

Title of the Article:

“Effectiveness of Art Therapy vs. Play Therapy on level of anxiety among hospitalized Children - A Randomized Controlled Trial.”

*Ms. Pragnya Paramita Bhoi, Prof. Dr. Niyati Das, Mrs. Purnima Sahoo,
Mrs. S.Bhaktiswarupa
Kalinga Institute of Nursing Sciences, KIIT Deemed to be University, Bhubaneswar,
Odisha.

*Corresponding Author:

Tutor, Department of Child Health Nursing, Kalinga Institute of Nursing Sciences,
KIIT Deemed to be University, Bhubaneswar, Odisha

ABSTRACT

Aim : To compare the effect of Art therapy and Play therapy on level of anxiety among hospitalized children

Methods : A randomized controlled parallel group trial was done on 66, 2-4 years hospitalized children for the study. Art therapy and Play therapy was given to two experimental groups and control group received daily routine care. A self structured tool was used for the assessment for anxiety in the hospitalized children.

Results : Between the three groups, there was a statistically significant difference in post test results ($p=0.001$). Art and play therapy are both effective in lowering anxiety in hospitalised children. Play therapy is more beneficial than Art therapy, according to the post hoc analysis. Statically significant association of anxiety was found with the father's education, socioeconomic status, other activities during hospitalization and duration of hospitalization.

Conclusion : It is concluded that anxiety is one of the most common experiences of all hospitalised children, and that it has a detrimental impact on both the length of stay and the quality of nursing care. Art and play therapy helps hospitalised children feel less anxious, which improves the level of care they get. It is less expensive, more convenient, and requires less talents.

Practice Implication : Nurses can improve their ability to implement Art and Play therapies. This approach can be used by nurses as a diversion therapy to help the children relax. Art and play therapy help professionals and children communicate more effectively and improve children's cooperation while they are in the hospital.

Keywords : Anxiety, Art therapy, Play therapy, Hospitalized children

Introduction

Children are priceless beings who will determine how the world will be in a few years. So, if one can make a difference in the life of a child, then the world can change. We can hope for a better future if the majority of them believe along the same lines. The modern world is dynamic and complex. As children get older, they observe the grace and shame that surround them and learn how to live tomorrow. The more confidence you instil in your child, the less he will fall and the better he will grow.

Fear, worry, fantasy, modesty, and privacy are all concerns for children during hospitalization and protracted illness. They adopt a variety of defence mechanisms, including regression, separation anxiety, negativism, sadness, phobia, exaggerated dread, suppression or denial of symptoms, and deliberate attempts at mature behaviour. Nurses should play a critical role in assisting children and their families in successfully coping with hospitalization. Children may experience significant stress as a result of their hospitalization, which may limit their opportunities to play. In addition, hospitalization may limit your ability to play.

Children's health and well-being depend on a healthy start in life. In all communities, children are the most significant age group. Every child has a fundamental right to his or her overall health, and we have a commitment to help children live happy and healthy lives, which is a demanding undertaking that necessitates a method that is carefully planned, organized, and performed by educated individuals. Childhood is a complicated period in which numerous influences interact to influence the health and development of children. Children in foster care face a unique set of challenges at every stage of their development.

Through play and making art, children are free of anxiousness and other hospital-related concerns, and they learn colours, numbers, sizes, and forms, as well as develop various cognitive skills. The children's creative abilities are enhanced, and their attention is redirected away from their illness and parental separation. Making art and playing are two different types of diversional activities that children enjoy. They are both voluntary and motivated activities that provide them pleasure and happiness. Diverse activity is constantly linked to a child's degree of activity, and it also has an impact on their higher functioning. This is also linked to cognitive growth and socialization, and it always encourages learning and involves a variety of skills. When a kid is continuously hospitalized, usually due to a chronic condition or handicap, the role and significance of play rises since it significantly contributes to emotional, mental, and self-confidence and self-esteem. Therapeutic play is defined as a set of activities that take into account a child's psychosocial and cognitive development in order to improve the emotional and physical well-being of hospitalized children.

The treatment procedure can generate a lot of worry and anxiety, which can have a big impact on kids. Nurses must be able to differentiate hospital anxiety levels in children and identify those children who are most likely to display high levels of anxiety when receiving treatment before any intervention or measure to reduce anxiety can be designed, provided, and assessed. According to research, children's anxiety manifests itself in the form of behavioural regression, hostility, a lack of collaboration, withdrawal, and trouble recovering from procedures.

