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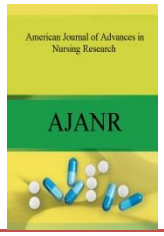

EFFECTIVENESS OF ART THERAPY ON BEHAVIOUR AMONG CHILDREN WITH ATTENTION DEFECIT HYPERACTIVITY DISORDER, IN SELECTED SCHOOL CHENNAI

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ABSTRACT

Background: Individual difference in behaviour is determined by the behaviour scale of Attention deficit hyperactivity disorder. It is one of the most prevalent mental disorders in children and is characterized by 3 core symptoms of inattention, hyperactivity and impulsivity. The condition typically presents in late preschool or early school age and frequently persists into adult hood; they are educable in the regular schools with special provisions. Objective: The objective of the study is to assess the pre and post-test levels of behaviour among children with ADHD in experimental and control group followed by effectiveness of art therapy on behaviour among children with ADHD. Methodology: A quasi experimental design, two group pre-test and post-test approach was adopted. Children who are in the age group between 6 years to 12 years, out of 60 samples 30 experimental and 30 control group. Results: The study result showed that the mean value of pre-test and post-test level of motor activity was 34.63 (S.D=9.60) and 28.97 (S.D=8.90) in experimental group. The overall independent 't' and paired 't' value reveals that there is statistically significant in Art Therapy on behaviour of Children with ADHD for experimental and Control Group at the level of P<0.001. The independent 't' test value of overall behaviour for experimental and control group was t=14.561. Conclusion: This study indicated that Art therapy had been highly effective in enhancing the level of behaviour among children with Attention Deficit Hyperactivity Disorder.

INTRODUCTION

Mentally healthy children and adolescents enjoy a positive quality of life; function well in home, school, and in their communities. Attention deficit hyperactivity disorder is one of the most complex, commonly encountered disorders in child psychiatric clinics, with prevalence estimated at 5% in UK. It is a behavioural and neuro cognitive disorder with multiple interacting features [1].

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Children with behaviour pattern similar to what now is called ADHD were described in the medical literature, a century ago by the British physician, George still. Signs and symptoms of mental health problems may be evident very early in life. Early intervention and treatment means better outcomes. The cardinal symptoms of the Attention deficit hyperactivity disorder include inappropriate levels of inattentiveness, motor over activity and impulsivity that arises during childhood [2]. ADHD can impact all aspects of people's lives including school, family and

social life. Parents of children with ADHD experience increased stress, self – blame, social isolation, depression and marital discord [3]. Although, ADHD is in some children a relatively mild disorder it can lead to clinically serious outcomes such as substance use disorders, delinquency, traffic accidents, injuries and increased heath care utilization.

Art therapy is a form of expressive therapy that uses art materials, such as paints, chalk, markers, vegetable printing etc. This approach, often referred to as art psychotherapy, emphasizes the products like drawings, paintings, and other art expressions as helpful in communicating issues, emotions, and conflicts [4]. Art therapy can be beneficial to people of all ages, but it is especially useful for children and adolescents. Art making has also been shown to enhance cognitive abilities, improve social skills, and encourage self-esteem in school-age children [5]. Art therapists are mental health professionals who are skilled in the application of a variety of art modalities (drawing, painting, clay, digital and computer-driven, and other media) for assessment and treatment and are specifically educated to use art in therapy with individuals of all ages [6]. World health organization (2008) stated that early identification of affected children is needed the characteristics of this disorder significantly interferes with the normal adaptive behaviour that impede behavioural adjustment while they try to cope up with cognitive dysfunction. Smitha RV and Aruna B(2009) was conducted a study on 100 girls belonging to IX standard in the age range of 14 years to 15 years were administered strength and difficulties questionnaire to assess the mental health problems in five areas namely, emotional problems, inattention, Hyperactivity, peer and pro-social behavioural problems [7]. The results showed that 15.7% had emotional problems, 8.8% had inattention problems, 5.9% had hyperactivity and 5% had peer and pro-social problems, which reduces academic performances [8].

