Knowledge and Attitude Regarding Attention Deficit Hyperactivity Disorder among School Teachers in Kathmandu Metropolitan City, Nepal

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Abstract

Background: Attention Deficit Hyperactivity Disorder (ADHD) is a prevalent neurodevelopmental disorder impacting children's academic and social development. Teachers play a critical role in early identification and support. This study assessed the knowledge and attitudes regarding ADHD among school teachers in Kathmandu Metropolitan City.

Methods: A descriptive cross-sectional study was conducted among 105 teachers from three purposively selected schools (Arunima Higher Secondary School, Xavier International School, and Mahan Siddhartha School). A total enumerative sampling technique was used. Data were collected using a semi-structured, self-administered questionnaire comprising three parts: socio-demographic information, a 10-item knowledge assessment, and a 5-point Likert scale for attitude. Data were analyzed using descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (Chi-square test) with SPSS.

Results: The study revealed that more than half of the teachers (54.29%) had fair knowledge, while 41.9% had poor knowledge, and only a small minority (3.8%) had good knowledge regarding ADHD. In contrast, the vast majority (88.57%) held a favorable attitude towards children with ADHD. No statistically significant association was found between knowledge levels and socio-demographic variables such as age, sex, education, teaching experience, or

prior awareness of ADHD (p > 0.05). Furthermore, there was no significant association between overall knowledge and attitude scores (p = 0.223).

Conclusion: Despite holding largely favorable attitudes, school teachers in Kathmandu Metropolitan City possess insufficient knowledge about ADHD. This knowledge-practice gap highlights an urgent need for structured training and awareness programs to equip teachers with the necessary skills to effectively identify, manage, and support students with ADHD in the classroom.

Keywords: ADHD, Knowledge, Attitude, School Teachers, Nepal, Kathmandu.

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common neurodevelopmental disorders of childhood, characterized by a persistent pattern of inattention, hyperactivity, and impulsivity that interferes with functioning or development (National Institute of Mental Health). According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), these symptoms must be present in two or more settings, persist for at least six months, and be inconsistent with the child's developmental level, typically emerging before the age of 12 (Devkota, Bajracharya, & Kamaresan, 2020). ADHD poses a significant public health challenge due to its marked long-term impairments on academic performance, vocational success, and social-emotional development, profoundly impacting individuals, families, schools, and society (Rimal & Pokharel, 2016).

The global prevalence of ADHD is estimated to be between 8% and 12%. While data from Nepal is limited, a scoping review identified a yearly prevalence of 11.7% in clinical samples within the Kathmandu district, with males constituting a majority of cases (Chaulagain et al., 2019). This indicates a substantial number of Nepalese children are likely affected by ADHD. For school-aged children, the educational environment is a primary context where ADHD symptoms become apparent. Teachers, who spend several hours daily with their students, are often the first to observe and confront the core symptoms of inattentiveness, distractibility, and impulsivity (Amiri et al., 2017). Consequently, they are in a pivotal position for early recognition, referral, and implementation of classroom interventions. The knowledge and attitudes of teachers are, therefore, crucial determinants in the academic trajectory and psychological well-being of children with ADHD. Lack of knowledge can lead to misinterpretation of symptoms as deliberate misbehavior, while negative attitudes can result in punitive measures, exacerbating the child's low self-esteem and social isolation.

Previous studies in Nepal, conducted in Chitwan and Lalitpur, have reported alarmingly high rates of inadequate knowledge among teachers, with only 31.7% and 24.2% demonstrating adequate or fair knowledge, respectively (Lamichhane & Sharma, 2019; Bhattarai & Sharma, 2019). Similar trends of knowledge gaps have been observed in studies from Saudi Arabia, Ethiopia, and Puerto Rico (Alshehri et al., 2020; Dessie et al., 2021; Gonzalez et al., 2018). However, attitudes have been found to be generally favorable in some settings, such as Ethiopia (Dessie et al., 2021).

