

KNOWLEDGE, ATTITUDES, AND PRACTICES OF PRIMARY SCHOOL TEACHERS TOWARDS ADHD STUDENTS

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Abstract

Purpose of the study: This study was designed to explore the knowledge, attitude, and practices of teachers toward ADHD students. The objectives of the study were to document the knowledge, attitude, and practices of the teachers regarding ADHD, to find out the difference between knowledge attitude and practices among different strata of teachers, and to find out the effect of age, experience, and qualification on knowledge, attitude, and practices of teachers towards ADHD.

Methodology: Stratified random sampling technique was used to select 600 primary school teachers from 2469 primary school teachers of district Haripur. This instrument contained 29 statements. This scale has three dimensions. Knowledge (statements 1-17), Attitude (statements 18-35), and Practices (statements 36-52). The Cronbach Alpha reliability coefficient for the questionnaire was 0.76 which was got through the pilot study conducted on sixty teachers.

Main findings: The results indicate that overall practices of teachers are the highest in comparison to Knowledge and Attitude. There was no significant difference between knowledge, practices, and attitudes about ADHD between different strata i-e Urban and Rural area primary teachers, Male and Female primary teachers, and public and Private primary teachers. Furthermore, experience, Age, and Qualification have a profound influence on primary teachers' knowledge regarding ADHD. Teachers' Qualification has a profound influence over primary teacher's Attitude towards students with ADHD. Thus, qualification has a profound influence over primary teacher's practices towards students with ADHD.

Applications of the study: This study is applicable in the field of primary education where the teachers are assessed to find out their knowledge, attitude, and practices towards ADHD students.

Novelty originality of this study: Much of the research is conducted in mainstream education but this research specifically explores the knowledge, attitude of teachers towards ADHD students. Therefore, this research is a torchbearer in this particular area of education.

Keywords: Attention Deficit Hyperactivity Disorder (ADHD), Attitude, Knowledge, Practices of Teachers, Students.

INTRODUCTION

In the world of education, a general elementary classroom includes various types of students with different "abilities, exceptionalities, and intelligence" (Adiputra, 2019). Among them are students with Attention Deficit Hyperactive Disorder (ADHD), which is a learning disability characterized by inattention, hyperactivity, and impulsivity (Pollak, Dekkers, Shoham, & Huizenga, 2019). There are two main dimensions to ADHD: attention regulation and impulse control. Typically, students who have a limited ability to regulate their attention tend to talk excessively and interrupt others without fully understanding the consequences in addition to having difficulty controlling their impulses tend to be generally fidgety and hyperactive (Smith, & Langberg, 2018). Students with ADHD also have difficulty screening out environmental stimuli, sustaining concentration, maintaining stamina, handling time constraints, multi-tasking, and interacting with others (Tibke, 2019).

Many students are diagnosed with this disorder (Frank-Briggs, 2011). reported that ADHD "affects about 3 to 5% of children globally" (p. 291) and every classroom of 20-30 students have at least 1 student with ADHD (Bolinger, Mucherah, Markelz, & Andrew, 2020). Hence, it is up to the teacher to accommodate and modify their teaching practices for these students. This is a reoccurring issue in elementary education as most students with ADHD face academic difficulties throughout their schooling (Merga, 2020). However, having ADHD does not mean that students will not achieve high grades; in fact, these children typically have above-average IQs (Adiputra, 2019).

Children with attention deficit disorder have basic cognitive processes, hyperactivity, or sudden symptoms that apply to development. However, it is known at an early age that many young people with attention deficit disorder experience symptoms later in life into adolescence (Murray, Eisner, Obsuth, & Ribeaud, 2020). Basic cognitive processes are also shown in social, skill, and school settings. Symptoms have been shown in many area units, many of which are inattentive, incapable of completing the task at hand, non-compliance with the instructions and requests provided, and failure to welcome work and in school. Disturbing indicators include movement, inability to sit still in a group, "can do anything" on the go, and excessive talking, but sudden symptoms make it easier to speak their conversations. The

problem must be in readiness or answers when asked a question. It should be noted that in the new Diagnostic and Applied Mathematics Manual of Mental Disorders (5th Male Edition; DSM-5; APA, 2013) criteria, adolescents show symptoms of attention deficit disorder by the age of twelve. The antidepressant should not be more than half a dozen or more than seven years old, most symptoms can occur in more than one setting. Epidemiological knowledge suggests that adolescents with attention deficit disorder have significantly increased over the past twenty (20) years ([Hollingsdale, Woodhouse, Young, Fridman, & Mandy, 2020](#)).

