

# Effectiveness of Selected Play Material on the Level of Anxiety among Hospitalized Children in Selected Hospital at Kamrup Metro, Assam

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**Abstract:** Background: Hospital admission, elicits anxiety which can cause negative outcomes on the children's physical, psychological, behavioural, cognitive and academic development. Play in the hospital provides diversion and is a mean for release of tension and expression of feelings. Materials and Method: A pre-experimental one group pre-test post-test research design was adopted to assess the effectiveness of selected play material on the level of anxiety among hospitalized children in selected hospital at Kamrup Metro, Assam. 51 hospitalized children of ages 2-5 years were selected using convenience sampling technique. Self-made play dough was administered as play material. A hospital observed checklist was used to collect data. Results: The study revealed that mean difference of pre-test and post-test anxiety score was 14.05 and "t" value (27.45) was found statistically significant at (p<0.05) level of significance. The study also revealed significant association between pretest anxiety with age and educational level of the hospitalized children. Conclusion: The study showed that Selected Play Material was effective in reducing the level of anxiety among hospitalized children.

**Keywords:** Assess, Effectiveness, Play Material, Anxiety, Hospitalized children

## 1. Introduction

Hospital admission and illness can be a frightening, overwhelming and stressful experience for any child and it elicits anxiety. <sup>[1]</sup> Common stressors in children include separation anxiety, loss of control, bodily injury and pain. It also may hinder with their communication and coping abilities. <sup>[2]</sup> Factors such as the child's temperament and intelligence contribute to their style of coping and may influence both the short term and long-term effects of hospitalization. Prolonged and repeated hospitalization increases the chance of problems in later life of the child. <sup>[3]</sup>

The separation of the child from familiar figures during admission may be the cause of some of the emotional upset. <sup>[1]</sup> Venables (1983), Cox et al (1975), Jeffers and Fitzgerald (1991), Porteous (1991), in their study, indicated that 70% of children with negative hospitalization experience are helped through the use of psychological based therapies such as play and creative arts. <sup>[4]</sup> Interventions should focus on eliminating or minimizing the stressors of separation, loss of control, and bodily injury and pain for children under 5 years of age. <sup>[5]</sup> Reducing the anxiety level in hospitalized children can be seen as an investment on the child's health to limit the negative effects in their later life. The many negative results of short and long term high levels of anxiety in hospitalized children indicates the call for reduction of their anxiety. It is crucial to reduce anxiety in an early stage of a threatening occurrence. <sup>[6]</sup>

Friedrich Froebel (1903), the creator of the first kindergarten said that "Play is the free expression of what is in a child's soul play, is not mere sport but full of meaning and import". The United Nations (1991) proclaimed play as a "universal

and inalienable right of childhood." <sup>[7]</sup> Koukourikos K, Tzaha L, Pantelidou P, Tsaloglidou A. (2015), in their article, stated that play provides a way out of all negative feelings and disappointment that may possibly accompany a child upon hospitalization. Play gives a way out of repressed desires, anxiety, and fear, and allows children express themselves in a more creative and pleasant way. Play offers joy and amusement. <sup>[8]</sup>

### Objectives of the study

- 1) To assess the level of anxiety among hospitalized children before and after administering selected play material.
- 2) To determine the effectiveness of selected play material on the level of anxiety among hospitalized children.
- 3) To determine the association in level of anxiety among hospitalized children with their selected demographic variables.

### Hypotheses

H<sub>1</sub>: There is a significant difference in the level of anxiety among hospitalized children before and after administering selected play material.

H<sub>2</sub>: There is a significant association between the level of anxiety scores and selected demographic variables.

## 2. Literature Survey

The literature reviewed in this study was presented under the following headings:

- 1) Literature related to children's responses and reactions to hospitalization and anxiety of hospitalized children.

Volume 13 Issue 4, April 2024

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

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- 2) Literature related to effectiveness of play material, therapy and activities in reducing anxiety among children.

