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## Knowledge Regarding Attention Deficit Hyperactivity Disorder among School Teachers at Biratnagar, Nepal.

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**Abstract**

**Introduction:** Attention Deficit Hyperactivity Disorder is the common behavioral condition of childhood. Teachers hold a significant responsibility in identification, recommendation and management of Attention Deficit Hyperactivity Disorder. Their knowledge is of direct benefit to students with Attention Deficit Hyperactivity Disorder and their families.

**Objective:** The objective of the study were to assess the teachers level of knowledge regarding Attention Deficit Hyperactivity Disorder and to find out the association between teachers level of knowledge and the selected sociodemographic characteristics at Biratnagar, Nepal.

**Method:** A descriptive cross-sectional study was conducted among 180 school teachers in Biratnagar, Nepal, from August 2021 to July 2022. Ethical approval was obtained from the Institutional Review Committee of Purbanchal University School of Health Sciences and informed consent was obtained from all study participants. School teachers were randomly selected for data collection from six government schools. A standard tool Knowledge of Attention Deficit Disorders Scale designed by Scitutto and colleagues was used. Collected data were analyzed using statistical Package for the Social Sciences (SPSS) version 21. Both descriptive and inferential statistics were used for data analysis.

**Result:** Among 180 participants, only 16.1 % had adequate knowledge and majority 83.9 % of the respondents had inadequate knowledge regarding Attention Deficit Hyperactivity Disorder. A significant association was observed between knowledge level and age ( $p=0.024$ ) and subject taught ( $p=.001$ ) at  $p<0.05$  level of significance.

**Conclusion:** In this study, majority of the teachers had inadequate knowledge regarding Attention Deficit Hyperactivity Disorder. It is important to provide in-service education and consistently raise public awareness through media about behavioral issues like Attention Deficit Hyper Activity disorder.

**Keywords:** Attention Deficit Hyperactivity Disorder; Knowledge; School; Teachers

## Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a behavioural disorder typically initially identified in childhood.<sup>1</sup> ADHD is classified as a neurodevelopmental condition by the American Psychiatric Association with hyperactive-impulsive behaviour, difficulty with sustained concentration, or both as symptoms. ADHD is usually diagnosed up to the age of twelve years. In order to be diagnosed, symptoms must manifest in several settings and have an impact on an individual's ability to function in social, academic or occupational settings.<sup>2</sup> The prevalence of ADHD in children worldwide is 5-7%, whereas in adults it is 2.5%.<sup>3</sup> According to a hospital-based study conducted in Nepal, the male to female ratio for the prevalence of ADHD was 4:1 with 11.7%.<sup>4</sup> Teachers are crucial in evaluating children behavior and may be the first to recognise signs of ADHD. Additionally, school teachers are essential for the implementation and assessment of the ADHD treatment plan.<sup>5</sup> If left untreated, it will seriously impede the child's ability to develop normally on social, emotional and psychological level. The condition affects the child's self-esteem, social standing and writing and adaptive skills.<sup>6</sup> According to several studies, it was found that teachers give wrong information to parents about the disease and have incomplete knowledge about it.<sup>7</sup> Therefore, in order to assist and support ADHD children in the best way possible, it is critical to evaluate the accuracy of teachers knowledge of the disorder. Thus, the aim of this study was to assess teachers knowledge regarding Attention Deficit Hyperactivity Disorder at Biratnagar, Nepal.

## Method

In this study, quantitative research approach was used. Total 180 school teachers participated in a descriptive cross-sectional study conducted from August 2021 to July 2022 in Biratnagar, Nepal to assess their understanding about ADHD. The sample size was calculated using Cochran's formula:  $n = \frac{z^2pq}{d^2}$  where,  $z=1.96$  (standard deviation for 95% set interval),  $p=0.135$  (13.5% Prevalance of good knowledge)<sup>11</sup>,  $d=\text{confidence interval, i.e. } 5\%$  (0.05). The calculated sample size was 180. A list of government schools of Biratnagar was obtained from the District Education Office,

Morang. Six schools were selected by simple random sampling and school teachers were selected by census method. The study included both male and female teachers who taught from class 1-10 in six government schools of Biratnagar and who were available and open to participate in the study. Teachers who had children with ADHD or any psychiatric illness were excluded from the study.