Teachers' Knowledge, Beliefs, and Practices about ADHD

To the best of our information, no one has however inspected the exact information of Canadian instructors around ADHD. Be that as it may, even though things about inside us and Australia appear that instructors are by and large insinuate the side effects and determination of ADHD, there are critical confinements in their information of the treatment and causes of the clutter ([Shapiro, 2019](#)). The first common misinterpretation around ADHD among instructors is that sugar or nourishment added substances cause ADHD, too as ADHD being specified as an uncommon count diet ([Carroccia, 2020](#)).

When analysts look at teachers' convictions almost ADHD, instructors for the most part consider ADHD to be a substantial determination and a substantial instructive issue ([De Sousa, 2020](#)). Instructors have too communicated solid conviction against the claim that children with ADHD are getting into mischief and detailed that it increments their readiness to look for offer assistance for ADHD determination treatment ([Soylu, 2019](#)). Be that as it may, instructors by and large accept that it is troublesome to oversee understudy behavior with ADHD ([Mohammed, 2019](#)) and investigate recommends that understudies with ADHD have behavior that increments classroom and fellowship ([Owens, 2021](#)). Antagonistically influences, Instructors detailed expanded push and diminished certainty when overseeing understudy behavior with ADHD ([Szalados, 2019](#)).

Objectives of the study

1. To document the knowledge, attitude, and practices of the teachers regarding ADHD.
2. To find out the difference between knowledge attitude and practices among different strata of teachers.
3. To find out the effect of age, experience, and qualification on knowledge, attitude, and practices of teachers towards ADHD.

REVIEW OF LITERATURE

Inattentive regulation is commonly pronounced as Attention Deficit Disorder (ADD), and there are also problems with listening or focusing on any task, failure to get specific information, distraction, and distraction. ADHD was believed to be an early-aged disorder that was believed to be continued till adolescence ([Nigg, et al, 2020](#)). According to Frank-Briggs (2011) three-fifths of the children have ADHD. Even after a detailed analysis, the exact cause of ADHD is still unknown, although many have concluded that the exact cause of ADHD is biological (Murder, 2015). It may have multiple symptoms in later life as well ([Lugo-Candelas et al \(2017\)](#)). Like anxiety, and epilepsy may not appear in adolescence yet poor concentration and inattention like adverse symptoms usually persist in ADHD individuals ([Weibel et al, 2020](#); [Capodiceci, Lachina, & Cornoldi, 2018](#)). For the confirmation of diagnosis, many methods are used. For example, interviews, observation, and many other psychological tests ([Nelson et al, 2019](#)). Some factors have to be met first for the diagnosis of ADHD for attaining detailed information from individuals ([Canals et al, 2018](#)). But this process can be difficult for attaining in-depth information for adults and adolescents because of age problems ([Luthar, Kumar, & Zillmer, 2020](#)). It may be because the adults may not fully understand the ADHD signs.

The students facing the problem of ADHD is increasing day by day ([Latouche, & Gascoigne, 2019](#)). So there is a need on the part of teachers to deal with the students in the best possible manner ([Siedentop, Hastie, & Van der Mars, 2019](#)). And the research studies have made a consensus that there is a need for training of teachers to deal with students having ADHD ([Young et al, 2020](#)). But usually, the teachers depend on self-study methods of dealing with students having ADHD ([De Sousa, 2020](#)).

It is very much important for knowing that what type and how much knowledge the teachers have about the students' ADHD problem. [Mulholand, et al., \(2015\)](#) found that most teachers are aware of the symptoms of ADHD, while only a few are aware of "diet, prevalence and physiology" (p. 22). The results indicate that teachers have knowledge about the ADHD of the students but are unaware of the treatment of such students ([Gaastra, G. F., Groen, Y., Tucha, L., & Tucha, O. \(2020\)](#)).

Overall, studies suggest that in-service training is important for the success of students with ADHD because it helps teachers gain accurate knowledge and develop professional skills that help them manage their students' behavior and help them academically ([Guerra, Tiwari, Das, Cavazos Vela, & Sharma, 2017](#)).