### 3. Methodology

**Research approach:** Quantitative research approach

**Research design:** One group pretest post-test design

**Study setting:** The study was conducted in Marwari Hospital at Kamrup Metro, Assam

**Duration of the study:** 1 month

**Sample Size:** 51 hospitalized children of ages 2-5 years

**Sampling Technique:** Non-probability convenient sampling technique was used

#### Sampling criteria

##### Inclusion Criteria:

- Hospitalized children of ages 2-5 years in selected hospital at Kamrup Metro, Assam.
- Hospitalized children of ages 2-5 years who are willing to participate in the study.
- Hospitalized children of ages 2-5 years who will be able to cooperate.

##### Exclusion Criteria:

- Hospitalized children who are critically ill.
- Hospitalized children with special needs.
- Hospitalized children below the age of 2 years and above 5 years of age.

**Development of tool:** The tool consisted of 2 parts

Part A: Demographic Proforma

Part B: Hospital Observed Behavior Checklist

The items developed in the Hospital Observed Behavior Checklist covered 4 (four) different areas of anxiety related behaviours such as

- (a) Separation and loss of control anxiety related behaviour – this area consists of 15 items
- (b) Communication related anxiety behaviour – this area consists of 15 items
- (c) Bodily injury/Procedure related anxiety behavior (facial expression and grimace) – this area consists of 10 items
- (d) Health personnel and cooperation related anxiety behaviour – this area consists of 10 items

**Proposed play material:** Playdough provides sensory and creative learning experience for children. The squeezing, pinching and pulling movements associated with playing with playdough strengthen the child's hand muscles and develop fine motor skills. Playing with the playdough can help ease tension, release excess energy, improve focus, and express emotions. It also enhances hand-eye coordination and is calming for children.

#### Data Collection Procedure:

- Formal permission was obtained from the concerned authorities of Marwari Hospital, Kamrup Metro, Assam.
- Ethical permission and informed written consents was obtained from all the parents of the participants to conduct the study.
- Data was collected from about 3 – 4 samples in a day and around 45 minutes to 1 hour was needed in completing data collection and observation of one participant
- Initial observation of the participant's anxiety behaviour was done on the first day followed by introduction of the play material.
- The participant was allowed to play with the play material for 30 minutes for two days.
- Observation of the participant's anxiety behaviour was performed again on the third day.

**Plan for Data Analysis:** Data collected was analyzed by using descriptive and inferential statistics based on the objectives of the study.

- 1) Demographic variables of hospitalized children in terms of frequency and percentages.
- 2) Assessment of the level of anxiety among hospitalized children before and after administering selected play material in terms of frequency and percentage.
- 3) Determination of the effectiveness of selected play material on the level of anxiety among hospitalized children using paired "t" test.
- 4) Association between level of anxiety among hospitalized children before administering selected play material with selected demographic variables using Chi-square test of independence.

### 4. Results

#### Section I: Frequency and percentage distribution of hospitalized children according to demographic variables

**Table 1:** Frequency and percentage distribution of staff nurses according to demographic variables, n=51

Demographic Variables	Group	Frequency (f)	Percentage (%)
Age	a) 2 years	10	19.6 %
	b) 3 years	14	27.4 %
	c) 4 years	16	31.4 %
	d) 5 years	11	21.6 %
Sex	a) Male	26	51%
	b) Female	25	49%
Place of residence	a) Rural	15	29.4%
	b) Urban	36	70.6%
Type of family	a) Joint	26	51%
	b) Nuclear	24	47.1%
	c) Single parent	1	1.9%
	d) Extended	--	--
Educational level	a) Preschool	42	82.4%
	b) Primary	9	17.6%
Type of illness	a) Acute	30	58.8%
	b) Chronic	21	41.2%
Interventions required	a) Invasive	26	51%
	b) Non-invasive	25	49%
Previous hospital admission	a) No	25	49%
	b) Yes	26	51%

The data presented in table 1 reveals that, out of 51 hospitalized children, with regards to age, majority i.e. 16 (31.4%) were 4 years old. With regards to sex, majority i.e. 26(51%) were male. In context with place of residence, majority i.e. 36(70.6%) resided in urban area. With regards to the type of family, majority i.e. 26(51%) were from joint family. With regards to the educational level, majority i.e. 42(82.4%) are in the preschool level. In context of type of illness, majority i.e. 30(58.8%) had acute type of illness. In terms of interventions required, majority i.e. 26(51%) required non-invasive interventions and in terms of previous hospital admission, majority i.e. 26(51%) of the hospitalized children had experienced previous hospital admissions.

