



# Effectiveness of painting in terms of hyperactivity among primary school children.

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## INTRODUCTION

A life cycle unfolds its various stages as it progress. The early stage is childhood which itself is full of expectations and in turn brings the expectations for others, especially for the family members while experiencing every developmental changes happening in the new member of the family.

A child's early development lays the foundation for its future.<sup>1</sup> From the first day an infant enters the world he begins a journey of learning how to relate to other people and deal with various emotions.<sup>2</sup>

Attention deficit hyperactivity disorder (ADHD) is one of the most common behavioural disorders of childhood, characterized by hyperactivity, impulsivity, and inattention. The disorder presents more often in boys than in girls (3-5:1)<sup>8</sup>, 10 and usually affects first-born boys. The onset is usually by three years of age but the diagnosis is not made until the child is in elementary school.<sup>6</sup>

Children with hyperactivity clients are at a significantly higher risk for numerous emotional and social problems than those without hyperactivity including academic and occupational underachievement, violence and criminality, increased suicide and risk-taking behaviour, depression, addiction, interpersonal difficulties, and family disruption.<sup>1</sup>

Art is a powerful medium of individual symbolic expression and acts as the medium for communication in a safe and non judgmental atmosphere which facilitates the healing of emotional scars for the clients with limited verbal expression or those who are highly articulate but have difficulty with emotional expression. Art therapy can work in multifaceted ways involving the whole person including

sensory-motor, perceptual, cognitive, emotional, physical, social and spiritual aspects which enhances client's awareness and attention span. Art therapy is used in rehabilitation settings, mental health problems, learning difficulties, language and communication difficulties, imprisonment, medical problems, sensory or physical problems, stress, emotional and social problems.<sup>2</sup>

In India according to the National Institutes of Health, Hyperactivity is the most common behavioural disorder among children. According to the study findings (PGI Chandigarh, Department of Paediatrics, 2000).The prevalence of Hyperactivity among children aged 3-12 years attending Psychology Outpatient services in the Department of Paediatrics was 8.1%. Epidemiological studies reveal prevalence rates ranging widely from 1% to 23%.

The percentage of children with a parent-reported hyperactivity (2003 and 2007) diagnosis increased by 22% . There were an estimated 7 million ambulatory care visits for children with hyperactivity in 2006. Children with the diagnoses of hyperactivity, hyperactivity with Learning disabilities were more likely to have other chronic health conditions.<sup>2</sup>

Indian studies has documented the clinical profile and academic history of children with specific learning disability and co-occurring hyperactivity. They found that all the children in their study had poor academic performance and about 40% of the sample had developed aggressive or withdrawn behaviour.

A little more than a quarter of the 150 children enrolled in the study had co- occurring ADHD. The study indicated that co-occurring hyperactivity adversely affected the HRQOL of children with SpLD and highlighted the importance of treating co- occurring ADHD effectively to improve the psychosocial health of such children. From the study it was felt that a lack of awareness was a major reason for disorders such as specific learning disabilities (SpLD) and attention-deficit hyperactivity disorder.

## **STATEMENT OF THE PROBLEM**

A true experimental study to assess the effectiveness of painting on hyperactivity among primary school children in selected school at Bangalore.

## **OBJECTIVES**

1. To assess the pre-test level of hyperactivity among primary school children in selected school at Bangalore.
2. To assess the effectiveness of painting on hyperactivity by comparing the pre test and post test

scores of hyperactivity in the experimental group.

3. To assess the effectiveness of painting on hyperactivity by comparing the post test scores of hyperactivity among experimental group and control group.
4. To determine the association between pretest level of hyperactivity and selected socio-demographic variables.

## HYPOTHESES

- ❖ There is no significant difference between the pre and post test score of hyperactivity in experimental group.
- ❖ There is no significant difference between the post test score of experimental group and control group.
- ❖ There is no significant association between pre test level of hyperactivity and selected socio-demographic variables.

## OPERATIONAL DEFINITIONS

**Effectiveness:** refers to the extent to which the painting decreases the hyperactivity among primary school children as evidenced by decrease in the post-test score of hyperactivity in experimental group measured by Self Structured Teacher Rating Scale.

**Painting:** refers to an intervention in which the hyperactive primary school children paints with water colour, with the use of brushes or fingers for 1hr/day, likewise 5 consecutive days/week for a duration of 3 weeks.

**Hyperactivity:** refers to the manifestation of the symptoms by the primary school children such as restless with hands and feet, leaves the seat when expected to remain there, runs about excessively and inappropriately where he/she is expected to sit quiet, has difficulty in playing quietly, easily distracted by any stimulus in the environment, talks excessively and physically harms or beats the other children, interrupts the activities of other children, has difficulty in waiting in line for his/her turn, skipping of the letters and words while reading from the blackboard or while reading from the book and changing from one activity to another by leaving the activities unfinished and which is measured by Self Structured Teacher Rating scale.

