



# EFFECTIVENESS OF ORIGAMI ON ANXIETY AMONG HOSPITALIZED CHILDREN IN A TERTIARY CARE HOSPITAL- A PILOT STUDY

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## ABSTRACT

**Background & objectives:** Play is a work of a child which develops their physical, intellectual abilities. Hospitalization is a stressful and threatening experience, which can be emotionally devastating to children. Making origami is a range of voluntary and motivated activities which creates pleasure and enjoyments in children during hospitalization. The objective of the study was to evaluate the effectiveness of origami on anxiety among hospitalized children.

**Methods:** A Pre-experimental research design was adopted for this study which was conducted among 18 hospitalized children (aged between 8-10years) admitted to the Pediatric ward. Purposive sampling technique was used to select the sample. The tool consists of two parts- one semi structured questionnaire was used to assess the socio-demographic data of child and child reaction and Hospital anxiety assessment rating scale was used to assess level of anxiety among hospitalized child.

**Results:** The pilot study result showed that during pretest 11.1 % (2) children had mild anxiety, 61.1% (11) had moderate anxiety, and 27.8% (5) had severe anxiety. During posttest, 72.2% (13) had mild anxiety, 27.8% (5) had moderate anxiety and there were no children with severe anxiety.

**Interpretation & Conclusion:** In the light of present study result depicted that origami helps children to adapt better to unpleasant situations, especially during hospitalization. This healthy adaptation promotes quick recovery from their illness.

**Keywords:** Effectiveness, Origami, Anxiety, hospitalized Children

## INTRODUCTION

Play is ways of livings and work for children and it is also pleasurable, enjoyable aspect of child's life and essentials to promote growth and development. Children express their fear, anxiety, anger, joy, etc. during play which reduces stress and strain and removes irritabilities and destructiveness, thus enhances the coping abilities.<sup>1</sup> Through the universal medium of play children learn what no one can teach them. They learn about their world and how to deal with this environment, time, space, structure, and people.<sup>2</sup>

Hospitalization breaks in the normal habit of the child and unity of the family which is a frightening, stressful experience for children.<sup>3</sup> During hospitalization, children experienced with multiple stressors which provoked with high anxiety level.<sup>4</sup>

In accordance with the theory of the stage of psychosocial development of school children which suggests that school children begin to develop their desires by exploring the surrounding environment. Children will also feel satisfied and proud of their ability to produce something as their achievement.<sup>5</sup>

Origami, art of paper folding is a range of voluntary and motivated activities which creates pleasure and enjoyments in children.<sup>6</sup> During hospitalization, origami methods can be used as a therapy to reduce anxiety and which provides both mental and physical stimulus with exercise. It also helps to develop hand-eye coordination, fine motor skills and mental concentration. Origami provides an opportunity for children to make various shapes from the results of folding paper and at this age, children will feel proud of something that has been produced.

## MATERIALS AND METHODS:

The pre-experimental research design was adopted for this pilot study. The study was conducted among 18 children aged between 8-10 years who were admitted to the Pediatric ward, AIMS, Kochi. At first, Ethical permission obtained from the Ethical Committee of Amrita Institute of Medical Sciences. Based on inclusion criteria, sample were selected by using purposive sampling technique. After establishing rapport with the child and explaining the importance of the study to the parent, informed consent was obtained from each parent of the child. Data was collected with the help of semi structured questionnaire and child responses were observed. After that, the investigator had done the pretest assessment on level of anxiety using the hospital anxiety assessment rating scale.

Child encouraged to make origami as per their preference for the next four consecutive days. The investigator spent 30-40 minutes for each participant for preparing origami. On the fourth-day of the study, posttest was conducted by using the hospital anxiety assessment rating scale to identify the changes in anxiety level among hospitalized children.

### Data collection instrument

**Tool 1: Semi structured questionnaire to assess the socio-demographic data of child and child reaction.**

The demographic variable included are age, sex, birth orders, place, type of family, income, religion, previous exposure to the hospital, number of hospitalization within last one year, reason for previous hospitalization and care taker of the child.

**Tool 2: Hospital anxiety assessment rating scale to assess level of anxiety among hospitalized child.**

A Hospital Anxiety Assessment rating scale to assess the hospital anxiety among children. The researcher consisting of 20 behavioral responses on different aspects prepared it. It has three aspects mainly reaction during vocalization, cooperation during hospitalization and reaction related to bodily injury and pain. The above three aspects have specific items under each heading such as, a) Reaction during vocalization – 7 items, b) Co-operation during hospitalization – 9 items  
c) Reaction related to bodily injury and pain – 4 items.