The validity of the instrument was ensured by reviewing relevant literature and consulting with experts in the field. The Knowledge of Attention Deficit Disorders Scale (KADDS) and sociodemographic questionnaire were used to gather the data. This tool developed by Scitutto and colleagues is a standardized, valid, and reliable instrument used to assess the knowledge of school teachers regarding ADHD. It comprises a 36-item questionnaire that covers three main areas: general knowledge of ADHD (15 items), symptoms and diagnosis of ADHD (9 items), and treatment of ADHD (12 items). Responses were categorized into three options: incorrect, correct, and don't know. The knowledge score was calculated such that correct responses were assigned a score of "1," while incorrect or "don't know" responses were given a score of "0." The researcher found the midpoint by dividing the 36-item scale by two. Scores  $\geq 18$  indicate adequate knowledge, whereas scores  $< 18$  indicate poor knowledge. The tool was used in English. The instrument's internal consistency was determined by Cronbach Alpha, which was 0.71.

The Institutional Research Committee (IRC no. 040-078/79) of Purbanchal University School of Health Sciences provided ethical clearance. Formal approval from the Principal of the selected school was obtained. The study goals and purpose were explained to every teacher. Prior to data collection, each teachers written informed consent was also obtained. A self-administered questionnaire was employed in the data collection process. Data were gathered from 2021/11/17 to 2021/12/15. After the data were examined and verified for accuracy and completeness, they were arranged. For analysis, they were entered into SPSS version 21, the Statistical Package for Social Science. Descriptive statistics, such as frequency, percentage, mean, standard deviation, and inferential statistics, such as the chi square test were used to analyse the data in order to determine the

association between teachers the level of knowledge and socio demographic characteristics . The p-value below 0.05 were regarded as statistically significant.

### Result

Table 1 shows out of 180 teachers, majority 36.7% were from 20 – 30 age group. Majority of the teachers (69.4%) were male and most of them (70%) were married. Most of the teachers (83.9%) were from urban region. Majority of the teachers (48.3 %) completed masters degree and majority (50.6%) had permanent job. Majority of the teachers (47.8%) had experience less than 10 years. With regard to subject teaching, majority (92.8 %) taught other subject then health and majority of the teachers (48.9 %) obtained information regarding ADHD from internet.

**Table 1 : Socio demographic variables of school teachers n=180**

Variables	f (%)
<b>Age in years</b>	
20-30 years	66 (36.6)
31-40 years	57(31.7)
More than 40 years	57(31.7)
Mean ± SD = 36.52 ± 9.09	
<b>Sex</b>	
Male	125(69.4)
Female	55(30.6)
<b>Marital Status</b>	
Married	126(70.0)
Unmarried	54(30.0)
<b>Residence</b>	
Urban	151(83.9)
Rural	29(16.1)
<b>Qualification</b>	
Intermediate	21(11.7)
Bachelor	72(40.0)
Masters	87(48.3)
<b>Type of service</b>	
Permanent	91(50.6)
Temporary	89(49.4)
<b>Teaching experience</b>	
less than 10 years	86(47.8)
10-20 years	56(31.1)
more than 20 years	38(21.1)
<b>Subject Teaching</b>	
Health	13(7.2)
Others	167(92.8)
<b>Source of Information</b>	
Television	11(6.1)
Internet	88(48.9)
Magazine and Newspaper	16(8.9)
Friends and relatives	27(15.0)
Others	38(21.1)

**Table 2: Level of knowledge regarding ADHD n=180**

Level of knowledge	f(%)
Inadequate (<18)	151(83.9)
Adequate (≥ 18)	29(16.1)

Table 2 depicts majority of the respondents, 83.9% had inadequate knowledge and 16.1% had adequate knowledge regarding ADHD.