**Primary School children:** refers to the children who is having hyperactivity and studying in 5<sup>th</sup> standard at selected school at Bangalore.

**Selected school:** refers to St.Lourde's High School, Mathikere Bangalore.

## ASSUMPTIONS

- Primary school children may have varying level of hyperactivity.
- Painting may reduce the hyperactivity among primary school children.

## DELIMITATIONS

- Primary school children in the selected school at Bangalore.
- 1 month duration of data collection.

## Conceptual frame work of the study:

The conceptual frame work for the present study is based Imogene M. King: King's conceptual system and theory of goal attainment and transactional process (1981).According to Imogene king, king's conceptual system and theory contain many concepts and multiple assumptions and relationships.

## REVIEW OF LITERATURE

The literature review for present has been collected and presented under followingheadings:

**Section A:** Research literature related to prevalence of hyperactivity symptomsin School going children and also the co occurring diseases.

**Section B:** Research literature related to problems faced by the hyperactivechildren

**Section C:** Research literature related to effectiveness of art therapy and othernon-pharmacological modalities used for hyperactive children

**Section D:** Research literature related to cognitive effect of pharmacologicaltreatments for children with hyperactivity

**Section E:** Research literature related to prenatal factors contributing forhyperactivity in children .

## METHODOLOGY

**Research Approach:** The selection of research approach tells the researcher about data collection and how to analyze it. In view of nature of the problem selected and objectives to be accomplished, evaluative approach was considered appropriate for the present study.

**Research Design:** Selection of research design depends on the purpose of the study, research approach and variables to be studied. The research design selected for present study was Pre- test Post test Control group

design.

**Variables:**

**Independent variable:** Painting

**Dependent variable:** Hyperactivity

**Attribute variables:** Socio demographic variables which include age, gender, marital status of the parent, number of siblings, monthly family income, history of any of the medical conditions to the child, history of maternal exposure to any of the substance during antenatal period, frequency of parent child conflicts, parental history of any of the psychiatric disorders.

**SETTING OF THE STUDY:**

The study was conducted at St. Lourde's High School, Mathikere, Bangalore.

**Population:** The accessible population of the study was primary school children having hyperactivity who fulfilled selection criteria from St.Lourde's High School, Mathikere, Bangalore.

**Sample size:** 40 primary school children from St.Lourde's High School ,Mathikere.

**Experimental Group -** 20 children

**Control Group-** 20 children

**Selection criteria****Inclusion criteria:**

- ✓ Children studying in 5<sup>th</sup> standard who are manifesting hyperactivity.
- ✓ Children who are willing to paint.
- ✓ Children who can understand, read and respond in English or Kannada.

**Exclusion criteria:**

- Children who are not available at the time of study.
- Children with other disabilities.

**Sampling Technique:** Simple Random sampling technique was used to select the sample.

**TOOL:**

The tool comprised of two sections.

**1. Socio-demographic tool****2. Self Structured Teacher Rating Scale.**

**TOOL DESCRIPTION****Section A**

**Socio-demographic data** : Age, gender, the class of studying, religion, marital status of the parent, number of siblings, monthly family income, history of any of the medical conditions to the child, history of maternal exposure to any of the substance during antenatal period, frequency of parent child conflicts, parental history of any of the psychiatric disorders.

**Section B: Self structured Teacher rating scale** consisted of 15 items which is scored by summing the ratings for the 15 items. Each item was rated on a 4-point scale ranging from 0 to 3. The minimum score was 0 and the maximum total score was 45.

To interpret, the scores were categorized as follows:

0 = Never, 1= Occasionally, 2 = Often, 3 = Very Often

**INTERPRETATION:**

Score	Level of hyperactivity
0	No hyperactivity level
1-15	Mild level of hyperactivity
16-30	Moderate level of hyperactivity
31-45	severe level of hyperactivity

**CONTENT VALIDITY**

The tool validation was done prior to the pilot study by 13 experts, 4 Mental Health (Psychiatric) Nursing, 2 Psychiatrist, 3 Psychiatric Social worker, 3 Clinical ( child) psychologist, 1 Art therapist.

**RELIABILITY OF THE TOOL**

The Reliability of the Self structured Teacher rating scale was calculated by using Rater inter rater method. “ r ” : 0.96. thus the tool was reliable and was used in this study.

**PILOT STUDY:** To find the feasibility and Practicability of the study a pilot study was conducted among 6 children at St. Lourdes Primary School and Navkis School, Mathikere, Bangalore. The study was found to be feasible and practicable.

