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Original Research Article

Effect of play therapy in reduction of postoperative pain perception among the children aged 6-12 years in All India Institute of Medical Sciences, Patna

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ABSTRACT

Background: Postoperative pain in children remains a significant concern, often leading to delayed recovery and distress. This study evaluated the effect of play therapy on postoperative pain among children aged 6-12 years in AIIMS Patna.
Methods: A quasi-experimental, non-randomized control group design was used. The 54 children meeting inclusion criteria were selected through non-probability convenience sampling from pediatric surgery wards. Demographic data were collected from parents and children. Pain was assessed on postoperative days 1-4 using the Wong-Baker FACES pain rating scale (WBPS). The experimental group received 50 minutes/day of play therapy; the control group received standard care without intervention. Data were analyzed using descriptive and inferential statistics.
Results: In the experimental group, 16 (59.3%) children reported 'pain whole lot.' 6 (22.2%) 'pain even more.' and 5 (18.5%) 'pain little more.' In the control group, 14 (51.9%) experienced 'pain even more' and 13 (48.1%) 'pain whole lot.' Post-test mean pain scores were 1.37±0.742 (experimental) and 3.37±0.792 (control) at $p=0.001$, confirming significant reduction in pain with play therapy. Experimental group pre-test mean was 3.41±0.797, with a mean difference of 2.04 post-therapy ($p=0.001$). Control group change was not significant ($p=0.537$). Significant associations were found between age ($p<0.013$) and postoperative sedation ($p<0.012$) with post-test scores in the experimental group; no associations were observed in the control group.
Conclusions: Play therapy is effective in reducing postoperative pain perception in children aged 6-12 years.

Keywords: Play therapy, Postoperative pain, Pediatric surgery, Wong-Baker FACES pain rating scale, Non-pharmacological intervention

INTRODUCTION

Hospitalization is frequently advantageous for children who need extensive medical care as part of their overall health care. Due to their weaker emotional and cognitive development and lack of relevant knowledge, children are significantly more affected by hospitalization and its associated factors than adults. Hospitalized children must contend with the difficulties of being separated from their homes and families, being admitted to the hospital, illnesses, and any clinical procedures they will have to undergo in addition to the problems of regular developmental lawfulness. Children's psychosocial reactions to hospitalization vary significantly depending on several important factors, including the child's age, gender, personality qualities, kind of sickness, type of therapy, length of inpatient stay, and hospital time management. The child's physical, cognitive, emotional,

and social development is typically negatively impacted by the hospitalization. Any child that is hospitalized will find the experience stressful and unpleasant. Children in hospitals need more than just recreational play since illness and hospitalization are crises in a child's life, and since these circumstances produce excruciating stress, children need to play out their worries and anxieties as a way of coping with these stressors. Everyone's experience with surgery can be risky, but kids especially so. Due to their lack of procedural knowledge, loss of perceived control, explanations that are not in the language that children can understand, and lack of pain management, children are more susceptible to stress. Every year, more than a million children have surgery, and it's been said that 50% of them have substantial pain, worry, and anxiety afterward. Children and adolescents frequently struggle with anxiety and pain Before and after surgery.[1-3]