**Section II: Frequency and percentage distribution of level of anxiety among hospitalized children before and after administering selected play material**

**Table 2:** Frequency and percentage distribution of the level of anxiety among hospitalized children before and after administering selected play material, n = 51

Level of Anxiety	Before		After	
	f	%	f	%
No anxiety	--	--	10	19.6%
Mild anxiety	24	47.1%	41	80.4%
Moderate anxiety	27	52.9%	--	--
Severe anxiety	--	--	--	--
Profound anxiety	--	--	--	--

Data on table 2 revealed that before administering selected play material majority i.e. 27(52.9%) of the participants had moderate anxiety and 24(47.1%) had mild anxiety. No participants were found to have no anxiety, severe anxiety and profound anxiety. Whereas after administering selected play material majority i.e. 41(80.4%) of the participants had mild anxiety and 10(19.6%) had no anxiety. No participants were found to have moderate, severe and profound anxiety.

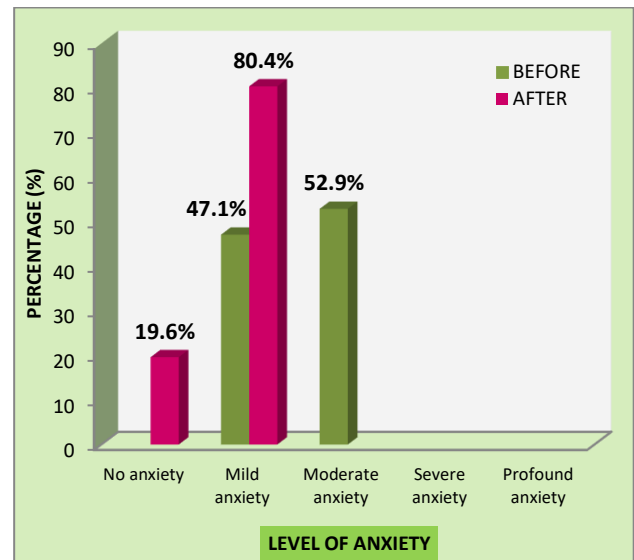


Figure 1: Percentage distribution of the level of anxiety among hospitalized children before and after administering selected play material

**Section III: Effectiveness of selected play material on the level of anxiety among hospitalized children**

**Table 3:** Effectiveness of selected play material on the level of anxiety among hospitalized children, n = 51

Level of Anxiety	Mean	SD	Mean Diff	df	t value	Remark
Before	29.75	3.810	14.05	50	27.45	S*
After	15.69	3.102				

\*p<0.05 level of significance S-Significant

Data depicted in table 3 revealed that the obtained “t” test value 27.45 (df =50) was larger than the tabulated value (t=2.00), hence found to be statistically significant at 0.05 level of significance. Therefore there is significant difference in the level of anxiety among hospitalized children before and after administering selected play material thus revealing the effectiveness of the selected play material on the level of anxiety among hospitalized children. Thus the hypothesis H<sub>1</sub> which stated that there is a significant difference in the level of anxiety among hospitalized children before and after administering selected play material was accepted.

**Table 4:** Area wise effectiveness of selected play material on the level of anxiety among hospitalized children, n=51

Area wise anxiety		Mean	SD	Mean Difference	df	t value	p value	Remark
Separation and loss of control related anxiety behaviour	Before	9.10	1.66	4.04	50	19.24	0.001	S*
	After	5.06	1.46					
Communication related anxiety behaviour	Before	7.70	1.93	3.48	50	15.31	0.001	S*
	After	4.22	1.29					
Bodily injury/procedure related anxiety behaviour	Before	6.74	1.30	2.84	50	14.92	0.001	S*
	After	3.90	1.16					
Health personnel and cooperation related anxiety behaviour	Before	6.42	1.51	3.90	50	16.28	0.001	S*
	After	2.52	1.23					

\*p < 0.05 level of significance S – Significant

Data depicted in table 4 revealed that the obtained “t” test values for separation and loss of control related anxiety behaviour area (t=19.24), communication related anxiety behaviour area (t=15.31), bodily injury/procedure related anxiety behaviour area (t=14.92), health personnel and

cooperation related anxiety behaviour (t=16.28) at df=50 were all larger than the tabulated t value (t=2.00) and the calculated p value (p=0.001) was found to be lesser than 0.05, hence found to be statistically significant at 0.05 level of significance. Therefore the hypothesis H<sub>1</sub> which stated

that there is a significant difference in the level of anxiety among hospitalized children before and after administering selected play material was accepted.

