Original Article

Effect of Resilience-based Group Therapy Intervention on Coping in Mothers of Children with Cancer: A Randomized Clinical Trial

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Abstract

Background: Cancer is the second most common cause of mortality after cardiovascular diseases (CVDs). Resilience is one of the best strategies for coping with diseases in patients with cancer. This study was aimed to determine the effect of resilience-based group therapy intervention on coping in mothers of children with cancer. **Materials and Methods:** This randomized clinical trial was carried out on 48 mothers of children with cancer in Shahid Motahhari Hospital of Urmia, Iran, in 2017. Samples were randomly divided into two groups in Excel. The data were collected using a demographic questionnaire, the General Health Questionnaire (GHQ-28), and the Coping Health Inventory for Parents (CHIP). Analysis of variance (ANOVA) was used to compare the two groups at three different times. All p values of less than 0.05 were considered significant. **Results:** A significant difference was observed in the mean scores of integration between the intervention group and control group ($F_{1, 47} = 426.41$, $p < 0.001$); the mean (standard deviation) of the integration score in the intervention and control groups was 40.80 (2.54) and 18.04 (3.05), respectively. Moreover, there was significant difference between the two groups in terms of the mean scores of social support and health status perception ($F_{1, 47} = 176.59$, $p < 0.001$). The mean (standard deviation) of social support and health status perception scores in the intervention group was 39.88 (2.81) and 22.72 (5.91) and in the control group was 16.87 (4.19) and 10.95 (2.01), respectively. **Conclusions:** Resilience-based group therapy intervention can be an effective strategy for coping with childhood cancer among mothers of children with cancer.

Keywords: *Adaptation, child, neoplasms, psychological, resilience, therapy*

Introduction

Cancer is the second cause of global mortality and accounts for 9.6 million deaths in 2018. It is estimated that about 300,000 children are diagnosed with cancer every year. More than 80% of children with cancer can remain healthy with adequate care.[1] The term childhood cancer refers to cancers that can be detected in children under the age of 15 years.[2] Childhood cancer is the second leading cause of death in children under the age of 14 years in Iran; in addition, about 4% of children under 5 years of age and 13% of children aged 5 to 10 years suffer from cancer.[3]

Having a child with cancer is a bad life experience for parents.[4] Due to the chronic nature of cancer, children with cancer and their parents are exposed to many problems.[5] Childhood cancer can affect the quality of life (QOL), mental and physical health, daily activities, family sustainability, and the role of each family member.[6] Among the family members, the mother is the first member to interact with the child not only during the fetal period, but also after delivery. Thus, the mother experiences more emotional problems compared to other family members in the process of caring for a child with cancer and needs resilience and psychological care.[7] In a study done by Li-Min *et al*. on the parents of children with leukemia, the results indicated that mothers have lower levels of mental health, in a way that the prevalence of depression and anxiety was higher among these mothers than the fathers.[8]

One of the most appropriate strategies for coping with disease is resilience.[9] Resilience will help people achieve different strategies and coping skills. Resilience indicates one's ability to cope with and recover from bad events. Group therapy is one of the many ways to promote resilience.[10] According to the study by

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Vander *et al*., parents of children with cancer had less resilience, and more anxiety.[11]

One of the effective ways to improve resilience is group therapy.[12] Group therapy as a therapeutic approach is used to promote mental health and reduce mental problems. These goals are achieved through the cognitive and emotional discovery of the interactions of inter-members and intra-members with therapists.[13] Group therapy facilitates the breakdown of defensive barriers and parental isolation.[14] Among family members, mothers are more involved with the disease of their children and more responsible for their care. Their continuous presence alongside their child in the hospital has adverse consequences for them. Considering the abovementioned and that the mother is considered as the heart of the family, this study was aimed to determine the effect of resilience-based group therapy intervention on coping in mothers of children with cancer in Shahid Motahhari Educational Hospital of Urmia, Iran, in 2017.