Need of study:

In **India** there is very little systematic research in ADHD in children. Pharmacological intervention for ADHD, although effective, is far from satisfactory because of incomplete benefit, treatment failure and troublesome side effects. Even when combined with behaviour modification, cognitive behaviour therapy, and parent training behaviour is rarely completely normalized. Therefore, alternative and complementary treatments are needed to optimize therapeutic effects.

HYPOTHESIS:

H_1: There is significant difference in the level of behaviour among the children with Attention deficit hyperactivity disorder, who have undergone the art therapy than those who did not.

H_2: There is significant association between the levels of behaviour with selected demographic variables of experimental and control group in pre and post-test.

METHODOLOGY:

The study is carried out to determine the effectiveness of Art therapy on behaviour among children with attention deficit hyperactivity disorder in selected school. The methodology of research indicates the general patterns of organizing procedure to gather valid and reliable data for investigation. The study was conducted at Chennai “Tiny todds centre”, T. Nagar, Chennai.

RESEARCH DESIGN:

The research design chosen for this study was quasi-experimental with experimental and control group [9]. Total number of children are 72, all are non-residential children and staff is working in that centre was 10. Teaching staff is 7 and 2 non-teaching workers and 4 physiotherapists. The control group was also the same Tiny todds centre. The center is like day care centre and their regular schedule are speech therapy, daily living activies and physiotherapy and children are attending that center in time basis.

ETHICAL CONSIDERATION:

The study was conducted after the approval of Scientific Review Board and Institutional Ethical Committee of Saveetha University. Formal Permission was obtained from Puduvai Oviyakalai Panpattu Narsevai Iyakkam, Pondicherry.

PILOT STUDY:

The pilot study was conducted during the period 21.09.2011 to 27.09.2011 at “Aikya centre for ADHD", Mylapore, Chennai. Ten samples were selected by using purposive sampling technique where five sample as experimental group and five sample as control group. The demographic data was collected by using multiple choice questionnaire. Pretest was conducted by using ADHD scale for both experimental and control group [10].

Intervention given for experimental group and other control group (in session) was encouraged the parents to follow the care from day care centre, and post test was conducted by using ADHD scale for both experimental and control group, the study was found to be feasible.

VARIABLES

Independent variable: Art therapy

Dependent variable: Level of behaviour among the ADHD children.

SAMPLE: ADHD Children with age group 6 -12 yrs

Sample Size: 60 children (30:30)

CRITERIA FOR SELECTION [11]

Inclusion criteria

The inclusion criteria for sampling were

1. Children in age of 6 to 12 yrs old
2. Children who are permitted by the parents to participate in the study.
3. Children who are having interest in particular sessions, include free hand drawing, theme based drawing, puzzle/maze drawing, vegetable printing.
4. Children who have good motor activity.

Exclusion criteria

The exclusion criteria for sampling were,

1. Parents who are not willing to participate their children in the study.
2. Children who are allergic to crayons and paintings
3. Children those who are sick/absent.

DEVELOPMENT AND DESCRIPTION OF THE TOOL

The tool used for the study has got two sections.

PART –I: SOCIO DEMOGRAPHIC DATA The demographic data was developed by the investigator by extensive literature and with the consultation of experts in various fields like Nursing, Clinical Psychology, Psychiatric Medicine and Art therapist. The demographic data consists of code no, age, sex, birth order, family history of ADHD, type of marriage of their parents and subject handling [12].

PART – II: ADHD RATING SCALE.

It was standardized scale designed in the year February 2008 by foundation of Medical Practice Education and American Psychiatric Association. It is simple, well-laid-out, consist of 18 items in that 9 items are inattention and 9 items are hyperactivity and impulsivity. The rating scale had given the core symptoms of behaviour in ADHD which are inattention, hyperactivity and impulsivity.

Scoring interpretation

The interpretation of scoring is graded as follows:

0 indicates rarely or never; 1- somewhat; 2- indicates often; 3- indicates always or very often

Scoring Range

For each item the scoring was given as follows:

- 0-9 indicates normal
- 10-18 indicates mild
- 19-36 indicates moderate
- 37-54 indicates severe

RELIABILITY:

Reliability of the tool was 0.90. Reliability and practicability of the tool was tested through the pilot study.