**Scoring key:** The score indicates, 1 mark → never exhibits the behavior, 2 mark → sometimes exhibits the behavior, 3 mark → always exhibits the behavior. . Scoring procedure score anxiety level 20-33 →Mild Anxiety, 34-46 →Moderate Anxiety, 47-60 →Severe Anxiety.

**Software Used for Data Entry, Compilation and Statistical Analysis:** Data analysis was done using the SPSS 20.0 version. In this study, the quantitative data were expressed in terms of descriptive statistics. Paired t-test had been used to test the statistical significance of mean pretest & posttest in the level of anxiety. The effectiveness of origami on level of anxiety was represented as percentages with 95% confidence interval.

### Results:

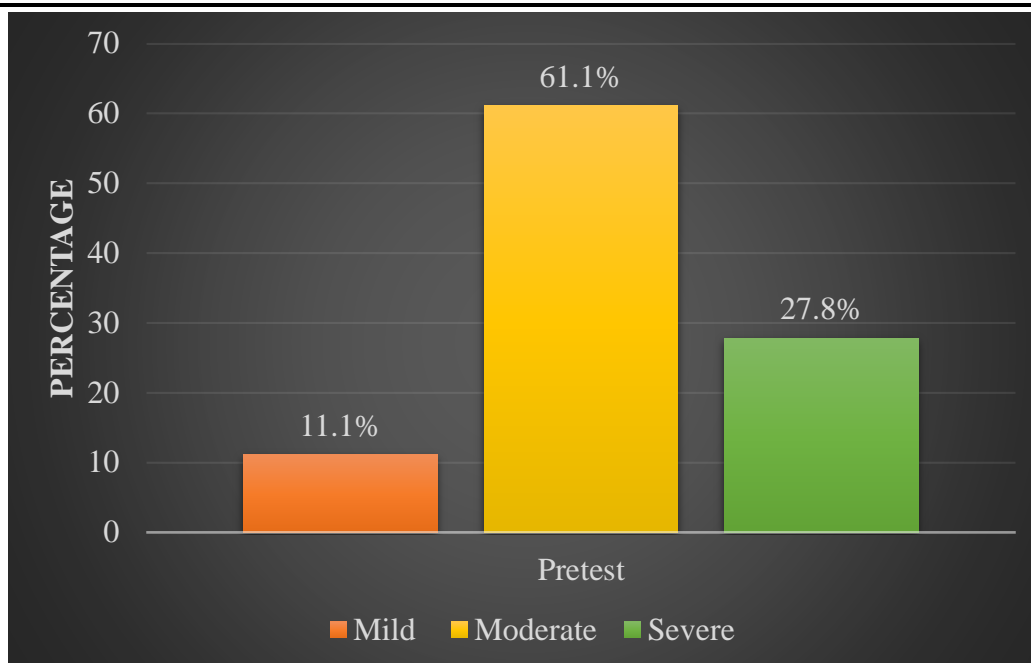
The pretest result showed that 94.4%(17) children were afraid of coming to hospital, 88.9%(16) of children were afraid of hospitalization, 55.6%(10) children hadn't visit the play room, and also not cooperating with medical personals, They had lack of appetite after hospitalization, and showed angry towards their parents. In posttest, 88.9% (16) of children were cooperating with medical personals, 66.7% (12) children had feel of appetite after hospitalization, and 83.3% (15) of them didn't shows angry towards their parents.

During pretest, 72.2% (13) children parents participate in any kind of play after hospitalization. After posttest, 77.8% (13) children parents participate in any kind of play after hospitalization.

After hospitalization, 83.3% (15) children didn't get comfortable sleep in the hospital, but after introducing origami therapy, 94.4 % ( 17) got comfortable sleep in the hospital. 100% (18) children were interested to play with other children, 88.9% (16) children care givers or sisters allowed them to play in the play room. 100% (18) children were interested in play during hospitalization.

