

The Effect of Group Play Therapy on Anxiety in Children Diagnosed with Leukemia

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Received: 19 Feb 2021

Accepted: 15 My 2021

Abstract

Background: One of the factors leading to anxiety in children with cancer is child hospitalization. This anxiety can be due to separation, sadness, as well as fear of a new environment, disability, and continuation of life.

Objectives: The present study aimed to evaluate the effectiveness of group play therapy on anxiety in children with leukemia.

Methods: The current research had an applied and quasi-experimental approach, with a pretest-posttest design and a control group. The statistical population of this study included all 8-12-year-old children with leukemia hospitalized in Dr. Afzalipour Hospital in Kerman in 2018. Among them, 30 children were selected by a convenient sampling method and were randomly assigned to the two experimental and control groups equally. The research tool was the Multidimensional Anxiety Scale for Children (MASC). Concerning the inferential analysis, the analysis of covariance (ANCOVA) method was used to compare quantitative variables between the three groups. Also, the ANCOVA model was used for modeling the difference between pretest and posttest measurements and adjusting for the effect of confounding variables such as gender and age. The analyses were performed using SPSS.22 software.

Results: The results showed a significant reduction in anxiety scores between children who received group play therapy (mean anxiety=59.60) and those who did not receive any intervention (mean anxiety=60.60) ($p>0.001$). Based on the findings, the group play therapy intervention is effective in anxiety in children with leukemia.

Conclusion: According to the findings of the present study, it can be concluded that group play therapy is effective in reducing anxiety in children with leukemia.

Keywords: *children with cancer, leukemia, anxiety, play therapy*

Introduction

Childhood is the time of happiness and liveliness for every person. When you hear the word child, the first thing that comes to mind is play, entertainment, and liveliness. However, some children suffer from physical lesions that deprive them of this liveliness. Cancer is one of these physical lesions. The most common cancer in children is leukemia. Out of every one million

children under 15 years old, about 40 children develop cancer [1]. Pediatric cancer is a type of cancer that is diagnosed in children less than 15 years old [2]. About 2% of children and adolescents less than 15 years old in Iran suffer from this disease. However, with the improvement of socio-economic status and healthcare in Iran, survival in 70% of these children increases to more than 5 years [3].

Children with leukemia often develop symptoms and complications, leading to negative psychological effects on them [4]. Developing leukemia and understanding the presence of this disease has profound psychological effects on children. One of these effects is the child's hospitalization due to his/her disease. The child's hospitalization causes anxiety due to separation, sadness, as well as fear of the new environment, disability, and continuation of life [5]. Cancer leads to anxiety and psychological problems in affected individuals [6].

It can be said that anxiety is the result of persistent tensions experienced by a person throughout his/her life. Anxiety is the emotional and physiological response to the feeling of a comprehensive internal danger that simply goes away. Anxiety accompanies specific physical symptoms, which are a warning sign of imminent danger and makes the person ready for confrontation [7]. Anxiety, feeling guilt, sadness, anger, worry and other psychological and social pressures, the duration of disease and treatment, hospitalization and the increased costs of treatment, mental status, and social harms are among the tensions affecting the affected individual [8].

In addition to pharmacotherapy, numerous psychological interventions have been developed over consecutive years to solve psychological problems, including anxiety. One of the effective approaches regarding symptoms of mental illnesses and mental health is group play therapy [9]. Play is one of the primary tools in increasing adjustment in children widely used by child life specialists. Play is an important way of expressing and coping with anxiety and stress, and through play, children are well able to express their feelings about their family members, environment, illness, and hospitalization [10]. Play is the basis for the development of the child's physical, emotional, social, and cognitive abilities, as well as a natural way of communication and learning [11].

Play therapy is a device to express children's nature and a way to deal with emotional stress. It is also used for children with disturbances stemmed from family and social problems. Therapists who perform play therapy interventions believe that this technique allows children to present issues that they cannot raise in

their daily environment in the form of games and to show their hidden emotions under the guidance of the therapist. Through play therapy, the therapist accepts children's behavior unconditionally, without surprising them, arguing with them, or warning them of their misconduct. Recent research shows researchers' emphasis on play therapy and uses it as a technique to reduce anxiety, social problems, and adjustment [12].

The results of Baggerly's research on the effectiveness of child-centered play therapy on self-esteem, depression, and anxiety in homeless children showed that child-centered play therapy significantly improved self-esteem and anxiety in these children [13].

Given the increasing psychological problems in cancer patients, especially children, it is essential to work on psychological issues and improve the quality of life of these patients along with pharmacological and medical interventions. Since anxiety can prevent the increase of white blood cells to fight the disease, reduced anxiety is of particular importance. Therefore, the present study aimed to answer the question of whether group play therapy is effective in anxiety in children with leukemia.

