

RESEARCH PAPER

Effectiveness of Play Therapy to Reduce Anxiety Among Children Admitted to Selected Paediatric Hospitals

Sanjay Shinde^{1*}, D. Helan Petricia², Spurgeon Anandraj Samuel³, Thangam Sheela Rosalene⁴, Jancy Helena Suyamprakasam⁵

¹Department of Nursing, Faculty of Health Sciences, KAAF University, Accra, Ghana. (mscshinde@gmail.com)

²Fundamental of Nursing Department, Imam Abdul Rahman Bin Faisal University, Dammam, Saudi Arabia-34212. (hdevagayam@iau.edu.sa)

³Lecturer & Serials Control Librarian, Imam Abdul Rahman Bin Faisal University, Dammam, Saudi Arabia-34212. (sasamuel@iau.edu.sa)

⁴Department of Medical Surgical Nursing, T S Mishra College of Nursing, Lucknow, Uttar Pradesh, India. (sheilacelin@gmail.com)

⁵Dean, School of Nursing and Allied Health Sciences, All Nations University, Koforidua, Accra, Ghana. (helenraj06@gmail.com)

Received: 25th May, 2026; **Revised:** 6th June, 2026; **Accepted:** 8th June, 2026; **Available Online:** 02nd August, 2026

ABSTRACT

Background: Surgery can be a threatening experience for everyone, especially for children. Children are more vulnerable to stress due to their lack of knowledge of procedures, lack of perceived control, lack of explanation in child-appropriate terms and lack of anxiety management. Anxiety in children is often left untreated in children. There is evidence about play therapy being effective in reducing anxiety in children, but there isn't any strong evidence whether they are effective in reducing anxiety. This study was carried out to evaluate anxiety severity with regards to pain management among pre-operative children.

Method: In this study, a quantitative research approach and a pre-experimental research design were used to assess the anxiety level of children. Non-probability convenience sampling technique was used to select the samples. A sample sizes of 250 childrens were selected to participate in the research study. Childrens attending hospitals were considered the sample for the present study. A structured questionnaire was used to assess socio-demographic and anxiety scale was used to assess the anxiety level.

Result: The pre-test anxiety level of children 151(60%) were severe anxiety, 50(20%) were moderate anxiety and 49(20%) mild anxiety. The post-test anxiety level of children 145(58%) had minimal anxiety, 85(34%) had mild anxiety, 20(8%) had moderate anxiety, and 0(0.0%) had severe anxiety. Hence $p < 0.05$ level, play therapy helps to decrease anxiety levels.

The pretest mean score of anxiety level of children was 3.888 ± 0.3160 and the post-test mean score of anxiety level of children, mean and SD was 2.405 ± 0.6105 in the experimental group. The calculated paired 't' value of $t = 31.298$ was found to be statistically significant at $P < 0.05$ level. This clearly indicated that after play therapy was found to be effective in decreasing the anxiety level of hospitalized children. Hence, it shows that play therapy helps to decrease anxiety among hospitalized children. Hence, H1 is accepted.

The demographic variable, the educational status of parents, had a statistically significant association with the pretest levels of anxiety among children. Age, Gender, religion, occupation, Schooling status of children, and family monthly income showed no statistically significant association with the pretest levels of anxiety among hospitalized children. $P < 0.05$. H2 is accepted.

Conclusion: Surgery can be a threatening experience for everyone, especially for children. Children are more vulnerable to stress due to their lack of knowledge of procedures, lack of perceived control, lack of explanation in child-appropriate terms and lack of decreasing anxiety level. Anxiety in children is often left untreated in children. There are evidences about play therapy being effective in reducing anxiety in children between age 6-12 years but there isn't any strong evidence whether they are effective in reducing anxiety.

