

# “A STUDY TO ASSESS THE EFFECTIVENESS OF ART THERAPY ON ANXIETY LEVEL AMONG HOSPITALIZED CHILDREN IN SELECTED HOSPITAL IN A CITY”

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## ABSTRACT

**Introduction:** Hospitalization is stressful experience for children, adolescents and their families. It is an interruption of the child's active cycle of growth and development and of his and his family's life-styles. The child is removed from the daily routines of home life and contact with siblings, relatives and peers.

**Aims of the Study:** to assess the effectiveness of art therapy on anxiety level among hospitalized children in selected hospital in a city.

## Methodology:

The present study was conducted to assess the effectiveness of art therapy on anxiety among hospitalized children aged 7–12 years in selected hospitals of Pune city. A quantitative research approach with a quasi-experimental pre-test and post-test control group design was adopted. A sample of 70 children was selected using purposive sampling technique. Art therapy was the independent variable, while anxiety level was the dependent variable. Data were collected using a structured demographic and clinical data tool and the Modified Hamilton Anxiety Rating Scale. The tool was validated by experts and its reliability was established by the test-retest method using Karl Pearson's correlation coefficient ( $r = +0.79$ ). A pilot study was conducted on 7 children to assess feasibility. The collected data were analyzed using appropriate descriptive and inferential statistics.

**Results:** The study found that art therapy significantly reduced anxiety among hospitalized children. In the experimental group, mean anxiety decreased from 25.77 to 14.54, while the control group remained at 26.71. The difference was statistically significant ( $t = 33.21$ ,  $p = 0.00001$ ). No significant association was found between anxiety and selected demographic variables ( $p > 0.05$ ).

**Conclusion:** The study concluded that art therapy was effective in reducing anxiety among hospitalized children aged 7–12 years. The significant reduction in anxiety scores demonstrates that art therapy can be used as a beneficial supportive intervention for hospitalized children.

**Keywords:** assess, effectiveness, art therapy, anxiety level, hospitalized children, hospital.

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## INTRODUCTION

Hospitalization experience can be emotionally and developmentally damaging to the hospitalized child and his family. Preparation for such dramatic change is essential for both the child and his parents. The first contact with the hospital can set the tone for the rest of the hospital stay.<sup>1</sup> Hospitalization is a common cause of separation in children. It provokes a complex psychological process, often evoking fantasies in young children of being abandoned by their parents despite their parents' concern for their well-being. The primary concerns of hospitalized school-age children include fear of losing recently

mastered skills. Many children worry about separation from school and peers, and they may fear the loss of their former roles.<sup>2</sup>

As the hospitalized children are unaware of the reason for their hospitalization and the invasive procedures, it can lead to an undesirable experience and psychological symptoms such as anger, uncertainty, anxiety, and feelings of helplessness. The sense of helplessness associated with anxiety leads to feelings of powerlessness in children.<sup>3</sup> In India, there are approximately 39,190,400 adolescents. Around 30% of children visit a hospital

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at least once during childhood, and 12% of them are children under five years of age who have experienced multiple hospitalizations. According to studies, although older children are able to understand illness and hospitalization, they are still vulnerable to events such as hospitalization, which may decrease their sense of power and control.<sup>4</sup>

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.<sup>5</sup>

### NEED OF THE STUDY:

Children in foster care face a unique set of challenges at every stage of their development. About 30 percent of children are hospitalized at least once during their childhood in the hospital; about 5 percent of them are hospitalized several times. Hospitalization is considered as a stressful event for children; the environment which surrounds the children in a hospital, physical conditions such as pain and underlying disease, hospital procedures such as blood tests or even a medical examination in the hospital could be a stressor for children.<sup>6</sup>

Children in hospital care may experience high levels of anxiety due to many different factors both physical and psychological. It is not surprising that up to 65 % of children experience significant anxiety associated with the hospital stay period. To reduce the effects of stress on admitted children, various method such as reading stories and showing cartoons or games are used. Because of the developmental different method, there are many studies on clinical examination in children, such as the heart rate variability review of this use. Many others use stress scale such as five facial anxiety scale.<sup>7</sup>