The early proponents of child psychotherapy were those who suggested using play in therapy. In every culture on earth, the play has been viewed as a therapeutic tool. It eases stress and muscle tension while enhancing cognitive abilities. In providing traumatic child health care in the new millennium, play therapy has paved the way for new opportunities and advancements.[3] As a part of the multi-professional health team, paediatric nurses must apply the play/therapeutic play technique when providing care for the child and family. Therapeutic play is an organized play that is utilized by a qualified expert to ease tensions and anxieties brought on by exposure to settings that are inappropriate for the child's age.[4] The usefulness of play for hospitalised children is that it helps the child better manage their stress, fear, anxiety, rage, and fantasy as well as gain a thorough understanding of the hospital's procedures. Play also helps the child release tension and help them release their frustration. In addition to communicating with others, it aids in reducing the emotional harm caused by medical situations. The majority of the time, it continues to grow and develop while also growing in all areas, including the physical, psychological, social, moral, and educational. The therapeutic play is different from conventional play in both intent and design. To improve the emotional and physical well-being of unwell children, the members of the health team design specialised approaches, strategies, and play settings.[5] There are three varieties of it: Dramatic expression or emotional release: It is used as a diagnostic method to determine a child's concern about the sickness and hospitalisation and as a means of expressing the child's fear. Examples include playing the role of a nurse and attending to a sick doll while expressing one's own emotions, storytelling, etc.[6,8,9] Play that imparts knowledge: Children are instructed in therapeutic play in accordance with their past encounters, coping skills, and physical state. The use of colour in drawings, drawing on white paper, learning about healthy behaviours through TV or instructional movies, etc., are all examples of well-planned instructional play.[7] Play that improves bodily functioning and physical health is referred to as physiological boosting play. For example, breathing exercises to cure respiratory issues like blowing bubbles, whistling, and laughing can be chosen to address the pathological condition. Squeezing a bath ball or sponge boosts neurological function.[9-12]

According to data from the medical record departments of AIIMS Patna, 8102 patients attended the OPD at the hospital in the year 2021 while a total of 11260 individuals visited the OPD at AIIMS Patna in 2022. The paediatric surgery ward received 604 new patients in the year 2021. Up till October of 2022, 815 children were admitted for paediatric surgery. Of the admitted patient in IPD, all the patient were not gone through the surgical procedure. In the year 2021 the total number of performed surgery in the AIIMS, Patna was 532 patients, and from 2022 till October 700 surgeries have performed.

Aim

The study aimed to assess postoperative pain perception among children aged 6-12 years, evaluate the effectiveness of play therapy in reducing postoperative pain in this age group, and determine the association between post-test pain scores and selected demographic variables.

METHODS

Research design and setting

The present study was quasi-experimental research design. Which is conducted at the place in a study was paediatric surgery wards of All India institute of medical science Patna, Bihar.

Study population and sample

The population for the study was the children ages from (6-12) years admitted in paediatric surgery wards at AIIMS Patna. Bihar. Sample included in the research study were children from (6-12) years age admitted in paediatric surgery wards at AIIMS Patna, Bihar during December 2022 to January 2023 the study period.

Sample size and technique

N=number of sample for one group σ1+σ2=sum of standard deviation of the 2 groups m1-m2=mean difference of the two groups

Z1-α/2=level of significance

Z1-β=power

$N=(1.96+0.84)^2\ (0.9^2+1.6^2)/1^2$

$N=7.84(0.81+2.56)/1$

$N=26.42$, $n=27$

N=27 samples in each group

2×N=54

Based on reference, WBPS score post and pre-treatment were 3.8 (SD=0.9) and 4.8 (SD=1.6) respectively. Assuming 5% level of significance (type1 error) and 80% power to detect a difference of 1 unit. Hence 27 subjects per group i.e., 54 subjects will be required.

A non-probability convenient sampling technique was used to recruit the samples for the study and the participants were chosen by a convenient sampling method. Those who fulfilled the including criteria were included in the sample. First sample was assigned to experimental group and next sample was assigned to control group and so on.

Inclusion criteria

The study included: those children who are admitted in post operative wards only, those children who are in the age group from 6-12 years, and those children whose parents are willing to give a written consent.

Exclusion criteria

Physically disabled children, and children who has undergone any critical surgery like head surgery, thorax surgery were excluded from the study.

Data collection technique

In this study the researcher collected the data by observation method using WBPS.

Description of the tool

The study tool consisted of two sections. section A and section B.

Section A

Consists of socio-demographic variables that includes age, sex, history of previous hospitalization, types of anaesthesia, post-operative sedation, analgesics, site of surgery.