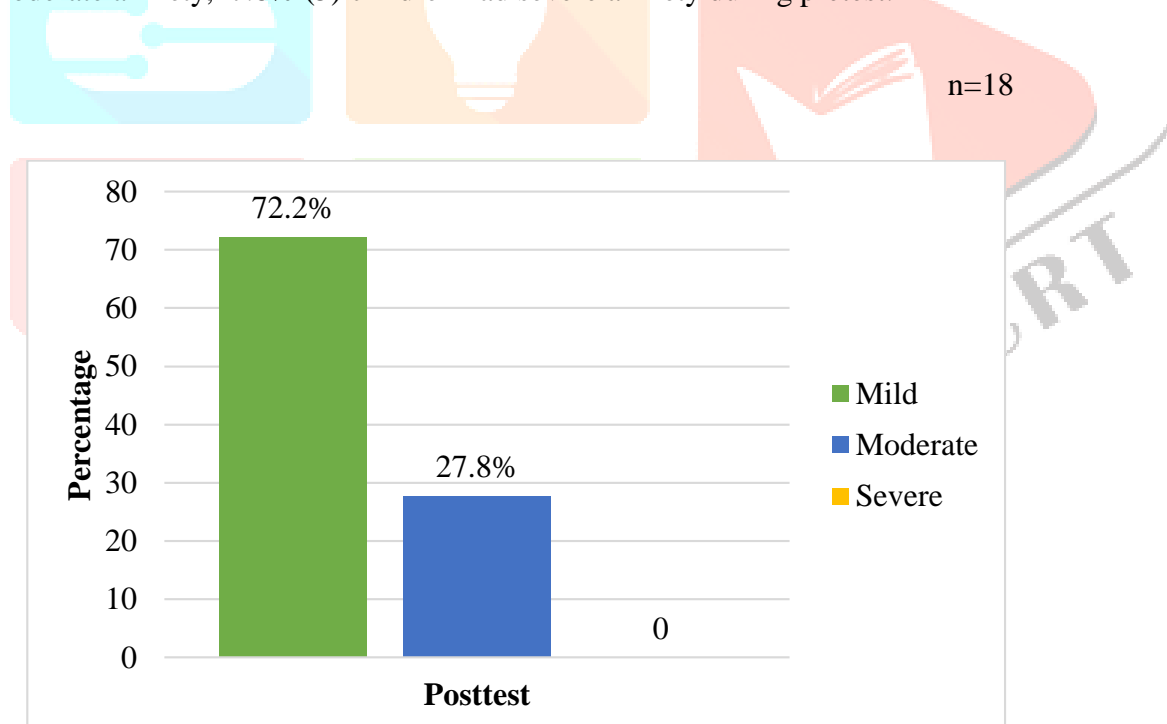
Before origami therapy, 61.1% (11) children are worried about the separation from the siblings, after origami therapy, 61.1% (11) children were not worried about the separation from the siblings.

n=18



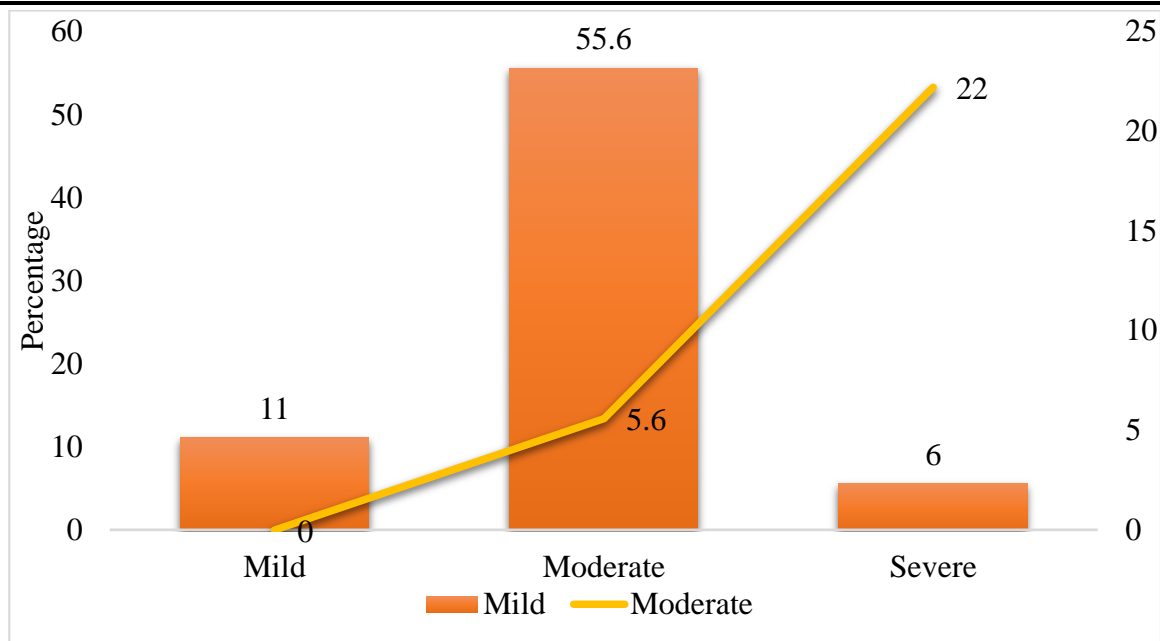
**Fig 1: Level of Anxiety Score among Hospitalized Children in Pretest**

Based on level of anxiety, the figure 1: showed that 11.1% children (2) had mild anxiety, 61.1% (11) had moderate anxiety, 27.8% (5) children had severe anxiety during pretest.



