

Knowledge Regarding Attention Deficit Hyperactivity Disorder among School Teachers in a Secondary School

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ABSTRACT

INTRODUCTION: Attention deficit hyperactivity disorder (ADHD) is one of the most common behaviours and emotional problem arises in school age children. Teachers can play a key role in identifying and supporting students with this disorder. In order to achieve this role, it is vital for teachers to have obvious knowledge about this disorder. The aim of this study was to assess knowledge regarding Attention deficit hyperactivity disorder among school teachers.

MATERIALS AND METHODS: Descriptive study method was used; altogether 70 samples from Prabhat secondary school teachers were selected by using of census sampling technique. Most of them recognized attention deficit hyperactivity disorder was behavior and emotional problem which was arise in school age period. Similarly, Maximum response about symptoms were forgetfulness and difficulty engaging in non-action activities. Maximum respondents had answered for management way of Attention deficit hyperactivity disorder was motivational therapy. **RESULTS:** The findings of the study revealed that majority 88.3 % of the respondents had poor knowledge and 11.7% had moderate knowledge regarding attention deficit hyperactivity disorder. The study also showed that the variables such as age, sex, marital status, educational level and teaching experience were not significantly related to knowledge on attention deficit hyperactivity disorder. **CONCLUSIONS:** This study concluded that the majority of respondent had poor knowledge about Attention deficit hyperactivity disorder. Variables such as age, sex, marital status, educational level and teaching experience were not significantly related to knowledge on attention deficit hyperactivity disorder.

Keywords: Attention deficit hyperactivity disorder, school teachers, knowledge.

INTRODUCTION

Children spend most of their time in school and teachers have to teach them the skills and behaviours that meet organizational, cultural and social expectations. However, the work of teacher becomes much more demanding when there are students with Attention Deficit Hyperactivity Disorder (ADHD). It is the most common neurobehavioral disorder of childhood and can profoundly affect the academic achievement, well-being, and social interactions of children (American Academy of Paediatrics, 2011) [1]. The Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) defines, Attention deficit hyperactivity disorder as a persistent pattern of inattention and/or hyperactivity-impulsivity that

interferes with functioning or development as characterized by six or more symptoms from either or both the inattention group of criteria and the hyperactivity and impulsivity criteria [2]. Globally approximately up to 8-12 % of children have Attention-deficit hyperactivity disorder [3]. In case of Nepal, a study was carried out on "Prevalence of Attention Deficit Hyperactivity Disorder among Children and Associated Co-morbidities" at Nobel Medical College Teaching Hospital, Biratnagar, where the yearly prevalence of Attention Deficit Hyperactivity Disorder was 11.7% in children [4]. Developing countries like India has not received adequate attention on Attention deficit hyperactivity disorder, where the teachers had an

inadequate knowledge about Attention Deficit Hyperactivity Disorder [5]. Teachers can play vital roles for the prevention, early detection and timely referral for potential mental health concerns. Teachers can manage the issues within the school if they have appropriate knowledge and skills to

address the concern, refer to the counsellor or refer to health professionals as needed. Since, Attention Deficit Hyperactive Disorder is the most common problem affecting school children's academic development, this study was conducted to study on knowledge on ADHD in school teachers.

MATERIALS AND METHODS

Study design and setting

A cross sectional study design was adopted for this study. The study was conducted on school teachers of Prabhat Secondary School, located at Chandragiri Municipality, Kathmandu, Nepal from 25 January 2021 to 30 May 2021. There were altogether 800 students studying in this school.

Participants, sample size and sampling technique

A total of 70 school teachers from Prabhat Secondary School, Kathmandu were selected by using census sampling technique. A non-probability purposive sampling technique was used to select the sample for this study. Sample size was 70 by taking reference of the prevalence of knowledge regarding Attention Deficit Hyperactivity Disorder of children among school teachers i.e. 24.2% a study done by Bhattarai & Sharma, 2019. The sample size considered 95% CI and allowable error 10% by using the universal formula $(n) = z^2pq/e^2$.

