

Teacher's Recognition Of ADHD And Behavioral Dysfunction Among Primary Pupils In Oyo State.

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Abstract

This study investigates the influence of teachers' recognition of Attention-Deficit Hyperactivity Disorder (ADHD) on behavioural dysfunction among elementary pupils in Oyo State, Nigeria. A descriptive cross-sectional survey design was employed, examining teachers' recognition of ADHD in supporting affected pupils. With a total of 1,650 teachers sampled for this study, two research questions were tested for and the data were analysed using descriptive statistics and multiple regression analysis at a 0.05 significance level. Findings revealed a high prevalence of behavioural dysfunction in pupils with ADHD, with a weighted average mean of 3.43, indicating frequent occurrences of hyperactivity, impulsivity, inattention, and distractibility. Pupils with ADHD were perceived as super active (mean = 3.52), easily distracted (mean = 3.44), and frustrating to teachers and classmates (mean = 3.39). There was moderate teacher knowledge of ADHD (mean = 2.50), but significantly low awareness (mean = 1.77). While teachers correctly identified ADHD as a neurodevelopmental disorder (mean = 2.97, SD = 1.083), awareness of training programmes (mean = 1.86, SD = 1.084), NGO initiatives (mean = 1.22, SD = .667), and media exposure (mean = 1.04, SD = .207) was notably low. Teachers recognize ADHD symptoms but lack structured intervention strategies and adequate training.

Keywords: ADHD, Teacher's recognition, behavioural dysfunction, knowledge, awareness

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I. Background

Behavioural dysfunction, often linked to Attention Deficit Hyperactivity Disorder (ADHD), is commonly observed among elementary school students. While some stakeholders question whether ADHD is a significant concern, the challenges it presents especially in school settings include but not limited to social difficulties, emotional regulation issues, and behavioural disorders can significantly impact students' personal lives, relationships with peers and teachers, and their overall functioning within school system. Many parents can attest to how the behaviours of children with ADHD differ markedly from those of their peers, often leading them to seek additional support to better manage and care for these children (Kim, Yadav & Song, 2024).

ADHD is a neurobehaviourally condition influenced by both genetic and environmental factors, including parenting and family environment. It is characterised by difficulties in attention, impulse control, and emotional regulation, research suggests that parenting behaviours and household dynamics can significantly shape the severity and expression of symptoms (Claussen, Holbrook, Hutchins, Robinson, Bloomfield, Meng, Bitsko, O'Masta, Cerles, Maher, Rush & Kaminski, 2024). In line with the two previous submissions above it is evident that ADHD neuropsychiatric disorder is marked by persistent inattention, hyperactivity, and impulsivity, often continuing into adulthood and affecting academic performance, social interactions, and overall well-being. Given the disorder's high prevalence, frequent comorbidities with other mental health conditions, and diagnostic challenges, ADHD remains a subject of ongoing scientific and clinical debate.

ADHD diagnosis varies across demographic and socioeconomic factors, with an overall prevalence of 11.3% among children aged 5–17 years in the U.S. (2020–2022). Boys (14.5%) were more frequently diagnosed than girls (8.0%), and older children (12–17 years) had a higher prevalence (14.3%) than younger children (8.6%). Racial and ethnic differences were observed, with White non-Hispanic children (13.4%) having a higher prevalence than Black (10.8%) and Hispanic (8.9%) children, a trend consistent across most age groups. Socioeconomic status also played a role, as ADHD prevalence was higher in children from lower-income families (14.8% for those below the poverty level) and among those with public health insurance (14.4%), while uninsured children had the lowest prevalence (6.3%). These patterns highlight the multifaceted nature of ADHD

diagnosis, influenced by biological, social, and economic factors (Koirala, Grimsrud, Mooney, Larsen, Feczko, Elison, Nelson, Nigg, Tervo-Clemmens, & Fair, 2024).

