

Investigating the Effectiveness of Play Therapy on Reducing Despair and Anxiety in Children with Cancer

Abstract

Hospitalization of children due to cancer causes feelings such as fear of death, anxiety, and despair in them. This research aimed to investigate the effectiveness of play therapy for hopelessness and anxiety in children with cancer. The current study is a semi-experimental type and was done with a post-test-pre-test design and with a control group. The statistical population of the study consisted of children with cancer who had visited the hospital. Among these children, 30 people were chosen by the available sampling method and were randomly divided into two control (15 people) and experimental (15 people) groups. For children in the experimental group, 8 sessions of play therapy were implemented. The obtained data were analyzed by SPSS-23 software. According to the results obtained from this study, play therapy significantly reduced frustration and anxiety scores in the experimental group in the post-test phase ($p < 0.001$). Based on the results obtained from this study, the intervention of play therapy is effective in decreasing despair and anxiety and can be utilized as a complementary method alongside the main cancer treatments.

Keywords: Children, Cancer, Despair, Anxiety, Play therapy

Introduction

Cancer, as a global health problem, is the second cause of death among children.^[1, 2] The childhood cancer incidence is increasing worldwide.^[1, 3] A cancer diagnosis can cause serious psychological problems because cancer and hospitalization increase the feeling of pain, psychological distress, and fear of death.^[4] One of the factors related to mental distress and one of the predictors of low health and life negative quality of adolescents and children with cancer is anxiety, which affects about 25-35% of these people.^[5, 6] Similarly, the diagnostic and statistical criteria of mental disorders, fifth edition, in cancer patients aged 7 to 21 years, estimated about 4.37% of anxiety or depression disorders.^[5, 6]

Anxiety has been introduced as a long-term and severe symptom experienced by patients with cancer.^[7] Stress caused by hospitalization, a lack of understanding of children's disease by experts, confined coping strategies, and pain caused by invasive methods and treatment regimens are the anxiety primary causes in children with cancer.^[8] Severe anxiety can cause delays in treatment, enhance susceptibility

to infection, and prolong the recovery process, which affects overall cancer treatment and reduces patient satisfaction.^[6] For example, anxiety aggravates pain, which in turn increases both children's anxiety experience and the sedatives needed.^[8] The exposure of the child to an unknown disease process along with interventions in the hospital, and separation from the everyday and family environment during hospitalization, leads to a change in behavior and the appearance of negative emotions such as stress, fear, hopelessness, uncertainty, and hopelessness.^[9] Namidi in cancer patients disturbs their physical and mental health.^[10] Namidi refers to the subjective evaluation of negative consequences, negative emotions, and disappointed expectations. In his cognitive model, Beck defines hopelessness as negative expectations toward the future. The severe fear of death and anxiety in cancer patients can be accompanied by a hopelessness high level. The hopelessness feeling can be caused by the cancer's negative perception and its treatment as a deadly disease.^[11]

In the case of illness, hope is a factor in increasing motivation and prevents feelings of despair and helplessness. It helps patients

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feel better and sustains cancer treatment. On the other hand, Namidi occurs due to cancer and death due to the disease.^[14] New cancer treatment approaches increase the recovery rate of children, but these strategies can have different negative consequences for the family and the child. Using high-dose drugs in chemotherapy causes the child to experience many symptoms.^[12] Therefore, among the psychological interventions that can affect and reduce the psychological effects of physical diseases, play therapy can be mentioned.^[13] According to Bratton's opinion, play therapy is a good way to treat children's behavioral and emotional problems due to its response to children's developmental needs.^[14]

Play therapy is a running interpersonal relationship between the therapist and the child in the process of play, which facilitates safe relationship development for the child so that the child can find a way out through play to decrease his emotional disturbances.^[15] During the relationship with the therapist, the child experiences the reduction of painful effects, reorientation of impulses, acceptance, emotional discharge, and corrected emotional experience. The game allows the child to express thoughts, feelings, experiences, and desires that are threatening to him.^[16] Research shows that group play therapy can be utilized as an effective solution to reduce the pain and anxiety intensity of children and adolescents with cancer.^[17] Duke^[18] and Scarponi and Pession^[19] showed that play therapy during children's cancer treatment reduces pain and anxiety. During the treatment process, patients with cancer require frequent hospitalization and experience different physical symptoms including vomiting and nausea, inflammation of the oral mucosa, diarrhea, and constipation, and show a high level of low self-confidence.^[20]

According to the theoretical foundations and research background, psychological support is an important aspect of emotional relief for children with cancer. In addition, through play, children express their concerns and fears and gain knowledge about their treatment and illness. Therefore, to increase adaptation and learn adaptation strategies, it is necessary to choose the best method of cognitive therapy in this field. Thus, the current study was conducted with the aim of the effectiveness of play therapy on hopelessness and anxiety in children with cancer.