Keywords: Assess, Anxiety, Effectiveness, Play Therapy, Hospital

How to cite this article: Shinde S, Petricia DH, Samuel SA, Rosalene TS, Suyamprakasam JH. Effectiveness of play therapy to reduce anxiety among children admitted to selected paediatric hospitals. *Int J Drug Deliv Technol.* 2026;16(73s): 568-574. DOI: 10.25258/ijddt.16.73s.62

INTRODUCTION

Anxiety is different from fear in that fear is defined as the emotional response to a present threat, whereas

anxiety is the anticipation of a future one. It is often accompanied by nervous behavior such as pacing back and forth, somatic complaints, and rumination. Anxiety

is a feeling of uneasiness and worry, usually generalized and unfocused as an overreaction to a situation that is only subjectively seen as menacing.¹ It is often accompanied by muscular tension, restlessness, fatigue, inability to catch one's breath, tightness in the abdominal region, nausea, and problems in concentration. Anxiety is closely related to fear, which is a response to a real or perceived immediate threat (fight-or-flight response); anxiety involves the expectation of a future threat including dread. People facing anxiety may withdraw from situations that have provoked anxiety in the past. Anxiety is a common nature of human being that can express worry and it is considered as a sign of depression or a psychological problem.²

Anxiety is the most commonly reported negative response, and high levels of anxiety can adversely affect a child's mental and physiological health and lead to coping and uncooperative behaviors toward health care provider. All these will deteriorate their health condition and lead to the disease's severity. Ample research is done to minimize the level of anxiety. Play therapy are two of them, and it can overcome the challenges because it builds on the natural way children learn and express themselves – e.g. playing and being creative. Children get the chance to express themselves through play. Play helps in communication, expansion of social relationship and communal understanding. Play therapy is a method of communication which is figurative. It aids to bring a novel way of thinking, express emotions, and eventually lead to a new value-added lifestyle.³

Parents' active involvement is beneficial for achieving the most favorable treatment effects. It gives an insight and understanding to the parents about their child's mindset, coping skills, and specific developmental level, which helps in specific developmental support, augmenting the child's wellbeing. 39,1,90,400 is the aggregate population of teenagers in India, and about 30% of children are hospitalized at least once during their childhood. About 5% of them are hospitalized several times, 12% from children below five years of age.⁴

Preoperative anxiety is associated with many adverse clinical, psychological, and behavioral outcomes. Children with higher levels of preoperative anxiety experience a more complicated perioperative course compared to children with lower levels of preoperative anxiety. This includes a lengthier induction of anesthesia and higher requirements for anesthetic medication. Children with high levels of preoperative anxiety also report higher levels of postoperative pain intensity and require higher doses of pain medications after surgery compared to children with low levels of preoperative anxiety. Compared to children with low

levels of state anxiety, children with higher levels of state anxiety have 3.5 times the risk of developing adverse postoperative outcomes, including emergence delirium and maladaptive postoperative behaviors, leading to increased distress during the recovery period. Overall, this leads to poorer recovery and longer hospital stays compared to children with low levels of anxiety.⁵

METHODS

Study area and period

The study was conducted at selected pediatric hospitals in Belgaum and the study period was one month.

Research approach

A quantitative research approach was used

Study design

In the pre-experimental research design, a one-group pre-test and post-test was conducted to attain the objectives of the study.

Population

Source population: All children admitted to pediatric hospitals

Study population: All children admitted to pediatric hospitals in and who are randomly selected and who are available during the data collection period.

sample size =250

Sampling technique

Non-probability convenience sampling techniques
variables

Dependent variable: play therapy

Independent variables: Age, Religion, Gender, Type of family, educational status of child, father's educational status, mother's educational status, Occupational status of parents, and Family monthly income.

Inclusion criteria and Exclusion criteria

Inclusion criteria:

- Willing to participate in the study
- Available during data collection
- Able to communicate in English and Kannada.

Exclusion criteria:

- Not willing to participate in the study
- Not available during data collection
- Not able to communicate in English and Kannada.

Operational definition

1. Play Therapy: -It refers to making the child do drawing, painting, play with musical toys, solve puzzles, and build blocks, thereby enabling them to relieve or reduce the fear, pain, and anxiety level

2. Anxiety: Refers to a state of emotional response in children who are admitted to the hospital for the first

time. Anxiety will be assessed by mild, moderate, and severe anxiety levels.

3. Post-operative: In this study, the word post-operative refers to the children who have undergone orthopedic surgery.

4. Impact: - It refers to an alternative proposal of intervention that refers to the effect

5. Hospital: A hospital is a healthcare institution that provides promotive, preventive, curative, and rehabilitative care to children. In this study, the hospital refers to the healthcare setting where care of children receives treatment and the well-being of children, and where the research intervention is conducted.

