



Effectiveness of Play Therapy in Reducing Stress Among the Hospitalized Children (6-12 Years) Undergoing Surgery in Selected Hospitals Maharashtra

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ABSTRACT

Background: children undergoing surgery are particularly vulnerable to the stress and anxiety. The effects of stress are multifaceted; resulting in physiological, emotional, cognitive, behavioral, and interpersonal changes in children. Play therapy can reduce the amount of stress felt by children and promotes healing and helps the child to cope with stressful experience. Therapeutic play can be used for preparation of child for surgery. Play is universal for all children. It is work for them and ways of their living. It is pleasurable and enjoyable aspect of child's life and essential to promote growth and development.

Objectives-

- 1.To determine the level of stress among hospitalized children as measured by stress rating scale.
- 2.To evaluate the effectiveness of play therapy in the reduction of stress among the hospitalized children.
- 3.To find out the association between the pre-test stress scores and the selected demographic variables of the hospitalized children undergoing surgery.

Material and Methods: The research approach used for the study was evaluative approach. The study was conducted in 3 hospitals in Maharashtra (2 hospitals at Karad and 1 in Kolhapur) using one group pre-test post-test design. 30 children undergoing surgery were selected by non probability purposive sampling technique. On the 1st day self structured stress rating scale was used for collecting data and play therapy was administered for children undergoing surgery followed by post test on the 7th day. The data collected, tabulated and analyzed in terms of objectives of the study using descriptive and inferential statistics.

Results: In pre-test majority 23 children (77%) were having severe stress, 6 (20%) with moderate stress while remaining 1 child (3%) was observed with mild stress. Post-test observed maximum 14 patients (47%) were with mild stress score followed by 13 patients (43%) with moderate stress while only 3 patients (10%) were with severe stress.. The mean pre-test total stress score before treatment was 38.73 and mean post-test stress score was observed to be 22.03. The reduction in stress score over therapy period (Mean = 16.7, S.D. = 10.61) was significant at 5% Level of significance (P-value < 0.001) as suggested by "Paired t test and there was a significant association between stress and 'age of children' ($\chi^2=11.54$, P= 0.021) as well as stress and 'type of family' ($\chi^2=9.130$, P-value = 0.010) and not significant association (P>0.05) of stress scores with any other demographic variables as tested by Chi-square test at 5% level of significance.

Conclusion: The study concluded that the play therapy was effective method for the reducing stress among the hospitalized children undergoing surgery.

KEYWORDS

Effectiveness, play therapy, stress, hospitalized, undergoing surgery

Introduction: -

Hospitalization to any child is a very unpleasant and traumatic experience. Hospitalized children require more than recreational play because, illness and hospitalization constitute crisis in a child's life and since these situation are brought with overwhelming stresses, children need to play out their fears and stress as a means of coping with these stresses. Play also helps to temporarily divert their mind from pain and loneliness.¹ Even though School age Children may have been prepared for hospitalization they believe that they are the cause of their own illness. It is important that the nurse correct their misunderstanding and respond to their needs to make the hospital experience a positive one without any stress². The provision of

pre-operative information on pre and postoperative care is the most common method of preparing children for surgery. However, this approach is mostly focused on providing procedural information, the psychological needs of children and their parents have seldom been taken into consideration.³ Surgery can be a threatening experience for everyone, especially for children. Children are more vulnerable for stress due to their lack of knowledge of procedures, a lack of perceived control, a lack of explanation in child-appropriate terms, and a lack of pain management ⁴ More than ⁵ million children undergo surgery every year, and it is reported that up to 50% of these children develop significant behavior stress and anxiety before their surgery. Although these behavior manifestations cause

significant hardship to children and parents, perhaps of even higher significance is the impact of these pre-operative behavior on post-operative recovery⁵. It is estimated 35% of children in America are experiencing stress-related health problems. Each year, millions of children are hospitalized. In 2002, 3.7 million children and youth between 1-21 years of age were discharged from a hospital in United States and the population of children discharged in this group who underwent surgical procedures was 45%. The total child population in India is 39,1,90,400 and it is estimated that about 15-205 of children are hospitalized each year.⁶

Non-directive play therapy looks at play as a healing process. It gives the child the opportunity to 'play out' feelings and problems and learns about themselves in relation to the therapist⁷. Toys are the 'tools' of play and provide a more 'natural' environment for a child. The proper selection and use of toys can reduce the traumatic effects of a hospitalization experiences and aid in the recovery phase of illness⁸.

