



# EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE AND MANAGEMENT STRATEGIES REGARDING ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG PARENTS OF PRIMARY SCHOOL CHILDREN

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## **Abstract**

Attention deficit hyperactivity disorder is one among the most common childhood condition which exhibits as inattention, impulsivity and over activity. **Objective:** The aim of the study is to evaluate the effectiveness of structured teaching program on knowledge regarding ADHD and its management strategies among parents of primary school children and to find the association between pretest knowledge scores with selected demographic variables. **Materials and Methods:** A quantitative approach with one group pretest post-test experimental design with 70 participants who were selected under purposive sampling technique was used in this study. **Results:** The study reveals a mean pretest knowledge score of 13.24 and it was increased to in post-test knowledge mean score of 16.33 after implementing Structured Teaching Program. A statistically significant association was also observed for residence (0.024) and type of family (0.007) at a significance level of  $p < 0.05$  and  $p < 0.01$  respectively. These data exclaims the need of continued ADHD screening and teaching for teachers and parents on a regular basis.

**Keywords:** ADHD, Attention deficit, Hyperactivity, Primary School, Parent, Knowledge

## INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is a disorder marked by an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development<sup>1</sup>. Inattention means a person wanders off task, lacks persistence, has difficulty sustaining focus, and is disorganized; and these problems are not due to defiance or lack of comprehension. Hyperactivity means a person seems to move about constantly, including in situations in which it is not appropriate; or excessively fidgets, taps, or talks. In adults, it may be extreme restlessness or wearing others out with constant activity. Impulsivity means a person makes hasty actions that occur in the moment without first thinking about them and that may have a high potential for harm, or a desire for immediate rewards or inability to delay gratification. An impulsive person may be socially intrusive and excessively interrupt others or make important decisions without considering the long-term consequences.<sup>2</sup>

Inattention and hyperactivity/impulsivity are the key behaviors of ADHD. Some people with ADHD only have problems with one of the behaviors, while others have both inattention and hyperactivity-impulsivity. Most children have the combined type of ADHD. In preschool, the most common ADI-ID symptom is hyperactivity. It is normal to have some inattention, unfocused motor activity, and impulsivity, but for people with ADHD, these behaviors are more severe, occur more often interfere with or reduce the quality of how they function socially, at school, or in a job.<sup>3</sup>

ADHD symptoms can appear as early as between the ages of 3 and 6 and can continue through adolescence and adulthood. Symptoms of ADHD can be mistaken for emotional or disciplinary problems or missed entirely in quiet, well-behaved children, leading to a delay in diagnosis. Adults with undiagnosed ADHD may have a history of poor academic performance, problems at work, or difficult or failed relationships.<sup>4</sup> Researchers are not sure what causes ADHD. Like many other illnesses, several factors can contribute to ADHD, such as: Genes, Cigarette smoking, alcohol use, or drug use during pregnancy, exposure to environmental toxins during pregnancy, exposure to environmental toxins, such as high levels of lead, at a young age, low birth weight, brain injuries.<sup>5</sup> Primary school age is the period between 6-10 years. Early childhood is the critical period of behavior formation. The school period is an exciting period of transition

from limited language ability, primarily sensory motor engagement with the surrounding environment to mastery of communication, a high degree of motor activity and a significant competence in self-regulation, expanding cognitive, behavior and emotional changes and heightened ability to empathize with others. 6 Children are one third of our population and all of our future. In order to develop a health society, it is important that we have healthy Children.<sup>6</sup>

Behavioral problems that commonly occur during childhood are conduct disorders, emotional disorders, attention deficit hyperactivity disorder and scholastic disorders. All young children can be naughty, defiant and impulsive from time to time, which is perfectly normal. However, some children have extremely difficult and challenging behaviors that are outside the norm for their age. Effective way of reducing behavioral problems can be through behavioral plan developed by parents, teachers, administrators and school staff and use positive interactive approaches that remove the inappropriate behavior. The components include inform people what is expected, avoid threats, build self-confidence, use positive modelling and provide positive learning environment.<sup>7</sup> In worldwide, the prevalence rate of behavioral problems is 15% and 12.2% conduct disorder, 9.5% attention deficit hyperactivity disorder, 8.3% emotional disorders, 0.4% scholastic disorders, 1.5% adjustment disorder, 1% pervasive developmental disorder. In India, the prevalence rate of behavioral problems is 43.1% and 14.5% conduct disorder, 29.7% attention deficit hyperactivity disorder, 12.5% emotional disorder, 7.1% scholastic disorders, 2% adjustment disorder, 9.5% pervasive developmental disorder.<sup>9</sup>

