Original Research

The Effect Of Play Therapy On The Frustration And Hopelessness Of Children With Chronic Diseases

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Abstract

Background: Chronic illness separates children from their normal living environment and intermittent, and hospitalization causes them to feel frustrated and hopeless. Since playing has a significant role in reducing children's negative emotions, this study was conducted to investigate the effect of play therapy on the frustration and hopelessness of children with chronic diseases.

Methods: His is a semi-experimental study with two control and intervention groups, which was conducted in 2020. A total of 60 children with chronic diseases hospitalized in 6 departments of Children's Medical Center in Tehran were selected by convenience sampling method to participate in this study based on the entry criteria (n=30 in the intervention and n=30 people in the control group). A demographic information form and Kazdin's hopelessness scale in children (HSC) were used to collect the data, and SPSS software version 16 was used to analyze the collected data.

Results: The findings of this study indicated that the play therapy had a significant effect on the hopelessness of children in the intervention group, so that their mean score of hopelessness after the intervention was much lower compared to before intervention (P-value<0.05). The effect size of this intervention on the children hopelessness was 0.215, which is higher than 0.08, indicating the effectiveness of intervention.

Conclusion: The results of this study showed that playing has a positive effect on the level of frustration of children with chronic diseases. Therefore, playing is recommended to reduce frustration and improve mental health of children with chronic diseases.

Keywords: Play Therapy, Hopelessness/Frustration, Children, Chronic Disease

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Introduction

Hospitalization is considered a stressful event for children (1). Hospitalization in pediatric wards causes anxiety and stress in children and their families (2). Today, many children with chronic diseases reach adulthood due to scientific advances in pediatric medicine (3). Depending on the type of disease and conditions, children with chronic diseases may be hospitalized, have painful diagnosis and treatment, and experience the fear of death and long-term separation from family and friends, all of which lead to social exclusion in them (4) (5). The psychological problems that parents experience after the diagnosis of chronic diseases in their children and adolescents include fear, anxiety and impaired self-efficacy (6). Long-term pain caused by chronic disease is usually associated with depression, anxiety, anger, sleep disturbance, frustration and sense of loneliness (7). Chronic diseases are the basis of psychological disorders (8). Chronic children fall behind in their daily routines and normal activities that help them develop behavioral and emotional skills. They also express sadness and anxiety about missing school, and have problems interacting with their peers, parents and siblings (9). The impact of children's illness is significant from a psycho-social point of view. Children and adolescents may have problems coping with stressful events and lose hope for treatment (10). Today, the need for effective communication between nurses and children is evident more than ever. As a result, in addition to meeting the physical needs, the nurses must pay special attention to the psychological problems caused by children's hospitalization. The skill and the way the nurses interact with children can be effective in reducing these problems (11). Hopelessness is a psychological state in which a person faces obstacles and problems in achieving his desired goals and needs. In other words, he encounters opposing forces to carry out his activities, which destroy his efforts and prevent him from satisfying his needs (12). Reducing environmental stress has a significant impact on the adaptation of patients and their caregivers (13). Beck states that hopelessness is an aspect of depression, which is more cognitive than emotional. This mean that in terms of cognitive basis, a person reaches a degree of despair in the possibility of positive changes and solving problems, and this despair is associated with suicide more than other aspects of depression (14). In recent years, direct approaches to therapeutic play have become a common practice. It has been proven that such an approach is useful for the development of children's problem-solving and social skills as well as other adaptive and harmonious cognitive-behavioral strategies. Paly establishes a connection between the child's inner thoughts and outside world, and enables the child to control external events. This process allows the child to realize experiences, thoughts and feelings that are threatening to him (15). Play may also lead to the expression of frustration and anger, and allows the child or adult to deal with environmental challenges, both of which help mental health (16). Play therapy in children is a non-pharmacological method that has a great impact on the mental health and development of children (17). Play therapy is considered as a common and effective intervention in the care of hospitalized children (18). It is also an interaction-based method that reduces anxiety and stress in hospitalized children (19). Wolfer and Wiesintainer conducted a study to investigate stress responses in children admitted to a pediatric surgery hospital. The results of this study showed that children who received psychological preparation including play interventions in the hospital, unlike those who did not, showed less aggressive behavior and adjustment problems and also were more cooperative with the hospital staff. Research has been conducted on play therapy in hospitals to prepare children for invasive medical procedures and help them cope with the stress of hospitalization (20) (21). Another study revealed that play therapy is effective in improving the levels of pain, anxiety and fatigue in hospitalized children with cancer undergoing chemotherapy (22). Considering the important role of hope and hopeful thinking in children with chronic diseases and taking into account the existence of scientific gap in regard to the effect of play therapy on hospitalized children (23), this study was conducted with the aim of determining the effect of play therapy on the frustration and hopelessness of children with chronic diseases.

