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# A Study to Assess the Effectiveness of Drawing and Painting on Behavioural Problems of Children with Attention Deficit Hyperactivity Disorder in a Selected Special School at Kanyakumari District

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## Abstract

Attention deficit hyperactivity disorder (ADHD) is one of the most frequently diagnosed psychiatric disorders in children[1]. In worldwide it affects roughly about 5% of children. In India, the prevalence of ADHD among primary school children was 11.32%[2]. Its core symptoms include developmentally inappropriate levels of attention, concentration, activity, distractibility and impulsivity. It has also been shown to have long term adverse effects on academic performance, vocational success and social emotional development[1].

The present study aims to prove that the drawing and painting is an effective modality in reducing the behavioural problems among ADHD. Here the post test mean score of behavioural problems 37.1 was lower than the pre test mean score of behavioural problems 44.9, and the corresponding 't' test value 24.810 which was also significant ($P < 0.001$).

***Keywords :*** *Attention Deficit Hyperactivity Disorder, Behavioural Problems, Drawing, Painting*

## Introduction

Children are the world's most valuable resource and its best hope for the future

*- John Fitzgerald Kennedy*

The children of today will be adults of tomorrow. Their quality and the personality will determine the kind of destiny that beacons the nation. But these children's are experiencing lot of problems in their early life itself. One of the most common problems that were faced by the children's is behavioural difficulties. Behavioural difficulties in children have wide ranging social and economic consequences[3].

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Attention deficit hyperactivity disorder (ADHD) is one of the behavioural disorder and developmental condition of inattention and distractibility, with or without accompanying hyperactivity. It may also lead to difficulties with academics or employment and social difficulties that can profoundly affect normal development[4]. However, studies suggest that childhood attention deficit hyperactivity disorder a risk factor for subsequent conduct and substance abuse problems[5].

A wide variety of treatments have been used for attention deficit hyperactivity disorder which include play therapy, dietary management, biofeedback, meditation, psychosocial treatment, psychotropic medications etc. In empirical literature agreed that only three treatments have been validated as effective short term treatment of attention deficit hyperactivity disorder that is behavior modification, central nervous system stimulants and the combination of these. Treatment strategies are designed to address the behavior, cognitive, social and family problems[6].

Drawing and painting has been used extensively with children in the latency age group in a school setting. A study describes six weeks of drawing and painting intervention was given for children with attention deficit hyperactivity disorder to exhibit the hyperactive behavior. Preliminary finding indicate that drawing and painting has the effect of decreasing hyperactive behaviors over time[7]. Thus drawing and painting considered as an effective method of intervention to reduce the behavioral problems in children with attention deficit hyperactivity disorder

## Back Ground of the Study

Attention deficit hyperactivity disorder is a highly co morbid condition and associated with externalizing disorders like Oppositional defiant disorder and conduct disorder, Internalizing disorders like major depression, and Somatization disorders. Up to 44% of attention deficit hyperactivity disorder children may have one psychiatric disorder, 32% of them are having two psychiatric disorder and 11% of them are having at least three of these disorders[8].

In 2016, an estimated 6.1 million US children aged 2–17 years (9.4%) were diagnosed with ADHD. Of these children, 5.4 million currently had ADHD, which was 89.4% of children ever diagnosed with ADHD and 8.4% of all U.S. Almost two-thirds of children with current ADHD (62.0%) were taking medication and slightly less than half (46.7%) had received behavioral treatment for ADHD in the past year; nearly one fourth (23.0%) had received neither treatment[9].

Behavioural difficulties in children have wide ranging social and economic consequences. However up to 50% of preschool behavioural problems can persist and develop into childhood mental health problems, leading to an increased risk of substance misuse, family violence and later crime[3].

Studies conducted in the western countries revealed that, many interventions had reduced the behavioural problems of children with attention deficit hyperactivity disorder like behavioural modification, drawing, painting, neurofeedback, multi model intervention etc. Among this intervention many studies shows that drawing and painting is an effective mode of treatment, because it gives a way to express themselves and find ways to redirect the energy required to maintain attention, so that it can be applied to listening, and improving the academic performance of the children.

Drawing and painting has much benefit as a treatment modality, it works with children with attention deficit hyperactivity disorder. It gives children a way to express themselves. Drawing and painting is also been used to help disturbed children learn to trust adults and have positive feelings about school. The role of drawing and painting has also been emphasized in developing and evaluating cognitive skills[10].

Drawing and painting is an intervention that has many benefit as a treatment modalities and it works with children having attention deficit hyperactivity disorder, like it gives children a way to express themselves and it has the ability to stop activity or even intrusion on others

## Hypotheses

H1 : There will be a significant difference in the behavioral problems of children with attention deficit hyperactivity disorder after drawing and painting.

H2 : There will be a significant association between the behavioral problems in children with attention deficit hyperactivity disorder and selected demographic variables like age, sex, education, type of family and income.

