



## Effectiveness of origami on hospitalized anxiety among children

Christy Susan Mathew<sup>1</sup>, Daly Christabel H.<sup>2</sup>

<sup>1</sup>Assistant Professor, Sree Mookambika College of Nursing, Kulasekharam, Tamil Nadu

<sup>2</sup>Professor, Sree Mookambika College of Nursing, Kulasekharam, Tamil Nadu

### ABSTRACT

*Playing is vital for a child's sensory, motor, and cognitive development. Playing is a diversional activity which reduces stress in children. Hospitalized children will regress with the skills that they had previously mastered. This concept helps to minimize the emotional trauma to the children and their parents for better adjustment during the hospital stay. The study was quantitative research with an evaluative approach. The study was conducted in the Pediatric ward of Sree Mookambika Medical College Hospital. Data collection period was one month. The population was hospitalized children. Samples were children, admitted to the Pediatric ward, aged between 6-12 years. Purposive sampling technique was used to allocate children into experimental and control group. The sample size was 40 (20 children in each experimental and Control group). The tools used for data collection were demographic variables and Hospitalized Anxiety Assessment Checklist. The findings show that 18 (90%) children in the experimental group and 17 (85%) children in the control group had a mild level of anxiety during post-test as when compared with the Pre-test. There is a statistically significant difference between the pre-test and post-test level of hospitalized anxiety among experimental group and control group ( $p < 0.05$  level). There is a statistically significant association between hospitalized anxiety and the selected demographic variables such as age and caretaker of the child in an experimental group and caretaker of the child in the control group.*

**Keywords**— Effectiveness, Origami, Hospitalized Anxiety, Children

### 1. INTRODUCTION

*"The playing adult steps sideward into another reality, the playing child advances forward to new stages of mastery."*

Erik. H. Erikson

The concept of health and illness are changing. The segment of lifespan that extends from age 6 years to 12 years has a variety of labels. As children enter the school years, their play takes on new dimensions that reflect a new stage of development. Children of school-age will have a developmental task of industry versus inferiority.

Illness threatens both the physical and psychological development of children. Sickness causes pain, restraint of movement, long sleepless periods, restriction of feeds, separation from parents, and home environment which may

result in emotional trauma. Hospitalization and prolonged illness can retard growth and development and cause adverse reactions in the child based on stages of development.

During hospitalization and prolonged illness, the children are concerned with fear, worry, fantasies, modesty, and privacy. They react with defense mechanisms like regression, separation anxiety, negativism, depression, phobia, unrealistic fear, suppression or denial of symptoms and conscious attempts of mature behavior. Nurses should play a vital role in helping out the children and the family members to cope effectively with hospitalization. Hospitalization can produce major stressors for children that may limit their opportunities for play. Additionally, hospitalization may reduce the opportunity to play.

Children are free from anxiety and other hospital-related stresses and also they learn colors, numbers sizes and shapes through play (ie) by making Origami-like a paper boat, airplanes, fortune-teller etc., and the child enhances their creative skills and gets diverted from their illness and parental separation. The diversional activity of making Origami is a range of voluntary and motivated activities which creates pleasure and enjoyments in children. Diversional activity is always associated with a child's level of activity and also influences the children's higher functioning. This is also associated with cognitive development and socialization and always promotes learning and also incorporates several behavioral changes in children.

### 2. STATEMENT OF THE STUDY

A Study to Assess the Effectiveness of Origami on Hospitalized Anxiety among Children admitted in Pediatric Ward of Sree Mookambika Medical College Hospital, Kulasekharam, Kanyakumari District, Tamilnadu, India.

### 3. OBJECTIVES

The objectives of the study were:

- To find the pretest and post-test level of hospitalized anxiety among children of the experimental group and the control group.
- To determine the effectiveness of Origami on hospitalized anxiety among children of the experimental group with the control group.
- To find the association between hospitalized anxiety among children with the selected demographic variables

## 4. MATERIALS AND METHODS

### 4.1 Research Approach

The Research approach used was Quantitative research approach.

