** The study population consisted of mothers with children who have leukemia in the oncology ward of Ayatollah Madani Hospital in Khorramabad-Iran in 2020-21. Of the 50 volunteers, 20 who received the lowest scores in the scales (Connor Richardson Resilience and Spinner Marital Adjustment) were randomly assigned into two experimental and control groups. Data analyzed using the MANCOVA test and SPSS-25 software.

**Results:** The results of covariance analysis revealed that group counseling based on acceptance and commitment therapy significantly increased the resilience and marital adjustment of mothers in the experimental group compared to the controls ( $P < 0.05$ ), with 79.9% of the changes being explained by the treatment.

**Conclusion:** Considering the effectiveness of group counseling based on acceptance and commitment therapy, therapists can use this treatment model to reduce the harm caused by the child's disease.

**Keywords:** Acceptance and commitment therapy, Leukemia, Marital adjustment, Mothers, Resilience

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### Please cite this paper as:

Kianfar F, Asadpour E, Zahrakar K. The effectiveness of group counseling based on acceptance and commitment on resilience and marital adjustment of mothers of children with leukemia. *Journal of Fundamentals of Mental Health* 2023 Mar-Apr; 25(2): 133-139.

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## Introduction

Cancer is a complex and life-threatening disease that affects various aspects of the lives of patients, especially children and their family members, and imposes many health challenges on the family (1). It also puts a massive economic burden on the shoulder of the family in the course of its development and treatment

(2). Diagnosing a child's cancer causes serious challenges in the family, including loss of interest in connecting with others, frustration, economic problems, long-term hospitalization, out-of-hospital strict care (3), unsuccessful treatment (4), difficult courses of chemotherapy (5), and fear of losing the child (6). Also, mothers have lower mental health than fathers

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Received: Sep. 25, 2022

Accepted: Jan. 21, 2023

during the child's treatment (7), and the family needs psychological support (8). Accordingly, attention should be paid to the aspects of the life of caregivers, especially mothers with children who have cancer, as it is directly related to patients' mental health (9). The pressures of childcare profoundly affect mothers' mental health and marital satisfaction (10).

Regarding the pivotal role of the marital subsystem in the family, it is necessary to pay attention to changes in marital adjustment and perform the necessary treatments. Also, previous studies indicated the problematic marital relations in families with children who have leukemia (11). Also, marital adjustment diminishes in parents at 1, 6, and 12 months after cancer diagnosis (12). The level of anxiety resulting from the diagnosis of cancer for the family is so high that at the time of diagnosis, the couple is invited to set the conditions in such a way that they face the problem in the form of a common unit and decrease the burden and the effects of the diagnosis on the patient and the marital relationship (13,14). There are two main issues related to marital conflicts among mothers with children who have cancer. 1) Exacerbation of conflict (emotional and physical distance, financial challenge, feelings of resentment and sadness, feelings of not being understood by others and unbelievable behavior of their spouse), 2) Consequences of conflict (explosion, focus on the child). Overall, the child's illness strongly influenced the relationship with her spouse. Accordingly, interventions are required to improve the condition of mothers having children with cancer (13). Also, the level of resilience in parents with children who have cancer is lower than in people who do not have children with cancer (15).

Various therapeutic approaches have been developed to address the psychosocial stressors associated with cancer diagnosis and treatment. One of these approaches is the treatment based on acceptance and commitment therapy, which has been considered due to creating a model of healthy adjustment to the situation (16) and introduced as an effective treatment (17). This treatment is based on a model of flexibility and ultimately seeks to improve psychological flexibility (18). Since caring for children with cancer creates many problems for parents, especially mothers, designing psychological interventions is essential. Accordingly, the present study aimed to investigate the

effectiveness of group counseling based on acceptance and commitment therapy on resilience and marital adjustment of mothers with children who have leukemia.