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Methods

Study design:

This semi-experimental study was conducted on 60 children with chronic disease in 2020. The research community included all chronic children suffering from rheumatism, cystic fibrosis, chronic kidney disease, asthma, gastrointestinal disease (Crohn's disease, liver cirrhosis, diarrhea, etc.) and neurological diseases (treatment-resistant epilepsy) hospitalized in pediatric hospital for more than two weeks. The sample size of this study was calculated to be 26 people in each group, considering 95% confidence interval and 80% test power. However, after taking into account the possibility of sample drop, 30 patients were assigned to each group.

$n=(2\times(z_{1-\alpha/2}+z_{1-\beta})^2)/(ES^2)=$
$(2\times(1.96+0.84)^2)/〖(0.8)〗^2 =26$
$z_{(0.975)}=1.96$
$z_{(0.8)}=0.84$

The inclusion criteria for this study were; having a chronic disease, being admitted to the children's medical center, being between 7-12 years old, being aware of time and place, and having the ability to communicate visually and verbally. The exclusion criteria from this study included the parents' lack of consent to participate in the research. Sampling was done by simple random method, and the participants were divided into two intervention and control groups. The data collection tools included a demographic information questionnaire (age, gender, birth rank, number of children, history of chronic illness in the family, parental status, economic status and place of residence), and Kazdin's hopelessness scale in children (HSC). This scale was developed and revised in 1986 based on Beck's Despair Scale (1979). It has 17 two-option (yes or no) questions. In most statements, one point is given to the yes answer and zero point to the no answer, and only in questions 1, 3, 4, 5, 6, 7, 11 and 16, which are expressed positively, this rule is reversed. The highest score in this scale is 17, which indicates the highest level of frustration and hopelessness in the child. The reliability of Kazdin's scale was reported to be 0.57 in the sample of children with mental disorders after 6 weeks, and 0.49 in the sample of normal children after 10 weeks, indicating the average stability of this tool. This scale has a favorable internal consistency of 0.97, and its reliability has been reported at 0.97 using Spearman-Brown split-half method. Kazdin and colleagues reported alpha coefficient of 0.97 and reliability coefficient of 0.96 for this scale, using Spearman-Brown method (24). Validity and reliability of this scale in Iran has also been confirmed by Ali Akbari Dehkordi and colleagues (25). Children in the intervention group received 6 sessions of play therapy (three days a week) and each session lasted for 60 minutes (26) (27). Each session had specific objectives and its main purpose was to reduce the children's sense of hopelessness. The first 15 minutes of each session were allocated to getting to know the children and communicating with them in order to reduce their anxiety and create a sense of security and peace in them. The content of play therapy sessions was designed based on scientific articles and books (box number 1). Before the first session, the Kazdin's tool was completed as a pre-test in the intervention and control groups, and after the sixth session, it was completed again as a post-test in both groups. If any of the options were not understood, the necessary explanations were given to the participant. Samples in the control group received the routine hospital care. The collected information was entered into SPSS-21 statistical software to be analyzed by descriptive statistics (table, mean, standard deviation) and inferential statistics (paired t-test, independent t-test) at a significance level of 0.05.

Results

Demographic variables were compared between the two groups using independent t-test, chi-square and Fisher's exact test. A p-value of less than 0.05 was used to determine statistical significance. Table 1 shows no statistically significant difference between the two groups in terms of demographic characteristics ($P<0.05$).