In Kerala, a study have done by Child development center Trivandrum, a Clinical and functional profile of 6-12-year-old children with attention deficit hyperactivity disorder referred to a tertiary care center in South India. Finding was ADHD prevalence in a clinically referred sample was 12.7%. Boy to girl ratio was 6:1. The mean age of presentation was 8.2 years (SD 6.09). Children presenting with ADHD symptoms at a later age (9-12 years) had lower IQ scores than those diagnosed at a younger age.<sup>8</sup> In order to meet the challenges of raising a child with ADHD, one must to be able to master a combination of compassion and consistency. Living in a home that provides both love and structure is the best thing for a child or teenager who is learning to manage ADHD. As a parent; one should set the stage for their child's emotional and physical health. One

should have control over many of the factors that can positively influence the symptoms of your child's disorder. Maintain a positive attitude, best assets for helping your child meet the challenges of ADHD are your positive attitude and common sense. When you are calm and focused, you are more likely to be able to connect with your child, helping him or her to be calm and focused as well. ADHD can be a disabling illness; if children with ADHD are left untreated it could interfere significantly with the child's education, interpersonal relationships with others, their mental health status and cause psychiatric co-morbidity. So, comprehensive intervention for ADHD includes parents' involvements in many aspects as referral of children with disturbed behaviors, provision of information about their academic history and performance, social relations and general everyday functioning, treatment planning and implementation. Thus, insufficient or lack of knowledge and/or negative attitudes towards children with ADHD and its management result in improper management and treatment failure. Parents play a major role in the assessment of children's academic and behavioral problems due to their extensive contact with children in a variety of settings.<sup>6</sup>

A study conducted in south India that only 19 percent parents had adequate knowledge, 47 percent had moderate knowledge and 34 percent had inadequate knowledge on behavioral problems of boys. This study also suggested that adequate knowledge to parents will help to reduce the behavioral problems among boys.

<sup>7</sup> A study was conducted in Kolkata on Parental Knowledge of and Educational Intervention on Behavioral Disorders in Pre-school Children. The result indicates the pre test score on common behavioral problems in Preschool children was only 40% and post test score after an educative intervention, the parents gained knowledge of 78%. Moreover, knowledge on manifestation of ADHD was gained through 28% to 60%.<sup>8</sup>

Home is considered a unique setting for the early detection and effective management of ADHD. Parents need an efficient knowledge about needs/problems of the affected children and to plan effective behavior management strategies in dealing with those children.<sup>10</sup> Studies show that interventional programs have a role in an increasing knowledge of parents regarding ADHD, improving awareness and understanding for this disorder which lead to better performance of these children. Farahat T, Alkot M, Rajab A, Anbar R (2014) A cross-sectional study was conducted on prevalence of Attention deficit hyperactivity disorder among primary school children in Menoufla Governorate, Egypt. The sample was divided into cases and

controls to study the risk factors. Prevalence of ADHD was 6.9% and the male and female ratio was 3.5:1.

The main risk factors were neonatal problems, family history of psychiatric and medical illnesses, and male gender. Prevalence of ADHD among Menoufia school children was 6.9%. Dealing with its risk factors is mandatory for prevention, early management, and better outcome.<sup>11</sup>

A cross-sectional study was conducted on prevalence of Attention Deficit Hyperactivity Disorder in primary school children in Coimbatore District. The presence of ADHD was assessed by using Conner's Abbreviated Rating Scale (CARS) given to parents and teachers. The prevalence of ADHD among primary school children was found to be 11.32%. Prevalence was found to be higher among the males (66.7%) as compared to that of females (33.3%). The prevalence among lower socio-economic group was found to be 16.33% and that among middle socio-economic group was 6.84%. The prevalence was highest in the age group 9 and 10 years.<sup>12</sup>