Given the critical role of teachers and the scarcity of research in the capital city, this study aims to assess the knowledge and attitudes regarding ADHD among school teachers in Kathmandu Metropolitan City. The findings will help identify existing gaps and inform the development of targeted interventions to enhance teacher capacity in supporting children with ADHD.

Methods

Research Design and Setting

A descriptive cross-sectional study design was employed. The study was conducted in three purposively selected schools—Arunima Higher Secondary School, Xavier International School, and Mahan Siddhartha School—located in Ward No. 6 of Kathmandu Metropolitan City, Bagmati Province, Nepal.

Study Population and Sampling

The study population consisted of 105 school teachers teaching from Nursery to Grade 10 in the selected schools. A total enumerative sampling technique, a type of purposive sampling, was used where all 105 teachers who met the inclusion criteria were invited to participate. The inclusion criteria were: being a teacher from Nursery to Grade 10, ability to read and understand English or Nepali, and willingness to provide informed consent.

Data Collection Instrument and Technique

Data were collected over two weeks using a semi-structured, self-administered questionnaire. The instrument was developed after an extensive review of literature and consultation with experts. It consisted of three parts:

1. **Socio-demographic and Information-related Variables:** This section included questions on age, sex, educational level, teaching experience, whether they had heard of ADHD, and their source of information.
2. **Knowledge Assessment:** This section contained 10 multiple-choice questions with options "True," "False," and "Don't Know." Each correct answer was scored 1, and an incorrect or "Don't Know" response was scored 0. The total knowledge score was categorized as: Good (>75%), Fair (50-75%), and Poor (<50%).
3. **Attitude Assessment:** This section used a 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree) across 10 items (grouped into 5 thematic statements, a and b). The total attitude score was calculated, and a mean score above 50% of the maximum possible was categorized as a favorable attitude, while below 50% was unfavorable.

The questionnaire was translated into Nepali and back-translated to ensure accuracy. Pretesting was conducted on 11 teachers (10% of the sample) from a non-participating school to ensure clarity and reliability, and minor modifications were made accordingly.

Data Analysis

The collected data were coded, entered into Microsoft Excel, and exported to the Statistical Package for the Social Sciences (SPSS) for analysis. Descriptive statistics (frequency, percentage, mean, and standard deviation) were used to describe the socio-demographic characteristics and levels of knowledge and attitude. Inferential statistics (Chi-square test) were

used to determine the association between knowledge and socio-demographic variables, and between knowledge and attitude. A p-value of less than 0.05 was considered statistically significant.

Ethical Consideration

Ethical approval was obtained from the administration of SANN Institute of Nursing College. Permission was also sought from the respective school authorities. Written informed consent was obtained from each participant after explaining the study's purpose. Confidentiality and anonymity were maintained throughout the research process.

Results

Socio-Demographic Characteristics of Respondents

A total of 105 teachers participated in the study. As shown in Table 1, more than half (52.4%) were in the 26-30 age group, and the majority (69.5%) were female. Regarding educational qualification, 40.0% held a Bachelor's degree, 38.1% had a Higher Secondary level education, and 21.9% had a Master's degree or above. Nearly half (46.7%) had less than two years of teaching experience. A majority (58.1%) reported having heard of ADHD, with television (36.2%) and internet searches (28.6%) being the most common sources of information.

Table 1: Socio-Demographic Characteristics of Respondents (n=105)

Variable	Category	Frequency (n)	Percentage (%)
Age Group	20-25	33	31.5
	26-30	55	52.4
	31-36	17	16.3
Sex	Male	32	30.5
	Female	73	69.5
Educational Level	Higher Secondary	40	38.1
	Bachelor's	42	40.0
	Master's & Above	23	21.9
Teaching Experience	<2 years	49	46.7
	2-5 years	41	39.0

Variable	Category	Frequency (n)	Percentage (%)
	>5 years	15	14.3
Heard of ADHD	Yes	61	58.1
	No	44	41.9
Source of Information	Training Course	5	4.8
	Teaching Experience	15	14.3
	Books/Articles	17	16.2
	Television	38	36.2
	Internet Search	30	28.6