Christy and Mathew S conducted a study to assess the effectiveness of origami on anxiety among hospitalized children aged 6–12 years. The findings showed a greater reduction in anxiety in the experimental group (90%) compared with the control group (15%), with a mean difference of 3.45. The study concluded that origami helped children adapt faster to hospitalization.<sup>8</sup>

To conduct this study because hospitalization can increase anxiety among children and may affect their emotional well-being and adjustment to the hospital environment. Art therapy is a simple, child-friendly

and non-pharmacological intervention that may help reduce anxiety. Therefore, the researcher undertook this study to assess the effectiveness of art therapy in reducing anxiety among hospitalized children.

**AIM OF THE STUDY:** to assess the effectiveness of art therapy on anxiety level among hospitalized children in selected hospital in a city.

### MATERIALS AND METHODS

The present study was conducted to assess the effectiveness of art therapy on anxiety level among hospitalized children aged 7–12 years in selected hospitals of Pune city. A quantitative research approach was adopted, as the study involved systematic measurement and statistical analysis of anxiety levels. A quasi-experimental pre-test and post-test control group design was used to determine the effectiveness of art therapy.

The study population consisted of paediatric patients admitted to selected hospitals of Pune city. The accessible population included hospitalized children aged 7–12 years. A total sample of 70 children who fulfilled the inclusion criteria was selected by using purposive sampling technique. Both male and female children aged 7–12 years whose parents and children were willing to participate were included. Children who were mentally challenged, had hearing impairment, were under strict isolation, were seriously ill, or had fractures of the upper limb were excluded from the study.

The independent variable was art therapy and the dependent variable was anxiety level. Data were collected using a structured tool consisting of demographic and clinical variables and the Modified Hamilton Anxiety Rating Scale. The tool consisted of 10 items, with a maximum score of 30. Anxiety levels were categorized as mild (1–10), moderate (11–20), and severe (21–30). Pre-test anxiety levels were assessed in both experimental and control groups, followed by administration of art therapy to the experimental group. A post-test assessment was then carried out in both groups to determine the change in anxiety level.

The content validity of the tool was established through expert opinion, including child health nursing professionals, pediatricians, and statisticians. The reliability of the tool was assessed using the test-retest method and Karl Pearson's correlation coefficient, yielding an r-value of +0.79, indicating good reliability. A pilot study was conducted on 7 children to assess the feasibility, simplicity, and applicability of the study procedures. The collected data were coded, tabulated, and analyzed using appropriate descriptive and inferential statistics, including mean, standard deviation, t-test and Chi-square test.

### RESULTS

#### SECTION-I

**“A STUDY TO ASSESS THE EFFECTIVENESS OF ART THERAPY ON ANXIETY LEVEL AMONG HOSPITALIZED CHILDREN IN SELECTED HOSPITAL IN A CITY”**

**DISTRIBUTION OF SAMPLES ACCORDING TO DEMOGRAPHIC VARIABLES**

**SECTION-I A Distribution of samples according to demographic variables in Control Group.**

The table shows the distribution of 35 children in the control group according to selected demographic variables. Regarding age, the majority (34.29%) were 7–8 years old, followed by 25.71% each in the 8.1–9 years and 10.1–11 years groups. Regarding gender, 51.43% were female and 48.57% were male.

With respect to duration of hospitalization, the majority (51.43%) were hospitalized for three days, followed by 31.43% for four days. Regarding the caregiver, the majority (54.29%) were accompanied by their mothers, while 20% were accompanied by fathers. Regarding art therapy practiced at home, nearly half (48.57%) practiced coloring, 28.57% practiced collage work, 20% practiced dot drawing, and 2.86% practiced other activities.

**SECTION-I B Distribution of samples according to demographic variables in Experimental Group**

The table shows the distribution of 35 children in the experimental group according to selected demographic variables. Regarding age, the majority (34.29%) were 7–8 years old, followed by 25.71% aged 8.1–9 years. Regarding gender, 51.43% were female and 48.57% were male.