The effect of intervention on hopelessness:

As shown in Table 2, the independent t-test showed no statistically significant difference between the two groups in terms of hopelessness before the intervention ($p=0.100$).

After the intervention, the result of covariance analysis showed a statistically significant

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difference between the two groups in terms of hopelessness, so that the mean hopelessness score in the intervention group was significantly lower than the control group ($P < 0.001$), indicating the effectiveness of intervention. The effect size of this intervention on the children's hopelessness was 0.215, which is higher than 0.08, indicating the significant effect of intervention on the children.

One month after the intervention, the analysis of covariance showed no statistically significant difference between the two groups in terms of hopelessness ($P=0.539$).

Discussion

Hospitalization is usually an unfortunate event in anyone's life, especially if the person is a child. This may prevent the child from playing, which is an essential part of the child's development, or cause problems in normal social interactions, resulting in the child's frustration, anxiety, and depression, especially in the case of long hospital stay (8). Considering the undeniable effect of frustration on children, this study was conducted with the aim of determining the effect of play on the frustration and hopelessness of children with chronic diseases. The results of this study showed a statistically significant difference between the two intervention and control groups in terms of hopelessness after the intervention, and the mean hopelessness score in the intervention group was significantly lower than the control group, indicating improvement in their sense of hopelessness.

Olsen (2024) showed that play therapy in hospitalized children causes children to release their negative emotions, which in turn reduces their anxiety and stress (34). Patient-centered nursing care increases the quality of life of patients (35). Chiang (2023) argued that play therapy with a parent-centered approach, as a non-pharmacological method, plays an important role in reducing anxiety and increasing life expectancy in hospitalized children (36). Bawaeda (2023) stated that play therapy reduces negative emotions and increases therapeutic motivation in hospitalized children and their caregivers (37). Rizzo et al. (2020) examined the effect of symbolic play on dealing with the reduction of negative psychological symptoms at school age. They conducted their study on 44 children (students) with chronic diseases, 16 of whom had type 1 diabetes, 13 were suffering from cystic fibrosis (CF) and 15 of them were suffering from leukemia. At the end of the study, they examined the dimensions of psychological problems and concluded that the symbolic play reduced the problems of children with chronic diseases. They stated that, the expression of feelings while playing leads to the children's recognition and understanding of problems caused by their disease, and helps them to cope with the disease and adapt to the existing conditions (23). The results of these studies are in line with the findings of our study (2-4), which showed that play therapy reduces children's negative emotions and frustration. Considering the prevalence of hopelessness in children with chronic diseases, and the benefits of play therapy as shown in various studies, the aim of this study was to determine the effect of play therapy on the hopelessness of children with chronic diseases. Due to its effectiveness, this method can be used as a valuable intervention to reduce frustration and sense of hopelessness in children with chronic diseases. Since managers are constantly looking for ways to improve the quality of care in the health system, they are expected to design and implement play therapy training for healthcare workers, as a way to improve hopelessness in children with chronic diseases, and provide financial facilities to staff and students to conduct more research on this subject. One of the limitations of this study was its small sample size, so we recommend similar studies to be conducted on a larger sample size.

Conclusion

The results of this study showed that play therapy is effective in increasing hope in hospitalized children with chronic diseases. Therefore, it can be used as an effective and low-cost treatment method in nursing care, as it is a non-therapeutic method and a thought diversion technique, which increases self-confidence and life expectancy in hospitalized children.

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This project was approved by the Joint Ethics Committee of the Faculties of Nursing/Midwifery and Rehabilitation of Tehran University of Medical Sciences (IR.TUMS.FNM.REC.1400.115). This study was also registered at Iran's clinical trials website (IRCT) with the code: IRCT20211102052946N1.

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Authors Contributions

The author contributed to the data analysis. Drafting, revising and approving the article, responsible for all aspects of this work.