### 4.2 Research design

The Research design used was two Group Pre-test Post-test Quasi-experimental research design.

### 4.3 Setting

The study was conducted in Paediatric wards of Sree Mookambika Medical College Hospital Kulasekharam Kanyakumari District.

### 4.4 Population

All hospitalized school-age children in the age group of 6-12 years who are admitted to the pediatric ward of Sree Mookambika Medical College Hospital.

### 4.5 Sample and sampling technique

Sample size consists of 40 children who are admitted in Paediatric Ward of Sree Mookambika Medical College Hospital, Kulasekharam. They were selected by purposive sampling technique.

### 4.6 Sampling criteria

#### Inclusion criteria

- Children admitted to the pediatric ward during data collection.
- Children admitted for more than 3 days
- Both male and female children
- Children with any kind of illness.
- Conscious child
- Children who are ambulated after surgery.

#### Exclusion criteria

- Critically ill and immediate post-operative children
- Children who are physically and mentally challenged
- Children with complications such as unconsciousness, severe burns

### 4.7 Tool

Data collection tools are the procedures or instruments used by the researcher to observe or measure the key variables in the research problem.

After wide reading, the researcher developed the tool as per the following:

**Section A:** The demographic variables such as age, sex, birth order, place of birth, type of family, income, religion, previous exposure to the hospital, number of hospitalization within last one year, the reason for the previous hospitalization and caretaker of the child.

**Section B:** A Hospital Anxiety Assessment Checklist to assess the hospital anxiety in children. It was prepared by the researcher consisting of 20 behavioral responses in different aspects. It has got three aspects namely reaction during vocalization, cooperation during hospitalization and reaction related to bodily injury and pain. The above three aspects had 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

### 4.8 Scoring key

The score indicates:

- Never → 1  
Sometimes → 2  
Always → 3

## 5. DESCRIPTION OF THE INTERVENTION

Handicrafts or origami are the toys made of paper. They are constructed in several ways, by folding, or by cutting, decorating or assembling pieces of paper with glue or tape to create a paper doll or paper model. The investigator had gained skill in making the handicrafts (origami), mainly boat, tree, Christmas tree, airplanes, hat, crown, snapper, fortune teller, jumping frog, butterfly, and hanging snowflakes, for the children between 6-10 years of age. The child was given an option to make the origami based on his/ her preference among the toys mentioned. The origami was made out of color paper/ newspaper/ plain paper, which was provided by the investigator. The choice of the paper was also based on the child's preference. The first step in making the toy was initiated by the investigator and was asked to repeat by the child, as it was explained to the child. The child was appreciated on completion of the toy. If the child is not able to complete the toy, the child will be helped by the investigator to redo the Origami.

### 5.1 Reliability of the Tool

The reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring.

The tool after validation was subjected to test for its reliability. The reliability was established and it was found to be  $r = 0.9$  which indicate that the tool is reliable.

### 5.2 Data Collection Procedure

The data collection was done from 01.02.2017 to 29.02.2017. The investigator introduced self to the child and the family and also explained the purpose of conducting the study. A good rapport was created between the child and the family and then got their oral consent.

The demographic variables were collected with the help of an interview questionnaire and the responses were documented. After that, the investigator has done the pre-test assessment of hospital anxiety using the hospital anxiety assessment checklist for both the experimental group and the control group.

Before introducing Origami, the investigator had explained origami to the children of the experimental group (20). Then the investigator made the child sit comfortably on the bed and ensured that the child is free from pain, hunger, and sleep. The child was encouraged to make toys of his/her preference for the next three consecutive days, as per the child's interest. On the third-day post-test was conducted at the end of the day using the checklist to identify the change in anxiety.

For the control group children (20), the post-test was conducted on the third day, after the routine play in the ward like watching television, children playing with their own toys. Using the same checklist, anxiety was identified during the post-test. The post-test observations were made at the end of the day and the investigator sees that the child is free from pain, hunger, and sleep during the time of observation.

After completing everything, the investigator extended her thanks towards the participants and the caregiver for their full co-operation. For each child, it takes about 15-30 minutes for making a toy. There were no drop-outs of children from the Experimental and Control Group.