Limited research studies are available about the attitudes and beliefs of teachers regarding their ADHD students because most studies The teachers' attitudes and beliefs towards students greatly bank upon their knowledge about the students including the characteristics of ADHD ([Ewe, 2019](#)). They include their age, qualification, cultural differences,

experience, and training (Slobodin, & Masalha, 2020). Some teachers believe that ADHD is a biological illness and is seized to be affected by environmental factors like the size of the class (Emberti Gialloreti et al, 2019). Based on this belief they argue that ADHD students should be treated through drugs and psychotherapy (Anastopoulos et al, 2020). On the other hand, some teachers believe that ADHD is socially constructed and environmental factors such as class size affect their behaviors (Dort et al, 2020). These teachers suggest that changing the ADHD students' environment ultimately will help in benefiting these students (Owens et al, 2020).

Studies show that the syndrome is treated with non-stimulant atomoxetine, which improves the quality of life, leads to clarity in social and family functioning, and contributes to self-improvement. Additional analysis is needed to assess the continuing quality of life of children and their families after multimodal input.

MATERIAL & METHODS

The present study was descriptive and a survey was conducted. The study population comprised of primary teachers teaching in primary schools in district Haripur. Private and Govt institutes, Male and Female teachers, Urban and rural areas of the district were included in this study.

Study design

The researcher selected 600 primary school teachers as the sample of the study. This sample was equally divided into 300 rural and 300 urban area primary school teachers and then 300 divided into 150 male and 150 female primary teachers for each urban and rural area school teacher. Then both male and female teachers were divided into 75 Govt Primary Schools and 75 Private Primary Schools.

Measurement

The instrument was developed by the researcher by taking an idea from the Questionnaire of Sarah M. Mulholland (2015). This instrument contained 29 statements. This scale has three dimensions. Knowledge (statements 1-17), Attitude (statements 18-35) and Practices (statements 36-52). First dimension i-e Knowledge, each statement was scored on a four-point Likert scale from 1 (Don't Know) to 4 (Know). For the other two dimensions i-e Attitude and Practices, each statement was scored on a four-point Likert scale from 1 (Strongly disagree) to 4 (Strongly Agree). This scale was used for the school teachers that were teaching at the primary level in district Haripur. Expert opinion for finding the validity of the instrument was taken from the subject experts. Similarly, a pilot study was conducted on 60 primary school teachers for finding the reliability of the instrument. As a result of the pilot study, the reliability coefficient of the instrument was 0.76.

Age, qualification, and experience were the independent variables while knowledge, attitude, and practices were the dependent variables of this study.

Data analysis

The data collected from 600 primary school teachers were analyzed through mean, standard deviation, student t-test. Mean and standard deviation was used to describe variables of the study, t-test was used to find out the difference in the variables from location, sector, and gender while regression analysis was used to explore the effect of independent variables on dependent variables.

RESULTS

Table 1: Knowledge, attitude, and practice of teachers about ADHD

	N	Minimum	Maximum	Mean	Std. Deviation
Attitude	600	2.22	3.17	2.6986	.23518
Practice	600	2.41	3.35	2.9056	.28219
Knowledge	600	1.00	3.53	1.3279	.79652
Valid N (listwise)	600				

Table 1 shows that the Mean value of Knowledge of teachers regarding ADHD is 1.3279 and Std. The deviation is 0.79652. The mean value of teacher practices in dealing with students with ADHD is 2.9056 and std. The deviation is 0.28219. The mean value of teachers' attitude towards the student with ADHD is 2.6986 and std. The deviation is 0.23518. It shows that Teachers Knowledge about ADHD is low, but practices are good.

Table 2: Comparison of male and female teachers about the factors of ADHD

	Gender	N	Mean	SD	SE Mean	T	Alpha value
Knowledge	Female	300	1.2978	.76427	.04413	-0.925	0.355
	Male	300	1.3580	.82770	.04779		
Attitude	Female	300	2.7076	.23671	.01367	0.935	0.350

	Male	300	2.6896	.23370	.01349		
	Female	300	2.9000	.28338	.01636	-0.485	0.628
Practice	Male	300	2.9112	.28137	.01624		

Table 2 shows that the Mean value of Knowledge of male teachers regarding ADHD is 1.3580 and Std. The deviation is 0.82770 and the Mean value of Knowledge of female teachers regarding ADHD is 1.2978 and Std. The deviation is 0.23370. The mean value of male teacher practices in dealing with students with ADHD is 2.9000 and std. The deviation is 0.28338 and the Mean value of female teacher practices in dealing with students with ADHD is 2.9112 and std. The deviation is 0.28137. The mean value of male teachers' attitude towards the student with ADHD is 2.6896 and std. The deviation is 0.23370 and the Mean value of female teachers' attitude towards the student with ADHD is 2.7076 and std. The deviation is 0.23671. The t-test values indicate that there was no significant difference between male and female teachers concerning knowledge, attitude, and practices about ADHD.

