



KNOWLEDGE OF ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) AMONG PRIMARY SCHOOL TEACHERS OF AHMEDABAD

KEYWORDS

Knowledge, ADHD, Teachers, primary English medium school.

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ABSTRACT

Introduction : Attention deficit hyperactivity disorder (ADHD) is reportedly the most pervasive disorder of childhood affecting approximately 3% to 5% of school-aged children. Inattention may manifest in social, occupational, and academic settings. Teachers play a crucial role in the diagnosis of ADHD because of their daily contact with students in a range of pertinent situations.

Methods : The population for the study included primary school teachers of four English medium schools in Ahmedabad, Gujarat. The instrument used for the assessment of the knowledge of the teachers was the 'Knowledge of Attention deficit disorders scale' (KADDS). It has 39 items, testing the knowledge regarding the general features, diagnosis, and treatment of ADHD.

Results: 51 teachers completed the study, out of which 80% (n = 41) were female and 20% (n = 10) were male teachers. Average teaching experience was 9.15 years (range 1-36 years). Of all the teachers, 25% (n=13) were from science background and 75% (n=75) were from non science background. The average ADHD knowledge score of the teachers was 31.2%, with knowledge scores regarding the general features, diagnosis and treatment being 33.2%, 27.4% and 33.1% respectively. The teachers from science background had a significantly higher average score than those from a non science background (p=0.04). There was no statistically significant difference in the scores based on age or years of teaching experience.

Conclusion: The study concludes that the teachers do not have adequate knowledge regarding the general features, diagnosis and treatment of ADHD, irrespective of their age and years of teaching experience. Specific training programmes must be organized to address this issue so that children with ADHD are diagnosed early and given appropriate treatment.

Introduction

Attention deficit hyperactivity disorder (ADHD) is reportedly the most pervasive disorder of childhood affecting approximately 3% to 5% of school-aged children with prevalence rates increasing significantly over the past two decades^[1]. Children with ADHD experience symptoms of inattention, hyperactivity, or impulsivity above and beyond what is developmentally appropriate. While it is usually first diagnosed in childhood, many children diagnosed with ADHD demonstrate symptoms that persist into adolescence and adulthood^[2].

Inattention may manifest in social, occupational, and academic settings. Symptoms include difficulty with sustained attention, being unable to complete tasks, not following through on instructions and requests, and inability to complete chores and schoolwork. Symptoms of hyperactivity include fidgeting, inability to sit still in classroom settings, being always "on the go," and excessive talking, while a symptom of impulsivity is difficulty waiting their turn. It should be noted that in the new Diagnostic and Statistical Manual of Mental Disorders^[3].

Epidemiological data suggest the incidence of ADHD has significantly increased over the past two decades. This coupled with the fact that over the last 40 years, a preponderance of the research on ADHD has come out of the United States has led many to believe that ADHD is a disorder rooted in cultural and social factors apparently prevalent in the United States^[5]. However, more and more research is emerging that suggests ADHD is a global concern. Indeed, pooled prevalence rates across several continents suggest a prevalence rate of more than 5%^[6], a result supported by a recent meta-analysis^[7].

The work of the teacher becomes more demanding when some

learners have Attention Deficit Hyperactivity Disorder (ADHD), as their troubles with attention span, managing their impulses, and activity level often obstruct classroom activities^[8]. Children spend most of their time in classrooms and other school settings where they are expected to follow rules, act in socially proper ways, participate in academic activities, and not interrupt the learning development or activities of others^[9]. Some studies have shown that ADHD training is not part of teachers' initial training^[10]. For that reason, teachers often learn about ADHD through actual classroom experiences of teaching students who have confirmed diagnoses.

A small number of studies have measured teachers' knowledge and perceptions of ADHD in the middle schools. Teachers are influential in the diagnosis of ADHD because of their daily contact with students in a range of pertinent situations^[11]. Teachers tend to initiate requests ADHD assessments for students^[12]. ADHD assessments have been used as a gauge the spectrum of a child's symptoms. The Diagnostic and Statistical Manual for Mental Disorders necessitates that the hyperactive, impulsive, or inattentive symptoms should exist in two or more environments (e.g., at school and at home). The psychologist or medical practitioner needs thorough information from school personnel to assist in making a diagnosis; therefore, the teacher's perspective is important in making a diagnosis^[13]. The goal of diagnosis is not merely the diagnosis itself but also to plan interventions that are likely to be successful, based upon the information gathered.