With respect to duration of hospitalization, the majority (31.43%) were hospitalized for more than four days, followed by 28.57% hospitalized for three days. Regarding the caregiver, the majority (54.29%) were accompanied by their mothers, while 20% were accompanied by both parents and 20% by grandparents. Regarding art therapy practiced at home, 40% practiced coloring, 31.43% practiced collage work, and 28.57% practiced dot drawing. None of the children (0%) reported practicing any other type of art therapy.

**SECTION II**

**Distribution of samples according to clinical variables in experimental and control group.**

**Table 1: Distribution of samples according to clinical variables** N=70

| Clinical Variable | EXPERIMENTAL GROUP |            | CONTROL GROUP |            |
|-------------------|--------------------|------------|---------------|------------|
|                   | Frequency          | Percentage | Frequency     | Percentage |

|                                                     |    |             |    |             |
|-----------------------------------------------------|----|-------------|----|-------------|
| 1. Have You Ever Been Admitted in The Hospital Ever |    |             |    |             |
| A) Yes                                              | 20 | 57.1<br>4 % | 24 | 68.5<br>7 % |
| B) No                                               | 15 | 42.8<br>6 % | 11 | 31.4<br>3 % |
| 2. What Is the Duration of Your Present Illness?    |    |             |    |             |
| A) Few Days                                         | 18 | 51.4<br>3 % | 16 | 45.7<br>1 % |
| B) Few Weeks                                        | 17 | 48.5<br>7 % | 17 | 48.5<br>7 % |
| C) Few Month                                        | 0  | 0 %         | 2  | 5.71<br>%   |
| D) Congenital                                       | 0  | 0 %         | 0  | 0%          |
| 3. Diagnosis                                        |    |             |    |             |
| A) Gastrointestinal                                 | 11 | 31.4<br>3 % | 14 | 40%         |
| B) Cardiac Problem                                  | 4  | 11.4<br>3 % | 4  | 11.4<br>3 % |
| C) Respiratory Problems                             | 7  | 20%         | 10 | 28.5<br>7 % |
| D) Neurological Problems                            | 0  | 0%          | 4  | 11.4<br>3 % |
| E) Genitourinary Problems                           | 6  | 17.1<br>4 % | 2  | 5.71<br>%   |
| F) Others Specify.                                  | 7  | 20%         | 1  | 2.86<br>%   |
| 4. Past Medical Illness                             |    |             |    |             |

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Majority of children had no past medical illness (68.57% experimental and 62.86% control) and no past surgical history (65.71% experimental and 71.43% control). Similarly,

most children had no allergy in both groups (85.71% each).

### SECTION III A

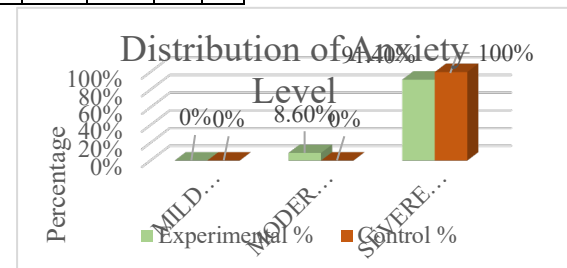
**Anxiety level among hospitalized children in control and experimental group before intervention.**

**Table No.2 Anxiety level among hospitalized children in control and experimental group N=70**

| ANXIETY LEVEL    | Experimental Group |            |      |      | Control Group |            |       |      |
|------------------|--------------------|------------|------|------|---------------|------------|-------|------|
|                  | Frequency          | Percentage | Mean | SD   | Frequency     | Percentage | Mean  | SD   |
| MILD ANXIETY     | 0                  | 0%         |      |      | 0             | 0%         |       |      |
| Moderate ANXIETY | 3                  | 8.6%       | 25.7 | 2.94 | 0             | 0%         | 28.09 | 0.78 |
| SEVERE ANXIETY   | 32                 | 91.4%      |      |      | 35            | 100%       |       |      |

