

Research Article

Primary School Teachers' Perspectives on ADHD in Alkadrow, Khartoum, Sudan

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Abstract

Background: Attention deficit hyperactivity disorder, which is a prevalent neurodevelopmental condition, commonly manifests during early childhood and has the potential to adversely affect an individual's social, academic, and occupational performance in multiple settings. Students with ADHD may struggle with attention, focus, listening, and completing schoolwork. Additionally, they may exhibit restless or disruptive behavior in class and may have learning disabilities that affect their academic performance. The aim of this study was to explore the perspectives of primary school teachers on ADHD in Alkadrow, Khartoum, Sudan.

Methods: A descriptive cross-sectional study was conducted in Alkadrow-Bahri locality, Sudan, over a period of three to six months in 2022. The study population included primary school teachers who had taught for at least one year and encountered at least one student with ADHD. A convenience sampling technique was used to select a minimum of 59 participants, and data were collected using a self-administered questionnaire with closed-ended questions. SPSS version 23 was used to analyze the data, including descriptive statistics and inferential statistics such as chi-square tests and logistic regression analysis.

Results: The study had 59 participants, with the majority being female and in the age group of 41–45 years. The participants were mostly married and had obtained psychology courses, with a bachelor's degree being the most common level of education. Many participants had over 20 years of teaching experience. Regarding the attitude toward attention deficit hyperactivity, most participants strongly agreed that they did have a negative/positive attitude toward it, and a majority agreed or were neutral toward ADHD. However, in the case of attention deficit hyperactivity, a significant percentage of participants disagreed or strongly disagreed with the statement.

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Conclusion: The study found that most participants had a negative attitude toward student referrals for medical care and believed that most symptoms of ADHD can be lowered by aging. Additionally, more than half strongly disagreed that punishment has a positive effect on ADHD.

Keywords: primary school teachers, perspectives, ADHD, Khartoum, Sudan

1. Introduction

Attention-deficit hyperactivity disorder (ADHD) is a neurodevelopmental condition associated with difficulties in attention, hyperactivity, and inappropriate behavior. Symptoms typically emerge before the age of 12 and last for at least six months. Children with ADHD may encounter challenges in social, emotional, and academic domains, including school difficulties, underachievement, interpersonal issues with family and peers, and low self-esteem [1, 2].

Regional disparities in ADHD prevalence exist, with higher rates observed in North America compared to Africa due to variations in diagnostic practices. Globally, it is estimated that around 51.1 million individuals are affected by ADHD, with the disorder being diagnosed more frequently in boys than girls, although girls' symptoms may differ and can be overlooked [1].

Teachers are recognized as valuable sources of information regarding the referral and diagnosis of ADHD. They play a vital role in creating an environment that fosters academic, social, and emotional success for children with ADHD [3]. Additionally, teachers' attitudes and behaviors toward students with ADHD can influence their peers' perceptions of these individuals. Teachers who hold misconceptions or biases about ADHD may exhibit inappropriate conduct in the classroom, while those with greater knowledge about the disorder tend to display more favorable attitude and behavior toward students with ADHD [4].

Prevalence estimates of ADHD vary based on diagnostic criteria, with 6–7% of individuals aged 18 and under meeting DSM-IV criteria and 1–2% meeting ICD-10 criteria. In the UK, prevalence is estimated to be around 3–4%. Long-term studies have shown that ADHD often persists into adulthood, with approximately 15% of individuals maintaining a full diagnosis by age 25 and an additional 50% experiencing ongoing symptoms that impact their daily lives [6]. In Korea, the Korean Academy of Child and Adolescence Psychiatry reported that ADHD affects approximately 260,000 school-age children, 5% of the student population [5, 6].

In conclusion, ADHD is a neurodevelopmental disorder that affects a substantial number of children and can persist into adulthood. Teachers play a crucial role in supporting students with ADHD, and their attitude and behavior have a significant impact on their academic and social success. Providing education and training for teachers on ADHD can lead to improved outcomes for students with this disorder. Therefore, the aim of this study was to examine the perspectives of primary school teachers on ADHD in Alkadrow, Khartoum, Sudan.

2. Methods

2.1. Study design

The study design used for this research was a descriptive cross-sectional community-based design. This design allows for the collection of data from a specific population at a particular point in time. It is useful for identifying the prevalence and distribution of a particular condition, in this case, the attitude of primary school teachers toward ADHD.

2.2. Study area

The study area was Alkadrow, Bahri locality in Khartoum state, Sudan. This locality was chosen because it is a well-populated area with a good number of primary schools.

2.3. Study period

The study was conducted over a period of six months in 2022.

2.4. Study population

The study included primary school teachers in Alkadrow, Bahri locality. The inclusion criteria for the study population were teachers who have been teaching in primary schools for at least one year and have encountered at least one student with ADHD.