According to a 2013 research, 6.4 million children aged 0 to 17 years are hospitalized each year around the world. As a result, all of these children are frequently hospitalized due to their illnesses. The distinctive qualities and typical events connected with each developmental stage influence how people react and

respond to illness and hospitalization. As a result, nursing techniques must be developed to prepare children and their families for this experience while reducing negative consequences.

Children experience worry and stress as a result of their hospitalizations. Play and art are wonderful ways to communicate, expand social relationships, express emotion, and ultimately lead to new, more valuable life styles. Both preventive and curative actions are included in art therapy. Play therapy is a strategy in which the kid is given the opportunity to develop in the most ideal conditions possible.

Research Objectives

Primary Objective : To compare the effect of Art therapy and Play therapy on level of anxiety among hospitalized children.

Secondary objectives : To associate the selected demographic variables with the anxiety among hospitalized children.

Research Hypothesis :

H₁ - There will be significant difference on the level of anxiety between both Experimental groups and Control group.

H₂ - There will be significant association between anxiety among hospitalized children and selected demographic variables.

Methods

A Randomized Controlled Parallel Group Trial was conducted at Pediatric ward of PBMH, KIMS, Bhubaneswar (Clinical Trials Registry - India). A total of 66 children aged 2-4 years were randomly assigned to three groups using a computer-generated randomization table; Art therapy (n = 22), Play therapy (n = 22) and Control group (n = 22). It was a single blind trial.

Sample selection criteria

Inclusion criteria :

- Children aged 2 to 6 years old who were admitted to the Pediatric Ward at the time of data collection.
- Parents who will provide their child's approval to participate in the study.

Exclusion criteria :

- Mentally impaired children, children with hearing and vision impairments, and children in solitary confinement.

Ethical Consideration

The KIMS Institutional Ethical Committee authorized this study. Before their kid could participate in the experiment, parents were informed about the study's goal and process, and their agreement was obtained.