Data collection procedure and study variables

Self-administered questionnaire consisting of both multiple choice and multiple responses with closed ended questions was used for data collection. Data collection tool consisted of 2 parts: Part 1- Demographic data of respondents and Part 2- Knowledge-based question on Attention deficit hyperactivity disorder. The questionnaire was provide to school teachers at their convenient time and the filled up questionnaire was collected after

20 minutes of distribution. The validity of the instrument was maintained by receiving opinion and suggestion from advisors and experts as well as by doing extensive literature review on the particular research topic. The reliability of the instrument was increased by Pretesting on 10% respondents at Bishnudevi Sikshya Sadan, Satungal, Kathmandu. After the pre-test feedback was taken and necessary modification was done in the questionnaire to get the desired information.

Statistical analysis and data management After completion of data collection, data was edited, coded, and analyzed on the basis of research objectives, variables and research questions with the help of descriptive statistical tools such as frequency, percentage, and was presented in tables using SPSS version 23. Chi square test was used to find out the association between demographic variables and level of knowledge of school teachers on ADHD. Level of knowledge was classified into 3 categories: Good Knowledge=80-100%, Moderate Knowledge= 60-79% and Poor Knowledge= less than 60%.

Ethical considerations

Ethical approval for this study was obtained from research committee of Innovative College of Health Science, Chabahil, Kathmandu (Ref. No. 089/2077) and Prabhat Secondary School, Chandragiri Municipality, Kathmandu (Ref. No. 2077).

RESULTS

Table 1 reveals that, the maximum age of respondent was 57 years and minimum age was 22 years. Likewise, most of the respondents (70%) were female. Most of the respondents were married (n=58, 82.85%) followed by unmarried women (17.14%). Most of the respondents had completed bachelor level studies (n= 28, 40.00%). Similarly,

most of the respondents had up to 5 years of teaching experience (n= 25, 35.71%). Table 2 reveals that, the maximum response about ADHD was behaviour and emotional problem (n=45, 64.28%) which is a correct answer. Maximum respondents answered that the cause of ADHD was heredity (n=38, 54.28%).

Variables	Population	Percent
Age group in years	n=70	%
21-30	29	41.42
31-40	15	21.24
41-50	24	34.28
51-60	2	2.85
Sex		
Male	21	30.00
Female	49	70.00
Marital Status		
Married	58	82.85
Unmarried	12	17.14
Educational level		
Secondary level	18	25.70
Bachelor's degree	28	40.00
Master degree	24	35.30
Years of teaching experience		
1-5	25	35.71
6-10	12	17.14
11-15	9	12.85
16-20	15	21.42
21-25	9	12.85

Description	Numbers	Percent
Meaning of ADHD		
Physical disorder.	7	10.0
Communicable disorder.	2	2.85
Behavioral and emotional problems of child and adolescence.	45	64.28
Social disorder.	16	22.85
Causes of ADHD*		
Heredity	38	54.28
Hormonal imbalance	32	45.71
Poor parenting practices.	28	40.0
Eating too much refined sugar.	3	4.28
Traumatic brain injury.	22	31.42
Risk factors of ADHD*		
Family conflict.	54	77.14
Child abuse.	33	47.14
Poverty.	26	37.14
Smoking use during pregnancy.	11	15.71
Alcohol use during pregnancy.	7	10.0
ADHD is more common in		
Girls	18	25.71
Equal in boys and girls	29	41.42
Boys.	23	32.85
Noticeable age group of ADHD		
Toddler.	5	7.14
Pre-School.	13	18.57
School age.	52	74.28
*multiple response		

Moreover, most of the respondents said family conflict was the risk factor for ADHD (n=54, 77.14%).

Table 3 exhibits that, most of the respondents answered the method to identify ADHD was observation of child behaviour (n=53, 75.71%) Most of the respondents (n=45, 65.71%) determined that the key feature for ADHD was difficulty in concentration. Maximum response about symptoms were forgetfulness and difficulty engaging in non-action activities (n=26, 37.14%).

Description	Numbers	Percent
Methods to identify*	n=70	(%)
History taking.	34	48.57
Physical Assessment.	14	20.00
Observation of child behaviour.	53	75.71
Academic performance	19	27.14
Key features of ADHD*		
A short attention spans.	26	37.14
Difficulty concentrating.	45	65.71
Impulsivity.	14	20.00
Distractibility	21	30.00
Excitability	9	12.85
Hyperactivity	36	51.42
Symptoms of ADHD*		
Blurring out answers without waiting for the end of the questions.	20	28.57
Forgetfulness.	26	37.14
Disorganization.	24	34.28
Difficulty engaging in non-action activities.	26	37.14
Frequent interruption into others conversations.	18	25.71
Trouble to waiting their turn.	25	35.71
*Multiple responses		