TOOL VALIDITY:

The background factors are validated by 5 Nursing experts, one psychiatrist and one clinical psychologist. The experts were suggested to check the relevance, sequence and adequacy of items of rating scale.

Data collection

Samples were segregated into two groups as experimental (n=30) and control group (n=30) according to their age and educational level. Here the morning session 30 children taken as the experimental group and the afternoon session 30 children were selected as control group. The experimental group were divided into two batch contain 15 children. On the first day, the pretest and demographic variable of the first batch were assessed and on the same day Art therapy was given as intervention to the experimental group for 20 minutes.

The post test was assessed on the fourteenth day. Same method was followed for the other batch. Confidentiality was maintained. The investigator successfully completed the data collection within the stipulated period of 4 weeks. The entire procedure of data collection explained in data collection schedule [13]. The data analysis can be done based on various methods

which mentioned in the below table

RESULTS AND DISCUSSION

The data collected were tabulated and analysed by using descriptive and inferential statistics. The results were classified in the following sections.

Table 1 showing frequency and percentage distribution of selected demographic variable among Children with Attention Deficit Hyperactivity Disorder of Experimental & Control Group. Out of 60 children, experimental group consists of 30 children and control group consists of 30 children. In experimental group seven (23.3%) were in age group of 6-7 years and in control group 10 (33.3%) were in age group of 6-7 years. Regarding gender in experimental group out of 21 (70.0%) were males and nine (30.0%) were females, in control group 26 (86.7%) were males and four (13.3%) were females.

According to birth order, in experimental group 16 (53.3%) were second and in control group 15 (50%) were second. Out of education in experimental group 12 (40%) were in 3-4 standard and in control group 6 (20%) were in 3-4 standard, regarding family income in both experimental and control group 30 (1005) were having monthly income Rs.6001 and above.

Considering type of marriage pattern, in experimental group 18 (60%) is having non-consanguineous marriage and in control group 27 (90%) were non- consanguineous marriage. With respect of type of family, in experimental group eight (26.7%) is from nuclear family and in control group 10 (33.3%) is from nuclear family. Regarding ante natal history, in experimental group 27 (90%) were healthy and in control group 22 (73.3%) were healthy. In experimental group 13 (43.3%) were having birth injury, 17 (56.7%) were belong caesarian, in control group 16 (53.3%) were belong birth injury, 13 (43.3%) were caesarian. Out of medical history in experimental group 29 (96.7%) were healthy and in control group eight (26.7%) has got malnutrition. According to care giver, in study group 23 (76.7%) were by mother and in control group 27 (90.0%) were by mother.

Table 2 reveals the Mean and standard deviation of level of behaviour among children with Attention deficit hyperactivity disorder of experimental group in pre-test and post-test. In pre-test the mean and standard deviation in inattention were 18 and 5.60 respectively. With respect of hyperactivity and impulsivity it was 16.60 and 5.18 and for overall behaviour it was 34.63 and 9.60 respectively. In post-test regarding inattention the mean and standard deviation were 14.93 and 4.77 respectively. According to hyperactivity and impulsivity it was 14.03 and 4.73 and for overall behaviour it was 28.97 and 8.90 respectively.

Table 3 shows the Mean and standard deviation of Behaviour of Children with ADHD among Children for control Group in Pre Test & Post Test. In pre-test the mean and standard deviation of inattention were 20.57 and 3.70 respectively. Regarding hyperactivity and impulsivity it was 19.90 and 4.81 and for overall behaviour it was 40.47 and 7.44 respectively. In post-test the mean and standard deviation of inattention were 20.67 and 3.64 respectively. Regarding hyperactivity and impulsivity it was 19.27 and 5.05 and for overall behaviour it was 39.93 and 7.56 respectively.