The mean age of children benefiting from play therapy ranges from 8.9 to 10.5 years. A meta-analysis of 93 controlled outcome studies (published 1953–2000) was conducted to assess the overall efficacy of play therapy and to determine factors that might impact its effectiveness.⁹

Play for most hospitalized children centers around self and stressful situations as perceived by the child and is restricted in terms of what the environment and physical limitations of the child present. One who had an expert knowledge of children and play equipment is useful to plan purposeful play programs or play sessions for the special needs of hospitalized children¹⁰

Problem Statement-

A study to assess effectiveness of play therapy in reducing stress among the hospitalized children undergoing surgery at selected hospitals Maharashtra.

Objectives:

- To determine the level of stress among hospitalized children as measured by stress rating scale.
- To evaluate the effectiveness of play therapy in the reduction of stress among the hospitalized children.
- To find out the association between the pre-test stress score and the selected demographic variables of the hospitalized children.

Assumption The study assumes that:

- Children are vulnerable to stress due to hospitalization.
- Children are able to express their feelings, fear and stress.
- Play therapy can reduce the stress in children undergoing stress

Hypothesis:

All hypotheses will be tested at 0.05 level of significance.

H1- The mean pre- test score among the hospitalized children will be significantly higher than their mean post test score.

H2- there will be significant association between the pre-test stress score & the selected demographic variables among the hospitalized children.

Research Tool:

The tool consists of two sections:

Section 1:

Demographic variable: , age, gender, education of mother, education of father, occupation of father, occupation of mother, Income family of per month, Religion, place of residence, Number of the siblings ,Birth order of the child, type of the family.

Section 2:

self structured stress rating scale.

Method of Data Collection:

Prior to the data collection, Ethical clearance was obtained from Institutional ethical committee, Formal permission to conduct the study was obtained from the concerned authority and also permission was obtained from parents of Children. Pre-test

was conducted on 5th November 2015 by using stress rating scale and explained purpose of the study. Play therapy was administered on the same day; the time given to the children to play with medical kits was 45 minutes. The post test was conducted on 12th November 2015. Using same structured stress rating scale. Children actively participated in the data collection.

Data Analysis:

The data obtained was analyzed in terms of the objective of the study using descriptive and inferential statistics. The plan of data analysis was developed under the excellent direction of experts in the field nursing and statistics.

The plan of data analysis was as follows:

- 1.Organization of data in a master sheet
- 2.Tabulation of data in terms of frequency, percentage, mean, SD, median and range to describe the data.
- 3.Classify stress score as follow
 1. Mild stress-(1-18)
 2. Moderate stress-(19-36)
 3. Severe stress-(37 and above)
- 4.Inferential statistics were used to draw the following conclusions:
 - Paired "T" test was used for testing effectiveness of play therapy and Chi-square test was used to find association

RESULTS:

Section A:- Distribution of children according to socio-demographic variables:-

Table No. 1 Distribution of children according to various socio-demographic variables.

Sr. No.	Variable /Characteristic	Category	Respondents	
			Frequency	Percentage
1	Age	6 – 7 years	13	43.33
		8 – 9 years	10	33.33
		10 – 11 years	07	23.33
2	Sex	Male	17	56.67
		Female	13	43.33
3	Education of Mother	No formal education	06	20.00
		Primary	08	26.67
		Secondary	12	40.00
		Higher secondary	03	10.00
		Graduate and above	01	03.33
4	Education of Father	No formal education	03	10.00
		Primary	08	26.67
		Secondary	11	36.67
		Higher secondary	06	20.00
		Graduate and above	02	06.67
5	Occupation of mother	Housewife	09	30.00
		Daily wage worker	04	13.33
		Farmer	02	06.67
		Govt. employee	03	10.00
		Pvt. Sector employee	12	40.00
6	Occupation of Father	Daily wage worker	02	06.66
		Farmer	01	03.33
		Govt. employee	10	33.33
		Pvt. Sector employee	16	53.33
		Other	01	03.33

7	Monthly income	Below 1600	03	10.00
		1601 to 4809	04	13.33
		4810 to 8009	04	13.33
		8010 to 12019	04	13.33
		12020 to 16019	03	10.00
		16020 to 32049	01	03.33
		32050 and more	11	36.67
8	Religion	Hindu	24	80.00
		Christian	02	06.67
		Other	04	13.33
9	Place of residence	Rural	15	50.00
		Urban	15	50.00
10	Number of children	One	04	13.33
		Two	20	66.67
		Three or more	06	20.00
11	Birth order of child	One	04	13.33
		Two	19	70.00
		Three or more	06	20.00
12	Type of family	Joint family	15	50.00
		Nuclear family	15	50.00

The data presented in Table 1 shows that Maximum 13 children (43%) were from age group 6 – 7 years. Majority of 17 (57%) were male, 12 (40%) of mothers and 11 (36.6%) fathers of children were studied up to secondary education, where as 12 (40%) of mothers 16(53.3%) fathers of children's occupation was private sector job, Monthly income for the family of children was 32050 Rupees and more' for maximum 11 (37%) families, 24 children (80%) were Hindu, 20 (66.6%) families had two children, majority of children 19(70%) were second birth order and where as 15 (50%) of children were from Joint and Nuclear family.