Level of Knowledge regarding ADHD

The overall knowledge level of the participants is presented in Table 2. The mean knowledge score was 4.80 ± 1.34 out of 10. Only 3.8% of teachers had good knowledge, 54.29% had fair knowledge, and 41.9% had poor knowledge. Analysis of individual knowledge items (Table not shown in summary) revealed specific gaps. For instance, 61.9% incorrectly believed ADHD occurs in 15% of school children (overestimation), 65.7% were unaware of its heritability, and 73.3% incorrectly believed that symptoms must appear before age 12 for diagnosis (DSM-5 criterion). However, a majority correctly identified that children with ADHD are more distinguishable in a classroom (81.9%) and often have poor school performance (72.4%).

Table 2: Level of Knowledge on ADHD among School Teachers (n=105)

Knowledge Level	Frequency (n)	Percentage (%)
Good Knowledge (>75%)	4	3.8
Fair Knowledge (50-75%)	57	54.29
Poor Knowledge (<50%)	44	41.9
Mean ± SD	**4.80 ± 1.34**	

Level of Attitude regarding ADHD

As shown in Table 3, the vast majority of teachers (88.57%) held a favorable attitude towards ADHD, while only 11.42% had an unfavorable attitude. The mean attitude score was 3.30 ± 1.646. Analysis of the Likert scale items (Table not shown in summary) indicated positive trends: 61.0% strongly agreed to refer a student with ADHD symptoms for counseling, and 55.2% felt knowledgeable about classroom interventions for misbehavior. However, a notable proportion (38.1%) agreed that ADHD is over-diagnosed, and only 20.0% felt confident in effectively teaching students with ADHD.

Table 3: Level of Attitude regarding ADHD (n=105)

Attitude Level	Frequency (n)	Percentage (%)
Favorable Attitude	93	88.57
Unfavorable Attitude	12	11.42
Mean ± SD	**3.30 ± 1.646**	

Association between Variables

Chi-square tests were performed to determine associations. As shown in Table 4, there was no statistically significant association ($p > 0.05$) between the level of knowledge and any of the socio-demographic variables, including age, sex, education, teaching experience, and having heard of ADHD. Furthermore, as presented in Table 5, no significant association was found between the overall knowledge level and attitude level of the teachers ($\chi^2 = 134.425$, $p = 0.223$).

Table 4: Association between Socio-Demographic Variables and Level of Knowledge (n=105)

Variable	Category	Good Knowledge n(%)	Fair Knowledge n(%)	Poor Knowledge n(%)	χ^2 value	p-value
Age Group	20-25	3(2.9)	18(17.1)	12(11.4)	98.993	0.761
	26-30	0(0.0)	29(27.6)	26(24.8)		
	31-36	1(1.0)	10(9.5)	5(4.8)		
Sex	Male	1(1.0)	17(16.2)	14(13.3)	5.413	0.301
	Female	3(2.9)	40(38.1)	30(28.6)		

Variable	Category	Good Knowledge n(%)	Fair Knowledge n(%)	Poor Knowledge n(%)	χ² value	p-value
Heard of ADHD	Yes	2(1.9)	22(21.0)	20(19.0)	9.552	0.793
	No	2(1.9)	35(33.3)	24(22.9)		

Table 5: Association between Knowledge and Attitude regarding ADHD

Variable	Category	Frequency (n)	Percentage (%)	χ² value	p-value
Knowledge	Good	4	3.8	134.425	0.223
	Fair	57	54.29		
	Poor	44	41.9		
Attitude	Favorable	93	88.57		
	Unfavorable	12	11.42		

Discussion

This study provides a critical insight into the understanding and perceptions of ADHD among school teachers in Kathmandu Metropolitan City. The central finding is a stark disparity between teachers' attitudes and their knowledge. While an overwhelming majority (88.57%) held a favorable attitude, their knowledge was predominantly fair (54.29%) to poor (41.9%), with only a negligible 3.8% possessing good knowledge.