## Material and Method

The study conducted using quantitative approach with pre experimental one group pre test post test design. The population was children with attention deficit hyperactivity disorder who getting special education at Santhi Nilayam, a special school for mentally challenged, Erumbukadu. Totally 30 samples were selected using Purposive sampling technique.

Tool used to collect the data consist of 2 part. First part Demographic variable collected from participants profile and information from teachers consist of age, sex, education, type of family and income and the Second part to assess the behavior of the children by Attention deficit hyperactivity disorder rating scale. The content validity of the tool was established by seven experts. The reliability of the tool was tested by test retest method (0.96). The tool was found to be reliable.

The tool has 18 items, mainly assessing the core symptoms of attention deficit hyperactivity disorder that

is Inattention, Hyperactivity and Impulsivity symptoms. Items are rated on a four – point scale from 0 – 3 (0 – Not at all, 1- Just a little, 2- Often, 3- Very often) and the maximum score for this scale is 54. Based on the score level the behaviour was assessed.

| S.No | Behavioural problems | scores |
|---|---|---|
| 1 | Mild | 1-18 |
| 2 | Moderate | 19-36 |
| 3 | Severe | 37-54 |

**Data collection was done for six weeks.**

**Step 1 (Pre intervention assessment)**

Pre test was conducted in order to assess the moderate and severe behavioural problem of children with attention deficit hyperactivity disorder After the pre test and analyzing the score 30 children's had moderate and severe behavioural problems was selected as sample.

**Step 2 (Administration of intervention)**

The intervention of drawing and finger painting for 1 hour every day till 6 weeks. The children showed much interest in drawing and painting, which was observed throughout the intervention period.

**Step 3 (Post intervention assessment)**

After 6 weeks of intervention a post test was conducted using the same tool by the teachers

All the data were analyzed using Descriptive statistics to assess the pre test and post test score among attention deficit hyperactive disorder children and Inferential statistics (Paired 't' test) to compare the pre test and post test score among attention deficit hyperactive disorder children.

## Findings

In the pretest 6, (20%) of attention deficit hyperactivity disorder children had moderate behavioural problems and 24, (80%) of attention deficit hyperactivity disorder children had severe behavioural problems. In the posttest 10, (33.3%) of attention deficit hyperactivity disorder children had moderate behavioural problems and 20, (66.7%) of attention deficit hyperactivity disorder children had severe behavioural problems. In demographic variables the nuclear family was associated with the pretest behavioural problems and other demographic variables have no association with the pre test behavioural problems of children with attention deficit hyperactivity disorder.

**Table : 1 - Assessment of behavioural problems among children with attention deficit hyperactivity disorder before and after the drawing and painting N = 30**

| Score | Level of behaviour | Pre test | | Post test | |
|---|---|---|---|---|---|
| | | Frequency | % | Frequency | % |
| 1-18 | Mild | 0 | 0 | 0 | 0 |
| 19-36 | Moderate | 6 | 20.0 | 10 | 33.3 |
| 37-54 | Severe | 24 | 80.0 | 20 | 66.7 |

**Table : 2 - Effectiveness of drawing and painting in reducing the behavioural problems among children with attention deficit hyperactivity disorder N = 30**

| Subjects | Pre test | | Post test | | Reduction | | 't' test | d.f Significance P - value |
|---|---|---|---|---|---|---|---|---|
| | Mean | S.D | Mean | S.D | Mean | S.D | | |
| Behavioural problems | 44.9 | 6.2 | 37.1 | 6.0 | 7.8 | 1.7 | 24.810 | 29 P < 0.001 3.66 |

The post test mean score of behavioural problems 37.1 was lower than the pre test mean score of behavioural problems 44.9, the 't' test value 24.810 which was also significant ($P < 0.001$).

## Discussion

**The discussion based on stated objectives**

1. *To assess the pre test score of behavioral problems of children with attention deficit hyperactivity disorder before drawing and painting.*

On analyzing 20% of children had moderate behavioural problems and 80% of children had severe behavioural problems.

2. *To assess the post test score of behavioral problems of children with attention deficit hyperactivity disorder after drawing and painting.*

On analyzing 33.3% of children had moderate behavioural problems and 66.7% of children had severe behavioural problems.

3. *To find out the effectiveness of drawing and painting on behavioral problems of children with attention deficit hyperactivity disorder.*

On analyzing the data on effectiveness of drawing and painting on behavioural problems of children with attention deficit hyperactivity disorder revealed that mean reduction of behavioural problems was $7.8 \pm 1.7$. The above mean reduction was statistically significant. ($d.f = 29$, $P < 0.001$).

4. *To find out the association between the behavioral problems of children with attention deficit hyperactivity disorder and selected demographic variables such as age, sex, education, type of family and income.*

By analyzing the data found that nuclear family has significant association with the behavioral problems of attention deficit hyperactivity disorder children

## Conclusion

The study findings revealed that there was a significant reduction in the behavioural problems among children with attention deficit hyperactivity disorder after the administration of drawing and painting. Thus, drawing and painting played an important role in reducing behavioural problems among children with attention deficit hyperactivity disorder.

**Conflict of Interest :** Nil

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