**Procedure for Data Collection:**

After obtaining permission from the Principal, M.S.R.I.N.E.R, and Principal, of St. Lourde’s High School. Student researcher had been provided with 40 hyperactive primary school children randomly

selected by the teachers. After introducing to the subjects. Written consent was taken from the participants.

Instructions and all the materials related to painting intervention were well explained to the subjects. First pre test was given to all the 40 subjects. Then structured intervention (painting) was given to 20 subjects in experimental group for an hour for 5days in a week, for 3 weeks continuously. The structured Painting sessions was arranged for 1 hour/day, starting with the 8 minutes of calming down exercise followed by 44 minutes of painting by the children, using the water colours paints on the paper with the use of brush and fingers as per the theme instructed by the student researcher and followed by the child wishes to paint. The painting session ended with 8 minutes of calming down exercise, In a week, four days the children did individual painting and on the 5<sup>th</sup> day it was group painting. The intervention was carried out for 3 weeks continuously. Post-test was conducted for both the groups after 3 weeks

### Plan for Data Analysis:

1. Frequency and percentage distribution was used for socio-demographic variables and level of hyperactivity.
2. Mean; Mean percentage and standard deviation was used for pre test and post test level of hyperactivity.
3. Paired 't' test was used to compare difference between the pre test and post test level of hyperactivity in the experimental and control group.
4. Independent 't' test was used to compare post test level of hyperactivity between the experimental and control group.
5. Chi-square test to find the association between pre test level of hyperactivity and selected socio-demographic variables.

### Findings of the study

**Table 1- Frequency and Percentage distribution of subjects according to level of hyperactivity in experimental and control group.**

Level Of Hyperactivity	PRE TEST				POST TEST			
	Experimental Group		Control Group		Experimental Group		Control Group	
	f	%	f	%	f	%	f	%
No hyperactivity	-	-	-	-	-	-	-	-
Mild hyperactivity	-	-	-	-	-	-	-	-

<b>Moderate hyperactivity</b>	15	75	6	30	19	9 5	4	20
<b>Severe hyperactivity</b>	5	25	14	70	1	5	16	80

Table 1: quotes that in the pre test , in the experimental group 75% of the subjects had moderate hyperactivity and 25% of the subjects had severe hyperactivity whereas in control group 70% of the subjects had severe hyperactivity and 30% of the subjects had moderate hyperactivity,. In the post test , in experimental group 95% of the subject had moderate hyperactivity and 5% had severe hyperactivity and in controlgroup 80% had severe hyperactivity and 20% of the subjects had moderate hyperactivity.

**Table:2 Comparison of pre test and post test hyperactivity scores in the experimental group**

(n=20)

TEST	MEAN	SD	't' Value
<b>PRE-TEST</b>	28.6	±3.28	8.24S*
<b>POST-TEST</b>	25.5	±2.39	

Table value(t),(df=degree of freedom)  $df_{19} = 2.093$  S\*- Significant at p 0.05 level Table :2 portrayed that in experimental group the mean of the pre-test is 28.6 whereas of post test is 25.5 The calculated paired't' value of experimental group is 8.24 which found to be statistically significant when compared to table value ( $df_{(19)}=2.093$ ) at p 0.05, level of significance. Hence  $H_{01}$  stated as there is no statistically significant difference between the pre test and post test hyperactivity scores in experimental group is rejected and restated as there is statistically significant difference between the pre test and post test hyperactivity scores in experimental group at p 0.05.



**Table: 3 Comparison of post test hyperactivity scores between the experimental and control group**

GROUP	MEAN	SD	n=40
			't' Value
Experimental Group	25.5	±2.39	8.45S*
Control Group	33.45	±3.60	

Table value (t), (df =degree of freedom)  $df_{38} = 2.021$ , S\*=Significant at p 0.05 level

Table: 3revealed that there is significant difference between the post test mean of hyperactivity scores of experimental and control The calculated student 't' value of experimental group is 8.45 which found to be statistically significant when compared to table value ( $df_{(38)}=2.021$ ) at p 0.05, level of significance. Hence  $H_0$  stated as there is no statistically significant difference between the post test hyperactivity scores of experimental and control group is rejected and restated as there is statistically significant difference between the post test hyperactivity scores of experimental and control group at p 0.05, level of significance.

