



“Effect of Art Therapy on the Level of Anxiety among Schoolers in Selected Orphanages in Thiruvananthapuram District”

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Abstract: Background: Anxiety is one of the most common psychological disorders affecting school-aged children. Orphaned children are particularly vulnerable because of parental deprivation, emotional insecurity, institutional living, and limited opportunities for emotional expression. Persistent anxiety negatively affects children's cognitive, emotional, social, and academic functioning. Non-pharmacological interventions that promote emotional well-being are increasingly recommended in pediatric mental health. Art therapy, especially clay modelling, provides children with a safe, creative, and non-verbal medium to express emotions, reduce stress, and improve coping abilities.

Objective: To evaluate the effect of art therapy on the level of anxiety among schoolers residing in selected orphanages in Thiruvananthapuram District.

Hypothesis: There is a significant difference in the level of anxiety after application of art therapy among schoolers in the experimental group.

Methods: A quantitative pre-experimental one-group pretest–posttest design was adopted. Fifty school-aged children with mild to moderate anxiety were selected using purposive sampling from selected orphanages after screening with the Spence Children's Anxiety Scale. Clay-based art therapy was administered for 30 minutes daily over a period of 30 consecutive days. Anxiety levels were reassessed using the same standardized instrument after completion of the intervention. Descriptive and inferential statistics were used for data analysis.

Results: Before the intervention, 70% of participants exhibited moderate anxiety and 30% had mild anxiety. Following the intervention, 22% of children demonstrated normal anxiety levels, 66% had mild anxiety, and only 12% remained moderately anxious. Statistical analysis revealed a significant reduction in anxiety scores following art therapy, supporting the effectiveness of the intervention.

Conclusion: Clay-based art therapy significantly reduced anxiety among school-aged children residing in orphanages. The intervention is simple, economical, child-friendly, and can be integrated into pediatric nursing practice and institutional child care settings to promote psychological well-being.

Keywords: Art therapy; Anxiety; School-aged children; Orphanage; Clay modelling; Pediatric nursing.

Introduction

Children represent one of the most valuable resources of every society, and their healthy physical, psychological, emotional, and social development is essential for the future well-being of communities. During middle childhood (6–12 years), children undergo rapid developmental changes that influence their emotional maturity, cognitive abilities, interpersonal relationships, and self-concept. Although this developmental stage is

characterized by increasing independence and social participation, children are also particularly vulnerable to psychological problems arising from stressful life events and adverse environmental conditions. Anxiety is among the most prevalent mental health disorders affecting children and adolescents, interfering with normal development and quality of life.

Anxiety is a natural emotional response to perceived threats; however, when fear and worry become excessive, persistent, and



disproportionate to the actual situation, they may develop into clinically significant anxiety disorders. Such disorders impair children's emotional regulation, concentration, academic performance, peer relationships, and daily functioning. Anxiety may manifest through behavioral symptoms such as restlessness, social withdrawal, irritability, and avoidance behaviors, as well as physical complaints including headache, gastrointestinal discomfort, muscle tension, fatigue, and sleep disturbances. Untreated childhood anxiety may persist into adolescence and adulthood, increasing the risk of depression, substance abuse, poor educational attainment, and social dysfunction.

Global studies have consistently demonstrated that anxiety disorders constitute one of the most common psychiatric disorders among children. The reported prevalence varies considerably depending on the study population, diagnostic criteria, and assessment tools, with estimates ranging from approximately 7% to 24%. Indian studies have also documented a substantial burden of childhood anxiety, particularly among vulnerable populations exposed to socioeconomic adversity and family disruption. Several biological, psychological, and environmental factors contribute to childhood anxiety, including genetic predisposition, traumatic experiences, parental separation, abuse, and stressful life circumstances.