### Materials and Methods

The ethical committee of Lorestan University of Medical Sciences approved this study (IR.LUMS.REC.1399.063). Then, we referred to the oncology ward of Ayatollah Madani Hospital in Khorramabad city-Iran to conduct the present study. Mothers of children with leukemia were asked to participate in the study. The sample was randomly selected only from those who signed the informed consent form. Of the 50 volunteers, 20 who received the lowest scores in the scales (Connor Richardson Resilience and Spinner Marital Adjustment) were randomly assigned into two experimental and control groups. The experimental group received ten sessions of 90-minute group counseling based on acceptance and commitment. In this study, 30 subjects were first selected using the convenient sampling method, but some members left the group due to the coronavirus outbreak. The inclusion criteria included having a child with leukemia, being married and living with a spouse, lack of divorce history, not having acute medical and psychiatric problems, and willingness to participate in the research. Exclusion criteria included unwillingness to cooperate and incomplete questionnaires.

### Research instruments

*A) Connor Davidson Resistance Scale (RIS-CD):* The resilience scale was developed by Connor Davidson in 2003. This scale is used to assess the ability to cope with life adversities. This questionnaire has 25 items and is scored on a Likert scale from zero (completely incorrect) to 5 (always correct). Higher scores represent greater resilience. Studies reported a Cronbach's alpha of about 0.73 to 0.98 (19,20). Ahangarazdeh Rezaei and Rasoli reported the Cronbach's alpha of the total scale equal to 0.82, and for the subscales, it varied from 0.73 to 0.75, and it was confirmed in terms of construct validity (21).

*B) Spinner Marital Adjustment Scale (DAS):* The 32-item Spinner Scale is a self-assessment questionnaire designed to measure two-person (couple) adjustment. This scale measures four dimensions of a relationship: marital satisfaction, two-person solidarity, two-person

agreement, and expressions of affection. Thirty-two items are scored based on the Likert scale. The Cronbach's alpha for marital satisfaction, two-person solidarity, two-person agreement, and expression of affection reported

0.94, 0.81, 0.9, and 0.73, respectively (22). Isanezhad et al. reported the Cronbach's alpha 0.61 to 0.86. Also, the validity of this questionnaire was confirmed (23). Table 1 presents the content of the intervention (24,25).

**Table 1.** Summary of protocol of group counseling based on acceptance and commitment

Sessions	Subject of meetings	Goals	Method and interventions
First	Acquaintance	Familiarizing members with each other and the group leader, and familiarize members with the ACT approach	Introduction of members, description of rules, brief introduction of ACT treatment through board metaphor, creation of the therapeutic alliance, using the metaphor of two mountains
Second	Clarification of values	Clarifying values and goals, understand the importance of a value-based life	Complete life compass worksheet, clear values, write down obstacles
Third	Values and barriers to values	Reviewing values and identify barriers to values	Review the life compass worksheet, identify barriers to values, write down thoughts and feelings, and action to overcome barriers
Fourth	Creative hopelessness	Increasing awareness of the control program, decrease dependence on the control program, and tendency to abandon the inefficient program	Short mindfulness, board metaphor, rope racing metaphor with the monster, worksheet of used solutions
Fifth	De-welding	Decreasing fusion with thoughts, the subject's ability to express unpleasant feelings and emotions	De-welding techniques such as the metaphor of leaves on a stream, worksheet hooked, short mindfulness practice at the beginning of the session, passengers on the bus metaphor
Sixth	Acceptance	Creating a healthy distance and awareness without judgment	Mindfulness techniques, consciousness expansion worksheet, de-welding techniques, passengers on the bus metaphor, metaphor of demons in boats
Seventh	Present time	Increasing conscious awareness of experiences	Mindfulness breathing practice, anchor metaphor, time machine metaphor, anchor metaphor
Eighth	Self as context	Creating awareness of self as context	Cognitive defusion practice, self-concept de-welding practice (good self and bad self), chessboard metaphor, sky and weather metaphor
Ninth	Committed action	Committed action and identifying barriers to committed action	Desire and action worksheet, choosing an important area of life, choosing values in this area, setting goals based on values, taking committed action (providing practical solutions), reviewing techniques to overcome barriers to action
Tenth	End of work		Review all sessions, run post-test

**Results**

Five mothers (25%) aged 25 to 30 years, 9 (45%) were in aged 31 to 35 years, and 6 (30%) were in the age group of 40-36 years. Also, 11 cases (55%) had higher education.