2.5. Sampling and sample size

The sampling method was a convenience sampling technique where participants were selected based on their availability and willingness to participate. The researchers

visited the selected schools and asked the available teachers to participate in the study who on agreeing were distributed a questionnaire. The sample size was determined using a sample size calculator, based on the population size and the desired level of precision. A total of 59 participants were chosen for the study.

2.6. Data collection technique and tools

The data collection technique was a self-administered questionnaire that included closed-ended questions. The questionnaire was designed based on a literature review and expert opinions and could assess the attitude of teachers toward ADHD and their experience with students with ADHD.

2.7. Data analysis

Data were analyzed using the SPSS version 23. Descriptive statistics were applied to summarize the data in tables as frequency of study variables. The knowledge and attitude were also analyzed as percentage for the items included in the questionnaire.

3. Results

Table 1 provides the background characteristics of the 59 participants in the study, including their gender, age, marital status, education level, and years of teaching experience. In terms of gender, the majority of the teachers were female (89.8%), while only 10.2% were male. Regarding age, the age group with the highest percentage of participants was 41–45 years old (42.4%), followed by the age group of 31–35 years old (25.4%). In terms of marital status, the majority of the teachers were married (71.2%), while 20.3% were single, 6.8% were divorced, and 1.7% were widowed. Moreover, a majority of the teachers (67.8%) had obtained psychology courses, while 32.2% had not. In terms of education level, the highest percentage of teachers had a bachelor's degree (78.0%), while 11.9% had a graduate diploma, 5.1% had a master's degree, and 5.1% had a doctorate's degree. Finally, in terms of years of teaching experience, the highest percentage of participants (45.8%) had >20 years of experience, while 20.3% had 16–20 years of experience, 10.2% had 6–10 years of experience, 8.5% had 11–15 years of experience, and 15.3% had 1–5 years of experience. Overall, the table provides useful information about the demographic and background characteristics of

the participants in the study, which can be used to contextualize the results and draw relevant conclusions.

Table 2 presents the percentage of participants' knowledge of ADHD based on different items related to teachers' knowledge about attention deficits and hyperactivity. In the first item, 35.6% of participants had poor knowledge, 61% had fair knowledge, and only 3.4% had good knowledge. There were no participants with very good knowledge in this item. In the second item, 61% of participants had fair knowledge, 33.9% had poor knowledge, and only 5.1% had good knowledge. No participant had very good knowledge in this item. In the third item, 49.2% of participants had fair knowledge, 47.4% had poor knowledge, and only 3.4% had good knowledge. No participant had very good knowledge in this item. In the fourth item, 45.8% of participants had fair knowledge, 39% had poor knowledge, 11.8% had good knowledge, and only 3.4% had very good knowledge. In the fifth item, 45.8% of participants had fair knowledge, 47.5% had poor knowledge, 6.7% had good knowledge, and no participant had very good knowledge. In the sixth item, 64.4% of participants had fair knowledge, and 35.6% had poor knowledge. No participant had good or very good knowledge. Overall, the total knowledge of participants regarding ADHD was 50.3% for fair knowledge, 44.0% for poor knowledge, 5.0% for good knowledge, and only 0.7% for very good knowledge.

Table 3 presents the attitude of 59 participants toward ADHD. In the first item, which refers to the attitude of the participants regarding ADHD, a majority of the participants (67.8%) strongly agreed that they have a positive/negative attitude toward ADHD. The second most common response was agreement (28.8%). Only a small number of participants chose the neutral (1.7%) and disagreement (1.7%) options, and no participant strongly disagreed. In the second item, which specifically refers to the attitude of teachers regarding ADHD, the highest proportion of participants (49.2%) agreed that teachers have an attitude toward ADHD, while 10.2% strongly agreed. Approximately one-fifth of the participants were neutral (20.3%), and a similar proportion disagreed (18.6%). Only a small proportion of participants strongly disagreed (1.7%). The third item presents the attitude of participants toward ADHD. A majority of participants (52.5%) disagreed with the statement, while a significant proportion strongly disagreed (32.2%). A small proportion of participants agreed (8.5%), and an even smaller proportion strongly agreed (6.8%). No participants chose the neutral option. Overall, the table shows that the participants have varying attitudes toward ADHD, with the majority expressing a strong opinion on the matter. The total attitude of teachers toward ADHD, calculated by adding the proportion of strongly agree and agree responses (28.27% + 28.83%), is approximately 57%.

TABLE 1: Demographic characteristics of the participants.

Percentage	Frequency	Variable	
10.2%	6	Male	Gender of teacher
89.8 %	53	Female	
22.0%	13	25–30	Age group (yr)
25.4%	15	31–35	
42.4%	25	41–45	
10.2%	6	>45	
20.3%	12	Single	Marital status
71.2%	42	Married	
6.8%	4	Divorced	
1.7%	1	Widowers	
67.8%	40	Yes	Psychology courses were obtained
32.2%	19	No	
11.9%	7	Graduate diploma	Education level
78.0%	46	Bachelor's degree	
5.1%	3	Master's degree	
5.1%	3	Doctorates degree	
15.3%	9	1–5	Years of experience (yr)
10.2%	6	6–10	
8.5%	5	11–15	
20.3%	12	16–20	
45.8%	27	>20	

TABLE 2: Participants' knowledge of ADHD.