ASSIGNMENT OF PARTICIPANTS INTO EXPERIMENTAL GROUPS AND CONTROL GROUP

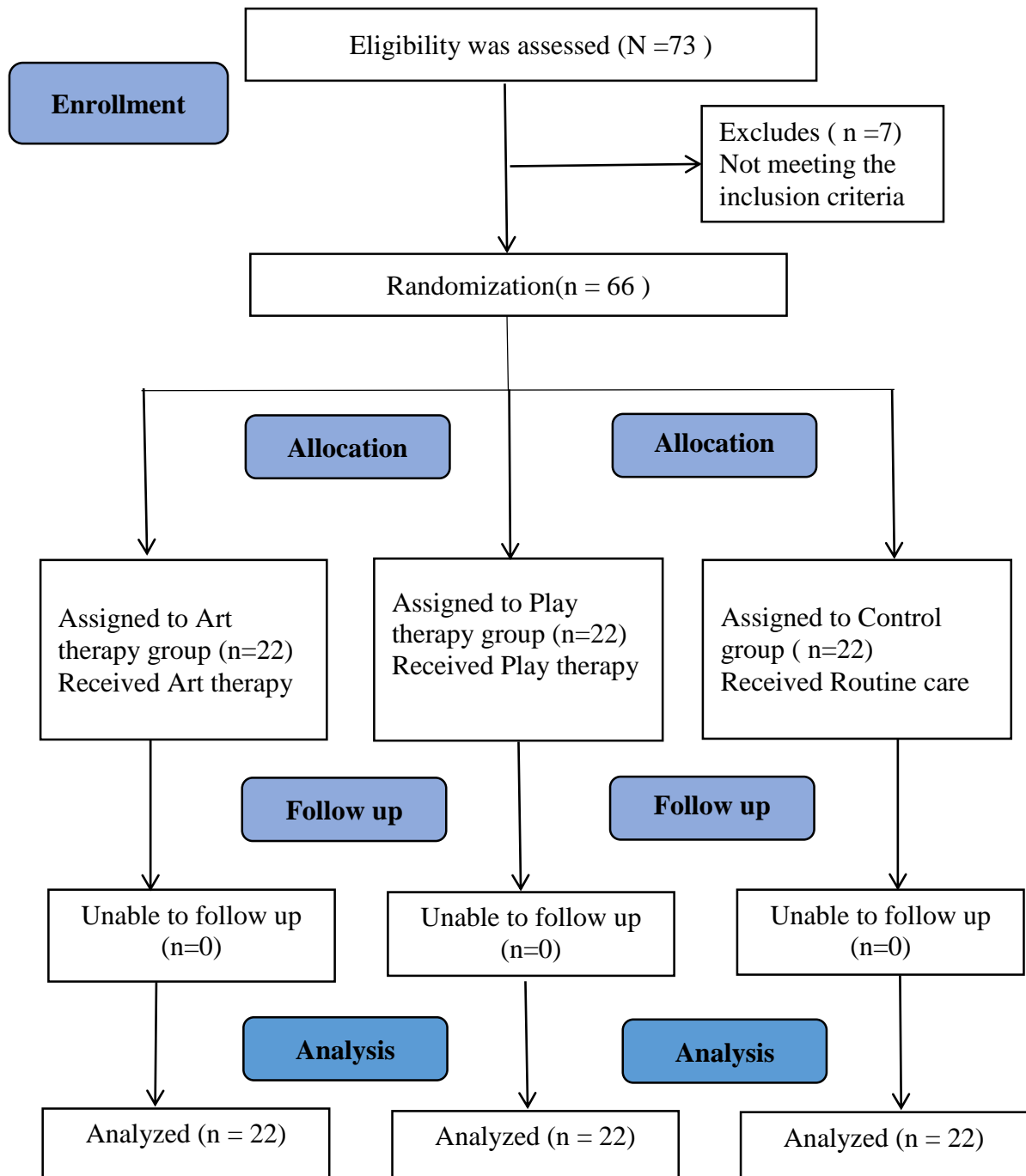


Figure 1 : Flow of the study

Data collection tools

Data were collected by a self structured questionnaire which consists of two sections. Section A includes questions about demographic data and Section B includes questions to assess the anxiety among hospitalized children. The validity and reliability (0.898) of the tool was calculated. Data collection was done by interview and observation method.

Scoring Interpretation :

To measure the level of anxiety among hospitalized children by the total anxiety score, 3 categories were there

0 -31: Mild anxiety

32 - 62 : Moderate anxiety

63 - 93 : Severe anxiety

Procedure

The goal and process of the study were described to the parents, and their consent for their child's participation in the study was obtained. The questionnaire was used to conduct the pre-test, which included a structured interview and observation. According to the randomization table, the art therapy group received 15 minutes of art therapy every day for three days, the play therapy group received 15 minutes of play therapy every day for three days, and the control group received standard routine care. On the third day, all three groups were given a post-test.

Analysis

The data was analysed using SPSS software with a significance level of 0.05. Frequencies and percentages were determined for categorical data in descriptive statistics, whereas Mean and Standard deviation were produced for continuous data. Chi square test, ANOVA, and Posthoc analysis were used in inferential statistics based on the findings of the study.

Results

Among the study population most of the children (92.42%) had mild anxiety, 4.54% children had moderate anxiety and least of them (3.03%) had severe anxiety. (Figure 2)