Methods

The present study was an applied and quasi-experimental research, with a pretest-posttest design and a control group. The statistical population of this study included all children with leukemia hospitalized in Dr. Afzalipour Hospital in Kerman for one year in 2018. From this population, 30 children were selected by a convenient sampling method and were randomly assigned to the two experimental and control groups equally. The inclusion criteria in this study were: Age range 8-12 years, hospitalization in the blood and oncology ward of Dr. Afzalipour Hospital in Kerman, evidence of leukemia diagnosis in the medical record, symptoms of anxiety according to the clinical interview criteria, parent and child satisfaction regarding the child's participation in the study. The exclusion criteria were: The presence of physical problems preventing the child from participating in play therapy sessions and obtaining written consent from the participants' parents. The research tool included the Multidimensional Anxiety Scale for Children (MASC).

The Multidimensional Anxiety Scale for Children (MASC): This scale designed by March et al. (1997) involves 39 items to assess the symptoms of anxiety in children and adolescents. It measures four dimensions, including social anxiety, separation anxiety, harm avoidance, and physical symptoms. In a study, Ivarson (2006) has gained an alpha coefficient of 0.87 for the total scale, and alpha coefficients of 0.83, 0.84, 0.71, and 0.64 for the subscales of social anxiety, physical symptoms, harm avoidance, and separation anxiety, respectively. The validity and reliability of this questionnaire were also estimated by Mashhadi et al. (2012), and they obtained the retest validity and internal consistency of the total scale as 0.48 and 0.79, respectively.

In the experimental group, the group play therapy intervention was held for 10 two-hour sessions in the play therapy room of the oncology ward of Dr. Afzalipour Hospital by teaching the rules and

principles of play under the supervision of a therapist. The control group was also placed on the waiting list. At first, the patient's record was reviewed, and among them, children meeting the inclusion criteria were selected. The researcher was introduced to the parents and the child by the hospital psychologist, the research purpose was explained, and they were invited to cooperate. The questionnaire was filled out by the subject him/herself, and if the subject was not able to read or fill out the questionnaire, the researcher read the questions out loud one by one and marked the options chosen by the subject. Subjects were randomly divided into two 15-people groups. Then, play therapy sessions (10 two-hour sessions) were implemented on the intervention group, and finally, both groups filled out the questionnaires as a posttest.

Table 1.

Table 1: Play therapy sessions of Hajjari educational package (2010)

Session	The Goal Pursued in Each Session	Content and Activities of Each Session
First Session	Building relationship, trust-building, and getting to know the therapist	Introducing and familiarizing, preparing children, and performing art activities with optional subjects
Second Session	Emotional catharsis and relaxation to calm down	Using balloons
Third Session	Discovering children's issues and concerns- cognitive reconstructing aiming at avoiding negative self-talk and assessing their role in creating frustration	Using cans of worry
Fourth Session	Overcoming frustration- reducing isolation, improving social ties	Artistic group activity in the form of story
Fifth Session	Recognizing emotions- sharing emotions- experiencing shared group activity and a sense of worth	Experiencing art activities using artistic tools such as emotion masks
Sixth Session	Expressing conflicts- emotional catharsis- acquiring adjustment, and improving children's strategies to deal with problems and concerns	Building group puzzles- coloring
Seventh Session	Dealing with anxiety stemmed from medical equipment- reducing anxiety and unpleasant emotional states	Drawing medical equipment
Eighth Session	Reducing anxiety- adjusting children to medical equipment in the hospital- increasing the feeling of control and experiencing positive feelings	Making handicrafts and artistic techniques and encountering medical equipment
Ninth Session	Externalizing and objectifying the disease- overcoming anxiety stemmed from unknowns of the disease- reducing anxiety and relaxation	Wearing a disguise and performing a fantastic show
Tenth Session	Integrating perceptions- integrating cognition and generalizing them to real life	Summarizing previous sessions- preparing children for group closure

Concerning the inferential analysis, the analysis of covariance (ANCOVA) method was used to compare quantitative variables between the three groups. Also, the ANCOVA model was used for modeling the difference between pretest and posttest measurements and adjusting for the effect of confounding variables such as gender and age. The analyses were performed using SPSS.22 software.

Results

In this section, first descriptive findings were presented and then inferential findings were examined to test the hypothesis. Table 2 presents the demographic findings and the mean and standard deviation of the anxiety variable as well as its subscales by two groups, separately. According to Table 2, there was a difference between the mean of the experimental group and that of the control group. Multivariate ANCOVA

(MANCOVA) was used to examine the significance of these differences. Before performing the test, the Levene test was used to observe the default of variance homogeneity. The results of the Kolmogorov-Smirnov test showed the normality of data distribution. The results of the Levene test for the default of variance homogeneity showed that the variances between the two groups were homogeneous in the anxiety variable and its subscales. The homogeneity of regression slopes and the linearity of regression were also observed. The assessment of data characterization showed that the statistical assumption of homogeneity of variance-covariance matrices for the anxiety components (Box's $M=22.24$, $P<0.05$) was not established, and therefore, Pillai's trace index was used to evaluate the significance level of the multivariate effect.