Items	Poor	Fair	Good	Very good
Knowledge of teacher regarding attention deficits hyperactivity	35.6%	61%	3.4	0
Knowledge of teacher regarding attention deficits hyperactivity	61%	33.9%	5.1%	0
Knowledge of teacher regarding attention deficits hyperactivity	49.2%	47.4%	3.4%	0
Knowledge of teacher regarding attention deficits hyperactivity	45.8%	39%	11.8%	3.4
Knowledge of teacher regarding attention deficits hyperactivity	45.8%	47.5%	6.7%	0
Knowledge of teacher regarding attention deficits hyperactivity	64.4%	35.6%	0	0
Total knowledge	50.3%	44.0%	5.0%	0.7%

4. Discussion

The findings of the study indicated that the majority of participants were female (89.8%), aged between 41 and 45 years, and more than half were married. Additionally, more

TABLE 3: Teachers' attitude of ADHD.

Items	Strongly Agree	Agree	Neutral	Disagree	Strong disagree
Attitude of teacher regarding attention deficits hyperactivity	67.8%	28.8%	1.7%	1.7%	0
Attitude of teacher regarding attention deficits hyperactivity	10.2%	49.2%	20.3%	18.6%	1.7%
Attitude of participants regarding attention deficits hyperactivity	6.8%	8.5%	0%	52.5%	32.2%
Total attitude of teachers of ADHD	28.27%	28.83%	7.33%	24.27%	11.30%

than half of the participants had a bachelor's degree. These findings are consistent with a study conducted in Isfahan where more than half of the participants had a bachelor's degree [7]. Most participants had >20 years of teaching experience, which is similar to a study conducted in Saudi Arabia where most participants had >5 years of experience [8].

In relation to training on ADHD, the present study revealed that a majority of the participants had received training through psychology courses. However, the percentage of participants who had undergone such training was comparatively lower than a previous study conducted in Isfahan, where half of the participants had received training courses specifically focused on ADHD [7]. However, this finding was higher than studies conducted in Amhara where most participants did not have any workshops, training, or courses regarding ADHD [10]. This is similar to a study done in Ethiopia where 98.1% of participants had no ADHD-related training. The results of that study showed that training was positively associated with the attitude of teachers toward students with ADHD [9].

More than half of the participants strongly agreed that training is important to recognize ADHD. This finding is consistent with a study conducted in Saudi Arabia where more than half of the participants strongly agreed [11]. Likewise, findings from a study indicated that teachers who had received training in child psychology exhibited significantly higher scores in terms of knowledge about ADHD and held more favorable attitude toward the disorder [12].

Most participants in the study tended to have a negative attitude toward ADHD student referral for medical care, which contradicts a study conducted in Tehran (Iran) where 84.6% of the participants considered medication for children with ADHD necessary [13]. Furthermore, a study done in Saudi Arabia reported that most of the participants agreed that a child with ADHD should be treated if recommended by a doctor [11]. Another study conducted in Nottinghamshire reported that most participants attempted educational

strategies before initiating a referral to specialist services or considering that medication might be helpful [14].

More than half of the participants strongly agreed that most symptoms of ADHD can be decreased by aging. In contrast, a study conducted in Tehran (Iran) reported that less than one-third held the belief that ADHD diminishes or decreases with age [13].

The present study revealed that more than half of the participants disagreed regarding punishment having a positive effect on the disorder, which agrees with another study conducted in silence. The study provided insights into the role of teachers in managing ADHD and the potential counterproductive effects of punishment. It was observed that teachers held a positive attitude toward behavioral therapy as a management approach for ADHD [12].

5. Conclusion

In conclusion, based on the findings illustrated by this study, it is concluded that the teachers have lack of knowledge on ADHD, and they also have negative attitude toward students' referral for medical care and believed that most symptoms of ADHD can be decreased by aging. Furthermore, more than half of teachers strongly disagreed that punishment has a positive effect on ADHD.

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Ethical Considerations

The study was approved by the ethical committee at the International University of Africa, Khartoum, Sudan. Participants were informed about study's purpose and the confidentiality of their responses. They were then asked to provide a verbal consent. Therefore, all participants provided verbal agreement prior to completing the interview questionnaire.

Competing Interests

The authors state that the manuscript was developed as part of an academic degree program, specifically a dissertation. Furthermore, they declare that there are no conflicts of interest associated with the manuscript.

Availability of Data and Materials

Please contact the corresponding author for further information as the data is available upon request.

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