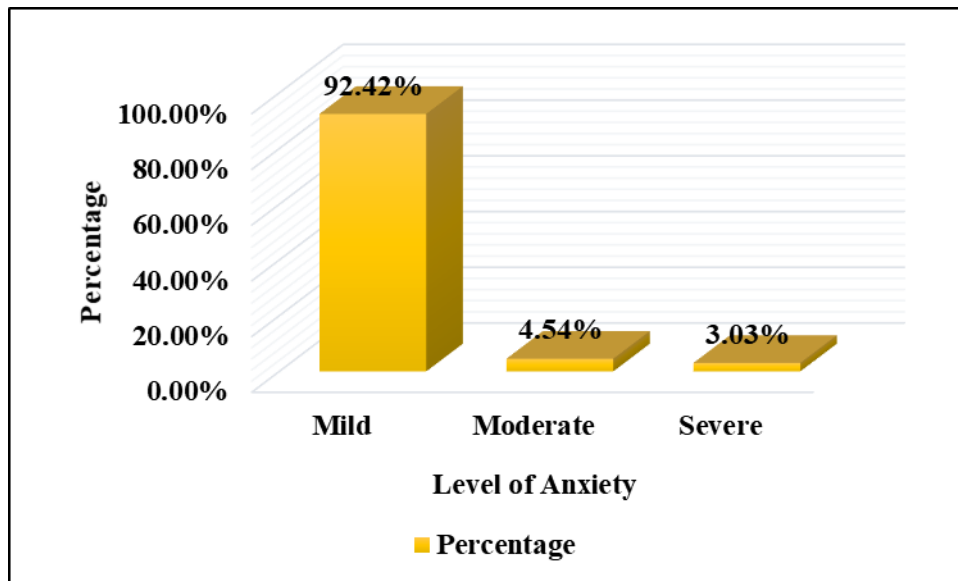


Figure 2 : Distribution of Level of Anxiety in the study population (N=66)

Table 1 : Comparison of difference in anxiety among different groups (N=66)
[One way ANOVA]

Parameter	Study groups			P Value
	Art Therapy Group (n=22)	Play Therapy Group (n=22)	Control Group (n=22)	
	Mean \pm SD	Mean \pm SD	Mean \pm SD	
Pre-test score	26.45 \pm 3.47	29.32 \pm 7.58	27.41 \pm 2.03	0.157
Post test score	20.27 \pm 3.32	17.32 \pm 5.68	27.14 \pm 1.98	<0.001*
Change between pre and post score	6.18 \pm 0.73	12.00 \pm 2.63	0.27 \pm .63	<0.001*

*Statistically significant difference at $p\text{-value} \leq 0.05$

The comparison of difference in anxiety among different groups shows that there was no statistically significant difference of the average of pre test scores among the three groups at baseline ($p=0.157$) i.e. 26.45 \pm 3.47 in Art Therapy Group, 29.32 \pm 7.58 in Play Therapy Group and 27.41 \pm 2.03 in Control Group. But in post test, it was found that there was a statistically significant difference ($p=0.001$) with the average of anxiety scores among three groups. In control group (27.14 \pm 1.98) there is no change in the post test score, whereas in Art Therapy group (20.27 \pm 3.32) and Play Therapy group (17.32 \pm 5.68), marked changes were there. In Art therapy Group the average post test score was more than the Play therapy group. To find out the changes from Pre test to Post test score, again the difference of Pre test score to Post test score was checked. There was a significant difference ($p=0.001$) among the three groups. In

control group($0.27 \pm .63$) there was no changes in Pre to Post test scores. But when the Art therapy vs Play therapy groups were compared, it was resulted that the changes was more in Play therapy group (12.00 ± 2.63) as compared to Art Therapy Group (6.18 ± 0.73). Though both the therapies works in reducing the anxiety, better changes occurred in Play therapy group. (Table 2). To know exactly, in which group the changes was more as comparison to other groups, further the Post hoc analysis was done and it revealed that Play therapy performed better than the Art therapy. Though both the Art therapy and Play therapy performed better than the control group, again I checked between the Art and Play therapy. It was found that Play therapy performed better than the Art therapy.

Table 3 : Association between Difference in Anxiety score with demographic factors and hospitalization factors. (N = 66).

Variables /Factors	Total	Level of Anxiety			P-value
		Mild Anxiety n (%)	Moderate Anxiety n (%)	Severe Anxiety n (%)	
^a Age_in yrs (Mean \pm SD)		4.08 ± 1.31	2.96 ± 0.85	2.40 ± 0.42	0.134
^b Gender					
Male	42	38(90.47%)	03(07.14%)	01(02.38%)	0.631
Female	24	23(95.83%)	0	01(04.16%)	
^b Religion					
Hindu	62	57(91.93%)	03(04.83%)	02(03.22%)	0.980
Muslim	01	01(100%)	0	0	
Christian	03	03(100%)	0	0	
Others	00	0	0	0	
^b Child Education					
Yes	33	33(100%)	0	0	0.438
No	33	28(84.84%)	03(09.09%)	02(06.06%)	
^b Family type					
Nuclear	27	27(100%)	0	0	0.519
Joint	32	28(87.50%)	02(06.25%)	02(06.25%)	
Extended	07	06(85.71%)	02(14.28%)	0	
Single parent	0	0	0	0	
^b Father's education					
Not Studied	1	01(100%)	0	0	0.018*
Primary	3	03(100%)	0	0	
Secondary	12	10(83.88%)	02(16.66%)	0	
Higher secondary	16	15(93.75%)	02(06.25%)	0	
Graduate & above	34	32(94.11%)	0	02(05.88%)	