Among the most vulnerable groups are children residing in orphanages. Orphanhood deprives children of parental care, emotional security, and stable attachment relationships during critical developmental periods. Institutional living often exposes children to emotional deprivation, limited individualized attention, uncertainty about the future, and social stigma. These circumstances increase their susceptibility to anxiety, low self-esteem, loneliness, behavioral disturbances, and other psychological problems. Previous studies have reported significantly higher levels of anxiety and emotional difficulties among orphaned children compared with children living with their families, emphasizing the need for early psychological interventions within institutional settings.

Management of childhood anxiety includes both pharmacological and non-pharmacological interventions. Although medications may be effective for moderate to severe anxiety disorders, their use in children is often limited by adverse effects and concerns regarding long-term safety. Consequently, non-pharmacological approaches that are developmentally appropriate, safe, and acceptable have gained increasing attention. These include play therapy, music therapy, narrative therapy, cognitive-behavioral interventions, and art therapy. Such interventions encourage emotional expression,

improve coping skills, and facilitate healthy psychological development without exposing children to medication-related risks. Art therapy is an expressive therapeutic approach that enables individuals to communicate thoughts, emotions, and experiences through creative activities rather than verbal communication alone. Children, who may find it difficult to articulate complex emotions verbally, often express themselves more comfortably through artistic activities such as drawing, painting, collage making, and clay modelling. The creative process facilitates emotional release, enhances self-awareness, improves self-esteem, reduces psychological distress, and strengthens adaptive coping mechanisms. Art therapy has therefore become an increasingly valuable intervention in pediatric mental health and child counseling.

Among various art therapy modalities, clay modelling offers unique therapeutic advantages. Clay is inexpensive, safe, tactile, flexible, and suitable for children with varying levels of artistic ability. Manipulating clay provides rich sensory stimulation and encourages children to externalize emotions through shaping, rolling, pressing, and molding. The tactile experience of clay work promotes relaxation, emotional regulation, and non-verbal communication, allowing children to process difficult feelings in a supportive environment. Previous studies have demonstrated that clay-based interventions effectively reduce anxiety, improve emotional expression, strengthen self-esteem, and promote psychological resilience among children experiencing stress and emotional difficulties.

Despite growing international evidence supporting expressive therapies, limited research has specifically examined the effectiveness of clay-based art therapy among orphaned school-aged children in the Indian context. Considering the high psychological vulnerability of children residing in orphanages and the need for accessible, low-cost mental health interventions, evaluating the effectiveness of art therapy is of considerable clinical and public health importance. The present study was therefore undertaken to determine the effect of clay-based art therapy on anxiety among schoolers residing in selected orphanages in Thiruvananthapuram District. The findings may provide evidence supporting the integration of art therapy into pediatric nursing practice, school health programs, and institutional child welfare services.

Statement of the problem

A study to assess the effect of art therapy on the level of anxiety among schoolers in selected orphanages in Thiruvananthapuram district.



Objective

- To evaluate the effect of art therapy on the level of anxiety among schoolers in the experimental group.

Research Hypothesis

H₁: There is a significant difference in the level of anxiety after application of art therapy among schoolers in the experimental group.

Materials and Methods

Study Design

A quantitative research approach with a **pre-experimental one-group pretest-posttest design** was adopted to evaluate the effectiveness of art therapy in reducing anxiety among school-aged children residing in selected orphanages in Thiruvananthapuram District. This design enabled comparison of anxiety levels before and after the intervention within the same group of participants.

Study Setting

The study was conducted in selected orphanages located in **Thiruvananthapuram District, Kerala, India**. The selected institutions provided residential care for school-aged children and granted administrative permission to conduct the research. The institutional environment offered a suitable setting to implement structured art therapy sessions and evaluate their impact on children's psychological well-being.

Study Population

The target population consisted of school-aged children residing in selected orphanages. Initially, **56 children** were screened for anxiety using the **Spence Children's Anxiety Scale (SCAS)**. Following screening, **50 children** with mild to moderate anxiety were recruited for participation in the study.