**Fig 2: Level of anxiety score among hospitalized children in posttest.**

Figure: 2 depicts that during posttest, 72.2% (13) children had mild anxiety, 27.8% children (5) had moderate anxiety and there was no children with severe anxiety.



**Fig: 3: Effectiveness of origami on reduction of level of anxiety among hospitalized in pretest and posttest.**

Based on Effectiveness of origami on reduction of level of anxiety, Figure 3: illustrated that 11.1% (2) of children remains same as mild anxiety, none of the children anxiety level increases from mild to moderate. 55.6% (10) of the children anxiety level changes from moderate to mild level, 5.6% (1) of children remains same as moderate anxiety level. 5.6% (1) of the children anxiety level changes from severe to mild level, 22.2% (4) of the children anxiety level changes from severe to moderate.

## DISCUSSION

The children are passive creatures who are molded by environment if they fall in illness, their understanding and interpretations from external sources are unable to predict.<sup>7</sup> Quality of life is essential for assessing the overall physical, psychological and social well-being of children.<sup>8</sup>

All children are at high risk during hospitalization because of fear which are related to the unfamiliarity with people, surrounding and events. During a serious illness, children have a great need for their parents and can tolerate their absence only for short periods. The child can find acceptable outlets for hostilities through play activities.

Christy, Mathew S conducted a study to assess the effectiveness of origami on hospitalized anxiety among children admitted in pediatric ward aged between 6-12 years. During pre-test there was 12 (60%) children in experimental group and 15 (75%) children in control group had mild level of anxiety and 8 (40%)

children in the experimental group and 5 (25%) children in the control group had moderate level of anxiety and there was no children who had severe level of anxiety. During posttest, 18 (90%) of the children in experimental group and 17(85%) children in control group had mild level of anxiety, 2(10%) children in the experimental group and 3(15%) children in the control group had moderate level of anxiety and there was no children who had severe level of anxiety. So the posttest reveals that 90% of children in the experimental group had reduction in the anxiety level and 15% children in the control group had reduction in the anxiety level. The results showed that both the groups had difference in exhibiting the hospitalized anxiety; however the experimental group children could adapt faster than the control group children.(mean difference of both the groups= 3.45).<sup>9</sup>

Hospitalization may leads to increase the stress and anxiety level among children and parents. An excessive or persistent state of anxiety can have a devastating effect on child's physical and mental health.

To investigate the effect of play-based occupational therapy on pain, anxiety, and fatigue in hospitalized children with cancer who were receiving chemotherapy, Mohammadi A, Mehraban AH, Damavandi SA was conducted the study and result showed that play-based occupational therapy can be helpful in reducing the symptoms of hospitalized children with cancer <sup>10</sup>

Altay N, Kilicarslan-Toruner E, Sari C conducted a study on to determine the effect of the drawing and writing technique on the anxiety level of children undergoing cancer treatment in hospital. Scores on the State Anxiety Inventory were lower-indicating lower anxiety-after the intervention ( $36.86 \pm 4.12$  than before it ( $40.46 \pm 4.51$ ) ( $p < 0.05$ ).The therapeutic intervention reduced children's state anxiety.<sup>11</sup>

It is necessary to plan a conducive environment to hospitalized children, recruit nursing personnel with appropriate skills and training with techniques in conducting organized developmentally appropriate play sessions as a rehabilitation measure in pediatric wards.<sup>12</sup> As nurses, when we create a stimulating environment, the children automatically move on to a higher level of functioning and thinking which improve their intellectual skill.<sup>13</sup>

Sao KP, Maurya A. conducted a study to assess the effectiveness of art therapy on level of anxiety among hospitalized children The calculated 't' value (26.16) of experimental group is higher than the tabulated 't' value (2.045) at 5% level of significance. There was statistically significant decrease on the level of anxiety in posttest of the experimental group at the level of  $P < 0.05$ .<sup>14</sup>

It is absolutely necessary to adjust better to uninviting experience, especially during the time of hospitalization. Origami is empowering, when a child is able to create something out of nothing but plain paper, it fills his heart with courage, self-esteem, a feeling of achievement. It also helps hospitalized children to divert their mind from pain and loneliness. Despite of small sample size, the study was showed that children were anxious in the pre-test and after origami therapy, they were not anxious or reduced level of anxiety. It is very effective in reducing the level of hospitalized anxiety. The study was limited in children with age 8-10years and four days observation. Further studies with a large sample size should be carried out in future to get a clear picture. Similar study can be conducted with using control group. Hence it indicates that, a supervised and guided origami therapy provides warmth, friendly and pleasant atmosphere to the children during hospitalization.