Table 4 reveals pre and post-test level of Behaviour of Children with ADHD among Children for experimental and Control Group. In experimental group, during pre-test two (6.7%) were in mild level of behaviour, 15 (50%) were in moderate level of behaviour, 13 (43.3%) were in severe level of behaviour. In control group, (3.3%) were in mild level of behaviour, 10 (33.3%) were in moderate level of behaviour, 19 (63.3%) were in severe level of behaviour. In experimental group, during post-test seven (23.3%) were in mild level of behaviour, 18 (60%) were in moderate level of behaviour, five (16.7%) were in severe level of behaviour. In control group, one (3.3%) were in mild level of behaviour, 12 (40.0%) were in moderate level of behaviour, 17 (56.7%) were in severe level of behaviour.

Table 5 Illustrates Effectiveness of Art Therapy on Behaviour among children with Attention deficit hyperactivity disorder in experimental group. The overall mean for inattention for the study group was 3.07 and standard deviation was 2.20. Overall mean for hyperactivity was 2.57 and standard deviation was 1.52.Overall mean for overall behaviour was 5.67 and standard deviation was 1.58. Paired ‘t’ value reveals that there is statistically significant increase in the behaviour of ADHD children after giving Art Therapy.

Table 6 Illustrates the Effectiveness of Art Therapy on Behaviour among children with Attention deficit hyperactivity disorder in control group. The overall mean for inattention for the study group was -0.10 and standard deviation was 0.48. Overall mean for hyperactivity was 0.63 and standard deviation was

1.37.Overall mean for overall behaviour was 0.53 and standard deviation was 1.11. Paired 't' value reveals that ther significant change in the behaviour of ADHD children in the control group.

Table 7 Illustrates the Comparison of Effective of Art therapy on behaviour among Children with Attention deficit hyperactivity disorder between Experimental and Control Group**.** The overall mean for inattention for the study group was 3.07 and standard deviation was 2.20. Overall mean for hyperactivity was 2.57 and standard deviation was 1.52.Overall mean for overall behaviour was 5.67 and standard deviation was 1.5. The overall mean for inattention for the study group was -0.10 and standard deviation was 0.48. Overall mean for hyperactivity was 0.63 and standard deviation was 1.37.Overall mean for overall behaviour was 0.53 and standard deviation was 1.11. Paired 't' value reveals that there is statistically significant in the Effectiveness of Art Therapy on Behaviour of Children with ADHD for experimental and Control Group.

Table 8 illustrates the association between pre-test Level of Behaviour with the Demographic Variables among Children with attention deficit hyperactivity disorder in Experimental Group. Chi Square reveals that there is no significant association of the demographic variables with the level behaviour among children except family history of ADHD

Table 9 illustrates the association between post-test Level of Behaviour and Demographic Variables among Children with attention deficit hyperactivity disorder in Experimental Group. Chi Square reveals that there is no significant association of the demographic variables with the level behaviour among children except age

Section I

S.NO	DATA ANALYSIS	METHOD	OBJECTIVES
1	Descriptive statistics	Frequency, percentage, Mean and standard Deviation	To assess the pre and post-test levels of behaviour among children with Attention deficit hyperactivity disorder in experimental and control group.
2	Inferential Statistics	Paired 't' test and independent 't' test	To evaluate the effectiveness of Art therapy on behaviour regarding children with Attention deficit hyperactivity disorder.
3	Inferential Statistics	Chi Square test	To associate the levels of behaviour with the selected demographic variables among children with Attention deficit hyperactivity disorder.

Table: 1 Frequency and percentage distribution of Demographic Variables among Children with ADHD of Experimental & Control Group (n=60)