Section B

WBPS were used. The scale is one of the objective tools to measure the severity of the postoperative pain perception in children. This scale has six faces which indicated six expressions based on the children ‘s pain during procedure. Pain in WBPS is evaluated according to numeric values given to six faces arranged side by side from the worst pain to the mildest one (0–5). The lowest point is one and the highest one is five (Figure 1). Face 0 hurts-no pain, face 1 hurts-pain little bit, face 2 hurts-pain little more, face 3 hurts-pain even more, face 4 hurts-pain whole lot and face 5 hurts-pain worst.

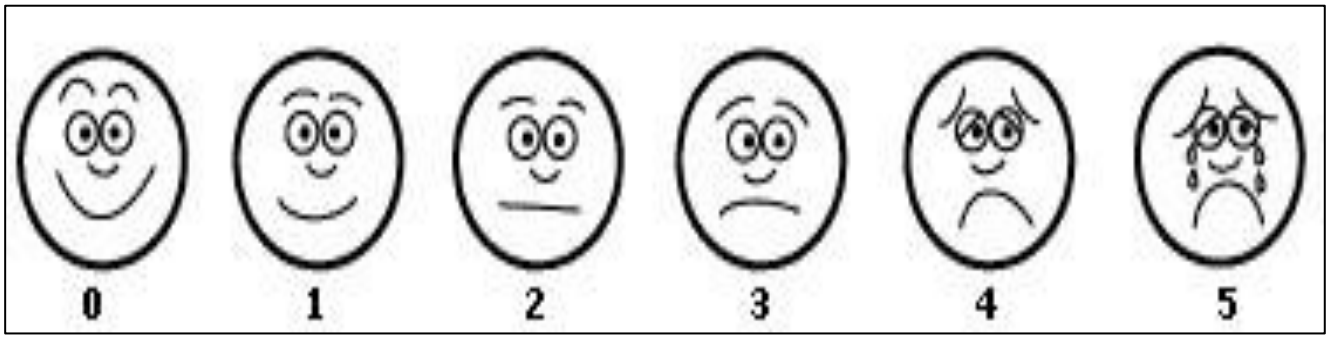

Figure 1: Wong Bakers FACES pain rating scale.

Ethical consideration

Permission for the research study was taken from the institute’s ethical committee (IEC) of AIIMS, Patna. The institute’s ethical committee number for this research is Ref No. AIIMS/Pat/IEC/M.Sc./Nur/01. Informed consent was obtained from each participant after explaining the purpose of the study. Confidentiality of each study participants was ensured.

Procedure of data collection

Data collection procedure was done after obtaining institute ethical committee’s approval and with the consent of concerned departments. Data collection was done from 14 December to 31 January, 2023. There were 54 children who met the eligibility criteria were selected through non probability convenient sampling technique from the different paediatric wards of AIIMS Patna.

First sample was assigned to experimental group and next sample was assigned to control group and so on. After selecting the children, the investigator gave a self-introduction and explained the purpose of the study and then obtained the informed consent from the parents of the participants. Firstly, demographic data were collected from the children and their parents and also recorded simultaneously. By using WBPS the pain of the children was observed on postoperative 1-4 days. In experimental group, play therapy was given to the child after surgery

within 1-4 days for 50 min. The intensity of pain was observed and recorded. For the control group, no intervention was given to evaluate the effect of postoperative pain perception. The level of pain was assessed and recorded simultaneously by using WBPS.

Plan for data analysis

The statistical analysis of the data would be done by descriptive statistics and inferential statistics in terms of the objectives of the study.

Descriptive statistics

Frequency, percentage distribution were used to analyze demographic variables, to assess the degree of pain on postoperative children ages from 6-12 years. Mean and standard deviation were be used to determine the difference in post operative perception among children ages from 6-12.

Inferential statistics

The paired t-test and independent t-test was used to determine the significance of the difference in degree of pain on postoperative children ages from 6-12 years in both experimental and control groups. Chi-square test was used to find out association between postoperative pain perception and selected demographic variables.