Data collection procedure:

Data collection approach and instrument

For the pre-experimental research design one group-pre-test and post-test. This tool, was a structured interview questionnaire about basic information to seek information from the, WHO anxiety scale was used to assess the anxiety level of children's.

Data Collectors

Data collectors with a BSc Nursing background were recruited from the college. A minimum of two years of

experiences. The researchers next instructed them on data gathering strategies for quantities data. The data collecting was then carried out as planned and participants are involved at each stage of the research process.

Quality management

A tool that has been standardized and validated was employed. The questionnaire was properly designed and amended. Data collectors received training about data collection. A week before the start of actual data collection, a pretest was conducted with approximately 10% of the sample size in an area other than study area: based on the results of the pretest, the questionnaire was amended and adopted, and the time needed for interview was anticipated. Field supervisors and the primary investigator conducted field checks to ensure quality. The data completeness, quality and consistency were additionally validated by double entry on the day of collection using SPSS 23.0 software.

Result:

N=250

Table 1: Frequency and percentage distribution of children

Variables		Frequency	Percentage
Age in Years	2-3	76	30
	3-4	49	20
	4-5	52	21
	>5	73	29
Religion	Hindu	151	80
	Christian	48	13
	Muslim	51	7
Gender	Male	169	68
	Female	81	34
Schooling status	Schooling	90	36
	No schooling	160	64
Educational status	No formal education	40	16
	Primary education	91	36
	Secondary Education	51	20
	Higher secondary	28	11
	Graduation and above	40	16
Monthly income	< Rs 5000	35	14
	Rs. 5000-10,000	100	40
	Rs. 10,000-20,000	90	36
	Rs. > 21,000	25	10
Occupational status	House wife	80	32
	Private employee	75	30
	Business	60	24

	Government employee	35	14
Total		250	100

Table 1 presents the frequency and percentage distributions of children across demographic variables. Analysis revealed that of children, 76(30%) were 2-3 years, 73(29%) were more than 5 years, 52 (21%) were 4-5 years, and 49(20%) were 3-4 years.

Regarding religion of childrens 151(80%) were hindu, 51(7%) were muslim and 48(13%) were Christians. Regarding gender, 169 (68%) were male, and 81(34%) were female.

Regarding schooling status, 160(64%) had no schooling, and 90 (36%) had schooling. Regarding the educational status of parents, 91(36%) had primary education, 51(20%) had secondary education, 40(16%) had no formal education or graduation and above.

Regarding family monthly income 100 (40%) were Rs.5000-10,000, 90(36%) were Rs..10,000-20,000, 25(10%) were Income Rs.> 21,000, and 35(14%) were Rs.<5000.

Regarding occupational status of parents 80(32%) were house wife, 75(30%) were private employee, 60(24%) were business and 35(14%) were government employee.

Table 2: Description of pretest anxiety level of children

Anxiety level	Pretest anxiety levels	
	Number	Percentage
Minimal Anxiety	0	0.0
Mild anxiety	49	20
Moderate anxiety	50	20
Severe anxiety	151	60
Total	250	100

P<0.05

Table 2 shows that the pre-test anxiety level of children 151(60%) were severe anxiety, 50(20%) were moderate anxiety and 49(20%) mild anxiety.

Table 3: Description of Post-test anxiety level

Anxiety level	Post-test anxiety levels	
	Number	Percentage
Minimal Anxiety	145	58
Mild anxiety	85	34
Moderate anxiety	20	8
Severe anxiety	0	0.0
Total	250	100

Table 3 shows the description of the post-test anxiety level of children 145(58%) had minimal anxiety, 85(34%) had mild anxiety, 20(8%) had moderate anxiety, and 0(0.0%) had severe anxiety. Hence p<0.05 level, play therapy helps to decrease anxiety levels.