Inclusion Criteria

Children who fulfilled the following criteria were included:

- Aged **6–12 years** (school-age group).
- Residing in the selected orphanages.
- Having **mild or moderate anxiety** according to the Spence Children's Anxiety Scale.
- Able to understand and participate in clay modelling activities.
- Available throughout the intervention period.
- Assent obtained from the child and institutional permission granted.

Exclusion Criteria

Children were excluded if they:

- Had severe anxiety requiring immediate psychiatric intervention.

- Had physical or cognitive disabilities that prevented participation in clay modelling.
- Were absent during the intervention period.
- Declined participation.

Sample Size and Sampling Technique

Purposive sampling was employed. Fifty children meeting the eligibility criteria were selected from the screened population of 56 participants. The sample size was considered adequate to evaluate the effectiveness of the intervention within the adopted research design.

Research Variables

Independent Variable

- Art therapy (clay modelling)

Dependent Variable

- Level of anxiety among school-aged children

Description of the Intervention

The intervention consisted of **clay-based art therapy**, an expressive therapeutic technique designed to facilitate emotional expression through creative activity.

Each participant was instructed to select a lump of clay and make it soft and pliable before creating simple objects such as:

- Human figures
- Animal models
- Cartoon characters
- Other creative forms of their choice

Each therapy session lasted **30 minutes** and was conducted **once daily for 30 consecutive days** under the supervision of the researcher. Throughout the sessions, children were encouraged to express their emotions freely without fear of criticism or evaluation. The researcher maintained a supportive environment that promoted creativity, emotional exploration, and relaxation.

Instrument for Data Collection

Data were collected using two instruments.

Section I: Demographic Proforma

Information regarding participants' demographic characteristics included:

- Age
- Sex
- Religion
- Duration of stay in the orphanage

Section II: Spence Children's Anxiety Scale (SCAS)

Anxiety was measured using the **Spence Children's Anxiety Scale**, a standardized and validated self-report instrument widely used for assessing anxiety symptoms among children.

The SCAS was administered twice:



- **Pretest:** Before initiation of art therapy.
- **Posttest:** After completion of the 30-day intervention.

The scale enabled classification of anxiety into normal, mild, moderate, and severe categories according to obtained scores.

Data Collection Procedure

Permission was obtained from the concerned institutional authorities before commencement of the study. Eligible children were screened using the SCAS. Fifty participants with mild to moderate anxiety were enrolled after obtaining informed consent from institutional authorities and assent from the children.

Baseline anxiety assessment was conducted using the SCAS. Subsequently, participants received clay-based art therapy for 30 minutes each day over a period of 30 consecutive days. Following completion of the intervention, anxiety levels were reassessed using the same instrument under similar conditions.

Ethical Considerations

Ethical approval for the study was obtained from the Institutional Ethics Committee before initiation of the research. Administrative permission was obtained from the selected orphanages. Participation was voluntary, confidentiality of participants' information was maintained, and anonymity was ensured throughout the study. Informed consent and child assent procedures were followed in accordance with ethical guidelines.

Statistical Analysis

Data were analyzed using descriptive and inferential statistics.

Descriptive statistics included:

- Frequency
- Percentage
- Mean
- Standard deviation

Inferential statistics were employed to compare pre-test and post-test anxiety scores. A **paired t-test** was used to determine the effectiveness of art therapy, and statistical significance was considered at $p < 0.05$.

Results

Demographic Characteristics

Among the 50 participants, demographic characteristics were analyzed according to age, sex, religion, and duration of stay in the orphanage. These variables were summarized using frequencies and percentages to describe the study population.

Table 1. Distribution of Participants According to Anxiety Level Before Screening (n = 56)

Anxiety Level	Frequency	Percentage
Mild	17	30.4
Moderate	39	69.6

Of the 56 children screened, 50 with mild to moderate anxiety fulfilled the eligibility criteria and were included in the study.