RESULTS

Table 1 showing the total 54 children were recruited in the study and the descriptive analysis revealed that the majority of the participants i. e., 40.7% of experimental group children were belongs to the 69 years of age as well as 59.3% of experimental group children were belongs to the 10-12 years of age. Whereas distribution of the age reflects 55.6% of control group children were belongs to the 6-9 years of age as well as 44.4% of control group children were belongs to the 10-12 years of age. In the gender distribution of the children across the experimental group and control group. Each group consists of 27 children and around 66.7% children in experimental group and 74.1% children in control group were male. Whereas the female children were smaller in number in both the experimental group (33.3%) and control group (25.9%). There was no transgender child was present in any group. Majority of the children (33.3% and 70.4%) belongs to the history of previous hospitalisation in the experimental group and control group. Whereas 66.7% children in experimental group and 29.6% children in the control group not belongs to the history of previous hospitalisation. Distribution of the sample based on types of anaesthesia used in surgery reflects that majority of the children (100% and 100%) were undergone general anaesthesia in both the experimental group and control group. In the presence of post operative sedation among the children reflects that majority of the children (22.2% and 25.9%) used post operative sedation in the experimental group and control group. Whereas 77.8% children in experimental group as well as 74.1% children in the control group belongs to the not used category of postoperative sedation. Distribution of the administration of analgesics reflects that majority of the children (92.6% and 100.0%) belongs to the administration of analgesics in the experimental group and control group. Whereas 7.4% in experimental group and 0.0% in the control group not belongs to the administration of analgesics. Distribution of the site of surgery reflects that majority of the children's (37.0% and 40.7%). Site of surgery were extremities in the experimental group and control group. Whereas site of surgery was abdomen 14.8% in experimental group children and 25.9% in control group children. The head site of surgery was found in 29.6% and 18.5% children were in experimental and control group and whereas site of surgery was in others were 18.5% in experimental group children and 14.8% in control group children.

Table 2 shows that in the experimental group 5 (18.5%) children experienced pain little more and 6 (22.2%) children experienced pain even more and around 16 (59.3%) children experienced pain whole lot. Whereas in the control group around 14 (51.9%) children experienced pain even more, 13 (48.1%) children experienced pain whole lot.

Table 3 depicts comparison of the effect of the play therapy between experimental and control group. Post-test WBPS scores of both the experimental and control group was compared and tabulated. The scores of WBPS were normally distributed as reported by visual inspection of Q-Q plot to test the normality. An independent t-test was applied to test whether mean of WBPS scores of the experimental group differ from the control group. The findings revealed that there was a statistically significant difference in the mean score of WBPS of experimental group (1.37±0.742) vs control group (3.37±0.792), p=0.001. It reveals that experimental group perceives less pain when compared to the control group, therefore, H1 is accepted.

Table 4 displays the difference in mean scores of the WBPS in the interventional group was normally distributed as found by the visual inspection of the Q-Q plot in the interventional group. There were zero outliers indicates the distribution of the WBPS score was normal among the experimental pre-test and post-test group. A paired t-test was applied to test whether mean of the pre-test WBPS score was significantly different from mean of the post-test WBPS score. Mean score of the pre-test WBPS was 3.41±0.797 and 1.37±0.742 of the mean score of the post-test WBPS. We observed that there is a significant increment in the mean score of WBPS after intervention. Difference in mean WBPS score was 2.04.

Table 5 depicts the difference in mean scores of the WBPS in the control group. It was normally distributed as found by the visual inspection of the Q-Q plot in the

control group. There were zero outliers means the distribution of the WBPS score was normal among the control pre-test and post-test group. A paired t-test was applied to test whether mean of the pre-test WBPS score was different from mean of the post-test WBPS score. In this study result shows that there is no significant difference in the post-test mean score of the WBPS. The difference in mean WBPS score was 0.0741 at pre-test mean score of WBPS (3.48±0.509) and post-test mean score of WBPS (3.41±0.797). The study findings shows that there is no significant difference in the post-test mean score of the WBPS in the control group.