Table 4 Management of Attention deficit hyperactivity disorder		
Description	Number (n=70)	Percent (%)
Management for ADHD*		
Medication.	31	51.70
Family therapy.	24	40.00
Behavioral therapies.	33	55.00
Dietary modification	7	11.70
Motivational therapy.	46	76.70
Roles of teachers to manage child with ADHD*		
Identify problems.	42	70.00
Reinforcement of positive social behavior.	24	40.00
Counseling.	48	80.00
Discuss with parents about child problem.	25	41.70
Focus on the child's strengths, inspire and motivate.	30	50.00
Role of the teachers to improve Educational performance in classroom*		
Find way to adjust the child in classroom.	33	55.00
Ensuring the child is seated away from distracting stimuli such as door, windows or air conditioners.	18	30.00
Surrounding the child with good role models or significant others.	32	53.30
Encouraging peer tutoring and co-operative learning.	39	65.00
Measures to improve class performance*		
Treat child as an individual.	31	51.70
Break down large task into small task.	21	35.00
Encourage and reward responsible behaviour.	43	71.70
Give the child frequent feedback.	35	58.30
Set time with limits.	6	10.00
Measures to control ADHD*		
Provided comfortable environment.	40	66.70
Parents and teachers should work hand-in-hand.	33	55.00
Emphasized on extra-curricular activities.	27	45.00
Seat the child near to teacher's desk.	18	30.00
Minimize distractions in the class room.	19	31.70
Child with increased activity level helped by*		
Allow students to fiddle with an agreed object, e.g. a stress ball.	9	15.00
Emphasize the difference between 'in class' and 'out class' modes.	11	18.30
Allow the child a calming-down period before coming into class.	14	23.30
Give short breaks between assignments.	24	40.00
Use alternative technology e.g. computer.	33	55.00
Set a variety of tasks and activities	23	38.30
Plan time out facility	15	25.00
Measure to take after child having symptoms of ADHD*		
Provide special education.	25	41.70
Provide counselling.	43	71.70
Referral a child to Psychiatric.	18	30.00
Aware parents about changing behaviour of child.	33	55.00
Note: (*) multiple responses		

Management of Attention deficit hyperactivity disorder are shown in Table 4. Table 5 illustrates that family problems (n=45, 75%) were the major consequences of ADHD. Similarly, maximum respondents (n=30, 42.85%) had answered that mental retardation was the long term health effect

of ADHD. Most of the respondents responded that teaching the child to improve their listening skills was the specific strategies to help child with ADHD (n=33, 55.00%). Majority of respondents did not have any experience of dealing with children's with ADHD (n=63,90.0%) whereas, only 7 (10.00%)

respondents had experience of dealing with children with ADHD. Those respondents who had experience of dealing children with ADHD, said that they provided counselling as well as had interactions with their parents. Table 6 reveals that maximum teachers (n=61, 87.14%) had poor

knowledge score, whereas only 9 teachers had moderate knowledge score. Since p value is greater than level of significance, there is no association between age group, sex, marital status, educational level, teaching experience and knowledge level (Table 7).

Description	Number (n=70)	Percent (%)
Effects / Consequences of ADHD *		
Academic failure	43	71.70
Economic burden.	25	41.70
Legal problems.	9	15.00
Family problems.	45	75.00
Occupational impairment	10	16.70
Substance abuse.	15	25.00
Long -term health effect		
Anxiety disorder	17	24.28
Mental retardation	30	42.85
School phobia	8	11.42
Anti-social personality disorder.	15	21.24
Specific strategies to help child with ADHD*		
Getting students to repeat back instructions	15	25.00
Ensuring resources are available readily and sufficiently.	11	18.30
Using prompt sheets and step by step instruction.	11	18.30
Reducing extraneous background noises.	12	20.00
Ensuring students are given clear, concise instructions.	22	36.70
Teaching child strategies to improve their listening skills.	33	55.00
Encouraging students to take notes.	17	28.30
Using visual clues.	32	53.30
Specific strategies to deal with organizational difficulties*		
Help to develop daily routines for activities.	50	84.70
Have spare materials in classes.	19	32.20
Colour code or use symbols in the timetable.	16	27.10
Check lists of equipment required for specific lessons.	24	40.70
(*) Multiple responses		