Ethical Consideration

None

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Tables

Content of the sessions			
Session	**Purpose**	**Type of play**	**The reason for targeting and choosing this type of play**
Session 1	Laughter, humor, joy and excitement for the child to do the next steps	Placing the mannequin on the hat without using hands and only with head movements / playing ball, water and straw / making funny expressions with existing word cards and guessing animal dolls while being blindfolded	Laughter is a program that engages the entire body system. When you laugh deeply, your thought suddenly disappears. Laughing is one of the best, simplest and most natural ways to get rid of mental disturbances. Using humor and funny games and making funny sentences can be one of the best options to increase energy levels and reduce depression and feelings of hopelessness and despair (28).
Session 2	Breaking the child's mental frames and limitations	Writing names with feet/drawing with non-dominant hand/scribbling and drawing illogical drawings with unclear structure	Due to the frequent and long-term hospitalization of children with chronic diseases, special rules and principles are laid down for them in their lives, which limit their creativity and freedom of action, and this physical limitation in their minds creates certain thoughts. They realize that they are different from others and can only do things that adults tell them, that is why we try to break the frameworks and mental structures that limit children by using humor so that, the child can break free of the rules and flourish (29).
Session 3	Encouraging the child to talk and find solutions when facing problems	Storytelling/ dramatic story/ puppet show	Children are forced to think about the characters and events of the story, and this prepares them for thinking. During storytelling, children ask questions and find answers. It would also make them put themselves in the place of the story hero and find appropriate solutions to problems. This will increase their self-confidence and hope (30) (31).
Session 4	Distraction, increased adaptability, control of negative emotions and projection of thoughts and feelings	Playing with dough, making crafts, drawing and interpreting it	Purposeful use of distraction techniques can help to temporarily reduce strong and uncomfortable emotions that prevent a person from any type of activity. Participating in a fun and challenging game or building a model causes the child to temporarily focus on the current activity instead of negative events and situations. After finishing the work, negative thoughts appear in a controlled and logical manner (32).
Session 5	Expressing fears, desires and ideas	Bubble game/balloon game and wish butterfly	Humans are faced with a set of fears and feelings, many of these fears are internal and may not exist externally. Since they are afraid of certain situations, they do not express them because they think expressing fear is a weak point and they may be ridiculed by people. In some cases, patients do not allow these feelings to emerge, and this suppression of fears and worries may cause anger, sadness, and depression in the future. Also, having a goal and desire strengthens the sense of hope in life and motivation to continue even in difficulties. With these games, we tried to ask children to express their wishes and strengths in achieving those wishes in order to create hope in them (33).
Session 6	Establishing the goals of past meetings	The child's favorite game	In this session, the child was asked to suggest her favorite games, and while reviewing the previous sessions, the child was asked to express everything he/she learned and experienced.

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Table 1: Descriptive statistics of demographic characteristics of children with chronic disease in two intervention and control groups, and their comparison

Demographic variable \ Group		Intervention		Control		Test result
		Frequency	Percentage	Frequency	Percentage	
Age (year)	6-8	9	30.0	10	33.3	t=0.073 df=58 P=¥ 942.0
	8-10	10	33.3	9	30.0	
	10-12	11	36.7	11	36.7	
	Total	30	100	30	100	
	Standard deviation ± mean	9.67 ± 1.80		9.63 ± 1.71		
	Maximum-minimum	7-12		7-12		
Gender	Boy	14	46.7	12	40	X^2=0.271 df=1 P=0.602*
	Girl	16	53.3	18	60	
	Total	30	100	30	100	
Birth ranking	1	18	60	19	63.3	t=0.228 df=58 P=0.820¥
	2	11	36.7	10	33.3	
	3	1	3.3	1	3.3	
	Total	30	100	30	100	
	Standard deviation ± mean	1.43 ± 0.56		1.40 ± 0.56		
	Maximum-minimum	1-3		1-3		
Number of children	1	10	33.3	7	23.3	t=0.162 df=58 P=0.820¥
	2	11	36.7	18	60	
	3 and more	9	30	5	16.7	
	Total	30	100	30	100	
	Standard deviation ± mean	2.00 ± 0.87		1.97 ± 0.71		
	Maximum-minimum	1-4		1-4		
Family history of chronic disease	Yes	16	53.3	12	40	X^2=1.07 df=1 P=0.301*
	No	14	46.7	18	60	
	Total	30	100	30	100	
Living condition: With	Both parents	27	90	29	96.7	P=0.612**
	Father	2	6.7	1	3.3	
	Mother	1	3.3	0	0	
	Total	30	100	30	100	
Economic status	Good	7	23.3	5	16.7	X 2=0.439 df=2 P=0.803*
	Moderate	18	60	20	66.7	
	Bad	5	16.7	5	16.7	
	Total	30	100	30	100	
	Tehran	14	46.7	13	43.3	X^2=0.067 df=1 P=0.795*
	Town	16	53.3	17	56.7	
	Total	30	100	30	100	