Materials and Methods

This study was a parallel, randomized, controlled, clinical trial with a pre-test-post-test design (IRCT20140212016564N12). It was conducted on 48 mothers of children with cancer in Shahid Motahhari Hospital of Urmia from 1 May 2017 to 28 February 2018. The participants were selected through convenience sampling from 1 May to 1 July 2017. The subjects were randomly divided into two groups through RANDBETWEEN function in Excel (Microsoft, Redmond, WA, USA). The inclusion criteria consisted of being the mother of a child diagnosed with cancer at least in the past six months, General Health Questionnaire (GHQ-28) score of less than 23, lack of use of psychosocial drugs or tobacco, lack of any other disease in the child, parents living together, parents' awareness of their child's disease, participation in similar programs in the previous month, lack of loss of a close relative in the past six months, living in Urmia, and familiarity with the Persian or Turkish language. The exclusion criteria included the diagnosis of another disease in the child during the study and lack of attendance at more than one session of the intervention.

Sample size was (at least 24 individuals in each group) calculated based on a 95% confidence interval (CI), a power (β) of 95%, and the study of Rabiee *et al*.[15] In this study, 100 subjects were assessed for eligibility of which 48 subjects participated in the study (32 subjects did not meet the inclusion criteria and 20 subjects were not willing to participate in the study) [Figure 1]. The data collection tools used were a demographic questionnaire, the GHQ-28, and the Coping Health Inventory for Parents (CHIP). The GHQ-28 was used to assess the mental status of the mothers. This tool was first developed by Goldberg in 1979 and consists of 4 subscales (somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression) and 28 questions.[16]

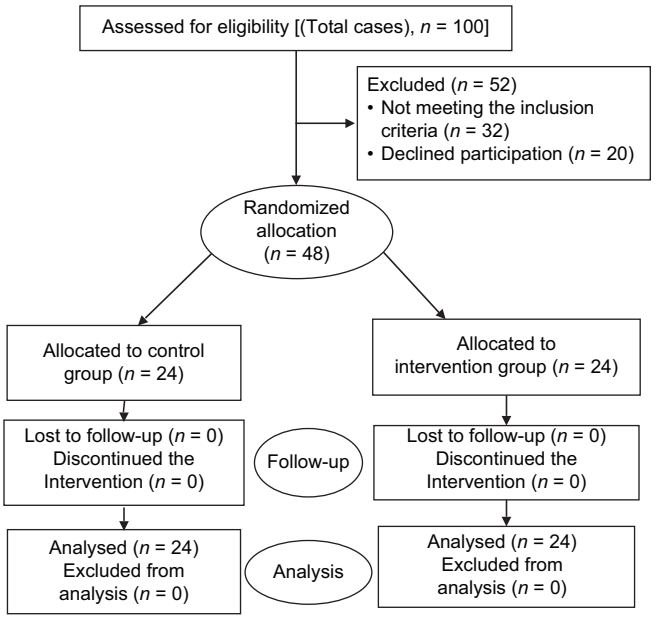

Figure 1: CONSORT flowchart of the study

The CHIP was used to measure the parents' ability to cope with their child's disease. This questionnaire was developed by Hamilton *et al*. in 1991 and consists of 45 items and 3 subscales [family integration, cooperation, and optimistic definition of a situation (16 questions), social protection, self-esteem, and psychological stability (18 questions), and understanding of the medical situation of the child through communication with other parents or consultation with doctors (8 questions)]. The CHIP was scored based on a 4-point Likert scale ranging from 0 to 3 (Unprofitable, slightly beneficial, somewhat beneficial, and fully beneficial, respectively).[17,18]

In Iran, Vafaie *et al*. confirmed the validity and reliability of the CHIP among 72 mothers.[19] Ardakani *et al*. reported the reliability of the GHQ-28 as 0.81–0.91.[20] The weekly sessions were held in three groups of 8 mothers in the auditorium of an educational center between 3 p.m. and 5 p.m. Each group was given a specific time and day to participate in the intervention. A session was arranged for parents to receive the pre-test and the purpose of the study was explained to them. The interventional program was adjusted for resilience in 3 dimensions including familiarity with the concept of resiliency and the characteristics of resilient people, internal and external support factors, and familiarity with ways to create resilience in 6 sessions; each session lasted 60 to 90 minutes. At the end of each session, a homework assignment was given and rated on the next session. The CHIP questionnaire was completed at the end of the last session and 3 months after the intervention. The details of the intervention can be observed in Table 1.