|                                 |    |             |    |             |
|---------------------------------|----|-------------|----|-------------|
| A) Yes                          | 11 | 31.4<br>3 % | 13 | 37.1<br>4 % |
| B) No                           | 24 | 68.5<br>7 % | 22 | 62.8<br>6 % |
| <b>5. Past Surgical History</b> |    |             |    |             |
| A) Yes                          | 12 | 34.2<br>9 % | 10 | 28.5<br>7 % |
| B) No                           | 23 | 65.7<br>1 % | 25 | 71.4<br>3 % |
| <b>6. Any Allergy</b>           |    |             |    |             |
| A) Yes                          | 5  | 14.2<br>9 % | 5  | 14.2<br>9 % |
| B) No                           | 30 | 85.7<br>1 % | 30 | 85.7<br>1 % |

The table shows that the majority of children in both groups had a previous hospital admission, with 57.14% in the experimental group and 68.57% in the control group. Regarding the duration of present illness, 51.43% of the experimental group had illness for a few days, while in the control group, 48.57% had illness for a few days and 48.57% for a few weeks. Gastrointestinal problems were the most common diagnosis, accounting for 31.43% in the experimental group and 40% in the control group.



**Fig. No.1 Distribution of Anxiety level among hospitalized children in control and experimental group before intervention**

The table shows that before the intervention, the majority of children in the experimental group (91.4%) and all children in the control group (100%) had severe anxiety. Only 8.6% of children in the experimental group had moderate anxiety, while none in the control group had mild or moderate anxiety. The mean anxiety score was  $25.77 \pm 2.94$  in the experimental group and  $28.09 \pm 0.78$  in the control group.

### SECTION III B

**Anxiety level among hospitalized children in control and experimental group after intervention.**

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**Table No.3. Anxiety level among hospitalized children in control and experimental group**  
N=70

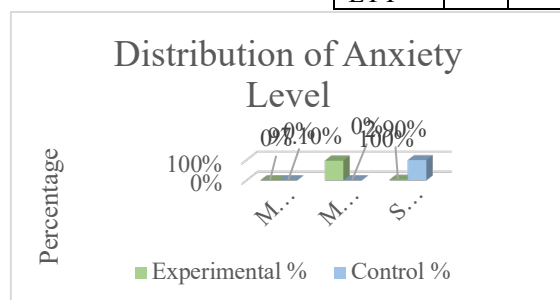
|              |    |    |  |  |  |  |
|--------------|----|----|--|--|--|--|
| Post test    | 14 | 1. |  |  |  |  |
| Experimental | .5 | 9  |  |  |  |  |
| group        | 4  | 5  |  |  |  |  |

| ANXIETY LEVEL    | Experimental Group |            |       |      | Control Group |            |       |      |
|------------------|--------------------|------------|-------|------|---------------|------------|-------|------|
|                  | Frequency          | Percentage | Mean  | SD   | Frequency     | Percentage | Mean  | SD   |
| MILD ANXIETY     | 0                  | 0%         |       |      | 0             | 0%         |       |      |
| MODERATE ANXIETY | 34                 | 97.1%      | 14.54 | 1.95 | 0             | 0%         | 26.71 | 0.96 |
| SEVERE ANXIETY   | 1                  | 2.9%       |       |      | 35            | 100%       |       |      |

The table shows that the post-test mean anxiety score was 26.71 (SD = 0.96) in the control group, compared with 14.54 (SD = 1.95) in the experimental group. The obtained t-value was 33.21 with DF = 68 and p = 0.00001, which is less than 0.05. Thus, the difference was statistically significant, indicating that art therapy was effective in reducing anxiety among hospitalized children.

#### SECTION -V

**Association of pre-test findings of anxiety with selected demographic**



**Fig. No.2 Distribution of Anxiety level among hospitalized children in control and experimental group after intervention**

The table shows that after the intervention, the majority of children in the experimental group (97.1%) had moderate anxiety, while only 2.9% had severe anxiety. In contrast, 100% of children in the control group continued to have severe anxiety. The mean anxiety score was  $14.54 \pm 1.95$  in the experimental group compared with  $26.71 \pm 0.96$  in the control group, indicating a marked reduction in anxiety following art therapy.