Demographic Variables	Experimental Group		Control Group	
	Frequency	%	Frequency	%
1. Age in years				
a) 6 – 7 yrs	7	23.3%	10	33.3%
b) 8 – 9 yrs	5	16.7%	10	33.3%
c) 9 – 10 yrs	12	40.0%	4	13.3%
d) 11 – 12 yrs	6	20.0%	6	20.0%
2. Gender of the child				
a) Male	21	70.0%	26	86.7%
b) Female	9	30.0%	4	13.3%
3. Birth Order				
a) First	9	30.0%	15	50.0%

b) Second	16	53.3%	15	50.0%
c) Third & above	5	16.7%	0	0.0%
4. Education of the Child				
a) I – II Standard	9	30.0%	10	33.3%
b) III – IV Standard	12	40.0%	6	20.0%
c) V – VI Standard	4	13.3%	0	0.0%
d)no formal education	5	16.7%	14	46.7%
5. Family Income				
a) Rs. 1000 - 3000	0	0%	0	0%
b) Rs. 3001 - 6000	0	0%	0	0%
c) Rs. 6001 & above	30	100.0%	30	100.0%
6. Family history of ADHD				
a) Mother	4	13.3%	5	16.7%
b) Father	7	23.3%	4	13.3%
c) Siblings	7	23.3%	10	33.3%
d) Other relations	12	40.0%	11	36.7%
7. Type of Marriage Pattern				
a) Consanguineous	12	40.0%	3	10.0%
b) Non Consanguineous	18	60.0%	27	90.0%
8. Type of Family				
a) Nuclear	8	26.7%	10	33.3%
b) Extended	15	50.0%	9	30.0%
c) Single parent	3	10.0%	6	20.0%
d) Broken family	4	13.3%	5	16.7%
9. Antenatal History				
a) Psychological factor	1	3.3%	0	0.0%
b) Physical factor	2	6.7%	7	23.3%
c) Environmental	0	0.0%	1	3.3%
d) Healthy	27	90.0%	22	73.3%
10. Natal History				
a) Birth injury	13	43.3%	16	53.3%
b) Caesarian	17	56.7%	13	43.3%
c) Vaginal Delivery	0	0.0%	1	3.3%
11. Medical History				
a) Seizures	0	0.0%	2	6.7%
b) Sensory impairment	0	0.0%	1	3.3%
c) Malnutrition	1	3.3%	8	26.7%
d) Healthy	29	96.7%	19	63.3%
12. Care Giver				
a) Mother	23	76.7%	27	90.0%
b) Father	1	3.3%	2	6.7%
c) Servant maid	2	6.7%	1	3.3%
d) Other relations	4	13.3%	0	0.05

Table: 2 Mean and standard deviation of level of behaviour among children with ADHD of experimental group in pre-test and post-test (n=30)

Level of Behaviour	Pre test			Post test		
	Experimental Group (n=30)			Experimental Group (n=30)		
	Mean	S.D.	Range (Min. –Max.)	Mean	S.D.	Range (Min. – Max.)
Inattention	18.00	5.60	5 – 26	14.93	4.77	5 – 23
Hyperactivity and impulsivity	16.60	5.18	8 – 24	14.03	4.73	5 – 21
Overall Behaviour	34.63	9.60	17 – 49	28.97	8.90	14 – 42

Table 3: Mean and standard deviation of level of behaviour among children with ADHD of control group in pre-test and post-test. (n=30)

Level of Behaviour	Pre test			Post test		
	Control Group (n=30)			Control Group (n=30)		
	Mean	S.D.	Range (Min. – Max.)	Mean	S.D.	Range (Min. – Max.)
Inattention	20.57	3.70	9 – 27	20.67	3.64	9 – 27
Hyperactivity and impulsivity	19.90	4.81	9 – 27	19.27	5.05	9 – 27
Overall Behaviour	40.47	7.44	18 – 50	39.93	7.56	18 – 49

Table 4: Level of Behaviour of Children with ADHD among Children of Experimental and Control Group in pre and post-test (n=60)

Level of Behaviour	Experimental Group (n=30)				Control Group (n=30)			
	Pre test		Post test		Pre test		Post test	
	Freq	%	Freq	%	Freq	%	Freq	%
Normal (0-9)	-	-	-	-	-	-	-	-
Mild (10-18)	2	6.7%	7	23.3%	1	3.3%	1	3.3%
Moderate (19-36)	15	50.0%	18	60%	10	33.3%	12	40.0%
Severe (37-54)	13	43.3%	5	16.7%	19	63.3%	17	56.7%
Total	30	100%	30	100%	30	100%	30	100%