Table 2. Pre-test Anxiety Level among Study Participants (n = 50)

Anxiety Level	Frequency	Percentage
Mild Anxiety	15	30
Moderate Anxiety	35	70

The baseline assessment demonstrated that anxiety was highly prevalent among participating children, with the majority (70%) experiencing moderate anxiety before the intervention.

Table 3. Post-test Anxiety Level after Art Therapy (n = 50)

Anxiety Level	Frequency	Percentage
Normal	11	22
Mild Anxiety	33	66
Moderate Anxiety	6	12

Following completion of the 30-day clay-based art therapy program, anxiety levels showed substantial improvement. Twenty-two percent of participants achieved normal anxiety scores, while the proportion of children with moderate anxiety decreased markedly from 70% to 12%.

Table 4. Comparison of pre-test and Post-test Anxiety Levels

Assessment	Mild (%)	Moderate (%)	Normal (%)
pre-test	30	70	0
Post-test	66	12	22

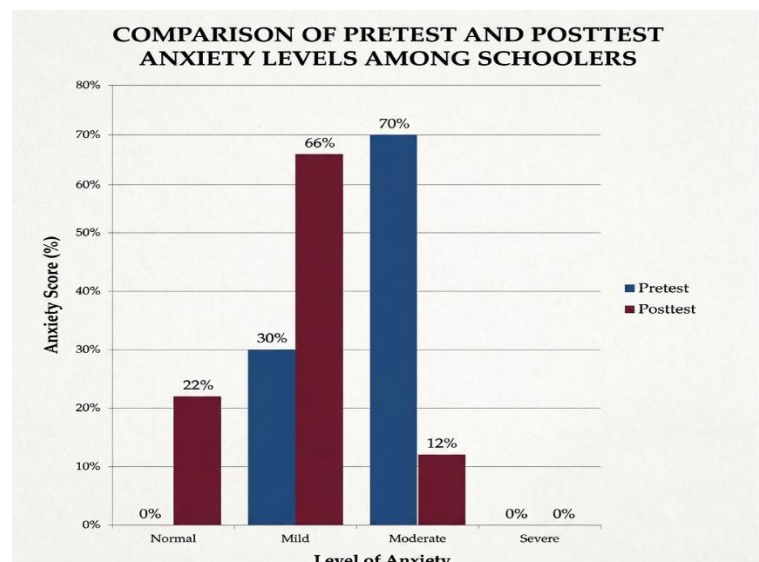


Figure (1): Frequency and percentage distribution of samples based on level of anxiety

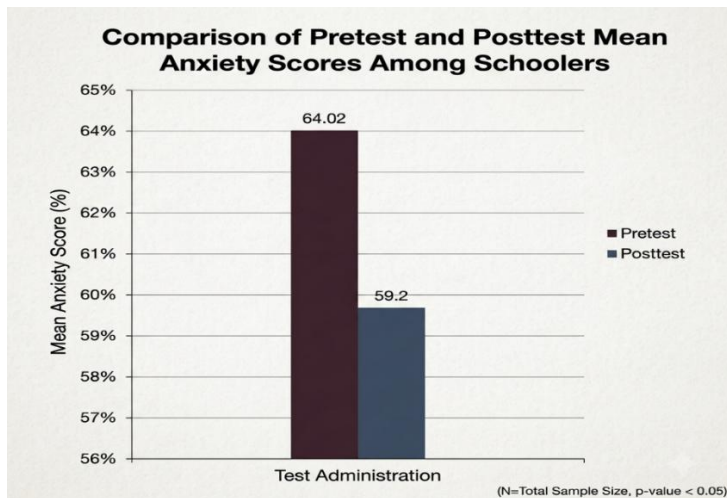


Figure (2): Mean pretest and posttest level of anxiety among the schoolers

The findings indicate a clear shift from moderate anxiety toward mild or normal anxiety following the intervention.

Effectiveness of Art Therapy

Comparison of pre-test and post-test anxiety scores demonstrated a statistically significant reduction in anxiety following clay-based art therapy. Inferential statistical analysis using the paired t-test showed that the observed reduction was significant, indicating that the intervention effectively improved the psychological well-being of school-aged children residing in orphanages. Consequently, the research hypothesis was accepted.