Table 1: Study participants characteristics, (n=54).

Demographic variables	Experimental		Control	
	N	%	N	%
Age of the child (in years)				
6-9	11	40.7	15	55.6
10-12	16	59.3	12	44.4
Sex of the child				
Male	18	66.7	20	74.1
Female	9	33.3	7	25.9
Transgender	0	0.0	0	0.0
History of previous hospitalization				
Yes	9	33.3	19	70.4
No	18	66.7	8	29.6
Types of anaesthesia used in surgery				
General	27	100.0	27	100
Post operative sedation				
Used	6	22.2	7	25.9
Not used	21	77.8	20	74.1
Administration of analgesics				
Yes	25	92.6	27	100
No	2	7.4	0	0.0
Site of surgery				
Abdominal	4	14.8	7	25.9
Head	8	29.6	5	18.5
Extremities	10	37.0	11	40.7
Others	5	18.5	4	14.8

Table 2: Comparison of pretest WBPS score of experimental and control group, (n=54).

Pre-test pain	Experimental		Control	
	N	%	N	%
No pain	0	0	0	0
Pain little bit	0	0	0	0
Pain little more	5	18.5	0	0
Pain even more	6	22.2	13	51.9
Pain whole lot	16	59.3	14	48.1
Pain worst	0	0	0	0

Table 3: Comparison of post-test WBPS score of experimental and control group, (n=54).

Study participants	WBPS		Means difference	Paired t test	P value
	Mean	SD			
Experimental group	1.37	0.742	2	9.58	<0.001
Control group	3.37	0.792			

Table 4: Comparison of pre and post-test mean score of WBPS in the experimental group, (n=27).

Study participants	WBPS		Mean difference	Paired t test	P value
	Mean	SD			
Pre-test score	3.41	0.797	2.04	24.2	<0.001
Post-test score	1.37	0.742			

Table 5: Comparison of pre and post-test mean score of WBPS in the control group, (n=27).

Study participants	WBPS		Mean difference	Paired t test	P value
	Mean	SD			
Pre-test score	3.48	0.509	0.0741	0.625	0.537
Post- test score	3.41	0.797			

Table 6: Categorial association between the post-test pain score and selected demographic variables of the experimental group.

Demographics	Post test pain score, N (%)			Chi-square test	P value
	No pain	Pain little bit	Pain little more		
Age of the child (in years)					
6-9	0	7 (25.9)	4 (14.8)	8.72, df=2	0.013
10-12	4 (14.8)	2 (7.4)	10 (37.0)		
Sex of the child					
Male	4 (14.8)	5 (18.5)	9 (33.3)	2.54, df=2	0.281
Female	-	4 (14.8)	5 (18.5)		
History of previous hospitalization					
Yes	1 (3.7)	2 (7.4)	6 (22.2)	1.20, df=2	0.550
No	3 (11.1)	7 (25.9)	8 (29.6)		
Post operative sedation					
Used	-	5 (18.5)	1 (3.7)	8.77, df=2	0.012
Not used	4 (14.8)	4 (14.8)	13 (48.1		
Administration of analgesics					
Yes	4 (14.8)	8 (26.9)	13 (48.1)	0.501, df=6	0.778
No		1 (3.7)	1 (3.7)		

Table 6 indicates there is a significant association between age group and the post-test pain scale score (at $p<0.013$). There is a significant association between post operative sedation and the post-test pain scale score (at $p<0.012$). There is no association between sex of the child, history of previous hospitalization, administration of analgesics, site of surgery and the post-test pain scale score.