Based on anecdotal pieces of evidence and interaction with many primary school teachers on ADHD have shown that there is a gap in this area within the elementary school practices and the lack of knowledge and awareness of stakeholders is of paramount concern. Most teachers often describe children with ADHD as troublesome, stubborn and class disrupters because they do not know nor recognise the symptoms of ADHD. Furthermore, teachers' knowledge and awareness of ADHD are pivotal for recognizing and addressing the specific needs of students with this condition. However, research suggests that teachers often lack comprehensive understanding of ADHD symptoms, effective instructional strategies, and behavioural management techniques tailored to preteens. This knowledge gap may result in a failure to identify ADHD-related difficulties, implement targeted interventions, and create inclusive classroom environments conducive to the success of preteens with ADHD. The following research questions were formulated to guide this study:

1. What is the level of teachers' knowledge of attention deficit hyperactivity disorder among primary school pupils in Oyo State, Nigeria?
2. What is the level of teachers' awareness of attention deficit hyperactivity disorder among primary school pupils in Oyo State, Nigeria?

II. Methods

This study design adopted a descriptive survey design. It utilised a cross-sectional research approach. Cross-sectional research allows for data collection at a single point in time and is suitable for assessing the current status without manipulating variables of interest. The population of interest for this study comprised all primary school teachers in Oyo State, Nigeria. The study focused on public primary schools in urban and rural areas to capture a diverse representation of teachers. The population was made up of 22,909 male and female primary school teachers from the 33 Local Government Areas (LGA) within Oyo State. 10 schools from each LGA were randomly selected and the most 5 senior teachers (the head teacher, the two assistances and the next two teachers on the pay role) from each school were the respondents, making a total of 50 teachers from each LGA. Therefore, 50 teachers multiplied by 33 LGA gives a total of 1,650 teachers as respondents.

A multistage sampling procedure was employed for this study. In this first stage, the total enumeration of all the teachers in Oyo State primary schools in the 33 Local Government areas were conducted which cut across the following senatorial districts in Oyo state: Oyo North, Oyo South and Oyo Central. A simple random sampling technique was applied to select 10 schools from each Local Government Area, randomly picked resulting in a total of 330 schools across Oyo State. This approach was adopted to ensure a sufficiently large sample size, enabling the ability to derive generalised findings and conclusions from the study. Purposive Random Sampling was used to select the head teachers, 2 assistant head teachers and then 2 most senior teachers who had taught various primary school pupils across all the classes obtaining a total of 5. This amounted to 50 teachers in each local government area. In all, 1,650 teachers were sampled (50 teachers X 33 Local Government Areas).

The instrument utilised in this study was a self-developed questionnaire specifically named Teachers Knowledge and Awareness, and Attention Deficit Questionnaire (TEKAADQ), designed to align with the study's objectives. This questionnaire assessed teachers' awareness, knowledge, in recognising and managing ADHD among elementary school pupils in Oyo State, Nigeria. It includes Section A on demographic data, gathering information about respondents' gender, education level, and teaching experience, followed by a Section B measuring teachers' awareness of ADHD through their exposure to related information from seminars, media, and classroom encounters. Section C evaluates teachers' knowledge of ADHD, including its nature, causes, symptoms, and misconceptions. Lastly, Section D assesses teachers' observations of ADHD-related behavioural dysfunctions, such as inattention, impulsivity, restlessness, and difficulty completing tasks. Respondents were required to answer the questionnaire items, with their responses rated on a 4-point Likert scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (4). Sections B, C and D had 12 items each.

The data collected was analysed using descriptive and inferential statistics. Particularly, descriptive statistics of frequency count, simple percentage, mean, and standard deviation were used to analyse the research questions. Inferential statistics of Multiple Regression was used to test the hypotheses at 0.05 level of significance.

III. Result

Table 1.1: Sex of Respondents

	Number	Percentage (%)
Male	528	31.8
Female	1,122	68.2
Total	1,650	100

Table 1.1 presents the distribution of primary school teachers in Oyo State who were sampled for this study based on their sex. Out of a total of 1650 respondents surveyed, 528 teachers, representing 31.8%, are male, while the remaining 1122 respondents, accounting for 68.2%, are female. The data indicates a significant gender disparity, with female respondents forming the majority of the population sampled. This sex distribution could reflect the demographic characteristics of the target population or a sampling design that captured more females. This indicated that there are more female teachers in the 33 LGAs teaching in primary schools.