### Major Findings of the Study

- Majority of the subject 90% of the experimental group and 100% of the control group were in the age group of 11 years.
- Majority of the subject 85% of the experimental group and 90% of the control group were males.
- Majority of the subjects 100% of experimental group and 100% of the control group were studying in the 5<sup>th</sup> standard.
- Majority of the subjects 90% of the experimental group and 80% of the control group were Hindus.
- Majority of the subjects 100% of the experimental group and 100% of the control group were the children of married parents.
- Majority of the subjects 50% of the experimental group and 75% of the control group were having 1 sibling.
- Majority of the subjects 45% of the experimental group and 45% of the control group were having the monthly family income in the range of Rs.10,001/- Rs. 20,000/-
- Out of the total subjects 35% of the experimental group and 15% of the control group were having the history of head injury and 5% of the experimental group and 5% of the control group were having the history of Asthma.

- Majority of the subject 100% of the experimental group and 100% of the control group were not having maternal history of substance exposure during the antenatal period.
- Majority of the subject 75% of the experimental group and 100% of the control group were having the rare incidence of parent-child conflicts.
- Majority of the subject 25% of the experimental group and 25% of the control group were having the parental history of substance use.
- The findings showed that in the experimental group 15(75%) of the subjects had moderate level of hyperactivity and 5(25%) of the subjects had severe level of hyperactivity. In the control group 6(30%) of the subjects had moderate level of hyperactivity and 14(70%) of the subjects had severe level of hyperactivity.
- The findings showed that in the experimental group, the mean for experimental group in the pre-test was 28.6(S.D 3.283) and that of the post test was 25.5(S.D 2.394)
- In the experimental group the calculated 't' value was 8.24 which is statistically significant at P 0.05 level. Hence  $H_{01}$  stated as there is no significant difference between pre test and post test level of hyperactivity in experimental group was rejected and restated as there is significant difference between pre-test and post-test level of hyperactivity in the experimental group.
- The post test mean for experimental group was 25.5(SD 2.394) and that of the control group was 33.45(SD 3.605).which shows that there is significant difference between post test mean of experimental and control group.
- Effectiveness of painting therapy was assessed by comparing the post test scores of experimental and control group and the calculated student 't' value 8.45 which was significant at P 0.05 level. Hence  $H_{02}$  stated as there is no significant difference between post test level of hyperactivity between experimental and control group was rejected and restated as there is significant difference between post test level of hyperactivity between experimental and control group.
- There was no significant association found between selected socio demographic variables and pre test level of hyperactivity, hence the  $H_{03}$  there is no significant association between pre test level of hyperactivity and selected socio - demographic variables was accepted.

**The following conclusions were drawn on the basis of findings of the study:**

- ✓ In this study after giving the painting it was found that severe level of hyperactivity of the primary school children was reduced to moderate level of hyperactivity which was statistically significant and hence the

painting was found to be effective for reducing the hyperactivity level in the primary school children.

➤ Thus painting can be used as one of the non-pharmacological significant difference between post test level of hyperactivity between experimental and control group.

## IMPLICATIONS

The findings of the study have implications in the following areas

### Nursing Practice:

➤ Nurses should be trained to practice different non-pharmacological measures and other complimentary therapies for managing hyperactive children.

➤ Nurses can health educate parents of the hyperactive children about complementary therapies so that the parents can practice them even in the home settings

➤ Nurses should be encouraged to use complementary therapies in care of patients.

### Nursing Education

✓ Nursing students should be given adequate clinical exposure of complementary therapies.

✓ The nurse educators have to provide firsthand experience to the students to improve their skills in practicing complementary therapies.

✓ The students need to be taught evidence based practices and keep their knowledge up-to-date.

✓ Nurse educators can periodically organize special training programmes to the staff nurses in order to educate the parents about the management of the hyperactive children.

### Nursing Administration:

➤ The Nurse administrators should take initiative in motivating the nurses to take up research studies to promote the complementary measures for various disorders.

➤ The Nurse administrator must organize in- service education and training programmes on complementary therapies.

➤ Policies and protocol should be formulated for the practice of complementary therapies in the hospital and community settings.

### Nursing Research:

➤ Nurse can conduct the research where the comparison between the different complementary therapies for reducing the hyperactivity among the children

**Recommendations:**

- ❖ Study can be replicated with larger samples for better generalization.
- ❖ Similar study can be conducted using cross over design with other measures.
- ❖ Different complementary treatment modalities can be compared in managing hyperactivity in school children.
- ❖ Similar study can be conducted by comparing level of hyperactivity between rural and urban settings.
- ❖ Replication of the study at different school setting could be carried out with a larger sample size.
- ❖ Comparative study can be done to assess the effectiveness of painting therapy and other psychotherapy measures in school children with hyperactivity.
- ❖ Comparative study can be done to assess the effectiveness of painting therapy in school children with hyperactivity and children with Attention Deficit Hyperactive Disorder

**Limitations**

As the setting was same for both the experimental and control groups, there maybe a chance for contamination of the subjects in the control group.

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