Materials and Methods

This study was applied in its purpose terms. In terms of the research method, it was a semi-experimental type with a post-test-pre-test design with a control group. In the current study, two control and experimental groups were used. In this research, the dependent variable was anxiety and hopelessness, and the non-independent variable was the treatment according to play therapy. The statistical population contains all children with cancer admitted to the hospital. A sample of 45 people or the available sampling method was selected and randomly assigned to control (15 people) and experimental (15 people) groups.

In this research, people who met the criteria for participating in the research; the selection and objectives of the research were said to the children and their parents, and they were assured that all their information would be confidential. Then, after gaining consent to participate in the study, the research was carried out. In the first stage, 45 people were chosen as the final sample and divided into two control and experimental groups, and the research questionnaires for the pre-test were distributed among the children individually and the questions were read one by one for each child, and then, play therapy intervention was implemented to reduce anxiety and frustration for the experimental groups. In the third stage, the research questionnaires for the post-test between the experimental and control group children were implemented and the data were collected. The criteria for entering the study were: 1- having a medical record in the center, 2- age range from 8 to 14 years, 3- certainty of cancer diagnosis in children, 4- full consent to participate in the research, and the criteria for exiting the study includes: 1- Non-cooperation of the child or family in any of the stages of the research. 2- The restlessness of the child and intolerance of the research conditions.

In this study, Spence Children's Anxiety Questionnaire was used to measure children's anxiety. This questionnaire was designed by Spence in 1997 with 38 statements. Questions are scored according to the 4-point Likert scale from 0 to 3; therefore, the minimum score is zero and the maximum score is 114, and higher scores demonstrate more anxiety. The convergence validity of the Spence Anxiety Questionnaire with the Beck Depression Questionnaire has been reported as 0.48 and the reliability value using Cronbach's alpha has been reported as 0.96.^[21] In another study, Nauta *et al.*^[22] confirmed the construct validity of Spence Children's Anxiety Questionnaire on 484 children with anxiety disorders and stated that the instrument has 6 factors that are significant at a level smaller than 0.01 and reported its reliability as 0.89.

In the case of disappointment, Kazdin's disappointment questionnaire was also used in this study. This questionnaire was compiled and revised based on the despair scale of 1 in 1986 and has 17 yes and no questions. In most statements, a yes answer is given one point and a no answer is given zero. In items 1, 3, 4, 5, 6, 7, 11, and 16 scoring is done in reverse. The highest score on this scale is 17, which indicates the highest level of despair in the child.^[23] The reliability of the scale of children's despair in the sample of children with mental disorders after six weeks is 0.57 and in the sample of normal children after ten weeks, it is reported to be 0.49. It indicates the average stability of the test. This test has good internal consistency (0.97).^[23]

In this study, a treatment program based on the cognitive-behavioral play therapy approach was designed and implemented with the method suggested by Kaduson and Schaefer.^[24] Finally, the data obtained in this research were analyzed by covariance analysis using SPSS-23 software.

Results and Discussion

In this research, 30 children with cancer in the age range of 8 to 14 years participated, among the people participating in the research, there were 9 girls and 6 boys in the experimental group, and most of the children in the age range of 12 to 13 years. In the control group, there were 6 girls and 9 boys, most

of whom were between 10 and 11 years old. In **Table 1**, the descriptive indices (Mean \pm SD) of the variables of anxiety and frustration are presented separately in the two experimental groups of play therapy and control in the post-test and pre-test phases.

Table 1. Descriptive statistics of research variables.

Groups	Variable	Test type	Average	Standard deviation	Shapiro-Wilk test	P-value
Play therapy group	Anxiety	Pre-test	33.75	20.15	0.59	0.47
		Post-test	13.52	42.15	0.29	0.19
	Despair	Pre-test	73.14	98.1	0.90	0.10
		Post-test	87.4	85.1	0.95	0.60
Control group	Anxiety	Pre-test	53.72	23.15	0.39	0.72
		Post-test	27.70	94.14	0.93	0.32
	Anxiety	Pre-test	60.14	09.3	0.90	0.10
		Post-test	27.14	71.2	0.39	0.26

The Shapiro-Wilk test was utilized to check the normality of the distribution of anxiety and despair variables. According to the results ($P < 0.05$), the distribution of anxiety and despair variables was normal. In the current study, multivariate covariance analysis was used to study the impact of play therapy on the anxiety and hopelessness of children with cancer. Before utilizing the covariance test analysis, its presuppositions were studied. The non-significance of the Shapiro-Wilk test demonstrated the normality of the scores distribution of the study variables ($P > 0.05$). The test of Mbox of both variables revealed that the homogeneity assumption of covariance was met ($MBOX = 2.77$, $P > 0.05$), in addition, based on the homogeneity assumption of the regression slope ($P > 0.05$) from analysis of multivariate covariance to remove the effect of the test was used. The findings of Levin's test revealed that the variances of the two control and experimental

groups in the post-test stage in anxiety ($F = 2.84$ and $P = 0.10$) and hopelessness ($P = 0.09$ and $F = 2.99$) at the community level are equal.