Table 1.2: Descriptive Summary of the Level of Teachers' Knowledge of Attention Deficit Hyperactivity Disorder among Primary Pupils in Oyo State, Nigeria

	N=1,650	
	Mean	Std. Deviation
ADHD is a mental disorder and malformation of an aspect of the brain	2.83	1.090
ADHD is a contagious disease	1.48	.975
ADHD can be seen as a spiritual problem	2.05	1.344
ADHD is a behavioural disorder	2.96	1.083
ADHD is a neurodevelopmental disorder	2.97	1.083
It is also an emotional disorder	2.93	1.064
ADHD is a social disorder	2.93	1.064
ADHD is not treatable	2.04	1.108
ADHD affects only girls	1.41	.885
Both male and female can be affected by ADHD	3.24	.970
It is more common in boys than in girls	2.61	.871
Correct diet is a treatment for ADHD	2.49	1.235
Weighted Average Mean = 2.50		

Source: Field Survey, 2024

Decision Rule: Strongly Disagree (1): 1.00 1.4, Disagree (2): 1.51 – 2.49, Agree (3): 2.50 – 3.49, Strongly Agree (4): 3.50 – 4.00

The descriptive summary in Table 1.2 evaluates teachers' knowledge of ADHD among primary school pupils in Oyo State, Nigeria. The data reveals a weighted average mean of approximately 2.50, indicating general agreement with most statements regarding the knowledge of ADHD. Teachers correctly identified ADHD as a neurodevelopmental disorder (2.97, SD = 1.083) and a behavioural disorder (2.96, SD = 1.083), showing sufficient understanding of the condition's nature. The high mean for —both male and female can be affected by ADHD (3.24, SD = .970) reflects strong agreement and clarity on this aspect, though the belief that ADHD affects only girls (1.41, SD = .885) shows appropriate rejection of a misconception. Furthermore, disagreements exist in areas like considering ADHD as a spiritual problem as reflected by the mean scores (2.05, SD = 1.344) or untreatable (2.04, SD = 1.108). Overall, primary school teachers in Oyo State demonstrate a high level of knowledge regarding ADHD.

Table 1.3: Descriptive Summary of the Level of Teachers' Awareness of Attention Deficit Hyperactivity Disorder among Primary School Pupils in Oyo State, Nigeria

	N=1,650	
	Mean	Std. Deviation
Have you ever heard of learning disability in pupils	2.55	1.049
Are you aware of any learning disabilities in pupils	2.68	1.035
Have you heard of Attention Deficit Hyperactivity Disorder	2.49	1.094
Have you attended any symposium or seminar targeted at ADHD	1.86	1.084
Are you aware of any behavioural dysfunction of ADHD	1.64	.952
Have you come across any jingles on the Radio focusing on ADHD	1.04	.207
Are you aware of any NGOs addressing ADHD	1.22	.667
Have you come across any religious organisation attempting to address ADHD in children	1.18	.386
Have you ever seen a child with ADHD	1.38	.671
Are aware of any technique for effectively teaching pupils with ADHD	1.53	.921
Have you ever watched any documentary or discussion on TV on ADHD	1.60	.931
Are you aware of any of the symptoms of ADHD	2.01	1.060
Weighted Average Mean = 1.77		

Source: Field Survey, 2024

Decision Rule: Strongly Disagree (1): 1.00 1.4, Disagree (2): 1.51 – 2.49, Agree (3): 2.50 – 3.49, Strongly Agree (4): 3.50 – 4.00