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**References:**

1. Dutta P. Pediatric Nursing. 2nd Edi. Jaypee Brothers Medical publisher Pvt limited, New Delhi; 2009. P-132.
2. Hockenberry MJ, Wilson D. Wong's Essential of pediatric Nursing, 8<sup>th</sup> Edi. South Asian Ed. 2009. P: 83.
3. Beevi A .Concise Text Book of Pediatric Nursing. 2<sup>nd</sup> edition. Elsevier Publication. New Delhi; 2019. P- 261-272
4. Pajapati KK, Samprasad K, Doss K. A Study to Assess the Effectiveness of Play Therapy on Anxiety among Hospitalized Children (6–12 Years), at Selected Hospital Rajkot. International Journal of Nursing Education and Research. 2019; 7(2):218-20.  
Available from:  
<http://ijneronline.com/HTMLPaper.aspx?Journal=International%20Journal%20of%20Nursing%20Education%20and%20Research;PID=2019-7-2-18>
5. Pribadi T, Elsanti D, Yulianto A. Reduction of anxiety in children facing hospitalization by play therapy: origami and puzzle in lampung malahayati international journal of nursing and health science, volume 01, no.1, march 2018: 29-35.



Available from: [Http://www.ejurnalmalahayati.ac.id/index.php/nursing/article/viewfile/850/pdf](http://www.ejurnalmalahayati.ac.id/index.php/nursing/article/viewfile/850/pdf)

6. Jisha Susan Varghese, Ravichandran, Rebecca Samson, Sujatha. S. Origami and Manifested Behaviour in Hospitalized Children. *Int. J. of Advances in Nur. Management.* 2018; 6(2): 115-119. Available from: <http://ijanm.com/AbstractView.aspx?PID=2018-6-2-10>
7. Chitra P, Jeenu KM. Science of Unitary Human Beings-Abstract System on Exploration of Environmental Stressors among Sick Children at Amrita Institute of Medical Sciences, Kochi, Kerala. *IJPEN.*:151.
8. Raj M, Sudhakar A, Roy R, Champaneri B, Sudevan R, Kabali C, et al. Health-related quality of life (HRQOL) in children and adolescents with congenital heart disease: A cross-sectional survey from South India. *BMJ Paediatr Open* 2019;3(1).
9. Mathew CS, Daly Christabel H. Effectiveness of origami on hospitalized anxiety among children. *International Journal of Advanced research Development.* 2018; 3(8):169-173.  
Available from:  
<https://pdfs.semanticscholar.org/5e4d/a4da0b908858f4f80759bfb65b8d6d239563.pdf>
10. Mohammadi A, Mehraban AH, Damavandi SA. Effect of play-based occupational therapy on symptoms of hospitalized children with cancer: A single-subject study. *Asia Pac J Oncol Nurs.* 2019 Oct 31; 4: 168-72.  
Available from: <http://www.apjon.org/text.asp?2017/4/2/168/204482>
11. Altay N, Kilicarslan-Toruner E, Sari C. The effect of drawing and writing technique on the anxiety level of children undergoing cancer treatment. *European Journal of Oncology Nursing.* 2017 Jun 1; 28:1-6. Available from: <https://europepmc.org/abstract/med/28478846>.
12. Bhama OM, Anila KP, Philip TA. Effectiveness of an organized play session among hospitalized children and parents' attitude. *Indian Journal of Public Health Research & Development.* 2018;9(8):137-42.
13. Krishna D, Perathur A, Jayakrishnan R, Anju AS, Vijayan S. Perceived trigger factors and control measures among patients with asthma. *Indian J Public Health Res Dev* 2019;10(8):348-354.
14. Sao KP, Maurya A. Effectiveness of Art Therapy on Level of Anxiety among Hospitalized Children. *International Journal of Science and Research.* 2017 Aug; 6(8):974-977. Available from: <https://www.ijsr.net/archive/v6i8/ART20176093.pdf>