During the 3 post intervention months, the researcher was in touch with the mothers and responded to their needs. To refill the questionnaire, individuals were informed by phone that they would gather in the same place at a specific time.

Table 1: The content of resilience-based group therapy intervention

Session	Content
One	Subject: A) Providing Guidance for Members' Participation and Explanation on How to Do the Work, Familiarity with the Rules of Group B: Self-awareness
	1. Introducing the researcher
	2. Introducing members
	3. Explaining the goals of the sessions
	4. Perform a Pre-test
	5. Self-awareness and awareness of abilities
	6. Assignment
Two	Subject: Valuable
	1. Understanding the concept of self-esteem
	2. Identification of the causes and factors that contribute to self-esteem
	3. The importance of self-esteem in life
	4. Identification of your weaknesses
	5. Assignment
Three	Subject: A) Effective Communication and Collaboration, B) Creating Positive Affections
	1. Improving the ability to communicate
	2. Establishing and maintaining contact with others
	3. Establishing social relationships and friendships
	4. Feeling respected and be willing to participate
	5. Understanding external and internal support factors
	6. Ways to create positive affections
	7. Assignment
Four	Subject: A) Introduction to the Concept of Being a Prospective B) The concept of self-efficacy (problem-solving)
	1. Determining a purpose and how to achieve it
	2. Discriminating between short-term and long-term goals
	3. Using abilities to achieve goals
	4. Learning problem-solving methods
	5. Thinking about problem-solving and understanding the child's health status
	6. Assignment
Five	Subject: (A) Optimism, (B) Spirituality
	1. Defining optimism
	2. The effect of optimism on life
	3. Optimistic opportunities
	4. Ways to create optimistic positions
	5. Defining spirituality and its effect on life
	6. Ways to create spirituality
	7. Assignment
Six	Subject: (A) Controlling excitements (B) Post-test
	1. Symptoms of anger, anxiety, and stress
	2. Causes and consequences of anger, anxiety, and stress
	3. Management of anger, anxiety, and stress
	4. Summing up and performing a post-test

After completing the intervention, members of the control group participated in a group session of psychotherapy intervention. In this study, descriptive statistical methods including mean (SD) and *t*-test for quantitative variables and frequency (percentage) for qualitative variables were used. Moreover, repeated measures ANOVA was used to compare the mean scores at three different times between the two intervention and control groups. The data were analyzed in SPSS software (version 17, SPSS Inc., Chicago, IL, USA).

Ethical considerations

The study was approved by the Ethics Committee of Urmia University of Medical Sciences, Iran, (ir.umsu.rec. 1396.154). A written permission was provided by the head of Shahid Motahhari Educational Hospital. The researcher explained the purpose of the research for the mothers and assured them of the confidentiality and anonymity of their information. The research units were assured that participation in this study was voluntarily and would not cause them any problems, and that they could be leave at any time.

Results

In this study, the two groups were homogeneous in terms of the gender of the children ($p = 0.67$), mothers' education ($p = 0.49$), children's parity ($p = 0.44$), income ($p = 0.38$), and place of residence ($p = 0.79$). Therefore, there was no difference between the two groups in terms of the qualitative variables ($p > 0.05$). The two intervention and control groups were similar in terms of the mean age of the children with cancer ($p = 0.62$) and the age of the mothers ($p = 0.85$) [Table 2]. Using repeated measures ANOVA, the comparison of the mean score of family integration, social support, and understanding the medical situation in the two groups before and after the intervention and 3 months after the intervention are presented in Table 3.

Discussion

The present study was designed and implemented to determine the effect of resilience-based group therapy intervention on coping in mothers of children with cancer. The results showed that the score of coping in subjects undergoing the intervention increased compared with those who did not receive the intervention. Therefore, the hypothesis of the research was confirmed. In the study by Almeida *et al*.,[21] support was considered the most effective dimension of resiliency in coping with disease, which was consistent with the present study findings.