Section II

Table 5: Effectiveness of Art Therapy on Behaviour among children with ADHD in experimental group (n=30)

Level of Behaviour	Effective score (n=30)		Paired t test and P value
	Mean	S.D.	
Inattention	3.07	2.20	t = 7.648, P = 0.000 ***
Hyperactivity	2.57	1.52	t = 9.224, P = 0.000 ***
Overall Behaviour	5.67	1.58	t = 19.607, P = 0.000 ***

Table 6: Effectiveness of Art Therapy on Behaviour among children with ADHD in control group (n=30)

Level of Behaviour	Effective score (n=30)		Paired t test and P value
	Mean	S.D.	
Inattention	-0.10	0.48	t = 1.140, P = 0.264 (N.S)
Hyperactivity	0.63	1.37	t = 2.520, P = 0.018 *
Overall Behaviour	0.53	1.11	t = 2.641, P = 0.013 *

Note: * - P<0.05 Level of Significant, N.S. – Not Significant

Table 7: Comparison of Effective of Art therapy on behaviour among Children with ADHD between Experimental and Control Group (n=60)

Behaviour	Experimental Group (n=30)		Control Group (n=30)		Independent t test and P value
	Mean	S.D.	Mean	S.D.	
Inattention	3.07	2.20	-0.10	0.48	t = 7.715, P = 0.000 ***
Hyperactivity	2.57	1.52	0.63	1.37	t = 5.156, P = 0.000 ***
Overall Behaviour	5.67	1.58	0.53	1.11	t = 14.561, P = 0.000 ***

Note: * - P<0.001 Level of Significant**

Section III

Table 8: Association between pre-test Level of Behaviour and Demographic Variables among Children with ADHD in Experimental Group (n=30)

Demographic Variables	Mild (10 - 18)		Moderate (19 - 36)		Severe (37 - 54)		Chi Square value & P value
	Freq	%	Freq	%	Freq	%	
1. Age in years							
a) 6 – 7 yrs	0	0.0	5	71.4	2	28.6	$\chi 2 = 7.9330$,
b) 8 – 9 yrs	0	0.0	3	60.0	2	40.0	d.f = 6
c) 9 – 10 yrs	2	16.7	6	50.0	4	33.3	P=0.243 (N.S)
d) 11 – 12 yrs	0	0.0	1	16.7	5	83.3	
2. Sex of the child							$\chi 2 = 1.380$,
a) Male	2	9.5	11	52.4	8	38.1	d.f = 2
b) Female	0	0.0	4	44.4	5	55.6	P=0.502 (N.S)
3. Birth Order							$\chi 2 = 3.047$,
a) First	0	0.0	6	66.7	3	33.3	d.f = 4
b) Second	1	6.3	7	43.8	8	50.0	P=0.550 (N.S)
c) Third & above	1	20.0	2	40.0	2	40.0	
4. Education of the Child							$\chi 2 = 7.643$,
a) I – II Standard	0	0.0	7	77.8	2	22.2	d.f = 6
b) III – IV Standard	2	16.7	4	33.3	6	50.0	P=0.265 (N.S)
c) V – VI Standard	0	0.0	1	25.0	3	75.0	
d)no formal education	0	0.0	3	60.0	2	40.0	
5. Family history of ADHD							
a) Mother	0	0.0	3	75.0	1	25.0	$\chi 2 = 13.414$,
b) Father	0	0.0	6	85.7	1	14.3	d.f = 6
c) Siblings	2	28.6	1	28.6	4	57.1	P=0.037 *
d) Other relations	0	0.0	5	0.0	7	58.3	
6. Type of Marriage Pattern							$\chi 2 = 0.566$,
a) Consanguineous	1	8.3	5	41.7	6	50.0	d.f = 2
b) Non Consanguineous	1	5.6	10	55.6	7	38.9	P=0.753 (N.S)
7. Natal History							$\chi 2 = 2.266$,
a) Caesarian	0	0.0	8	61.5	5	38.5	d.f = 2
b) Vaginal Delivery	2	11.8	7	41.2	8	47.1	P=0.322 (N.S)