**Table 3: Association between socio demographic variables and level of Knowledge.**

Demographic Variables	Level of Knowledge		p-value	
	Adequate no. (%)	Inadequate no. (%)		
Age	20-30 years	13(19.7)	53(80.3)	.024*
	31-40 years	3(5.3)	54(94.7)	
	more than 40 years	13(22.8)	44(77.2)	
Sex	Male	22 (17.6)	103(82.4)	.413
	Female	7(12.7)	48(87.3)	
Marital Status	Married	16(12.7)	110(87.3)	.057
	Unmarried	13(24.1)	41(75.9)	
Residence of teacher	Urban	22(14.6)	129(85.4)	.199
	Rural	79(24.1)	22(75.9)	
Qualification of teachers	Intermediate	4(19)	17(81)\	.918
	Bachelor	11(15.3)	61(84.7)	
	Masters	14(16.1)	73(83.1)	
Type of Service	Permanent	14(15.4)	77(84.6)	.789
	Temporary	15(16.9)	74(83.1)	
Experience in years	less than 10	16(18.6)	70(81.4)	.200
	10-20 years	5(8.9)	51(91.5)	
	More than 20	8(21.1)	30(78.9)	
Subject teaching	Health	6(46.1)	7(53.9)	.001*
	Others	23(13.8)	144(86.2)	
Inservice education on ADHD	Yes	3(17.6)	14(82.4)	.856
	No	26(16)	137(84)	
Experience in dealing ADHD children	Yes	7(22.6)	24(77.4)	.282
	No	22(14.8)	127(85.2)	

Pearson’s chi-square test, \*=p-value significant at < 0.05

Table 3 demonstrated a statistically significant association between the age of school teachers and the subject taught with their knowledge scores concerning ADHD which was determined to be significant less than 0.05.

### Discussion

The socio demographic characteristics of the teachers in this study closely resembled those observed in various other studies that have investigated teachers knowledge on ADHD. <sup>8</sup> <sup>9</sup> The results showed that 16.1% of respondents had adequate understanding about ADHD, whereas the majority of respondents

83.9% possessed inadequate knowledge which might be due to lack of health education programs and training related to behavioural problem like ADHD, which is supported by a study conducted in Lalitpur, where 75.8% had poor knowledge and 24.2% had good knowledge.<sup>7</sup> Multiple studies conducted in different countries showed the similar results.<sup>3,10-17</sup> However, the findings contradict to the study conducted among primary school teachers in Karachi, Pakistan.<sup>7</sup> This discrepancy may be due to lack of in-service training and education among teachers, making it challenging to recognize these kinds of behavioural issues. In the present study, significant association (0.024) between the age of school teachers and the knowledge scores regarding ADHD was found. Teachers between 20-30 years had more understanding about ADHD than the older teachers. In addition, subject taught was significantly associated ( $p=0.001$ ) with the knowledge level of teachers on ADHD. But, the other demographic variables did not show any significant association with knowledge scores. This finding was supported by the study conducted in Egypt<sup>10</sup> but opposed with the findings of the study conducted in Kolkata.<sup>17</sup> Similarly in the study conducted at Lalitpur, the type of service, educational Qualification, teaching experiences, in-service training on ADHD, and prior experience working with students with ADHD were the key determining factors.<sup>7</sup> Since the study was conducted in selected schools at Biratnagar, the findings cannot be generalized for all settings.

### Conclusion

Majority of the teachers lacked sufficient understanding of ADHD. Having adequate knowledge would facilitate the identification, referral, and management of children with ADHD.

### Recommendation

Effective health education programmes about ADHD and other behavioural disorders are necessary for teachers in schools. Every school must arrange for all of the teachers to get regular updates on in-service training and instruction about

behavioral issues, including ADHD. Increasing community, parent and teacher awareness of ADHD through the media is crucial. This effort enhances teachers comprehension of the behavioural and psychological challenges linked with ADHD in children.

### Conflict of interest

We declare no conflict of interest.

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