As **Table 2** reveals, the significance levels of all tests allow the utilization of multivariate covariance analysis. These findings reveal that there is a significant difference in the research groups at least in terms of one of the dependent variables ($F = 100.23$, $P < 0.01$, Pillai effect = 0.89). The eta square reveals that the difference between the groups about the dependent variables is significant overall, and this difference amount is 0.89 according to the Lambda Pillai test, that is, 89% of the variance about the difference between the groups is because of the mutual influence of the dependent variables.

Table 2. The findings of multivariate covariance analysis (MANCOVA) on the mean post-test anxiety and hopelessness scores of experimental and control groups with pre-test control.

Source	Value	F	Hypothesis Df	Error Df	Sig.	Ita coefficient
Pillai effect	0.89	100.23	2	25	0.100	0.89
Wilks Lambda	0.11	100.23	2	25	0.100	0.89
Hotling's work	8.02	100.23	2	25	0.100	0.89
Roy's Largest Root	8.02	100.23	2	25	0.100	0.89

To compare the differences between the control and experimental groups in each of the variables of anxiety and despair, the results of multivariate covariance analysis of the variables of anxiety and despair are reported in **Table 3**. The

findings show that there is a significant difference between the two experimental and control groups in the variables of anxiety and despair ($P < 0.001$).

Table 3. Results of multivariate analysis of covariance (Mancova) of anxiety and despair variables.

Source	Components	SS	DF	MS	F	P	Eta	OP
Group	Despair	430.99	1	430.99	120.15	<0.001	0.82	1
	Anxiety	1372.47	1	1372.47	32.42	<0.001	0.55	1

The aim of this research was to the effectiveness of play therapy on anxiety and hopelessness in children with cancer. The results of the research revealed that play therapy reduces the anxiety of children with cancer. This result is consistent with the study results of Duke.^[18] In explaining this finding, it can be said that having cancer, hospitalization, and long treatments make the child prone to stress, anxiety, and worry, and children often face problems in verbally expressing their feelings. On the other hand, the game is a childhood natural activity and probably the most effective means of learning that creates sufficient adaptation to events, people, and situations. During the game, role-playing and behavior practice in the child causes empathy. Play and related activities play a significant role in reducing pain perception.^[25]

Play therapy is a safe method that can create a relaxing environment by minimizing the utilization of medical equipment and its bad side effects. Strengthening the relationship between the patient and the trainer, reducing psychological symptoms related to hospitalization, and maintaining a childlike environment are other benefits of play therapy, which will reduce pain and anxiety.^[26] Children, like adults, are not able to understand their environment, and communication should be at the level of their understanding. Therefore, play therapy allows the child to express his thoughts and feelings in children's language and also use positive coping strategies to adapt to the problems of hospitalization, including being away from the family environment.^[27] When a child deals with the problems and events that cause him tension and anxiety correctly and logically, he can deal with the tension caused by it. During the game, the child can change roles and play the role of a doctor instead of a helpless patient, feel temporarily empowered, and make hospitalization a less stressful experience. These things make the child vent and control his emotions. The game helps the child cope with negative experiences in his life by controlling stressful events. Therefore, it seems that play therapy reduces the anxiety of children with cancer.

The findings of the study revealed that play therapy reduces frustration in children with cancer. This result is in line with the findings of the research of Scarponi and Pession.^[19] In interpreting this result, it can be stated that play therapy for children has the role of psychological purification, which reduces the severity of failures and provides useful plans for solving problems in the game for children, and this factor reduces frustration in children.^[28]

The game solves the child's problems related to the disease. The child expresses his anxiety, frustration, and emotions through play. This treatment method helps the child to reveal his conscious and unconscious thoughts. It also gives him a chance to express his disturbing thoughts and inner problems properly. By increasing the child's communication network with others as friends, playing increases social support and thus increases hope.^[29] Also, creating a safe communication framework during the game helps the child to express his deepest problems, and such an atmosphere makes the child, in addition to projecting emotions, increase the ability to deal

with negative feelings. Therefore, the joy of playing increases self-esteem and frees the child from frustration and worry. Therefore, it seems that play therapy can reduce frustration in children with cancer.

Conclusion

The use of play therapy reduces despair and anxiety in children with cancer and can be utilized as a complementary treatment method beside the main cancer treatments. This research has limitations, the first is the use of self-report tools the subjects may not be completely honest in expressing their answers and problems to the questionnaires. Also, not controlling the severity of cancer and not knowing the exact time of hospitalization and discharge of sick children in the hospital are other limitations of the research. It is suggested that to obtain more definitive results, future research should be conducted with three-month and six-month follow-ups.

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Conflict of interest

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Ethics statement

None.

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