An experimental study was conducted to assess the effectiveness of structured teaching programme on knowledge regarding selected common behavioral problems of children among primary school teachers in selected school at Vadodara. The result showed that in pre test primary school teachers had average 49.40% knowledge regarding selected common behavioral problems of children and mean score was  $14.82 \pm 3.372$  and in post test, average 75.83% knowledge regarding selected behavioral problems of children and mean score was  $22.75 \pm 2.802$ . This study concluded that structured teaching programme is effective tool to improve the knowledge of primary school teachers regarding selected common behavioral problems of children." ADHD can be a disabling illness; if children with ADHD are left untreated it could interfere significantly with the child's education, interpersonal relationships with others, their mental health status and cause psychiatric co-morbidity.<sup>13</sup> So, comprehensive intervention for ADHD includes parents' involvements in many aspects as referral of children with disturbed behaviors, provision of information about their academic history and performance, social relations and general everyday functioning, treatment planning and implementation. Thus, insufficient or lack of knowledge and/or negative attitudes towards children with ADHD and its management result in improper management and treatment failure.

This study mainly emphasizes the need for increasing the parental awareness to prevent and diagnose the behavioral disorders in children at the earliest.

## MATERIALS AND METHODS

The aim of the study was to evaluate the effectiveness of the structured teaching program among the parents of primary school children regarding the management strategies of ADHD. It is assumed that the structured teaching program on the topic will enhance the level of knowledge among parents. Parents play a major role in the assessment of children's academic and behavioral problems due to their extensive contact with children in a variety of settings. Home is considered a unique setting for the early detection and effective management of ADI-ID. Parents need an efficient knowledge about needs / problems of the affected children and to plan effective behavior management strategies in dealing with those children. Studies show that interventional programs have a role in an increasing knowledge of parents regarding ADHD, improving awareness and understanding for this disorder which lead to better performance of these children.<sup>14</sup>

In this study effectiveness refers to the intended change in the knowledge regarding ADHD and its management among parents of primary school children after the educative intervention. About 70 parents were selected under randomization and the study was done with a quantitative research approach and one group pre test – post test design. The design can be compared with a quasi experimental study which was done among antenatal mothers for evaluating the effectiveness of education regarding the antenatal practices for preventing minor ailments<sup>15</sup>. Another study done among 100 antenatal mothers for finding the efficacy of Kangaroo Mother Care with the same design<sup>16</sup>. Two more similar studies were conducted with same methodology among mastectomy patients and school going children<sup>17-18</sup>. The samples were selected under the inclusion criteria such as parents of primary school children with in the age group of 5 – 11 and those who are able to read and write English and Malayalam. Those parents who are mentally and physically not well and those who are not willing to participate in the study were excluded from the study. The tool used for the data collection consisted two parts – socio demographic variables and structured knowledge questionnaire on ADHD and its management strategies. The module used for teaching parents were prepared by referring standard books on ADHD and was validated with 6 experts in psychiatric nursing and psychiatric

medicine departments. The topics covered included the baseline anatomical and physiological changes of brain of ADHD children, the causes, clinical picture, highlighting the management strategies. A knowledge questionnaire is prepared according to the content and the reliability was tested with test retest reliability.

## 1. RESULTS AND ANALYSIS

**Table 1** Frequency and percentage distribution of demographic characteristics

n = 70

SI No	Demographic Characteristics	Frequency	Percentage
<b>1</b>	<b>Class of study</b>		
	a) LKG	11	15.7
	b) UKG	40	57.1
	c) Class 1	19	27.1
<b>2</b>	<b>Age of parent</b>		
	b) 26 – 30 years	13	18.6
	c) 31- 35 years	32	45.7
	d) Above 36 years	25	35.7
<b>3</b>	<b>Relationship with the child</b>		
	a) Mother	42	60.0
	b) Father	28	40.0
<b>4</b>	<b>Religion</b>		
	a) Hindu	18	25.7
	b) Christian	1	1.4
	c) Muslim	51	72.9
<b>5</b>	<b>Area of residence</b>		
	a) Urban	31	44.3
	b) Rural	39	55.7
<b>6</b>	<b>Educational Qualification</b>		
	a) Up to matriculation	4	5.7
	b) Higher secondary	20	28.6
	c) Graduate	38	54.3
	d) Post graduate / professional	8	11.4
<b>7</b>	<b>Number of Children</b>		
	a) One	29	41.4
	b) Two	38	54.3
	c) Three	3	4.3
<b>8</b>	<b>Type of family</b>		
	a) Nuclear family	40	57.1
	b) Joint family	30	42.9
<b>9</b>	<b>Previous knowledge on ADHD</b>		
	a) Yes	37	52.9
	b) No	33	47.1
<b>10</b>	<b>Any family history of ADHD</b>		
	a) Yes	3	4.3
	b) No	67	95.7