Summary of Findings

The principal findings of the study are summarized below:

- Fifty children with mild to moderate anxiety participated in the study.
- Before intervention, **70%** had moderate anxiety and **30%** had mild anxiety.
- After 30 days of clay-based art therapy, **22%** attained normal anxiety levels.
- Moderate anxiety decreased from **70% to 12%**.
- Mild anxiety increased from **30% to 66%**, reflecting movement from higher to lower anxiety categories.
- Statistical analysis demonstrated a significant reduction in anxiety following the intervention.
- The research hypothesis stating that art therapy significantly reduces anxiety among school-aged children was supported.

Discussion

The present study was conducted to evaluate the effectiveness of clay-based art therapy in reducing anxiety among school-aged children residing in selected orphanages in Thiruvananthapuram District. Anxiety is one of the most prevalent psychological problems among institutionalized children and adversely affects emotional development, academic performance, interpersonal relationships, and overall quality of life. The findings of the present study demonstrated that art therapy produced a significant reduction in anxiety levels, thereby supporting its use as an effective, non-pharmacological intervention for school-aged children living in orphanages.

The baseline assessment revealed that all participants experienced either mild or moderate anxiety, with 70% demonstrating moderate anxiety and 30% exhibiting mild anxiety prior to the intervention. These findings indicate that anxiety is highly prevalent among children residing in orphanages. The psychological burden observed in the present study may be attributed to parental deprivation, institutional living, uncertainty regarding the future, reduced emotional support, and limited opportunities for individual expression. These observations are consistent with the rationale presented in the dissertation, which identifies orphan hood as a major psychosocial risk factor for anxiety and emotional disturbances among children.

Following completion of the 30-day clay modelling program, a substantial improvement in anxiety status was observed. Twenty-two percent of children achieved normal anxiety levels, while the proportion of children with moderate anxiety decreased markedly from 70% to 12%. Most participants (66%) were classified as having only mild anxiety after the intervention. These findings demonstrate that structured clay-based art therapy effectively facilitates emotional expression and contributes to anxiety reduction among institutionalized children.

The significant reduction in anxiety observed after the intervention supports the therapeutic value of creative expression in pediatric mental health care. Clay modelling provides children with a non-threatening medium through which they can communicate emotions that are often difficult to express verbally. The tactile manipulation of clay encourages relaxation, emotional release, improved concentration, and positive coping responses. The present findings therefore support the therapeutic principles of expressive art therapy and demonstrate its applicability in institutional child-care settings. The dissertation describes clay as a versatile therapeutic material that promotes emotional



expression through tactile engagement and non-verbal communication.

The conceptual framework guiding the study was **Roy's Adaptation Model**, which emphasizes that individuals continuously respond to environmental stimuli through adaptive coping mechanisms. According to the framework adopted in this study, anxiety represents a maladaptive response to environmental stressors, whereas art therapy functions as a therapeutic stimulus that strengthens adaptive coping processes through both regulator and cognator subsystems. The observed reduction in anxiety indicates improved adaptation following the intervention, thereby supporting the applicability of Roy's model in pediatric psychiatric nursing research.

The findings are consistent with several studies reviewed in the dissertation. Previous quasi-experimental studies cited in the literature review demonstrated that expressive art therapy, drawing therapy, narrative therapy, and clay-based interventions significantly reduced anxiety among children and adolescents. Similar benefits have also been reported among hospitalized children, preschool children, and orphaned children receiving expressive art interventions. Collectively, these findings strengthen the evidence supporting art therapy as an effective psychological intervention for childhood anxiety.

The present findings also have important implications for pediatric nursing practice. Nurses working in schools, orphanages, child guidance clinics, and pediatric hospitals frequently encounter children experiencing emotional distress. Clay-based art therapy is inexpensive, simple to administer, requires minimal infrastructure, and can be incorporated into routine psychosocial care. With appropriate training, pediatric nurses can utilize structured art therapy sessions to improve children's emotional well-being and promote healthy psychological adaptation.