Table 3: Comparison of rural and urban area teachers about the factors of ADHD

	Location	N	Mean	S. D	S. E Mean	T	Alpha value
Knowledge	Urban	297	1.2923	.75669	.04391	-1.084	0.279
	Rural	303	1.3628	.83350	.04788		
Attitude	Urban	297	2.6988	.23962	.01390	0.024	0.981
	Rural	303	2.6984	.23115	.01328		
Practice	Urban	297	2.8944	.28692	.01665	-0.958	0.338
	Rural	303	2.9165	.27752	.01594		

Table 3 shows that the Mean value of Knowledge of Urban area teachers regarding ADHD is 1.2923 and Std. The deviation is 0.75669 and the Mean value of Knowledge of Rural area teachers regarding ADHD is 1.3628 and Std. The deviation is 0.83350. The mean value of Urban area teachers' practices in dealing with students with ADHD is 2.8944 and std. The deviation is 0.28692 and the Mean value of Rural area teachers' practices in dealing with students with ADHD is 2.9165 and std. The deviation is 0.27752. The mean value of urban area teachers' attitude towards the student with ADHD is 2.6988 and std. The deviation is 0.23962 and the Mean value of rural area teachers' attitude towards the student with ADHD is 2.6984 and std. The deviation is 0.23115. The t-test values indicate that there was no significant difference between urban and rural area teachers about knowledge, attitude, and practices about ADHD.

Table 4: Comparison of private and public sector teachers about the factors of ADHD

	Sector	N	Mean	S. D	S. E Mean	T	Alpha value
Knowledge	Public	298	1.2777	.74228	.04300	-1.535	0.125
	Private	302	1.3775	.84497	.04862		
Attitude	Public	298	2.6948	.23216	.01345	-0.392	0.695
	Private	302	2.7024	.23846	.01372		
Practice	Public	298	2.9100	.28180	.01632	0.379	0.705
	Private	302	2.9012	.28298	.01628		

Table 4 shows that the Mean value of Knowledge of private sector teachers regarding ADHD is 1.2777 and Std. The deviation is 0.74228 and the Mean value of Knowledge of public sector teachers regarding ADHD is 1.3775 and Std. The deviation is 0.84497. The mean value of Private sector teachers' practices in dealing with students with ADHD is 2.9100 and std. The deviation is 0.28180 and the Mean value of public sector teachers' practices in dealing with students with ADHD is 2.9012 and std. The deviation is 0.28298. The mean value of Private sector teachers' attitude towards the student with ADHD is 2.6948 and std. The deviation is 0.23216 and the Mean value of public Sector teachers' attitude towards the student with ADHD is 2.7024 and std. The deviation is 0.23846. The t-test values indicate that there was no significant difference between private and public sector teachers concerning knowledge, attitude, and practices about ADHD.

Table 5: Impact of experience, qualification, and age on the practice of teachers

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.107	.080		38.712	.000
1 Experience	.007	.018	.026	.393	.694
Qualification	.047	.017	.126	2.677	.008
Age	.015	.020	.052	.759	.448

R=0.110 R2=0.012 Adj. R2=0.007 F=2.417 Alpha=0.04
a. Dependent Variable: practice

Table 5 highlights the value of $F = 2.417$ which means the model is fit it also shows for Experience the value of beta (β) = 0.007 which states that experience positively predicts the practices for ADHD as indicated by the value of $t = 0.393$ (sig. = 0.694). For qualification the value of beta (β) = 0.047 states that experience positively the practices for ADHD as indicated by the value of $t = 2.677$ (sig. = 0.008). For Age the value of beta (β) = 0.015 which states that age positively predicts the practices for ADHD as indicated by the value of $t = 0.759$ (sig. = .448).

Table 6: Impact of experience, qualification, and age on knowledge of teachers

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	.583	.213	2.736	.006
	Experience	.105	.049	.136	.032
	Qualification	.405	.046	8.763	.000
	Age	.150	.052	2.876	.004

R=0.354 R²=0.125 Adj. R²=0.121 F=28.430 Alpha=0.000

a. Dependent Variable: knowledge

Table 6 highlights the value of $F = 28.430$ which means the model is fit it also shows for Experience the value of beta (β) = 0.105 which states that experience positively predicts the knowledge about ADHD as indicated by the value of $t = 2.148$ (sig. = 0.032). For qualification the value of beta (β) = 0.405 states that experience positively the knowledge about ADHD as indicated by the value of $t = 8.763$ (sig. = 0.000). For Age the value of beta (β) = 0.150 which states that age positively predicts the knowledge about ADHD as indicated by the value of $t = 2.876$ (sig. = .004).