Table 1 depicts that majority of the students are from upper kindergarten (57.1%). The majority (45.7%) of the parents are from the age group 31-35 years, among them a lion’s share (60%) were females. The religious category showed most of them (72.9%) belonged to Muslim religion and were (55.7%) from rural area of residence. Among the selected samples 54.3% were having graduation, but 53.9% did not has any previous knowledge regarding ADHD. Majority of the samples (54.3%) had two children in their family and 57.1% were running nuclear families. Apart from all these data the 95.7% of the families had no history of ADHD and 4.3% had a history of ADHD.

**Figure 1 Pretest and post knowledge scores of samples regarding management strategies of Attention Deficit Hyperactivity Disorder**

**Figure 1: Pretest and Posttest knowledge scores of the samples**

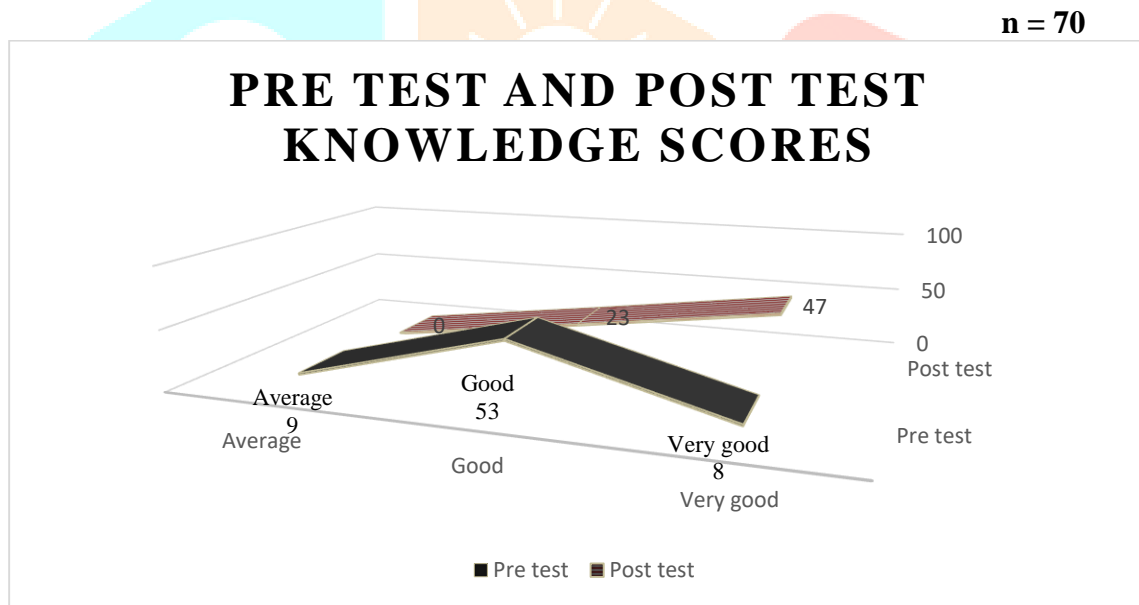


Figure 1 plots the pre test and post test knowledge score of the samples regarding the management strategies of ADHD among parents which clearly shows that the post test results shows a well-defined hike in the very good level from 8 to 47. At the same time the second level of grading named Good shows a decline from 53 to 23. The effectiveness of the programme explained here will be justified with the statistical analysis in the table (Table 2) followed by this figure



**Table 2 Effectiveness of the teaching programme**

<b>n = 70</b>				
	<b>Mean</b>	<b>SD</b>	<b>t</b>	<b>p value</b>
Pre test	13.24	2.196	9.199	0.000**
Post test	16.33	1.767		

\*\* Significance at  $p < 0.001$

Table 2 depicts the effectiveness of the structured teaching programme on management strategies of ADHD among parents of a lower primary school. This shows a highly significance with a p value less than 0.001 emphasizing the success of the teaching programme.