Note: * - P<0.05 Level of Significant, N.S.- Not Significant

Section IV

Table 9: Association between post-test Level of Behaviour and Demographic Variables among Children with ADHD in Experimental Group (n=30)

Demographic Variables	Mild (10 - 18)		Moderate(19 - 36)		Severe (37 - 54)		Chi Square value & P value
	Freng	%	Freng	%	Freng	%	

1. Age in years							
a) 6 – 7 yrs	1	14.3	6	85.7	0	0.0	χ 2 = 13.603,
b) 8 – 9 yrs	1	20.0	2	40.0	2	40.0	d.f = 6
c) 9 – 10 yrs	4	33.3	8	66.7	0	0.0	P=0.05 *
d) 11 – 12 yrs	1	16.7	2	33.3	3	50.0	
2. Gender of the child							χ 2 = 0.340,
a) Male	5	23.8	12	57.1	4	19.0	d.f = 2
b) Female	2	22.2	6	66.7	1	11.1	P=0.844 (N.S)
3. Birth Order							χ 2 = 2.431,
a) First	2	22.2	6	66.7	1	11.1	d.f = 4
b) Second	4	25.0	10	62.5	2	12.5	P=0.657 (N.S)
c) Third & above	1	20.0	2	40.0	2	40.0	
4. Education of the Child							
a) I – II Standard	1	11.1	8	88.9	0	0.0	χ 2 = 7.681,
b) III – IV Standard	3	25.0	5	41.7	4	33.3	d.f = 6
c) V – VI Standard	1	25.0	2	50.0	1	25.0	P=0.262 (N.S)
d)no education	2	40.0	3	60.0	0	0.0	
5. Family history of ADHD							χ 2 = 4.420,
a) Mother	0	0.0	3	75.0	1	25.0	d.f = 6
b) Father	3	42.9	4	57.1	0	0.0	P=0.620 (N.S)
c) Siblings	2	28.6	4	57.1	1	14.3	
d) Other relations	2	16.7	7	58.3	3	25.0	
6. Type of Marriage Pattern							χ 2 = 0.033, d.f = 2
a) Consanguineous	3	25.0	7	58.3	2	16.7	P=0.984 (N.S)
b) Non Consanguineous	4	22.2	11	61.1	3	16.7	
7. Natal History							χ 2 = 0.032,
b) Caesarian	3	23.1	8	61.5	2	15.4	d.f = 2
c) Vaginal Delivery	4	23.5	10	58.8	3	17.6	P=0.984 (N.S)

Note: * - P<0.05 Level of Significant, N.S. – Not significant

CONCLUSION

Quasi-experimental research design chosen with experimental and control group to assess the effectiveness of Art therapy on behaviour among children with attention deficit hyperactivity disorder with sample size of sixty (experimental-30, Control-30). Level of Behaviour of Children with ADHD among Children for Study and Control Group in Pre-test are ,In Experimental group out of 30 children 2 (6.7%) were in mild level of behavior, 15 (50%) were in moderate level of behavior,13 (43.3%) were in severe level of behaviour. In control group out of 30 children 1 (3.3%) were in mild level of behaviour, 10 (33.3%) were in moderate level of behaviour, 19 (63.3%) were in severe level of behavior. Paired 't' value reveals that there is statistically significant in the Effectiveness of Art Therapy on behaviour of Children with ADHD for Study and Control Group at the level P<0.001. The findings of the present study have its implications to nursing practice, nursing education, nursing administration and nursing research. Present study could directly help the nurses to understand the knowledge of ADHD and practice of Art therapy on behaviour of children with ADHD. Nursing personnel should be given in-service education to update their knowledge regarding ADHD and Implementation of Art therapy. Research should be conducted on preparation of better practice of nursing care and development of good and effective policy to provide quality care to the high risk children. There is need to have research based evidence to proven cost effectiveness of Art therapy and ADHD treatment.

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