We used Multivariate Analysis of Covariance (MANCOVA) to evaluate the effect of group counseling based on acceptance and commitment therapy on resilience and marital adjustment of mothers. We applied this test for

these reasons: 1) more than one dependent variable has been examined, and 2) we intended to control the effect of pre-test on post-test scores.

Tables 2 and 3 present the scores of the resilience and marital adjustment and their components in the experimental and control groups in pre-test and post-test stages, respectively.

**Table 2.** The pre-test and post-test resilience scores by the groups

Variables	Group	Pre-test		Post-test	
		Mean	SD	Mean	SD
Individual competence imagination	Experimental	24.1	3.5	27.8	3.0
	Control	21.4	3.3	24.8	2.7
Trust in the individual instincts and tolerance of negative affect	Experimental	21.1	3.5	22.9	3.9
	Control	20.5	3.8	19.7	4.6
Positive acceptance of change and safe relationships	Experimental	15.3	2.9	16.6	1.6
	Control	14.4	2.3	14.7	2.8
Control	Experimental	8.7	1.1	9.1	1.7
	Control	8.3	1.4	8.8	1.7
Spiritual affects	Experimental	6.1	1.9	7.7	0.8
	Control	5.4	1.8	6.6	0.8
Total score	Experimental	75.3	6.6	84.1	6.6
	Control	70.0	7.5	74.6	3.8

**Table 3.** The pre-test and post-test scores of marital adjustment by the groups

Variables	Group	Pre-test		Post-test	
		Mean	SD	Mean	SD
Satisfaction	Experimental	33.8	2.3	37.7	2.31
	Control	33.7	1.7	34.0	2.5
Solidarity	Experimental	14.2	1.3	18.0	2.6
	Control	14.1	1.9	14.2	1.3
Mutual agreement	Experimental	24.6	4.0	48.6	6.6
	Control	27.7	4.2	29.6	4.2
Expressing affection	Experimental	7.4	1.8	11.7	2.1
	Control	7.7	2.1	8.2	2.2
Total score	Experimental	81.6	5.7	119.9	10.3
	Control	85.1	4.4	89.2	4.9

Initially, the assumptions of analysis of covariance were examined: a. the groups are independent, 2. homogeneity of variance (homogeneity of variance was checked by Leven's test where the *P* value of all components was higher than 0.05. This means that the homogeneity of variance is established), 3. Covariance homogeneity (the Mbox test checked it, and the *P* value was higher than 0.05 with the assumption of covariance homogeneity being established), 4. Frequency distribution normality (it was checked using the Shapiro-Wilk test, and this

assumption was also based), 5. The covariate variable is quantitative (the pre-test was considered a covariate and was scored continuously). According to the findings of Table 4, it can be concluded that there is a significant difference between the experimental and control groups in marital adjustment and resilience, where the experimental group received the higher scores of resilience and marital adjustment due to the intervention. The ETA coefficient also showed that 46.5% and 80.1% of the resilience and marital adjustment changes were due to the treatment.

**Table 4.** Results of analysis of variance (MANCOVA)

Source	Independent variable	SS	Df	MS	F	P	Effect size
Corrected model	Resilience	453.71	3	151.23	4.62	0.016	0.465
	Marital adjustment	4721.45	3	1573.81	21.49	0.000	0.801
Group	Resilience	362.03	1	362.03	11.07	0.004	0.409
	Marital adjustment	3790.05	1	3790.05	51.76	0.000	0.764
Error	Resilience	522.83	16	32.67			
	Marital adjustment	1171.50	16	73.21			
Total	Resilience	126905	20				
	Marital adjustment	224507	20				

According to the results of Table 5, 79.9% of the changes in marital adjustment and resilience

of mothers resulted from group counseling based on acceptance and commitment.