^bMother's education					
Not Studied	1	01(100%)	0	0	0.746
Primary	3	03(100%)	0	0	
Secondary	15	14(93.33%)	01(06.66%)	0	
Higher secondary	27	25(92.59%)	02(07.40%)	0	
Graduate & above	20	18(90.00%)	0	02(10.00%)	
^bSocioeconomic status					
Upper	10	09(90.0%)	0	01(10.00%)	0.020*
Upper middle	18	17(94.44%)	0	01(05.55%)	
Middle	24	22(91.66%)	02(08.33%)	0	
Lower middle	12	12(100%)	0	0	
Lower	02	01(50.00%)	01(50.00%)	0	
^bPrevious history of hospitalization					
Yes	16	13(81.25%)	02(12.50%)	01(06.25%)	0.673
No	50	48(96.00%)	01(02.00%)	02(02.00%)	
^bPlaying mobile during Hospitalization					
Yes	49	47(95.91%)	01(02.04%)	01(02.04%)	0.339
No	17	14(82.35%)	01(11.76%)	01(05.88%)	
^bAny other activity during Hospitalization					
Yes	11	08(72.72%)	02(18.18%)	01(02.04%)	0.020*
No	55	53(96.36%)	01(01.81%)	01(01.81%)	
^aFrequency of hospitalization in times(Mean \pm SD)		0.34 \pm 0.83	0.67 \pm 0.57	1.00 \pm 1.41	0.819
^aDuration of hospitalization at Pretest_in days (Mean \pm SD)		2.85 \pm 1.19	3.33 \pm 1.55	2.50 \pm 0.71	0.043*
^aDuration of hospitalization at Post test_in days (Mean \pm SD)		4.85 \pm 1.19	5.33 \pm 1.15	4.50 \pm 0.71	0.043*

^aANOVA was done.

^bChi-square test was done.

*Statistically significant at 0.05 level of Significant.

The association of anxiety scores with demographic factors and hospitalization factors. No statistically significant association of anxiety was found with Age of the child ((p=0.134), Gender (p=0.631), Religion (p=0.980), Child's educational status

($p=0.438$), Family type ($p=0.519$), Mother's education ($p=0.746$), Previous hospitalization history ($p=0.673$), Playing mobile during hospitalization ($p=0.339$), Frequency of Hospitalization ($p=0.819$) as the p -values are more than 0.05. Maximum fathers had higher secondary education (93.75%) whose children had mild anxiety and a statistically significant association ($p=0.018$) was found between the Father's education and anxiety. Most of the children were from middle class family who had mild anxiety. There was a significant association ($p=0.020$) found between Socioeconomic status and anxiety. A significant association was found between the anxiety and duration of hospitalization ($p=0.043$). (Table 3)

Discussion

A comparable study comparing the effects of art therapy and play therapy in lowering anxiety in hospitalised preschool children backs up the findings. When ANOVA was used to compare the post-test results of anxiety level between art therapy, play therapy, and the control group, it revealed that the mean post-test anxiety level of play therapy (1.95), art therapy (2.1), and the control group (2.25) was the same. Art therapy is ineffective compared to play therapy. There was a link between the length of stay in the hospital and the amount of anxiety.

This research was supported up by a similar study that compared the effects of art therapy and play therapy in lowering anxiety in children in hospitals. According to the results of the Wilcoxon test, there were significant changes ($p < 0.05$) in anxiety levels before and after each action in the play therapy and art therapy groups. Using the Mann-Whitney U Test, there was no significant difference in anxiety levels between the play therapy and art therapy groups.

Implication for Nurses

Nurses will improve their ability to implement Art therapy and Play therapy. This technique can be used as a diversion therapy to help the youngster relax. Art and play therapy help professionals and children communicate more effectively and improve children's cooperation while they are in the hospital. These are cost effective methods and does not require any special training. Protocols should be developed to use these nonpharmacological methods for anxiety reduction of the hospitalized children.

Limitations

The study was limited to 66 samples only and the total data collection period was only 15 days. Intervention was given only one time in a day for 15 minutes.