Issues such as inattention and hyperactivity/ impulsivity may impact a child's classroom conduct and his or her capability to learn resulting in lower academic success and diminished performance in the school surroundings^[14]. Teachers have to

differentiate for learners that have special needs. Results of the current study will provide additional information for local teachers and administrators, which will ultimately benefit the ADHD learner.

Purpose of the Study

The rationale for this research study was to examine primary school teachers' level of knowledge regarding attention deficit hyperactivity disorder and only a single Indian study has been done by (Ajay Tyagi, Jain R.B. and Sujata Sethi) on this sensitive topic. So we are planning the study for assessing baseline knowledge of primary school teachers.

The study questions were:

1. What are the levels of teachers' general knowledge of ADHD, knowledge of symptoms/ diagnosis of ADHD, and knowledge of treatments for ADHD?
2. Are there statistically significant differences in the levels of teacher knowledge among the knowledge areas: general knowledge of ADHD, knowledge of symptoms/diagnosis of ADHD, and knowledge of treatments for ADHD?

Methods and Procedures

The research design for the study was descriptive. A descriptive design permitted the researcher to assess the opinions, attitudes, and knowledge of the participants as they relate to ADHD. In descriptive research, the researcher describes a sample as a whole, defines variables, measures them, and for the measure or subscale computes descriptive statistics, which include central tendency and measures of variability^[16]. Descriptive research studies are non-experimental investigations, whereby the researcher attempts to describe the way things are and compare how subgroups such as experienced or inexperienced teachers view issues and topics^[17]. The study's use of the comparative design allowed for the examination of differences among ADHD knowledge subscale scores on the study instrument. The knowledge area subscales were as follows: General Knowledge, Symptoms/Diagnosis, and Treatment.

Instrument

A survey instrument was used to collect data from the participants to measure teachers' knowledge about ADHD. The instrument was the Knowledge of Attention Deficit Disorders Scale (KADDS). This questionnaire was developed by Scitutto, Terjesen, and Bender Frank (2000) and has previously administered in six New York area schools. The KADDS questionnaire was also used in a study in Victoria, Australia, by Kos, Richdale, and Jackson (2004). Dr. Mark Scitutto from Muhlenberg College in Allentown, Pennsylvania, granted permission for the questionnaire to be used in this study. KADDS is a 39-question scale intended to measure teachers' knowledge and perceptions of ADHD. Every KADDS question is a declaration in reference to ADHD and uses a *true* (T), *false* (F), or *don't know* (DK) structure. This structure permits the demarcation of what teachers do not know from an incorrect belief or misperception (Scitutto et al., 2000, p. 116). Scale contain 3 subscale general knowledge, symptoms/diagnosis, and knowledge of treatment in relation to ADHD.

Study Participants

The population for the study included four primary English medium school teachers' campuses in four independent school in Ahmedabad, Gujarat. Teachers from all content areas were able to participate in the study and complete the KADDS instrument. Total 51 teachers were enrolled in the study after taking consent.

All data were entered into a computer software program called Statistical Program for Social Sciences (SPSS 21 trial version) for analysis. The specific variables were total knowledge scores of ADHD, general knowledge, symptoms/diagnosis, and knowledge of treatment in relation to ADHD. Additional

demographic variables that were collected included the level of education of the teachers, and number of years of teaching experience.

Results and discussion:

Demographic Information

The final sample consisted of 51 teachers from 4 primary English medium school. The age of teachers ranged from 19 to 58 years with a mean age of 30.49 years. Of those sampled, 80% (n = 41) were female and 20% (n = 10) were male teachers. Years of teaching experience ranged from 1 year to 36 years with a mean of 9.15 years .of those sample 25%(n=13) were science stream and 75%(n=75) were non science stream.

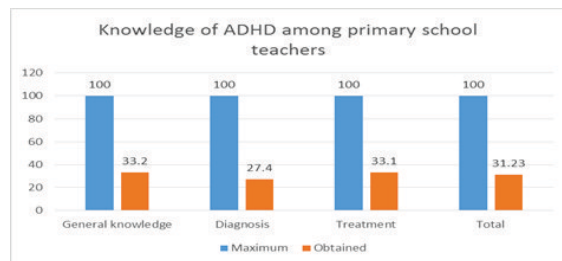
	Total	Yes	No
Have you come across a child with ADHD in past year	51	11	40
Have you studied regarding ADHD in your teachers training program	51	4	47
Have you read articles in the newspaper about ADHD	51	4	47
Are you confident in identifying a child with ADHD	51	15	36
Is there a need for in service training program on ADHD	51	46	6

On asking a few general questions about ADHD, its identification and training, 21%(n=11) had come across a child with ADHD in the past one year. 7%(n=4) teachers had studied in teachers training program and 31%(n=16) had read about ADHD in newspaper articles. 29%(n=15) felt that they were confident in diagnosing a child with ADHD.91% (n=48) teachers agreed that there was a need for in service training program on ADHD.