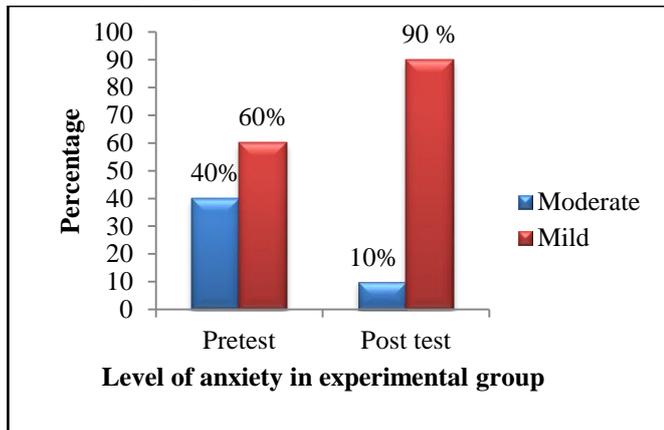
## 6. MAJOR FINDINGS OF THE STUDY AND DISCUSSION

The data are organized and presented in the following four sections:

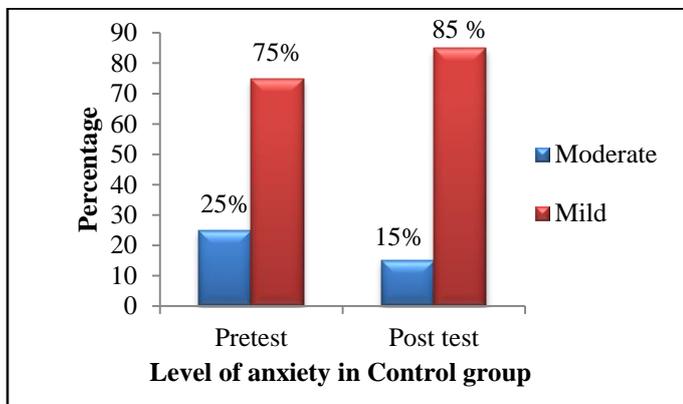
**Section1:** Distribution of samples according to demographic variables.

Maximum number of children was 6-8 years old (50%), most of them were boys (55%), majority of the children were of first child in the family (50%), most of them live in the urban area 70%, most of the children belong to nuclear family 65%, 65% of children were Hindus, 60% of the children do not have the previous history of hospitalization, some of the children had reason for some medical illnesses and most of the children had mother as their caretaker in the hospital.

**Section 2:** Distribution of samples according to the level of anxiety during hospitalization.



**Fig. 1:** In the experimental group, pre-test showed that 8 (40%) children had a moderate level of anxiety and 12 (60%) had a mild level of anxiety and in posttest, 2 (10%) had a moderate level of anxiety and 18(90%) experienced mild level of anxiety. None of the children had a severe level of anxiety.



**Fig. 2:** In the control group, pre-test shows 5 (25%) children had a moderate level of anxiety and 15 (75%) had a mild level of anxiety and in posttest, 3 (15%) had a moderate level of anxiety and 17 (85%) experienced mild level of anxiety. None of the children had a severe level of anxiety.

**Section 3:** Effectiveness of origami on hospitalized anxiety and comparison of mean

Group	Pre-test Mean/ SD	Post-test Mean/SD	Level of Anxiety Mean/SD	't' value	Table value
Experimental Group	33.2/ 4.5	28.9/ 3.03	4.3/ 2.89	6.61	2.02
Control Group	31.75/ 2.54	30.9/ 2.75	0.85/ 1.10		

The above table shows that the effectiveness of Origami on hospitalized anxiety in Experimental group and Control group.

The pretest mean of the experimental group was 33.2 and the control group was 31.75 respectively.

To determine the reduction in hospitalized anxiety, pretest score comparison was done. The difference was statistically highly different because the calculated 't' value (6.61) was higher than the table value (2.02),  $df = 38$ , at  $p < 0.05$ . This shows that after receiving origami, the experimental group had a significantly greater reduction in the level of anxiety compared to the control group. So the research hypothesis is supported.