Table 2: Demographic information as well as the mean and standard deviation for anxiety in pretest and posttest

Variable	Group	Mean	Standard Deviation	p	
Age	Group therapy	10.7	0.84	<0.001	
	Control	10.6	0.71		
Gender	Group	Frequency	Frequency(%)		
Female	Group therapy	7	50	1.00	
		7	50		
Male	Control	8	50		
		8	50		
Variable	Group	Pretest		Posttest	
		Mean	Standard Deviation	Mean	Standard Deviation
Social Anxiety	Group therapy	16.46	2.06	12.73	1.62
	Control	15.06	2.08	14.86	1.99
Separation Anxiety	Group therapy	15.80	1.97	12.33	1.63
	Control	14.66	2.05	14.53	2.13
Harm Avoidance	Group therapy	16.73	1.70	13.13	1.45
	Control	14.80	2.33	14.73	2.37
Physical Symptoms	Group therapy	17.33	1.83	13.20	1.52
	Control	14.73	2.18	14.53	2.29
Anxiety Total Score	Group therapy	63.86	5.86	59.60	6.02
	Control	62.80	7.75	62.60	7.60

According to Table 3, Pillai's trace showed that the effect of the group on the linear composition of dependent variables was significant (partial $\eta^2=0.95$ and $F=105.15$, $P=0.0001$). In other words,

there was a statistically significant difference between the two groups of minimum play therapy and control in one of the anxiety components.

Table 3: The results of multivariate analysis of covariance (MANCOVA)

Test	Value	df Hypothesis	df Error	F	p	Eta Square
Pillai's Trace	0.95	4	21	105.15	0.0001	0.95
Wilk's Lambda	0.04	4	21	105.15	0.0001	0.95
Hotelling's Trace	20.02	4	21	105.15	0.0001	0.95
Roy's Largest Root	20.02	4	21	105.15	0.0001	0.95

As shown in Table 4, the statistics of univariate ANCOVA were performed separately for each dependent variable to determine the significance level of the multivariate effect. Table 4 shows that the group significantly affects social anxiety ($P<0.001$), separation anxiety ($P<0.001$), harm

avoidance ($P<0.001$), and physical symptoms ($P<0.001$). This finding means that play therapy leads to reduced social anxiety, separation anxiety, harm avoidance, and physical symptoms in children with leukemia.

Table 4: The results of ANCOVA test in MANCOVA text

Variable	SS	df	MS	F	p	Eta
Social Anxiety	22.23	1	22.23	117.01	0.0001	0.83
Separation Anxiety	22.77	1	22.77	129.65	0.0001	0.84
Harm Avoidance	33.01	1	33.01	228.11	0.0001	0.90
Physical Symptoms	19.91	1	19.91	48.58	0.0001	0.66

Discussion

The results showed that group play therapy led to reduced social anxiety, separation anxiety, harm avoidance, and physical symptoms in children with leukemia. The results of this study were consistent with the studies conducted by Akbari et al. [14], Mousavi and Khodabakhshi Kolaei [15], Jensen, Bison, and Graham [16], and Baggerly and Parker [17].

In a meta-analytic study, Jensen et al. reviewed 100 intervention articles that had assessed the effect of play therapy on children's psychological problems. The results of their research showed that play therapy was effective in improving children's misconduct, academic problems, emotional tensions, oppositional defiant, anxiety, and hyperactivity [16]. The results of this study are consistent with the mentioned research and show that play therapy can be an effective method in reducing psychological problems in children.

Baggerly and Parker have suggested in their study that if child-centered play therapy is used, many psychological and behavioral problems in children can be improved and reduced [17]. Therefore, the results of their study also support the results of the present study. As Mousavi and Khodabakhshi Kolaei found in their research, client-centered or child-centered play therapy is

effective in reducing fear and anxiety in preschool children [15].

Similar to the results of this study, we can refer to Akbari et al.'s study, showing that cognitive-behavioral play therapy leads to increasing cognitive emotion regulation and reducing anxiety and depression in children with type 1 diabetes [14]. In the conducted searches, no study was found to be inconsistent with the findings of the present study.

To explain this finding, it can be said that play is indeed the natural activity of childhood and presumably the most effective means of learning. Play is an exercise for real life that creates enough flexibility to adjust to events, people, and situations. During play, empathy develops in the child through role-playing and behavioral practice. The play's different scenes provide numerous possibilities for practice and learning which do not exist in other therapies [18]; whereas, with a few sessions of play therapy, the child will be able to replace the main source of this real feeling. Whenever, through correct and logical confrontation, the child can face the problems and events that have caused his/her tension and anxiety, he/she can deal with the resulting tension. During play therapy, the child can find a way to reduce his/her daily anxieties

and will be able to control his/her attitudes, feelings, and emotions [19].

Just like any other research, the present study has had some limitations. These limitations included: Convenient sampling method, using a self-report questionnaire, and lack of follow-up period due to time and financial constraints.

Conclusion

According to the above-mentioned materials and findings, it can be said that group play therapy has been effective in reducing anxiety in children with leukemia.

Acknowledgments

This article has been extracted from a doctoral dissertation in Islamic Azad University, Dezfoul Branch (IR.IAU.AHVAVZ.REC.1398.016). The author would like to thank the supervisors, consultants, and all those who have contributed to this research.

Conflict of interest

There is no conflict of interests.

Funding:

This research has been done with the personal fund of researchers.

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