

# An Experimental Comparative Study on the Effect Times of Three Art Based Psychotherapies in a Medical Setting

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## Abstract

**Introduction:** Recently, a short-term hospitalization policy has been implemented to reduce the psychosocial consequences of illness. Nonetheless, psychosocial problems in patients persist. Therefore, in addition to the necessity of providing psychological services, the necessity of brief interventions is also important. So, the aim of the present study was to compare the effect times of the three psychotherapies.

**Method:** The present research was undertaken in an ex post facto design. After designing the art therapy, psychodrama and psycho-art-drama comparable protocols for the present study, 15 hospitalized children with cancer admitted to Children Medical Center (CMC) from November 2018 to February 2019 were selected based on the inclusion and exclusion criteria. Each of the protocols were applied for five participants. The measures of the present study included the Children's Depression Inventory (CDI), the Child Pain Anxiety Symptoms Scale (CPASS), and the checklist of Bio-Psycho-Social Expressions of Incompatibility in Hospital (BPSEIH). The data analysis was performed by ANOVA test for comparing the effect times.

**Results:** The findings revealed that psychodrama is the fastest psychotherapy with a lower effect time.

**Conclusion:** It can be stated that considering the effect time is necessary to select a psychotherapy as well as the effect size.

**Keywords:** Art Therapy, Cancer, Effect Time, Psycho-art-drama, Psychodrama

## Introduction

Acute or chronic physical illnesses are not just confined to the body and can also cause psychological and social problems [1-8]. The extent of these problems varies depending on the patient's age, psychosocial support giving status, type of illness and other similar factors. Children with cancer usually face numerous psychological problems [9, 10] because in addition to the severe physical pain caused by the disease, numerous hospitalizations causes them to depart from their friends and normal lives. Different hospital conditions compared to their own home, lack of social interaction with children, being away from some family members and feeling different from other children can lead to depression. Depressive symptoms can be caused by a stressful event [11] such as hospitalization due to cancer. Depression in children may reveal in the form of physical, psychological and social incompatibility in children. That is why it is extremely important to provide psychological services in hospitals. Recently a short-term hospitalization policy was implemented to reduce the psychosocial consequences in children (based on several interviews with physicians in the hematology-oncology departments of hospitals). Although this method is somewhat effective, psychosocial problems in children still persist. Therefore, in addition to

the necessity of providing psychological services, the necessity of short-term interventions is also extremely important. The researchers of this study did not find any comparative study on the time to achieve therapeutic goals (effect time) in different psychological methods, despite extensive research. Of course, there are studies that have compared the effects of short- and long-term forms of a particular treatment [12-16]. This is while these studies have only compared the effectiveness of these methods. So, the purpose of this study was to compare the three art-based methods (art therapy, psychodrama, and psycho-art-drama) with relatively similar effect sizes in terms of speed to achieve psychotherapeutic goals for hospitalized children with cancer.

Art therapy is an interdisciplinary mix of visual arts and psychology [17]. Psychodrama is an experiential psychotherapy in which clients use guided role-play to work on their personal and interpersonal problems and possible solutions through actions rather than words alone [18]. The artistic dimension of psychodrama encourages people to make interactions with life, attempt to describe unexpressed feelings, achieve new insights and understanding, and practice a healthier and more effective behavior [19]. Psycho-art-drama is a type of integrated psychotherapy that was first introduced in a PhD thesis in health psychology [20]. This psychotherapy comes from the combination of techniques and methods of art therapy and psychodrama and follows the principle of mixing and transforming the arts. While art therapy is a relatively common practice in hospitals [21-32], the application of psychodrama in hospital is rare [33-36]. Moreover, psycho-art-drama as a new integrated psychotherapy has been designed and applied in previous studies. It has been found that these three psychotherapies apply their effects by different mechanisms and this causes differences in their speed of implementation and times of the therapeutic sessions [20]. So, the key question is whether these three psychotherapies are significantly different in terms of effect time or not. This research seeks to address this issue.

## Method

The present research was undertaken in an ex post facto design which is placed in the category of descriptive research.

The statistical population included all children aged between 9 and 14 years with cancer admitted to the hematology-oncology department of the hospital (Children Medical Center- CMC) from November 2018 to February 2019. The sample included 15 children with cancer who were hospitalized in the hematology-oncology department of the hospital selected based on the inclusion and exclusion criteria. Each of art therapy, psychodrama, and psycho-art-drama methods was applied for five participants, separately. The inclusion criteria included age between 9 and 14, detection of cancer within the last six months, the first or second stage of cancer progression, being hospitalized, detection of the need for psychological treatment due to signs of BPSEIH, pain anxiety and depression, having reading and writing ability, an

informed consent of the parents (supervisor), participation of the mother in the research and ensuring family stability.

The exclusion criteria included leaving the research by the child or his/her mother, acute physical illness accompanied with cancer, acute psychiatric disorders and using any psychiatric drug, having serious motor difficulties and/or need for absolute rest, having obvious perceptual problems and the existence of obvious family problems (including parental divorce in the last two months).

This study was carried out in two general phases:

Phase 1: Implementation of the art therapy, psychodrama, and psycho-art-drama protocols designed for the present study. Since the purpose of the study was to compare the effect times of these three psychotherapies, the design of three comparable protocols was necessary.