Acknowledgement

The authors would like to thank all the participants for being a part of this study. We are very grateful to Mrs. Subhadra Priyadarshini for your immense guidance. Authors would like to express our gratitude to Pradyumna Bal Memorial Hospital and Kalinga Institute of Nursing Science, KIIT Deemed to be University for giving us the platform for the study and for your support.

Declarations

Funding: No funding sources

Conflict of interest: There are no conflicts of interest declared by the author.

Ethical approval : The Institutional Ethical Committee gave its approval to this study.

References

1. RAJ SB. A STUDY TO ASSESS THE EFFECTIVENESS OF ART THERAPY ON ANXIETY LEVEL AMONG HOSPITALIZED. 2016; Available from: <http://repository-tnmgrmu.ac.in/2757/1/3002238bibinrajs.pdf>
2. Patel K, Suresh V, Ravindra H. A study to assess the effectiveness of play therapy on anxiety among hospitalized children. *IOSR Journal of Nursing and Health Science*. 2014;3(5):17-23.
3. Mathew CS, H DC. Effectiveness of origami on hospitalized anxiety among children. *Int J Adv Res Dev*. 2018;3(8):169–73.
4. Dorothy R. Marlow. *Textbook of Pediatric Nursing*. 9th ed. Philadelphia: W.B. Saunder's Company; 2009
5. Dutta P. *Pediatric Nursing*. 4th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2018. 123, 132–133 p.
6. Koukourikos K, Tzeha L, Pantelidou P, Tsaloglidou A. THE IMPORTANCE OF PLAY DURING. Vol. 27, *Mater Sociomed*. 2015.
7. Ramdaniati S, Hermaningsih S. Comparison Study of Art Therapy and Play Therapy in Reducing Anxiety on Pre-School Children Who Experience Hospitalization. *Open J Nursing*. 2016;6(January):46–52.
8. Sharma SK. *Nursing Research & Statistics*. 3rd ed. Haryana: Elsevier Publishers; 2018. 116 p.
9. Malboeuf-Hurtubise C, Léger-Goodes T, Mageau GA, Taylor G, Herba CM, Chadi N, et al. Online art therapy in elementary schools during COVID-19: results from a randomized cluster pilot and feasibility study and impact on mental health. *Child and Adolescent Psychiatry and Mental Health*. 2021 Mar 6;15(1):15.
10. Bosgraaf L, Spreen M, Pattiselanno K, van Hooren S. Art Therapy for Psychosocial Problems in Children and Adolescents: A Systematic Narrative Review on Art Therapeutic Means and Forms of Expression, Therapist Behavior, and Supposed Mechanisms of Change. *Front Psychol*. 2020;11:584685. Published 2020 Oct 8. doi:10.3389/fpsyg.2020.584685
11. Hemavathy V, Ranjita P, St AB, Ct RA. PRE OPERATIVE ANXIETY AMONG CHILDREN UNDERGOING SURGERY AT SELECTED HOSPITAL , CHENNAI. *Int J Curr Adv Res*. 2019;8(06):15–6.
12. Kamini P. Sao, Archana Maurya, "Effectiveness of Art Therapy on Level of Anxiety among Hospitalized Children", *International Journal of Science and Research(IJSR)*, https://www.ijsr.net/search_index_results_paperid.php?id=ART20176093, Volume 6 Issue 8, August 2017, 974 - 977
13. Paul M, Das N, Sahoo P. Effectiveness of Play Therapy during Hospitalization in reducing Anxiety among 6-12 Years Children in the Selected Tertiary Hospital at Bhubaneswar. *J Adv Res Psychol Psychother* 2020; 3(3&4): 8-14.
14. Li WHC, Chung JOK, Ho KY, Kwok BMC. Play interventions to reduce anxiety and negative emotions in hospitalized children. *BMC Pediatr*. 2016 Mar 11;16:36. doi: 10.1186/s12887-016-0570-5. PMID: 26969158; PMCID: PMC4787017.