Although the study demonstrated positive outcomes, certain limitations should be considered while interpreting the findings. The study employed a pre-experimental design without a control group, limiting causal inference. The sample was relatively small and selected through purposive sampling from selected orphanages, thereby limiting generalizability. Furthermore, only immediate post-intervention outcomes were assessed, and long-term follow-up was not conducted to determine sustained effectiveness. These limitations should be addressed in future

investigations using randomized controlled trials with larger and more diverse samples.

Nursing Implications

The findings of the present study have important implications for nursing education, nursing practice, nursing administration, and nursing research.

Nursing Practice

Pediatric nurses should recognize anxiety as a common psychological problem among children residing in institutional settings. Clay-based art therapy can be incorporated into routine nursing care as a safe, economical, and child-friendly intervention to promote emotional well-being and reduce anxiety.

Nursing Education

Nursing curricula should include training in expressive therapies, particularly art therapy, to prepare nursing students for holistic pediatric mental health care. Workshops and continuing education programs may further strengthen nurses' competencies in implementing creative therapeutic interventions.

Nursing Administration

Hospital administrators, school health authorities, and managers of child-care institutions should encourage implementation of structured art therapy programs within pediatric and orphanage settings. Provision of simple art materials and appropriate training can facilitate routine incorporation of such interventions into psychosocial care.

Nursing Research

Future research should employ randomized controlled trials with larger sample sizes and longer follow-up periods to establish stronger evidence regarding the effectiveness of clay-based art therapy. Comparative studies evaluating different expressive therapies may also help identify the most effective intervention for childhood anxiety.

Strengths of the Study

- The study addressed an important yet under-researched mental health issue among orphaned children.
- A standardized and validated anxiety assessment tool (Spence Children's Anxiety Scale) was utilized.
- Clay-based art therapy was implemented in a structured and consistent manner over 30 consecutive days.
- The intervention was inexpensive, feasible, and easily replicable in institutional settings.
- The findings provide evidence supporting the role of pediatric nurses in promoting children's mental health through non-pharmacological interventions.



Limitations

- Pre-experimental design without a control group.
- Small sample size.
- Purposive sampling technique.
- Conducted in selected orphanages of a single district.
- Short duration of follow-up.
- Findings cannot be generalized to all institutionalized children.

Recommendations

Based on the findings, the following recommendations are proposed:

1. Randomized controlled studies should be conducted to provide stronger evidence regarding the effectiveness of art therapy.
2. Studies involving larger samples from multiple orphanages and different geographical regions are recommended.
3. Longitudinal studies should evaluate the long-term effects of art therapy on anxiety reduction.
4. Comparative studies between clay modelling, drawing therapy, music therapy, and play therapy may identify the most effective intervention.
5. Art therapy may be integrated into routine psychosocial care programs in orphanages, schools, and pediatric health-care institutions.

Conclusion

The present study demonstrated that clay-based art therapy is an effective non-pharmacological intervention for reducing anxiety among school-aged children residing in selected orphanages in Thiruvananthapuram District. A significant reduction in anxiety was observed following a structured 30-day intervention, with many participants moving from moderate anxiety to mild or normal anxiety levels. The findings support the research hypothesis that art therapy significantly decreases anxiety among school-aged children.

Art therapy provides children with a safe and creative opportunity to express emotions, improve coping abilities, and strengthen psychological adaptation. Given its simplicity, low cost, and acceptability, clay-based art therapy may be effectively integrated into pediatric nursing practice, school mental health services, and orphanage-based psychosocial care programs. The study contributes to the growing body of evidence supporting creative therapeutic interventions for childhood anxiety and highlights the important role of pediatric nurses in promoting mental health among vulnerable children.

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Conflict of Interest

The author declares that there is **no conflict of interest** related to this study.

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