Knowledge about ADHD

The results of this questionnaire suggest that there is a substantial lack of knowledge about ADHD among teachers in primary English medium schools in the Ahmedabad city India. Teachers' overall percentage score of correct responses was 33.2%, indicating knowledge. These results are similar to those of by Mariechen et al. (2010) who reported an average of 34.8% for correct responses for their sample of African teachers, and somewhat lower than the results of Kos et al. (2004) who reported that 60.7% of the items on the knowledge questionnaire were correctly answered by teachers in Australia and Scitutto et al. (2000) study done in the American teacher 47.8% correctly answered. Teachers were also not much aware of the fact that parent and teacher training, in combination with medication, is quite effective in the treatment of ADHD (15.68%) this is very low in respect to other study by Mariechen et al. (2010) show (75.8%).

The present data suggest education on the epidemiology of ADHD is necessary [43.1% of the respondents showed knowledge of epidemiology. But better than the by Mariechen et al. (2010) show the (31.2%).



Difference in KADDS scores between teachers from science and non-science background

	Paired Differences					T	Df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Science-non science	3.84615	6.17584	1.71287	.11413	7.57818	2.245	12	.044

The knowledge seemed to be affected by the education background of teachers those belong to science stream have more knowledge than non science ($p < .015$) may be because science teacher had some knowledge about the genetics or general read about it.

Correlation between Age and KADDS score

		AGE	KADDS
AGE	Pearson Correlation	1	.143
	Sig. (2-tailed)		.315
	N	51	51
KADDS	Pearson Correlation	.143	1
	Sig. (2-tailed)	.315	
	N	51	51

The overall knowledge of ADHD, as measured by KADDS, was unrelated to the age of the teachers, as well as to the years of general teaching experience they have ($r=0.143495$ and $r=0.100986$ in both case). The non-significant relationship between overall knowledge of ADHD and general teaching experience supports the findings of Kos et al. (2004) in their study of Australian teachers and Mariechen et al. (2010) of African teachers, but differs from the finding of Scitutto et al. (2000), indicating that teachers in the United States with more years of teaching experience obtained higher scores than teachers with less teaching experience. However, gender did not have an effect on total knowledge scores, ($p>.18$). The results revealed that teachers were fairly knowledgeable about the hallmark symptoms of ADHD, with more than 24% of the respondents correctly identifying the symptoms of distractibility, fidgeting, difficulties with organization, as well as of the primary clusters of ADHD symptoms.

Conclusion

The results of this study suggest that there is a substantial lack of knowledge among teachers in certain key areas of ADHD. This lack of knowledge is a matter of concern since teachers play a pivotal role in the recognition, referral and treatment of ADHD.

Teachers indicated that they had very little or no training in ADHD and the management thereof in the classroom, affecting their knowledge base on this disorder. Some of their knowledge was acquired through what is portrayed about ADHD in media reports, which is often incorrect and not based on scientific research. This conclusion is supported by the International Consensus Statement (2002), which was specifically addressed to the press by a Consortium of International Scientists. Inaccurate information about this serious disorder can lead to teachers making inaccurate referrals, giving incorrect advice to parents and failing to address the disorder effectively in the classroom.

Very few teachers indicated that they had ever been involved in assessing the use of stimulant medication. This suggests, as is also found in the literature (Louw, 2009; Schlozman & Schlozman, 2000; Livingston, 1997; Jerome et al., 1994), that the psychologist and medical practitioner do not have sufficient contact with the classroom teachers of children diagnosed with ADHD. A closer working relationship between classroom teachers, psychologists and medical practitioners would be likely to enhance the diagnostic process, and to improve the

efficacy of medication management, as well as the treatment process (Louw, Oswald & Perold, 2009).

We have a responsibility towards our children to make sure that teachers are knowledgeable about ADHD and that they are in a position to offer support to children in order for them to manage their behavior and achieve success both socially and academically.

Limitations:

Our study is limited by the use of a convenience sample, drawing teachers generally from English medium school from Ahmedabad city. Thus, there may be overrepresentation or underrepresentation of some members of the sample, thereby potentially limiting this study's generalizability. Given that scores were already low, this probably would not have altered the findings and conclusions of this report significantly. Other limitations being small sample size, only English speaking teachers were included, and no intervention to address the knowledge deficit was done at this stage of the study.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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