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Table 2: Mean and standard deviation of hopelessness of children with chronic disease in two intervention and control groups before, immediately after and 1 month after the intervention, as well as the significance test

Group / Time	Intervention		Control		Test result	Effect size
	Mean	SD	Mean	SD		
Before (0-17)	4.06	1.01	3.43	1.81	t=1 df=58 P=0.100*	-
After (0-17)	2.43	1.33	3.20	1.21	F=15.591 P<0.001	0.215
One month later (0-17)	2.51	1.62	2.23	1.24	F=0/383 P=**0.539	0.008
Result of test GEE	Wald Chi-square=6.383 P<0.001		Wald Chi-square=1.157 P=0.005			

*Independent t-test **covariance analysis

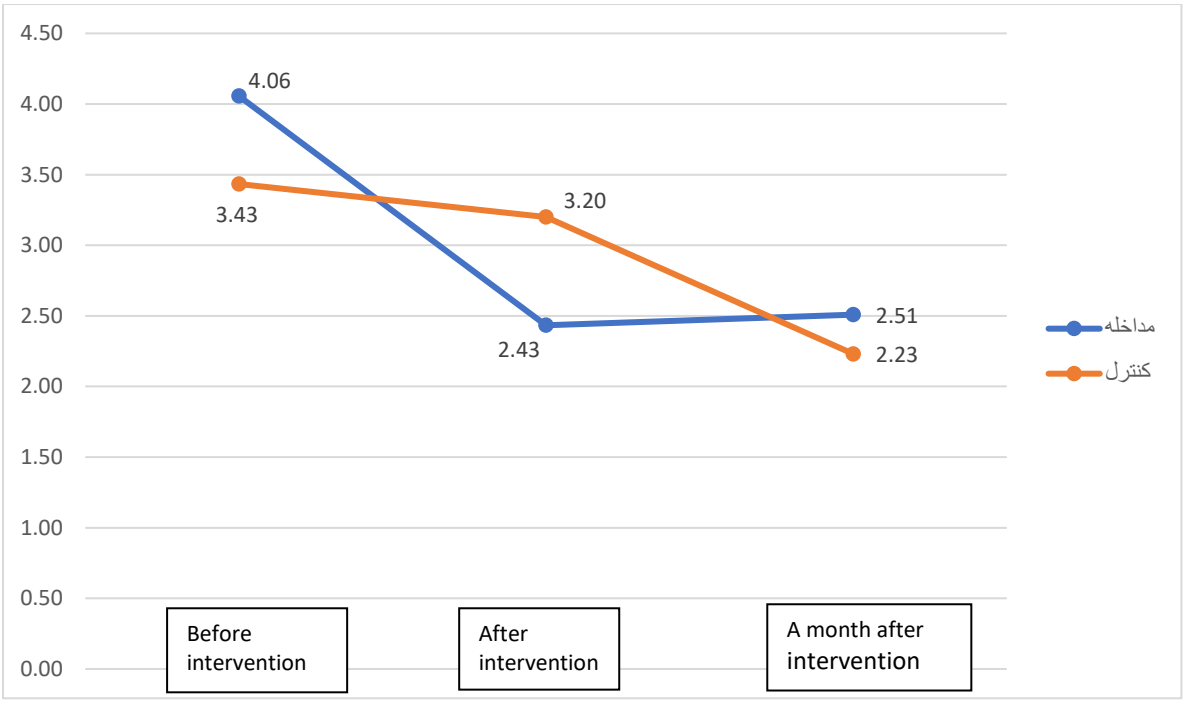

Chart 1: Linear chart of hopelessness in children with chronic disease in two intervention and control groups before, immediately after and one month after the intervention

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