Knowledge Level	Numbers	Percent
Poor	61	87.14
Moderate	9	12.85

Description	Value for chi square	Df	p value
Age Group	4.443	5	.488
Sex	.624	1	.430
Marital status	.809	1	.369
Educational Level	2.461	2	.292
Teaching experience	.377	4	.984

DISCUSSION

This study revealed that the knowledge regarding ADHD among school teachers was very low. Majority of study participants were up to 30 years of age, most of them were female and maximum are married. Furthermore, maximum of them had finished their bachelor's degree and most of the respondents had (1-5) years of teaching experience. In this study, most of the respondents (n=61, 87.14%) had poor knowledge, 12.85% had moderate knowledge about ADHD which is similar to the findings of a study done by Gonzalez TG et al. in 2009 in Thailand, where 72% of the teachers had poor knowledge. Likewise, a study conducted by Safaan NA et al. in 2017 in Egypt [11] also found that 59% of the teachers had poor knowledge on ADHD. Furthermore, result of this study was supported by study done by Rai S et al. in India, where only 29% of the teachers had a good understanding of ADHD while the knowledge about ADHD was poor among primary school teachers in India. However, a study conducted by Mojgan K. et al. in Iran concluded that teacher's knowledge score about ADHD was average. In this study, variables such as age, sex, marital status, educational level and teaching experience were not significantly related to knowledge on ADHD, which is in contrast to a the study conducted by Safaan NA. et al. in Egypt [11], where there was significant relation between knowledge level about ADHD and their age, marital status, education

qualification, teaching experience years, receiving of training courses during college and attending an in-service workshop about ADHD. Additionally, a study done by Ohan j. strain CM. in Australia, there was significant relation between teaching experience and knowledge level about ADHD. The study was done in small scale and can't be generalized, and was limited to teachers of a government school only.

CONCLUSIONS This study concluded that the majority of respondent had poor knowledge about Attention deficit hyperactivity disorder. Variables such as age, sex, marital status, educational level and teaching experience were not significantly related to knowledge on attention deficit hyperactivity disorder. A similar kind of research can be conducted in large scale so that the findings can be generalized. The result of the study showed only government school teachers level of knowledge so, comparative study on this topic can be done between government and private schools. As well as it can also do in urban and rural areas teachers. Pre-experimental study design can be used to enhance teacher's knowledge in Attention deficit hyperactivity disorder by further researcher. According to the findings of the study, training related to Attention deficit hyperactivity disorder can be facilitated for teachers.

ADDITIONAL INFORMATION AND DECLARATIONS

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Data Availability: Data will be available upon request to corresponding authors after valid reason.

REFERENCES

1. Subcommittee on Attention-2. Deficit/Hyperactivity Disorder, Steering Committee on Quality Improvement and Management. 3. ADHD: clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics*. 2011 Nov;128(5):1007-22.
2. Edition F. Diagnostic and statistical manual of mental disorders. *Am Psychiatric Assoc*. 2013;21(21):591-643.
3. Doyle AE, Willcutt EG, Seidman LJ, Biederman J, Chouinard VA, Silva J, Faraone SV. Attention-deficit/hyperactivity disorder endophenotypes. *Biological psychiatry*. 2005;1;57(11):1324-35.
4. Rimal H, Pokharel A. Prevalence of attention deficit hyperactivity disorder among school children and associated co-morbidities-a hospital based descriptive study. *Kathmandu Univ Med J*. 2016; 1;14(55):226-30.
5. Shetty A, Rai BS. Awareness and knowledge of attention deficit hyperactivity disorders among primary school teachers in India. *International Journal of Current Research and Review*. 2014; 1;6(9):30.