Table 7: Impact of experience, qualification, and age on the attitude of teachers

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	2.412	.066	36.583	.000
	Experience	.020	.015	1.296	.195
	Qualification	.070	.014	4.923	.000
	Age	.010	.016	.604	.546

R=0.199 R²=0.040 Adj. R²=0.035 F=8.234 Alpha=0.000

a. Dependent Variable: attitude

Table 7 highlights the value of $F = 8.234$ which means the model is fit it also shows for Experience the value of beta (β) = 0.020 which states that experience positively predicts the attitude about ADHD as indicated by the value of $t = 1.296$ (sig. = 0.195). For qualification the value of beta (β) = 0.070 states that attitude positively the attitude about ADHD as indicated by the value of $t = 4.923$ (sig. = 0.000). For Age the value of beta (β) = 0.010 which states that age positively predicts the attitude about ADHD as indicated by the value of $t = 0.604$ (sig. = .546).

DISCUSSION

The current study goal was designed to document the knowledge, attitude, and practices of the teachers regarding ADHD. According to the findings, the teachers had less knowledge about ADHD in students. These results are in line with the results of [Lamichhane & Sharma \(2019\)](#) who found that only 31.7% of the students had adequate knowledge about ADHD among students.

There was no significant difference between knowledge, practices, and attitudes about ADHD between different strata i.e. Urban and Rural area primary teachers, Male and Female primary teachers, and Govt and Private primary teachers. The study of [Youssef, Hutchinson & Youssef \(2015\)](#) supports the finding of the current study. Their Study reveals that teacher training interventions improve teachers' ADHD knowledge and positive behaviors toward pupils with ADHD-type behaviors, with no solid evidence to support improvements in pupil ADHD-type behaviors. The same has also been highlighted in other study findings that in-service training concerning ADHD and other childhood developmental disorders be incorporated within the education system. It is expected that such interventions can increase the identification of children with ADHD, give teachers greater confidence in their ability to manage these children, and improve overall classroom management within the schools. There is also a great contemporary view on the need for teachers to become more educated about the condition and better equipped to deal with these children.

For qualification the value of beta (β) = 0.047 which states that qualification positively affects the practices for ADHD as indicated by the value of $t = 2.677$ (sig. = 0.008). These results are in agreement with the findings of [Charlotte et al \(2020\)](#) who found that teachers' knowledge and attitude had significant effects on ADHD.

For qualification the value of beta (β) = 0.405 which states that qualification positively affects the knowledge about ADHD as indicated by the value of $t = 8.763$ (sig. = 0.000). these results suggest that the teachers must improve their

qualifications to improve their knowledge about ADHD students and ultimately deal effectively with such students. It is because the professional attitude of teachers increases with their knowledge of ADHD (West et al. 2005). These results also suggest that teachers may be provided training that improves their knowledge about ADHD.

For qualification the value of beta (β) = 0.070 which states that qualification positively affects the attitude about ADHD as indicated by the value of $t = 4.923$ (sig. = 0.000). since the teachers' qualifications and ultimately their attitude improves, it leads to improving their attitude towards the students with ADHD (Symeonidou and Phtiaka 2009).

CONCLUSION

The results indicate that overall practices of teachers are the highest in comparison to Knowledge and Attitude. There was no significant difference between knowledge, practices, and attitudes about ADHD between different strata i-e Urban and Rural area primary teachers, Male and Female primary teachers, and Govt and Private primary teachers. Furthermore, experience, Age, and Qualification have a profound influence on primary teachers' knowledge regarding ADHD. Teachers' Qualification has a profound influence over primary teacher's Attitude towards students with ADHD. Thus, qualification has a profound influence over primary teacher's practices towards students with ADHD.

LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FURTHER STUDIES

The limitations of the study are that the study focused only on the knowledge, attitude, and practices of teachers. Further studies may focus on the strategies that better deal with students having ADHD.

AUTHORS' CONTRIBUTIONS

Muhammad Faizan is the primary author of this study. This study is a part of his M. Phil research.

Dr. Syed Afzal Shah devised the main idea, analyzed and interpreted the data.

Dr. Shahzadi Seema searched the relevant literature and edited the manuscript.

Dr. Sadaf Naz Revised the literature review and discussion.

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