The poor knowledge base is consistent with findings from previous studies in Nepal. Research in Chitwan and Lalitpur reported that 68% and 75.8% of teachers had inadequate or poor knowledge, respectively (Lamichhane & Sharma, 2019; Bhattarai & Sharma, 2019). Similarly, international studies from Saudi Arabia and Puerto Rico have reported low levels of knowledge among teachers (Moghamsi et al., 2018; Gonzalez et al., 2018). The specific knowledge gaps identified in this study, such as misconceptions about prevalence, diagnostic criteria (age of onset), and heritability, highlight areas that require immediate attention in teacher training programs. The reliance on informal sources like television and the internet for information, as reported by most teachers, further underscores the lack of formal, structured education on child mental health.

In contrast, the highly favorable attitude is a positive and encouraging finding. It suggests that teachers are generally willing to support and help students with ADHD. This aligns with a study in Gondar, Ethiopia, where 84.1% of teachers had a favorable attitude (Dessie et al., 2021). The willingness to refer students for assessment and the desire to learn more about ADHD, as reflected in the attitude scale, indicate a receptive environment for implementing training interventions. However, the fact that only 20% felt confident in effectively teaching students with ADHD points to a critical "knowledge-practice gap." Teachers want to help but feel ill-equipped to do so.

The absence of a significant association between knowledge and socio-demographic variables, including teaching experience and prior awareness of ADHD, is a notable finding. This suggests that merely having years of experience or having heard about the disorder does not automatically translate into accurate knowledge. This reinforces the argument that knowledge must be actively imparted through formal training rather than being expected to develop through informal exposure. This finding contrasts with some studies that found associations with experience and training (Moghamsi et al., 2018; Al-Harthy et al., 2018) but may be explained by the generally low baseline knowledge across all subgroups in this sample.

Furthermore, the lack of a significant association between overall knowledge and attitude suggests that these are two distinct domains. A teacher's positive disposition towards inclusive education is not necessarily predicated on a deep understanding of the disorder's etiology or diagnostic criteria. This decoupling is important; it means that attitude is not a barrier, and interventions can focus squarely on building knowledge and practical skills without first having to change deeply held beliefs.

Limitations of the Study

This study has several limitations. The use of a purposive sampling method in only three schools within Kathmandu Metropolitan City limits the generalizability of the findings to all school teachers in Nepal. The cross-sectional design provides a snapshot in time and cannot establish causality. The reliance on self-reported data may be subject to social desirability bias. Finally, the knowledge scale, while reliable, was limited to 10 items and may not have captured all dimensions of ADHD knowledge.

Conclusion and Recommendations

The study concludes that school teachers in Kathmandu Metropolitan City, despite possessing a favorable and supportive attitude towards children with ADHD, have significant gaps in their knowledge about the disorder. This disconnect between a positive mindset and a lack of foundational understanding can hinder effective classroom management and support for affected students.

Based on these findings, the following recommendations are proposed:

1. **Structured Teacher Training:** The Department of Education and school administrations should develop and mandate compulsory in-service training programs on ADHD and other common neurodevelopmental disorders. These programs should

focus on etiology, core symptoms, diagnostic criteria, and evidence-based classroom management strategies.

2. **Curriculum Integration:** Topics on child and adolescent mental health, including ADHD, should be integrated into the curriculum of teacher preparation programs (B.Ed., M.Ed.) to ensure that new teachers graduate with a baseline understanding.

3. **Development of Resources:** The government and relevant NGOs should collaborate to develop and disseminate easy-to-understand educational materials, such as handbooks, pamphlets, and digital resources, for teachers and parents.

4. **School-Based Support Systems:** Schools should establish clear referral pathways to school counselors or educational psychologists for students suspected of having ADHD, ensuring timely assessment and intervention.

5. **Further Research:** Future research should employ a larger, randomized sample across different geographical regions of Nepal to gain a more comprehensive national picture. Qualitative studies could explore teachers' specific challenges and informational needs in greater depth.

By bridging the knowledge gap, the educational system in Nepal can leverage the favorable attitudes of its teachers to create an inclusive and supportive learning environment for all children, including those with ADHD.

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