Section B: Assessment of o stress levels of children undergoing surgery by administering stress rating scale.
Table No. 2: Distribution of children according to stress level as per stress rating scale.

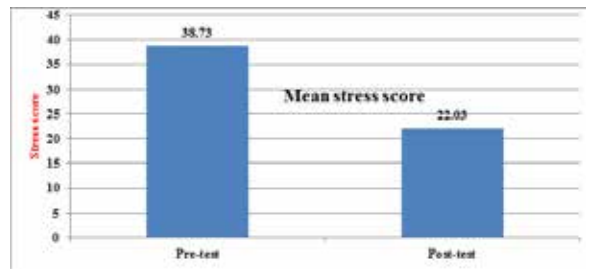
Stress score	Pretest		Post test	
	Frequency	Percentage	Frequency	Percentage
Mild	01	03.33	14	46.67
Moderate	06	20.00	13	43.33
Severe	23	76.67	03	10.00

The table 2 shows that, in pre-test majority 23 children (77%) were having severe stress, 6 (20%) found with moderate stress while remaining 1 patient (3%) was observed with mild stress. Post-test observed maximum 14 patients (47%) were with mild stress score followed by 13 patients (43%) with moderate stress while only 3 patients (10%) were with severe stress.

Section C: Assessment of effectiveness of Play therapy on stress among children undergoing surgery.
Table No. 3: Assessment of effectiveness of Play therapy on stress among children undergoing surgery.

Parameter	Mean Score			n	SE (±)	Paired "t"	"p-value" (One tailed)
	Pre-test	Post-test	Diff.				
Mean stress score	38.73	22.03	16.7	30	1.938	8.619	< 0.001

Table 3 shows that, Level of significance (P-value < 0.001) as suggested by "Paired t test". The mean pre-test total stress score before treatment was 38.73 and mean post-test stress score was observed to be 22.03. The reduction in stress score over therapy period (Mean = 16.7, S.D. = 10.61) was significant at 5%



Bar Graph showing Mean stress scores in pre-test and post-test.

Section D: Association between pre-test stress score and selected demographic variables of the hospitalized children.

Table No. 4: Contingency tables for pre test score and various demographic variables.

Sr. No.	Socio-Demographic variables	Pretest stress score			d.f.	Chi-square statistic	P-value
		Mild	Mod-erate	Se-vere			
1	Age				4	11.54 (S)	0.021
	6 – 7 years	0	1	12			
	8 – 9 years	0	1	9			
	10 – 11 years	1	2	1			
2	Sex				2	3.234 (NS)	0.199
	Male	0	5	12			
	Female	1	1	11			
3	Education of Mother				8	4.303 (NS)	0.829
	No formal education	0	2	4			
	Primary	1	1	6			
	Secondary	0	2	10			
	Higher secondary	0	1	2			
4	Education of Father				8	5.907 (NS)	0.658
	No formal education	0	1	2			
	Primary	0	1	7			
	Secondary	0	2	9			
	Higher secondary	1	1	4			
5	Occupation of mother				8	4.034 (NS)	0.854
	Housewife	1	2	6			
	Daily wage worker	0	1	3			
	Farmer	0	0	2			
	Govt. employee	0	0	3			
6	Occupation of Father				8	3.742 (NS)	0.880
	Daily wage worker	0	1	1			
	Farmer	0	0	1			
	Govt. employee	1	2	7			
	Pvt. Sector employee	0	3	13			
7	Monthly income				12	3.837 (NS)	0.986
	Below 1600	0	1	2			
	1601 to 4809	0	1	3			
	4810 to 8009	0	1	3			
	8010 to 12019	0	0	4			
	12020 to 16019	0	1	2			
	16020 to 32049	0	0	1			
32050 and more	1	2	8				
8	Religion				4	0.861 (NS)	0.930
	Hindu	1	5	18			
	Christian	0	0	2			
	Other	0	1	3			
9	Place of residence				2	1.044 (NS)	0.594
	Rural	1	3	11			
Urban	0	3	12				

10	Number of children				4	1.442 (NS)	0.837
	One	0	1	3			
	Two	1	3	16			
	Three or more	0	2	4			
11	Birth order of child				4	2.400 (NS)	0.663
	One	0	0	4			
	Two	1	5	13			
	Three or more	0	1	6			
12	Type of family				2	9.130 (S)	0.010
	Joint family	0	0	15			
	Nuclear family	1	6	8			

Table no 4 shows that, there was a significant association between stress and 'age of children' ($\chi^2=11.54$, $P=0.021$) as well as stress and 'type of family' ($\chi^2=9.130$, $P\text{-value}=0.010$) and not significant association ($P>0.05$) of stress scores with any other demographic variables as tested by Chi-square test at 5% level of significance.