DISCUSSION

The present study aimed to assess the effect of play therapy in reduction of postoperative pain perception among the children ages from (6-12) years in AIIMS Patna. The study was conducted among 54 children with a quantitative approach using nonprobability convenient sampling technique. Data was collected using Wongs baker faces pain rating scale. The pre-test score of experimental groups revealed that the majority of children i. e., around 16 (59.3%) children were experienced pain whole lot, 6 (22.2%) children experienced pain even more and around 5 (18.5%) children experienced pain little more. Whereas in the control group, around 14 (51.9%) children experienced pain even more, and 13 (48.1%) children have experienced pain whole lot. Bharathi et al conducted an experimental study in Karnataka, India, to determine whether play therapy is effective in reducing post-operative pain in children aged 6 to 12 years old. 40 post-operative children between the ages of six to twelve who were having surgery and feeling pain were included in the sample. Purposive sampling was used in their sample process. They employ two distinct tools. Demographic factors in part 1 and 2: Wong's Baker rating scale. Pre-test results for the experimental group showed that, of the 20 children, 9 (45.0%) were hurts even more, 7 (35.0%) hurts whole more and 4 (20.0%) hurts worst. Among the 20 children in the control group prior to the test, the majority of 9 (45.0%) hurts much more, 7 (35.0%) hurts much more, and 4 (20.0%) hurts worst.[6,11,12] The nation's future depends on the success of its school-going children, who represent one-fifth of the population and are the nation's successor generation. Therefore, investing in high-performing students is a valuable investment.[9,13,14]

In terms of the effect of play therapy between the experimental and control group the experimental group showed that the obtained value in experimental group was 9.58 at $p<0.001$ level which is showing that there is a significant difference in the mean pain score among both groups. Hence it is proved that play therapy is effective for post operative children. Bharathi et al conducted an experimental study in Karnataka, India, to determine whether play therapy is effective in reducing post-operative pain in children aged 6 to 12 years old. 40 post-operative children between the ages of six to twelve who were having surgery and feeling pain were included in the sample. Purposive sampling was used in their sample process. They employ two distinct tools. Demographic

factors in part 1 and 2: Wong's Baker rating scale. The findings revealed that obtained t value in experimental group was 11.81 at $p<0.05$ level which is showing that there is a significant difference in the mean pain score among both groups. Hence it is proved that play therapy is effective for post operative children.[6,15,16]

The demographic variables used in this study includes age, sex, history of previous hospitalization, administration of analgesics, post operative sedation, and site of surgery among them the demographic variable age (Chi-square value was 8.72 and df-2, at 0.013 level) and post operative sedation (Chi-square value was 8.77 and df-2, at 0.012 level) shown a statistically significant association with the pain perception on post-test. In control group indicates there were no, demographic variables shown a significant association with the pain score on post-test.

Limitations

The present study had several limitations that may have influenced the findings. Firstly, the sample size was relatively small and limited to a single tertiary care hospital (AIIMS Patna), which restricts the generalizability of the results to a broader population. The study was conducted over a short duration, and the effect of play therapy was only assessed in the immediate postoperative period, without any long-term follow-up to evaluate sustained benefits. Pain perception, being subjective in nature, was assessed using self-report tools, which may vary depending on each child's individual pain threshold, communication ability, and emotional state. Additionally, potential confounding factors such as the type of surgery, anesthesia used, baseline anxiety levels, and presence of parents or caregivers during recovery were not fully controlled.

The study also focused on specific types of play therapy, which may not represent the full spectrum of therapeutic play interventions. Lastly, the children's varying levels of understanding, mood, and cooperation post-surgery may have affected their engagement in play therapy and the accuracy of pain reporting.

CONCLUSION

The Present study was conducted to evaluate the effect of play therapy in reduction of postoperative pain perception among the children ages from (6-12) years in AIIMS Patna. Through extensive analysis of the collected data from the study, it is proved that the play therapy is effective in reduction of postoperative pain perception. Further the study findings showed that the socio-demographic variables like age group and post operative sedation had the statistically significant association with the post-test pain score. Overall, the study concluded that the play therapy is effective in reducing post operative pain among children ages from (6-12) years.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee number for this research is Ref No. AIIMS/Pat/IEC/M.Sc./Nur/01.