Table 4: Effectiveness of play therapy among hospitalized children: pre-test and post-test

Times	Mean	SD	Mean Diff.	SD Diff.	t-value	df	p-value
Pretest	3.888	0.3160					
Posttest	2.405	0.6105	1.483	0.2945	31.298	169	0.005 S

P<0.05

Table 4 shows that the pretest mean score of anxiety level of children was 3.888 ± 0.3160 and the post-test mean score of anxiety level of children, mean and SD was 2.405 ± 0.6105 in the experimental group. The calculated paired 't' value of $t = 31.298$ was found to be statistically significant at P<0.05 level. This clearly indicated that after play therapy was found to be effective in decreasing the anxiety level of hospitalized children.

Hence, it shows that play therapy helps to decrease anxiety among hospitalized children. Hence, H1 is accepted.

Table 5: Association between pretest levels of anxiety among hospitalized children and demographic variables

Demographic variables	Pretest levels of anxiety							X ²	df	P-value
	Mild anxiety	%	Moderate anxiety	%	Severe anxiety	%	Total			
Age groups in Years										
2-3	15	6	12	5	49	20	76	8.178	4	0.042 NS
3-4	14	5	14	6	21	8	49			
4-5	10	4	19	8	23	9	52			
>5	11	4	5	2	57	23	73			
Gender										
Male	29	11	25	10	115	46	169	0.517	1	0.316 NS
Female	20	8	25	10	36	14	81			
Religions										
Hindu	20	8	20	8	111	44	151	1.244	2	0.962NS
Muslim	15	6	20	8	16	6	51			
Christian	14	5	10	4	24	10	48			
Schooling status of the child										
Schooling	20	8	20	8	50	20	90	1.653	3	0.241 NS
No schooling	29	11	30	12	101	40	160			
Occupation										
House wife	10	4	15	6	55	22	80	1.304	2	0.851NS
Private employee	10	4	10	4	55	22	75			
Business	15	6	15	6	30	12	60			
Government employee	14	5	10	4	11	4	35			
Family Monthly income										
< Rs 5000	10	4	10	4	15	6	35	1.373	4	0.497 NS
Rs. 5000-10,000	15	6	20	8	75	30	100			
Rs. 10,000-20,000	14	5	10	4	66	26	90			
Rs. > 21,000	10	4	10	4	5	2	25			
Educational status										
No formal education	10	4	10	4	20	8	40	3.699	2	0.003*
Primary education	10	4	15	6	66	26	91			
Secondary Education	15	6	5	2	31	12	51			
Higher secondary	5	2	16	6	7	3	28			
Graduation and above	9	7	4	2	27	11	40			

* P<0.05.*indicates significant S. Significant NS-non-significant

Table 5 showed that the demographic variable, the educational status of parents, had a statistically significant association with the pretest levels of anxiety among children. Age, Gender, religion, occupation, Schooling status of children, and family monthly income showed no statistically significant association with the pretest levels of anxiety among hospitalized children. P<0.05.H2 is accepted.

DISCUSSION

The pre-test anxiety level of children 151(60%) were severe anxiety,50(20%) were moderate anxiety and 49(20%) mild anxiety.

the post-test anxiety level of children 145(58%) had minimal anxiety,85(34%) had mild anxiety,20(8%) had moderate anxiety, and 0(0.0%) had severe anxiety. Hence p<0.05 level, play therapy helps to decrease anxiety levels.

The study's findings were consistent with those of Sweta Rani D(2023). Conducted a study to assess the Play was a tremendous method of communication, expansion of

social relationships, and communal understanding. Admission into the hospital leads to anxiety and strain for children due to alterations in the settings and their health conditions. Children suffer from separation anxiety; they are not cooperative and do not allow nurses to do any invasive procedures. So the study aimed to find out the anxiety level and the role of art and play therapy in overcoming it. Sixty hospitalized children were selected for the study. The study findings revealed that 75%, 20% and 5% of children had moderate, severe and mild anxiety during hospitalization. There was a significant difference observed between the pre-test and post-test mean scores of anxiety level in art and play therapy. The present study's findings suggested that art therapy and play therapy are cost-effective, convenient, and require less skill to reduce anxiety among hospitalized preschool children.⁶

Effectiveness of play therapy to decrease anxiety level: pre-test and post-test

The pretest mean score of the anxiety level of children was 3.888 ± 0.3160 and the post-test mean score of the anxiety level of children, mean and SD was 2.405 ± 0.6105 in the experimental group. The calculated paired t-value of $t = 31.298$ was found to be statistically significant at $P < 0.05$ level. This clearly indicated that play therapy was found to be effective in decreasing the anxiety level of hospitalized children.