**Table 3 One way Analysis of Variance (ANOVA) between pretest knowledge scores and selected demographic variables**

<b>n = 70</b>					
	<b>Sum of squares</b>	<b>df</b>	<b>Mean square</b>	<b>F</b>	<b>Sig.</b>
<b>Class of study</b>	0.939	3	0.469	0.095	0.910
	331.933	67	4.954		
<b>Age of parents</b>	9.033	3	4.517	0.934	0.398
	323.838	67	4.833		
<b>Educational Qualification</b>	13.217	4	4.406	0.910	0.441
	319.654	66	4.843		
<b>No. of children</b>	2.799	3	1.399	0.284	0.754
	330.073	67	4.926		

Table 3 describing the one way ANOVA between pretest knowledge scores with selected demographic variables shows non significance in any of those selected variables.

**Table 4 Association of pretest knowledge scores with selected demographic variables****n = 70**

	N	Mean	SD	Levene's Test for Equality of Variances		t-test for equality of Means		
				F	Sig.	t	df	Sig. (2-tailed)
<b>Relationship with the child</b>	43	13.02	2.147	0.279	0.599	0.667	67	0.507
	27	13.37	2.041					
<b>Religion</b>	19	13.89	2.541	0.147	0.702	1.414	67	0.162
	51	13.04	2.059					
<b>Residence</b>	31	13.90	2.226	0.67	0.796	2.312	68	<b>0.024**</b>
	39	12.72	2.051					
<b>Type of family</b>	40	13.10	2.560	7.598	<b>0.007***</b>	0.626	68	0.534
	30	13.43	1.612					
<b>Previous knowledge on ADHD</b>	37	12.97	2.192	0.072	0.789	1.090	68	0.280
	33	13.55	2.195					
<b>Family history of ADHD</b>	3	13.33	2.082	0.119	0.731	0.072	68	0.942
	67	13.24	2.216					

\*\* Significance at  $p < 0.05$ \*\*\* Significance at  $p < 0.01$ 

Table 5 depicts that there is a significant association on residence and knowledge scores after a 0.024 t test value which account to accept the null hypotheses. The table also detail the significant association on type of family and knowledge score which is revealed by 0.007 value after Levene's Test for equality of variances. Hence the null hypothesis is accepted.

## DISCUSSION

The speedy changes in the lifestyle of human being have been brought a vast change in the developmental psychology of children. Hence the prevalence of ADHD among children is showing an alarming hike. Several studies reported the emerging issue by different methods. In a study conducted in Kerala, showed greater prevalence rates in self-reported symptoms of ADHD, with a negative correlation of the same reported in earlier literature<sup>15</sup>. This is the main attraction for the researchers for selecting this area for studying. Hence the Structured teaching programme for assessing the knowledge regarding the management strategies of attention deficit and hyperactivity syndrome among parents of primary school children was done. And the structured teaching programme was chosen as it will be easy for rendering the intention.

Parents of primary school children were selected in this study as its targeted population, as the specific symptoms of ADHD are usually manifested even in the primary school level.

In this study we assessed the effectiveness of a structured teaching programme among primary school children parents regarding the management of ADHD. The results clearly portrayed the effectiveness of the structured teaching programme with an inflated post test results. A meta-analysis done in 92 papers came up with a result of improvement in knowledge and attitude among primary school teachers regarding ADHD and LD<sup>16</sup> which can be taken as a supporting results with the present study. Based on these data, we propose that the primary school children should need screening for ADHD in a regular basis and teaching should be given for their parents for identifying presence of symptoms at the earliest.

The present study was done among parents of primary school children in a single school with smaller sample size, which is considered as the main limitation of this study. The same study can be done among more samples in different settings. In the future, apart from assessing the knowledge, attitude, practice and earlier symptom identification methods also can be studied. To conclude, the present study implies the need for addressing the parental knowledge in managing ADHD, a common childhood behavioral problem.

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