The management of the home and family integration are very stressful for families and reduce their ability to cope with the disease of their children. The present study results were consistent with that of the study by Manzomeh *et al*.,[22] which showed improved family integration and cooperation and optimistic definition of the situation among mothers undergoing group therapy. The results of a study conducted by Johnson *et al*. showed that mothers spent

Table 2: Comparison of demographic characteristics between the two groups

Variable		Control		Intervention		Statistic
		Frequency	Percentage	Frequency	Percentage	
Gender	Male	12	50.00	14	56.00	x^2=0.17
	Female	12	50.00	11	44.00	df=1
						P=0.67
Mother's education	Primary	10	41.70	10	40.00	P_{Fisher}=0.47
	High school	11	45.80	11	44.00	
	Collage	3	12.50	4	16.00	
Child's parity	First	12	50.00	17	68.00	x^2=1.64
	Second	6	25.00	4	16.00	df=2
	Third/more	6	25.00	4	16.00	p=0.44
Income	< 1 million	9	37.50	14	56.00	P_{Fisher}=0.38
	1-2 million	14	58.30	9	36.00	
	> 2 million	1	4.20	2	8.00	
Place of residence	Urban	19	79.20	19	76.00	x^2=0.07
	Rural	5	20.80	6	24.00	df=1
						p=0.79

Variable	Control	Intervention	*p*
	Mean (SD)	Mean (SD)	
Children's age	8.46 (4.26)	7.84 (4.45)	0.85
Mothers' age	34.08 (6.07)	34.44 (7.47)	0.62

Table 3: Comparison of the mean subscale scores of the Coping Health Inventory for Parents before and after the intervention and three months after the intervention in the two groups

Variable		Before the intervention	After the intervention	Three months after intervention	*F*	*p*
		Mean (SD)	Mean (SD)	Mean (SD)		
Family integration	Intervention	31.48 (9.16)	37.16 (4.40)	40.8 (2.54)	426.41	<0.001
	Control	19.45 (5.26)	15.41 (1.34)	18.04 (3.05)		
Social Support	Intervention	26.28 (7.78)	42.40 (3.36)	39.88 (2.81)	577.88	<0.001
	Control	18.20 (5.72)	12.66 (3.07)	16.87 (4.19)		
Understanding medical situation	Intervention	14.80 (5.46)	19.44 (2.63)	22.72 (5.91)	176.59	<0.001
	Control	9.41 (3.88)	8.37 (1.63)	10.95 (2.01)		

more time and energy caring for their children, but they were worried whether they were doing enough for their children; this finding was consistent with the findings of the present study. Mothers who participated in problem-focused treatment sessions felt "attractive, respectable, and strong," and acquired coping skills to take care of themselves and their children. As a result, self-esteem and empathy were reported as personal experiences.[23]

In the study by Wills, the majority of mothers, although initially denied or refused their children's cancer, eventually accepted the issue, which was a big problem. Talking with other mothers who had a child with cancer helped them adapt to and cope with the child's disease. In the present study, the need for emotional support from relatives was emphasized, which was consistent with the study by Wills.[24] The study by Bhattacharya *et al*. in India also confirmed that mothers who had children with cancer, due to their lack of information about the medical system or the level of education, were not able to get a comprehensive understanding of the treatment process.[25] Furthermore, according to the study by Jadidi *et al*., mothers need help in fulfilling their needs in the hospital and their needs are only partially satisfied.[26] The experiences reported in this study are confirmed by the theorem of Yalom.[27]

The study by Manzomeh *et al*.[22] showed that all aspects of life were affected by the disease, which was consistent with the present study. They acknowledged that absolute despair and fear of the future dominated them, and they were familiar with the concept of inexplicable pain confirming that the loss of their child is intolerable for them. In addition, the reduction of family recreational activities due to the child's disease was the biggest social problem. Therefore, mothers who had undergone resilience-based group therapy showed improvement in terms of family integration, cooperation, and optimistic definition of the situation. There were some potential limitations related to interpersonal differences, such as intelligent quotient (IQ), thinking, beliefs, social and family circumstances, and mental and psychological status, influencing their response rate.

Conclusion

This study showed that resilience-based group therapy interventions are an effective strategy for mothers of children with cancer in coping with the disease. The application of resilience-based group therapy intervention will promote the mental health of the mothers of children with cancer and increase their resilience and ability to cope with their problems. It is suggested that health care staff educate mothers who have children with cancer regarding their child's disease and treatment strategies, social support, self-esteem, prosperity and optimism, and ways to deal with the problems.

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Conflicts of interest

Nothing to declare.

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