The descriptive summary above evaluates the level of teachers' awareness of ADHD among primary school pupils in Oyo State, Nigeria, as presented in Table 1.3. The weighted average mean of 1.77 indicates a general disagreement with awareness statements, highlighting a high level of lack of awareness. Teachers show moderate awareness of learning disabilities (2.55, SD = 1.049) and ADHD (2.49, SD = 1.094). However, awareness declines when asked about exposure to ADHD-specific training or materials, with mean scores such as 1.86 (SD = 1.084) for seminars and 1.04 (SD = .207) for radio jingles. Awareness of behavioural dysfunctions (1.64, SD = .952) and techniques for teaching pupils with ADHD (1.53, SD = .921) remains limited. Low mean scores for exposure to NGO activities (1.22, SD = .667) and religious organisations addressing ADHD (1.18, SD = .386) further emphasise the issue. These findings reveal limited awareness of ADHD, suggesting an urgent need for comprehensive teacher training and widespread sensitisation programmes to bridge the awareness gap.

Table 1.4: Regression Summary of the Joint Influence of Teachers' Knowledge and Awareness of Attention Deficit Hyperactivity Disorder on Behavioural Dysfunction among Primary School Pupils in Oyo State, Nigeria									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change F Change	df1	df2	Sig. F Change
1	.483 ^a	.233	.230	.46984	.233	82.915	3	1643	.000

a. Predictors: (Constant), Teacher's Knowledge, Teacher's Awareness

Model		Sum of Squares	Df	Mean Square	F	Change F Change
1	Regression	54.910	3	18.303	82.915	.000
	Residual	180.791	1642			
	Total	235.700	1645		.221	
Source: Field Survey, 2024						
a. Dependent Variable: behavioural dysfunction						
b. Predictors: (Constant), School involvement, Teacher knowledge, Teacher awareness						

The regression analysis in Table 1.4 explores the joint influence of teachers' knowledge, and awareness of ADHD on behavioural dysfunction among primary school pupils in Oyo State, Nigeria. The model summary indicates a correlation coefficient ($R = .483$) and an R Square =.233, implying that 23.3% of the variance in behavioural dysfunction is explained by the predictors. The adjusted R Square of .230 confirms the model's reliability after accounting for sample size and predictors. The standard error of the estimate (.46984) suggests moderate accuracy in the predictions.

The ANOVA table shows a statistically significant model ($F(3, 819) = 82.915, p < .05$), indicating that the combined effect of teachers' knowledge, and awareness significantly predicts behavioural dysfunction. The regression sum of squares (54.910) is substantially higher than the residual sum of squares (180.791), affirming the model's predictive strength. Given the significance level ($p = .000$), which is less than 0.05, the null hypothesis (H_0) is rejected. This indicates a significant joint influence of teachers' knowledge, and awareness on behavioural dysfunction among primary school pupils in Oyo State, Nigeria.

Table 1.5: Summary of the Relative Influence of Teachers' Knowledge and Awareness of Attention Deficit Hyperactivity Disorder on Behavioural Dysfunction among Elementary Pupils In Oyo State, Nigeria					
Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	1.133	.168		6.758	.000
Teachers' awareness	-.004	.038	-.004	-.098	.922
Teachers' knowledge	.330	.029	.413	11.520	.000
Source: Field Survey, 2024					
a. Dependent Variable: Behavioural dysfunction					

The regression analysis in Table 1.5 examines the relative influence teachers' knowledge, and awareness of ADHD on behavioural dysfunction among primary school pupils in Oyo State, Nigeria. The results indicate that teacher knowledge ($B = 0.330, \text{Beta} = 0.413, t = 11.520, p < .05$) significantly contribute to behavioural dysfunction, as a strong predictor. However, teacher awareness ($B = -0.004, \text{Beta} = -0.004, t = -0.098, p = .922$) shows no significant influence. The significance values for teacher knowledge confirm its substantial impact, whereas teacher awareness does not contribute meaningfully. Consequently, revealing that teachers' knowledge is an essential factors, while teacher awareness alone is insufficient in predicting behavioural dysfunction among primary school pupils in Oyo State.