Hence, it shows that play therapy helps to decrease anxiety among hospitalized children. Hence, H1 is accepted.

The study findings were in line with those of Mariem K et al (2023). Conducted a study to evaluate the effect of clonidine in the prevention of perioperative children's anxiety. **The result showed that** the number of patients analyzed was 78, with 39 patients in each group. There were no significant differences in demographic data and premedication acceptance between the two groups. Levels of anxiety before any premedication were similar in the two groups. However, the anxiety level 30 minutes after premedication and in the operating room was significantly lower in the clonidine group. Children who received clonidine showed better sedation on entering the operating room as well as postoperatively on entering the post-anesthesia unit care. The hemodynamic and respiratory parameters recorded were statistically comparable. The study elaborated that intranasal clonidine was an interesting premedication to prevent perioperative children's anxiety with few side effects.⁷

Association between pretest levels of knowledge and socio-demographic variables

The demographic variable, the educational status of parents, had a statistically significant association with the

pretest levels of anxiety among children. Age, Gender, religion, occupation, Schooling status of children, and family monthly income showed no statistically significant association with the pretest levels of anxiety among hospitalized children. $P < 0.05$. H2 is accepted.

The study's findings were in line with those of Noor S et al (2019). To evaluate the effect of clonidine in the prevention of perioperative children's anxiety. **The result showed that** the number of patients analyzed was 78, with 39 patients in each group. There were no significant differences in demographic data and premedication acceptance between the two groups. Levels of anxiety before any premedication were similar in the two groups. However, the anxiety level 30 minutes after premedication and in the operating room was significantly lower in the clonidine group. Children who received clonidine showed better sedation on entering the operating room as well as postoperatively on entering the post-anesthesia care. The study concluded that intranasal clonidine was an interesting premedication to prevent perioperative anxiety with few side effects.⁸

CONCLUSION

The present study concludes that play therapy is an effective, safe, and child-centered nursing intervention for reducing anxiety among hospitalized children. Hospitalization exposes children to emotional stress due to unfamiliar surroundings, painful procedures, separation from family, and disruption of their daily routines, all of which contribute to increased anxiety. The findings of this study demonstrated that children who received structured play therapy experienced a significant reduction in anxiety levels compared with those who received routine hospital care alone.

Acknowledgments

We would like to thank all the study participants and data collectors for their contribution to the success of work.

Author contributions

All authors conceived and designed the study, analyzed the data and wrote the manuscript. Involved in data analysis, drafting of the manuscript and advising the whole research paper and also were involved in the interpretation of the data and contributed to manuscript preparation. Similarly, all authors have read and approved the final version of the manuscript.

Source of funding

Nil

Disclosure:

The authors declare no competing interests.

REFERENCES

- American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington (VA): American Psychiatric Association Publishing; 2013.
- Spielberger CD. State-Trait Anxiety Inventory for Children: Professional manual. Palo Alto (CA): Consulting Psychologists Press; 1973.
- World Health Organization. International classification of diseases for mortality and morbidity statistics (11th Revision). Geneva: World Health Organization; 2019.
- Piaget J. Play, dreams and imitation in childhood. New York: W.W. Norton & Company; 1962.
- Bratton SC, Ray D, Rhine T, Jones L. The efficacy of play therapy with children: A meta-analytic review of treatment outcomes. *Prof Psychol Res Pract*. 2005;36(4):376-90.
- Sweta Rani D. Effect of art therapy and play therapy on anxiety among hospitalized preschool children. *Journal of Biomedical Sciences* 7(2):71-76 DOI:10.3126/jbs.v7i2.34006
- Mariem Keskes, Nouha Amouri, Salma Ketata. The interest of intranasal clonidine in the prevention of perioperative children's anxiety: a prospective

randomized trial. *Pan Afr Med J*. 2023 Sep 25;46:37. doi: 10.11604/pamj.2023.46.37.40310

Noor S et al. The interest of intranasal clonidine in the prevention of perioperative children's anxiety: a prospective randomized trial. *Pan Afr Med J*. 2023 Sep 25;46:37.