**Table 5.** The results of multivariate analysis of covariance to evaluate the effectiveness of group therapy based on acceptance and commitment

Effect	Value	F	Hypothesis df	Error df	P	Partial eta squared
Pillai's Trace	0.799	29.892	2	15	0.000	0.799
Wilks' Lambda	0.201	29.892	2	15	0.000	0.799
Hotelling's Trace	3.986	29.892	2	15	0.000	0.799
Roy's Largest Root	3.968	29.892	2	15	0.000	0.799

## Discussion

This study aimed to evaluate the effectiveness of group counseling based on acceptance and commitment to resilience and marital adjustment of mothers with children who have leukemia. The findings showed that treatment based on acceptance and commitment increased resilience and marital adjustment of mothers. This result has aligned with the finding of the conducted studies. For example, Udell et al. concluded that people in navy need to have high resilience due to the harsh conditions of the training courses to survive under these conditions. ACT-based treatment can be effective by enhancing pain tolerance, mindfulness, and flexibility (26). Akhavan Gholami and Hayati assessed discordant women and concluded that ACT could increase the marital adjustment by boosting marital satisfaction, marital solidarity, marital agreement, and expressing affection between couples (27). Shirvani et al. showed that resilience of patients with chronic pain increased after ACT (28). Kazemi, Hassanzadeh, and Hidari implemented ACT for women with early menopause and revealed that ACT can change the unfavorable conditions of these women and increased resilience and marital satisfaction (29).

The goal of treatment based on acceptance and commitment therapy is to help clients through cognitive defusion interventions not to give in to their thoughts and circumstances but to find more effective ways to interact with the world. When cognitive fusion is reduced, it means the person is separated from the content of the thoughts, signifying that the person has been able to consider a thought only as a thought (acceptance), not a truth, and therefore does not act according to that thought (defusion). As a result, defusion practices help clients have a wider treasury of behavior (30).

In this treatment, people are not considered as failed and incapable either in the treatment process; indeed, they consider pain a part of life and not an external factor. Such a thought makes people face pain and difficult conditions and continue to live more effectively (31). Indeed, clinging to negative thoughts and struggling to leave them would reduce the mental energy of mothers of children with leukemia. These ineffective efforts further limit them and make them less resilient in even the simplest issues, resulting in marital adjustment problems. The person's values and meanings are found and nurtured through treatment based on acceptance and commitment. Indeed, by having such a child with this disease, they can give meaning to their life. Finding meaning,

personal values, and being in the present, along with the defusion teachings of thoughts as well as emotions caused by living conditions and accepting the discomfort of being a mother and other roles as a woman, help these mothers apply better strategies for dealing with life issues. They begin this process by following experimental exercises and memorizing practical metaphors through stories and positive emotional and cognitive experiences in themselves, others, and the world. Thus, gradually during treatment, these mothers become accustomed to the problems of having a child with leukemia, stress, and unpleasant emotions, and these experiences become more receptive (17). Also, these mothers have learned through mindfulness practices to be in the present and to think less about the unpleasant events of the past, and through finding the values of their lives, to direct their energy in that direction, and finally to be able to live better (27). In the end, treatment based on acceptance and commitment improve resilience and marital adjustment of mothers with children who have cancer. This study has some limitations, such as lack of follow-ups due to the outbreak of Covid-19 disease at that

time and the dangers of working in the pediatric oncology ward. Based on the results of this research, it is suggested that medical centers use psychological treatments and group counseling for parents with children who have severe diseases during the treatment process of children.

### Conclusion

Based on the results, treatment based on acceptance and commitment improve resilience and marital adjustment of mothers with children who have leukemia.

### Acknowledgments

The authors express their gratitude and appreciation for the cooperation of the officials and all staff of Ayatollah Madani Hospital in Khorramabad, who assisted in the present investigation. The authors thank all those who guided and all the women participating in the research. This research has been derived from a master's dissertation approved by the Kharazmi University of Tehran. The authors declare no conflict of interest and financial support.

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