REFERENCES

1. Child health. Available at: https://www.who.int/healthtopics/child-health. Accessed on 10 May 2025.
2. Deshpande R, Shah MR. Effectiveness of play therapy on pain and anxiety in children post surgery. Int J Health Sci Res. 2019;9(4):84-9.
3. Chitra B. A study to assess the effectiveness of play therapy in reducing post-operative pain among children aged 2- 5 years who have undergone abdominal surgeries in Institute of child health and hospital for children, Chennai. Thesis at College of Nursing, Madras Medical College, Chennai. 2016.
4. Davidson F, Snow S, Hayden JA, Chorney J. Psychological interventions in managing postoperative pain in children: a systematic review. PAIN. 2016;157(9):1872-86.
5. Datta P. Pediatric Nursing. Available at: https://www.scribd.com/document/686221608/Parul-Datta-Pediatric-Nursing-5E. Accessed on 11 May 2025.
6. Bharathi M, Natekar DS. A Study to Evaluate the Effectiveness of Play Therapy in Reducing Post-Operative Pain among Children Aged 6-12 Years Admitted in Post-Operative Wards, in a Selected Hospital at Bengaluru. Int J Innovat Sci Res Technol. 2018;3(11):281-2.
7. Sethi D, Shaini PC, Kumari H, Umar M, Karthika S, Deepa NR, et al. Evaluating the efficacy of midwifery led-care unit for optimizing maternal and infant health outcomes in India: an evidence based systematic review. Int J Reprod Contracept Obstet Gynecol. 2025;14:1292-300.
8. Umar M, Tripathi S, Saima, Pandey PK, Kumari A, Kumari J, et al. Early initiation of breastfeeding and associated factors among post-natal mothers in selected healthcare sectors, Rohtas, Bihar. Int J Community Med Public Health. 2024;11(8):3101-6.
9. Joseph L, Umar M, Kumari S, Kumar D, Kumari M. A school based cross-sectional study to assess the health problems and health status among school going children at Akhorigola, Rohtas District, Bihar. Int J Community Med Public Health. 2024;11(6):2362-5.
10. Ahmed SA, Ibrahim IA, Mobarak A, Hassan AM. Effect of Aromatherapy Massage on Postoperative Pain Among School Age Children. Assiut Scientific Nursing J. 2020;8(20):91-102.
11. Sadhasivam S, Chidambaran V, Olbrecht VA, Esslinger HR, Zhang K, Zhang X, et al. Genetics of pain perception, COMT and postoperative pain management in children. Pharmacogenomics. 2014;15(3):277-84.

12. Garimella V, Cellini C. Postoperative Pain Control. Clin Colon Rectal Surg. 2013;26(3):191-6.
13. El Sayed R, El-Ghazaly M, Elsheikh O, Atia FM. The Effect of a Planned Play Program as a Nursing Intervention in Reducing Post-operative Pain among Children Undergoing Abdominal Surgeries. IOSR J Nursing Health Sci. 2019;8(1):09-11.
14. RN AG BSN. Lydia Hall: Care, Cure, Core Nursing Theory. Nurseslabs. 2014. Available at: https://nurseslabs.com/lydia-e-halls-care-cure-core theory/. Accessed on 10 May 2025.
15. Jiménez-Moreno C, Aristizábal-Nieto JK, Giraldo-Salazar OL. Classification of Facial Expression of Post-Surgical Pain in Children: Evaluation of Convolutional Neural Networks. Visión Electrónica. 2021;15(1):7-16.
16. Şahiner Y, Özçiftçi S, Doğan G, Önen Özdemir S, Demir E. The effect of parent and child operational stress on postoperative pain level in children. Ann Clin Analytical Med. 2020;11(3):S207-13.

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