6. Chapagai M, Dangol KM, Tulachan P. A study of psychiatric morbidity amongst children attending a child guidance clinic at a tertiary level teaching hospital in Nepal. *Journal of Nobel Medical College*. 2013;3;2(1):55-63.
7. Willcutt EG. The prevalence of DSM-IV attention-deficit/hyperactivity disorder: a meta-analytic review. *17. Neurotherapeutics*. 2012;9(3):490-9.
8. Safaan NA, El-Nagar SA, Saleh AG. Teachers' knowledge about attention deficit hyperactivity disorder among primary school children. *Am J Nurs Res*. 2017;5(2):42-52.
9. Aboul-Ata MA, Amin FA. The prevalence of ADHD in Fayoum City (Egypt) among school-age children: depending on a DSM-5-based rating scale. *Journal of attention disorders*. 2018;22(2):127-33.
10. Egbochuku EO, Abikwi MI. The prevalence of attention deficit/hyperactivity disorder (ADHD) among primary school pupils of Benin Metropolis, Nigeria. *Journal of Human Ecology*. 2007;1;22(4):317-22.
11. Safaan NA, El-Nagar SA, Saleh AG. Teachers' knowledge about attention deficit hyperactivity disorder among primary school children. *Am J Nurs Res*. 2017;5(2):42-52.
12. Ghanizadeh A, Bahredar MJ, Moeini SR. Knowledge and attitudes towards attention deficit hyperactivity disorder among elementary school teachers. *Patient Education and Counseling*. 2006;1;63(1-2):84-8.
13. Hanna N. Attention Deficit Disorder (ADD) Attention Deficit Hyperactive Disorder (ADHD). *American Journal of Clinical Medicine*. 2009;22;6:4.
14. Bhattarai L, Sharma M. Knowledge regarding attention deficit hyperactivity disorder of children among school teachers at Lalitpur. *Journal of Chitwan Medical College*. 2019;27;9(4):64-8.
15. Rimal HS, Pokharel A, Saha V, Giri A, Ghimire B, Raja S, Verghease B. Burden of developmental and behavioral problems among children-a descriptive hospital based study. *Journal of Nobel Medical College*. 2014;13;3(1):45-9.
16. Suvarna BS, Kamath A. Prevalence of attention deficit disorder among preschool age children. *Nepal Med Coll J*. 2009;1;11(1):1-4.
17. Rahman W, Mullick MS, Pathan MA, Chowdhury NF, Shahidullah M, Ahmed H, Roy S, Mazumder AH, Rahman F. Prevalence of behavioral and emotional disorders among the orphans and factors associated with these disorders. *Bangabandhu Sheikh Mujib Medical University Journal*. 2012;27;5(1):29-34.
18. Xiaoli Y, Chao J, Wen P, Wenming X, Fang L, Ning L, Huijuan M, Jun N, Ming L, Xiaoxia A, Chuanyou Y. Prevalence of psychiatric disorders among children and adolescents in the northeast China. *PloS one*. 2014;31;9(10):e111223.
19. Michielsen M, Semeijn E, Comijs HC, van de Ven P, Beekman AT, Deeg DJ, Kooij JS. Prevalence of attention-deficit hyperactivity disorder in older adults in The Netherlands. *The British Journal of Psychiatry*. 2012 Oct;201(4):298-305.
20. Mirza N, Nisar N, Ikram Z. Knowledge, attitude & practices towards attention deficit hyperactivity disorder among private elementary school teachers of Karachi, Pakistan. *Journal of the Dow University of Health Sciences (JDUHS)*. 2017;29;11(1):11-7.
21. Jones HA, Chronis-Tuscano A. Efficacy of teacher in-service training for attention-deficit/hyperactivity disorder. *Psychology in the Schools*. 2008;45(10):918-29.
22. Guerra Jr FR, Brown MS. Teacher knowledge of attention deficit hyperactivity disorder among middle school students in South Texas. *RMLE online*. 2012 Jan 1;36(3):1-7.
23. Muanprasart P, Traivaree C, Arunyanart W, Teeranate C. Knowledge of attention deficit hyperactivity disorder and its associated factors among teachers in 3 large primary schools in Phra Nakorn Sri Ayutthaya Province, Thailand. *Journal of the Medical Association of Thailand= Chotmaihet thangphaet*. 2014;1;97:S107-14.
24. Anderson DL, Watt SE, Noble W, Shanley DC. Knowledge of attention deficit hyperactivity disorder (ADHD) and attitudes toward teaching children with ADHD: The role of teaching experience. *Psychology in the Schools*. 2012;49(6):511-25.
25. Topkin B, Roman NV. Attention Deficit Disorder (ADHD): Primary school teachers' knowledge of symptoms, treatment and managing classroom behaviour. *South African Journal of Education*. 2015;35(2):988.
26. Al-Omari H, Al-Motlaq MA, Al-Modallal H. Knowledge of and attitude towards attention-deficit hyperactivity disorder among primary school teachers in Jordan. *Child Care in Practice*. 2015; 3;21(2):128-39.

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