IV. Discussion

Teachers demonstrated moderate knowledge of ADHD, with a weighted mean falling within the 'agree' range. The majority agreed to correct the identification of ADHD as a neurodevelopmental and behavioural disorder. This is under the finding that 75.4% of parents and teachers had no prior awareness of ADHD, and only half could accurately identify its traits in children, with 32.2% recognising that adults could also have ADHD. Educational qualification significantly influenced ADHD knowledge, highlighting the need for targeted awareness programmes in private schools in Lagos to improve identification and support for affected children (Adekoya & Taiwo, 2025). The findings are significant considering that it was found that Nigerian educators possess high levels of misconception and limited knowledge about ADHD, which do not improve with increased years of teaching experience or higher levels of education. Additionally, their understanding of ADHD significantly influences their choice of behaviour management strategies, often leading to the use of negative disciplinary measures rather than effective classroom management practices (Ojionuka, 2016). Teachers' disagreement with viewing ADHD as a spiritual problem notwithstanding, the variability in scores and the influence of cultural beliefs on understanding ADHD in Nigerian contexts. This therefore points to inconsistent knowledge levels, reflecting gaps in formal training. Integrating neuroscience education into teacher training enhances teacher preparation by promoting evidence-based practices that support neurocognitive development in learners (Sortwell, Gkintoni, Zagarella, Granacher, Forte, Ferraz, Ramirez-Campillo, Carter, Thuillier, Konukman, Nouri, Bentley, Marandi & Jemni, 2023).

Additionally, while many teachers acknowledged the equal susceptibility of boys and girls to ADHD, biases about gender prevalence remain necessitating focused awareness campaigns. The results of the current study also suggest low awareness of ADHD, with particularly low scores for exposure to media content (e.g., radio jingles, and NGO activities). The lack of awareness about effective teaching techniques and behavioural dysfunction symptoms emphasises the critical gaps in professional development. While some teachers are aware of learning disabilities broadly, the absence of ADHD-specific seminars and resources hinders practical application. This reinforces the need for targeted campaigns which will adopt multi-sectoral approaches to sensitisation and training. This aligns with the study which highlights gender disparities in ADHD diagnosis resulting from differences in symptom presentation, comorbidities, and biases among parents, teachers, and healthcare providers, leading to delayed diagnoses in females. This underdiagnosis negatively impacts girls' access to support and treatment, affecting their health, social, and economic outcomes, underscoring the need for increased awareness and targeted interventions (Kayla & Sonia, 2024). Relatedly, ADHD is diagnosed significantly more often in males during childhood, but by adulthood, diagnosis rates between males and females become nearly equal. This emphasises the need for more research on sex differences in ADHD, as these differences have important implications for accurate identification and treatment across the lifespan (Babinski, 2024).

These findings stress the urgent need for increased ADHD awareness and professional development for teachers, particularly through targeted campaigns and multi-sectoral approaches. Addressing gender biases in ADHD diagnosis is crucial to ensuring that girls receive timely support and treatment, preventing long-term social and economic disadvantages. Additionally, further research on sex differences in ADHD is essential for improving diagnostic accuracy and tailoring interventions across different life stages.

V. Recommendation

The current study made these recommendations based on the findings:

1. Teachers should be exposed to more ADHD-specific training, seminars, and resources to improve their awareness while educational institutions and local education authorities should work together to organise sensitisation programmes to bridge the knowledge gap among teachers.
2. Given that teacher knowledge and school involvement were found to significantly influence behavioural dysfunction, initiatives should prioritise increasing teacher expertise and school participation. This could involve creating support networks and peer-learning opportunities for teachers to share effective strategies for managing ADHD students.

Conflict of interest

The authors declare no conflict of interests in the conceptualization, conduct and publication of this study or its findings.

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Author's contribution

FM conceptualized the study, prepared the protocol, conducted the literature review, data collection and analysis. OT supervised the protocol writing, data collection and execution of the work. BC wrote the first draft of the manuscript, proofread protocol writing and the manuscript. All authors proof-read and approved the final manuscript.

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