Phase 2: comparing the three intervention methods in terms of the effect times (overall time of psychotherapy sessions).

The tools presented below have been used solely as measures to ensure the therapeutic goals attainment, and the children's scores did not play any role in the present study.

**The Children's Depression Inventory (CDI):** The CDI is made up of 27 items, which was firstly developed by Kovacs and Beck [37] to measure the symptoms of depression in children aged between 7 and 17 years. Each item has three response options that score 0 (absence of symptomatology), 1 (mild symptomatology), or 2 (severe symptomatology). The total score ranges between 0 and 54 points. This questionnaire has a good validity and reliability. Cronbach's Alpha of the test in clinical and non-clinical samples has concluded over 0.80 [38, 39]. In the present study, the Cronbach's alpha was 0.92.

**The Child Pain Anxiety Symptoms Scale (CPASS):** The CPASS is a validated form of the pain anxiety syndrome test [40], developed for children aged between 8 and 18 years by Pagé et al. [41]. The CPASS has 20 items with five response options in Likert type from one (as the lowest point of agreement) to five (as the highest point of agreement). The scale has high validity and reliability. The Cronbach Alpha has reported to be more than 0.90 [41, 42]. In the present study, Cronbach's alpha was 0.89.

**Bio-Psycho-Social Expressions of Incompatibility in Hospital (BPSEIH):** This checklist has been especially created in the present study for monitoring the biological, psychological, and social expressions of incompatibility in the hospital. This checklist includes 10 items. Each item has three response options in Likert scale from zero (absence of the expression) to two (extreme expression) which should be answered by the therapist or researcher and confirmed by the patient's attendance. The validity and reliability of this checklist have been confirmed [20]. The Cronbach's Alpha in this study was 0.81.

Due to non-significance of the Kolmogorov-Smirnov and Shapiro-Wilk tests (Table 1). Data was analyzed by ANOVA test to compare the effect times of the three psychotherapies.

**Table 1. Tests of normality**

intervention	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Effect Time	Art therapy	0.15	5	0.20*	0.99	5	0.99
	Psychodrama	0.17	5	0.20*	0.97	5	0.89
	Psycho-Art-Drama	0.32	5	0.09	0.77	5	0.05

\*. This is a lower bound of the true significance  
 a. Lilliefors Significance Correction

**Results**

According to Table 3, there is a significant difference between art therapy, psychodrama, and psycho-art-drama (F = 35.998, p = .000). Given the significance of Levene statistic (Table 2), Dunnett T3 was used as a post hoc (Table 4). According to Table 4, psychodrama has the least effect time or highest speed to reach therapeutic

goals, followed by psycho-art-drama and art therapy with no significant differences.

**Table 2. Test of homogeneity of variances**

Effect Time			
Levene Statistic	df1	df2	Sig.
4.940	2	12	0.027

**Table 3. ANOVA**

Effect Time					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18668.80	2	9334.40	35.99	0.0001
Within Groups	3111.60	12	259.30		
Total	21780.40	14			

**Table 4. Multiple comparisons**

Dependent Variable: Effect Time							
Dunnett T3							
(I) intervention	(J) intervention	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
					Lower Bound	Upper Bound	
1.00	2.00	84.80*	8.33	0.0001	57.08	112.51	
	3.00	28.00	9.80	0.09	-5.55	61.55	
2.00	1.00	-84.80*	8.33	0.0001	-112.51	-57.08	
	3.00	-56.80*	12.06	0.005	-92.76	-20.83	
3.00	1.00	-28.00	9.80	0.09	-61.55	5.55	
	2.00	56.80*	12.06	0.005	20.83	92.76	

\*. The mean difference is significant at the 0.05 level.

**Discussion**

Comparing the effect times of the three psychotherapies was the main objective of the present research. So, the comparable protocols were designed and applied for hospitalized children with cancer. Reaching the therapeutic goals was the ending criterion of each session. Results showed that psychodrama is the fastest psychotherapy with a lower effect time. After that, psycho-art-drama comes in second, and finally the art therapy has the most effect time.

The present study is the first to compare the effect time on three different psychotherapies. Therefore, it is not possible to compare this study with other studies. Based on the observations of the present research when applying all three therapies, the results can be justified and explained. The starting stage of treatment in art therapy was easier than the psychodrama. When children are asked to start a painting or drawing, they do not need any explanation on the process of the art making. But the starting stage in psychodrama is usually more difficult, because the process needs to be exactly explained to children. However, the speed of effectiveness of psychodrama was higher than that of art therapy. It seems that in psychodrama, the therapist leads a therapeutic

session with more power toward healing goals. In addition, painting-based art therapy, generally produces two-dimensional and maximum three-dimensional products, and only engages in some parts of the child's body: usually the hands and the eyes. This is while the psychodrama integrates all of the physical organs and can facilitate the free expression of emotions and physical impulses [43]. This multi-dimensional feature is especially important in children with physical illness.

The important point regardless of statistical significance is that the effect time of psycho-art-drama is the average effect time between psychodrama and art therapy. It can be stated that psychodrama when combined with art therapy, can also reduce its effect time.

**Conclusion**

In conclusion, it can be said that when immediate psychological services are investigated, psychodrama is a better choice than art therapy and psycho-art-drama. However, as this study is the first to compare the effect times of three psychotherapies, it is recommended that more research be conducted on the same or similar topics.

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