**Section 4:** Association of pre-test hospitalized anxiety with selected demographic variables

In experimental group, there is no statistically significant association between pre-test score and socio-demographic variables such as sex, birth order of the child, area of residence, type of family, income of the family, religion, previous exposure of hospitalization and number of hospitalization within last one year ( $p < 0.05$ ) except for age and caretaker of the child ( $p > 0.05$ ). So the hypothesis is accepted (H1).

In control group, there is no statistically significant association between pre-test score and socio-demographic variables such as age, sex, birth order of the child, area of residence, type of family, income of the family, religion, previous exposure of hospitalization and number of hospitalization within last one year ( $p < 0.05$ ) except for caretaker of the child ( $p > 0.05$ ).

## 7. RECOMMENDATIONS

- A similar study can be replicated on a larger sample to make generalizability.
- A similar study can be done in a community set-up.
- A similar study can be conducted in terminally ill children, and for physically disabled children.
- A comparative study can be conducted among rural children and urban children's hospital anxiety.
- A similar study can be conducted with different study design.
- The similar study can be replicated to assess the cost-effectiveness.
- The effect of other methods like music therapy, laughter therapy etc. can be assessed by similar studies with various age groups.

## 8. NURSING IMPLICATIONS

The findings of the study revealed that the effect of Origami on hospitalized anxiety among school-age children have implication in the areas of the nursing profession. It is explained in the following heading like nursing practice, nursing education, nursing administration and nursing research.

### 8.1 Nursing Practice

- a) The result of the study will help to enlighten the knowledge of nurses in making handicrafts and thus reducing hospitalized anxiety in children when they are admitted to the hospital.
- b) Children in the hospital need play provision because they have natural needs for play. Also play helps to prevent developmental regression, to reduce parental and child's stress and anxiety. In relation with hospitalization, play helps to facilitate communication between staff and children, to encourage child's cooperation in hospital procedure and moreover will help a child to get adapted to the hospital environment by reducing the exhibition of manifested behavior in them.

- c) The nurse should have adequate knowledge regarding different indoor play activity and its importance in hospitalized children and nurses should play a critical role in helping the child and the family to cope effectively with hospitalization through play activities like making handicrafts, puppet shows etc.
- d) So this study would not only emphasize the need for play but also implicates that nurses must motivate the involvement of children in enhancing play in children's ward.

### **8.2 Nursing education**

- a) In the curriculum of nursing, should include the play activity training as one of the nursing care for hospitalized children.
- b) Nurse's education must motivate the students to include the play activity practices in nursing care of children in the wards.
- c) The nursing curriculum should provide an opportunity to plan and conduct play activities in a variety of setting like family, community, industry, hospital, schools and other health care agencies.
- d) Nurses with higher education must develop theories related to playing needs.

### **8.3 Nursing Administration**

- a) The nurse administrator should take an active part in policy making related to health education on play activities.
- b) The nurse administrators should provide a provision for nurses to devote time to giving play activities which help in reducing the manifested behavior in hospitalized children.
- c) Necessary administration support should be provided to conduct play activities in any setting as required and cost-effective health education material should be encouraged.
- d) A hospital policy should be adopted to provide play activities to all the children who are admitted and for those children who come to the out-patient department.

### **8.4 Nursing Research**

- a) The study can be published in journals to disseminate knowledge regarding the effectiveness of handicrafts in reducing manifested behavior in hospitalized children among the health professionals.
- b) The findings of the study serve as a basis for the nursing professionals and the students to conduct further studies in different aspects of play activities in hospitalized children.

## **9. CONCLUSION**

From the result of the study, it was concluded that administering Origami among hospitalized children were very effective in reducing the level of hospitalized anxiety. Therefore the investigator felt that more importance should be given for play therapy to reduce the level of hospitalized anxiety among school-age children. Origami helps children to adapt better to unpleasant situations, especially during hospitalization. This healthy adaptation promotes quick recovery from their illness.

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