15. Mohan S, Nayak R, Thomas RJ, Ravindran V. The Effect of Entonox, Play Therapy and a Combination on Pain Relief in Children: A Randomized Controlled Trial. *Pain Manag Nurs*. 2015 Dec;16(6):938-43. doi: 10.1016/j.pmn.2015.08.004. Epub 2015 Nov 3. PMID: 26545731.
16. Ullán AM, Belver MH, Fernández E, Lorente F, Badía M, Fernández B. The effect of a program to promote play to reduce children's post-surgical pain: with plush toys, it hurts less. *Pain Manag Nurs*. 2014 Mar;15(1):273-82. doi: 10.1016/j.pmn.2012.10.004. Epub 2012 Dec 28. PMID: 23273827.
17. Patel K, Suresh V, Ravindra H. A study to assess the effectiveness of play therapy on anxiety among hospitalized children. *IOSR Journal of Nursing and Health Science*. 2014;3(5):17-23.
18. William Li HC, Lopez V, Lee TL. Effects of preoperative therapeutic play on outcomes of school-age children undergoing day surgery. *Res Nurs Health*. 2007 Jun;30(3):320-32. doi: 10.1002/nur.20191. PMID: 17514706.5.
19. Dalei SR, Nayak GR. Compare the effect of art therapy and play therapy in reducing anxiety among hospitalized preschool children in selected. *J Biomed Sci*. 2019;1343:26823.
20. Ramdaniati S, Hermaningsih S. Comparison Study of Art Therapy and Play Therapy in Reducing Anxiety on Pre-School Children Who Experience Hospitalization. *Open J Nursing*. 2016;6(January):46–52.
21. Erdogan B, Aytekin Ozdemir A. The Effect of Three Different Methods on Venipuncture Pain and Anxiety in Children: Distraction Cards, Virtual Reality, and Buzzy® (Randomized Controlled Trial). *J Pediatr Nurs*. 2021 May-Jun;58:e54-e62. doi: 10.1016/j.pedn.2021.01.001. Epub 2021 Jan 21. PMID: 33485746.
22. Özalp Gerçekler G, Ayar D, Özdemir EZ, Bektaş M. Effects of virtual reality on pain, fear and anxiety during blood draw in children aged 5-12 years old: A randomised controlled study. *J Clin Nurs*. 2020 Apr;29(7-8):1151-1161. doi: 10.1111/jocn.15173. Epub 2020 Jan 22. PMID: 31889358.
23. Çelikel Ş, Tural Büyük E, Yıldızlar O. Children's Pain, Fear, and Anxiety During Invasive Procedures. *Nurs Sci Q*. 2019 Jul;32(3):226-232. doi: 10.1177/0894318419845391. PMID: 31203776.
24. Sahiner NC, Bal MD. The effects of three different distraction methods on pain and anxiety in children. *J Child Health Care*. 2016 Sep;20(3):277-85. doi: 10.1177/1367493515587062. Epub 2015 Jun 2. PMID: 26040282.
25. Franzoi MA, Goulart CB, Lara EO, Martins G. Music listening for anxiety relief in children in the preoperative period: a randomized clinical trial. *Rev Lat Am Enfermagem*. 2016 Dec 19;24:e2841. doi: 10.1590/1518-8345.1121.2841. PMID: 27992027; PMCID: PMC5171712.
26. Nguyen TN, Nilsson S, Hellström AL, Bengtson A. Music therapy to reduce pain and anxiety in children with cancer undergoing lumbar puncture: a randomized clinical trial. *J Pediatr Oncol Nurs*. 2010 May-Jun;27(3):146-55. doi: 10.1177/1043454209355983. PMID: 20386063.
27. Reed PG. The force of nursing theory guided- practice. *Nurs Sci Q*. 2006 Jul;19(3):225
28. Pandey VK, Aggarwal P, Kakkar R. Modified BG prasad socio-economic classification, update - 2019. *Indian Journal of Community Health*. 2019 Mar;31(1):123-125)

29. Hemavathy V, Ranjita P. PRE OPERATIVE ANXIETY AMONG CHILDREN UNDERGOING SURGERY AT SELECTED HOSPITAL , CHENNAI. Int J Curr Adv Res. 2019;8(06):15–6.
30. Ajithakumari G, Hemavathy V. Art therapy reduces anxiety. Pondicherry J Nurs. 7(3):46–8.
31. Manuel J, Quiles O, García GG, Chellew K, Vicens EP, Marín AR, et al. Identification of degrees of anxiety in children with three- and five-face facial scales. 2013;25(4):446–51.