#### Section IV: Association between the level of anxiety among hospitalized children before administering selected play material with selected demographic variables

**Table 5:** Association between the level of anxiety among hospitalized children before administering selected play material with the selected demographic variables, n=51

Demographic Variables	Group	Before level of anxiety			df	$\chi^2$	Tab value	p value	Remark
		Mild anxiety	Moderate anxiety	Total					
Age	a) 2 years	8	2	10	3	15.66	7.82	0.001	S*
	b) 3 years	11	3	14					
	c) 4 years	7	9	16					
	d) 5 years	1	10	11					
Sex	a) Male	13	13	26	1	0.184	3.84	0.668	NS*
	b) Female	14	11	25					
Place of residence	a) Rural	5	10	15	1	3.279	3.84	0.070	NS*
	b) Urban	22	14	36					
Type of family	a) Joint	12	14	26	2	1.650	5.99	0.438	NS*
	b) Nuclear	14	10	24					
	c) Single parent	1	0	1					
	d) Extended	--	--	--					
Educational level	a) Preschool	26	16	42	1	7.675	3.84	0.006	S*
	b) Primary	1	8	9					
Type of illness	a) Acute	13	17	30	1	2.700	3.84	0.100	NS*
	b) Chronic	14	7	21					
Interventions required	a) Invasive	13	13	26	1	0.184	3.84	0.668	NS*
	b) Non-invasive	14	11	25					
Previous hospital admission	a) No	13	12	25	1	0.017	3.84	0.895	NS*
	b) Yes	14	12	26					

\*p < 0.05 level of significance

S – Significant NS – Non significant

Data furnished in table 5 revealed that there was a significant association between the level of anxiety before administration of the selected play material with the age ( $\chi^2 = 15.66$ ) and educational level ( $\chi^2 = 7.675$ ) of the hospitalized children at p<0.05 level of significance. But there was no association between the level of anxiety before administration of the selected play material with the sex, place of residence, type of family, type of illness, interventions required and previous hospital admission of the hospitalized children. Thus the hypothesis H<sub>2</sub> which stated that there is a significant association between the level of anxiety scores and selected demographic variables was accepted in terms of age and educational level. Whereas the hypothesis H<sub>2</sub> was rejected in terms of the sex, place of residence, type of family, type of illness, interventions required and previous hospital admission.

## 5. Discussion

Findings of the study revealed that that before administering selected play material the mean anxiety score was 29.75±3.810 and after administering selected play material the mean anxiety score was 15.69±3.102 with a mean difference of 14.05. The obtained “t” test value 27.45 (df =50) was found to be statistically significant at 0.05 level of significance. This indicates that there is significant difference in the level of anxiety among hospitalized children before and after administering selected play material.

These findings are consistent with the findings of the study conducted by Sen S. (2017), where the pre-test mean score

obtained 72.70 ± 23.790 and in post-test minimum score was 16 and maximum was 62 and the mean score was 37.87 ±14.708. The obtained “t” value 14.015 statistically was significant at 0.001 level of significance. So there was significant reduction in the level of anxiety among the children in experimental group.

## 6. Recommendations

Based on the findings of the study, the following recommendations were made:

- The study can be replicated in specific settings like outpatient departments, surgery wards, oncology department and other pediatric departments.
- The study can be replicated in a larger scale in a larger scale to bring about a better generalization.
- A comparative study can be done between play therapy and other non-pharmacological diversion therapies to evaluate the effectiveness in reducing anxiety among hospitalized children.
- A descriptive study to assess the knowledge, skill and attitude towards play for management of anxiety and stress in hospitalized children can be conducted.
- Future research needs to focus on the anxiety level of both children and their parents, in addition to the intervention use of multimedia applications.

## 7. Conclusion

From the findings of the present study, it can be concluded that the selected play material was effective in reducing the anxiety among hospitalized children.

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