Discussion-The study was conducted to assess the effectiveness of play therapy in reducing stress among the hospitalized children undergoing surgery.

Present study shows that ,pre-test total stress score was 38.73 and mean post-test stress score was observed to be 22.03. The reduction in stress score over therapy period (Mean = 16.7, S.D. = 10.61) was significant at 5% level of significance with t value 8.619 and p value is less 0.001. This significance indicates play therapy is effective in reducing stress in hospitalized children undergoing surgery. Thus the Research hypothesis H1 was accepted.

Similar study was conducted at Bangalore to assess the effectiveness of play activities in reducing stress among hospitalized children. For the experimental group mean and standard deviation was 53.4 and 1.73 respectively. The obtained 't' value was 49.04 at 0.05 level. For the control group mean and standard deviation were 53.1 and 0.96 respectively. The obtained 't' value 0.724 at 0.05 level. The findings showed that children were stressors. in the pre test and were as in the post test showed that children were not stressors.(11)

Similar study was conducted at Ludhiana, to assess the effectiveness of therapeutic play among hospitalized children for stress reduction. The study was conducted in two different hospital settings. Therapeutic play for the experimental group children and pre and post measures of stress for all children were given. The results of the study revealed that The mean pre test score before treatment was 29.4 post test stress score to be observed 20.3 The reduction in stress score Mean 16.7 SD= 10.6 p value(<0.0001) therapeutic play has an effect in stress reduction in experimental group.(12)

An experimental study was conducted in Hong Kong to examine the effect of therapeutic play on the outcome of Stress of school-age children undergoing day surgery. The experimental group (97 children) received the therapeutic play and the control group (106 children) received routine information preparation. The tool consisted of Chinese version of the state stress scale, the children's emotional manifestations scale and visual analogue scale was used to elicit the outcome. The result of mixed between-within subjects ANOVA indicated that there was a statistically significant main effect for time Partial ETA squared = 0.19, Suggesting (13)

Conclusion-

The study concludes that play therapy was effective method for the reducing stress among the hospitalized children undergoing surgery. Nurses and other health care providers can provide play therapy as preoperative preparation. Play room should be there in all hospitals so that all children undergoing surgery can reduce their stress and anxiety. Administrators can make provision for conducting more research studies on play therapy in pediatric units as well as creating facilities for play involving the parents to play with their children with toy medical kit to reduce the stress & anxiety of both the parents and children.

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References-

1. KP Neeraja, "Text Book of Growth and Development, New Delhi:2006;(1) 1-4
2. T.Bastin, "children are illness psychological aspect of children archivers of Pediatric, 2007; 8-10
3. Ellerton M-L, Caty S, Ritchie JA, "Helping young children master intensive procedures through play," Children's Health Care: 1985; 2000;265-277
4. Darbyshire P, Guest editorial: "From research on children to research with children. Neonatal, Pediatric and Child Health Nursing.2000;24-25.
5. Cassell S. "Effect of brief puppet therapy upon the emotional responses of children undergoing cardiac catheterization," Journal of Consulting Psychology. 2003; 1-8
6. Bohnie N, "the effectiveness of play therapy on development " achievement level go to abused children" IPJ Journal 2003; 5-20
7. Welesley, " A Brief history of Play and Play Therapy Theories, 2007; 184-19
8. Ingalls, Salerno, " Maternal and Child Health Nursing," 9th ed. New York: Mosby; 1999; 388
9. Sue CB, Dee R, Tammy R. "The Efficacy of Play Therapy with Children: A Meta-Analytic Review of Treatment Outcomes." University of North Texas [Internet]. 2008 [cited 2010 Nov 18]. Available from: URL: pages.uoregon.edu/cfc/classes/CPSY_64 -15
10. D'Antonio JJ, "Therapeutic play in hospitals". Nurs Clin North Am. 2004 Jun; 19 (2): 351-353
11. Fernanda Seganfredo Weber, " The influence of playful activities on children's an1xiety during the preoperative period," Journal of paediatrics. 2010;86 (3):209-214
12. Polit F Beck T, "Nursing Research-Generating and assessing evidence for nursing practice,8th Edition: Wolters Kluwer; 2008;410-412
13. William,Lopez, Lee., "Effects of preoperative therapeutic play" on outcomes of school-age children undergoing day surgery",Research Nursing Health.2007 June;30(3):320-321.