#### SECTION- IV

**Effectiveness of art therapy on level of anxiety among hospitalized children**

**Table No.4. Effectiveness of art therapy on level of anxiety among hospitalized children**

| Level of Anxiety        | Mean  | SD   | DF | T value | P value | Remark      |
|-------------------------|-------|------|----|---------|---------|-------------|
| Post test control group | 26.71 | 0.96 | 68 | 33.21   | 0.00001 | Significant |

#### variables

The table shows that there was no statistically significant association between pre-test anxiety level and any of the selected demographic variables. For age, the calculated Chi-square value was 1.98 with p = 0.73; for gender, 0.43 with p = 0.51; for duration of hospitalization, 0.37 with p = 0.94; for caregiver, 0.45 with p = 0.92; and for type of art therapy practiced at home, 1.78 with p = 0.61. Since all p-values were greater than 0.05, the associations were not significant (NS).

#### DISCUSSION

The findings of the present study are supported by the study conducted by Sharmila Mahesh Kulal and Supriya Pottal Ray, which assessed the effectiveness of art therapy on anxiety among hospitalized children in selected hospitals of Pune City. Their quasi-experimental study included 60 hospitalized children aged 3–6 years and used a non-equivalent pre-test and post-test control group design with purposive sampling. The study reported a statistically significant reduction in anxiety in the experimental group, with p < 0.001, whereas the control group showed no significant change (p = 0.405). Similarly, the present study, conducted among 70 hospitalized children aged 7–12 years, demonstrated a significant difference in post-test anxiety scores between the experimental and control groups (t = 33.21, p = 0.00001). The mean anxiety score in the experimental group decreased from 25.77 in the pre-test to 14.54 in the post-test, indicating the effectiveness of art therapy.<sup>9</sup>

The present study findings are also consistent with the study conducted by Riya Binu (2024) among hospitalized school-age children in selected hospitals of Hyderabad, Telangana. The study used a quasi-experimental design and assessed anxiety using a Structured Anxiety Rating Scale and Facial Affective

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Scale. The post-test findings showed significantly lower anxiety in the experimental group compared with the control group. Using the Facial Affective Scale, the study reported  $t = 10.572$ ,  $df = 38$ ,  $p = 0.000$ , while the Anxiety Rating Scale showed  $t = 14.513$ ,  $df = 38$ ,  $p = 0.000$ , confirming that art therapy was effective in reducing anxiety.<sup>10</sup>

Overall, the findings of both previous studies and the present study are comparable and consistently indicate that art therapy is an effective non-pharmacological intervention for reducing anxiety among hospitalized children. The present study further supports the incorporation of simple, child-friendly art therapy activities into pediatric nursing care to promote emotional comfort and better adjustment during hospitalization.

## CONCLUSION:

The present study was conducted to assess the effectiveness of art therapy on anxiety level among hospitalized children aged 7–12 years in selected hospitals of Pune city. A quantitative research approach with a quasi-experimental pre-test and post-test control group design was adopted, and 70 hospitalized children were selected using purposive sampling.

In the experimental group, 91.4% of children had severe anxiety, with a mean anxiety score of  $25.77 \pm 2.94$ , while 100% of children in the control group had severe anxiety, with a mean score of  $28.09 \pm 0.78$ . Following the intervention, 97.1% of children in the experimental group had moderate anxiety and only 2.9% had severe anxiety, whereas all children in the control group continued to have severe anxiety. The mean post-test anxiety score was  $14.54 \pm 1.95$  in the experimental group compared with  $26.71 \pm 0.96$  in the control group.

The statistical findings showed a significant difference between the post-test anxiety scores of the experimental and control groups ( $t = 33.21$ ,  $p = 0.00001$ ). No significant association was found between pre-test anxiety and selected demographic variables. Thus, art therapy can be considered a simple, child-friendly and effective non-pharmacological intervention that can be incorporated into paediatric nursing care to promote emotional comfort and better adjustment during hospitalization.

## DECLARATION BY AUTHORS:

**Conflict of Interest:** The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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