

**KNOWLEDGE AND ATTITUDE OF ATTENTION DEFICIT HYPERACTIVITY
DISORDER AMONG PRIMARY SCHOOL TEACHERS IN OREDO LOCAL
GOVERNMENT AREA, BENIN CITY**

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**BEING A ONE-YEAR PROJECT PRESENTED TO THE DEPARTMENT OF
PUBLIC HEALTH AND COMMUNITY MEDICINE, SCHOOL OF MEDICINE,
COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY,
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DEDICATION

This project is dedicated to Almighty God for His grace, wisdom, and guidance throughout the course of this study.

It is also dedicated to my beloved family for their unwavering love, prayers, encouragement, and support.

DECLARATION

I hereby declare that this research project titled “Knowledge and attitude of attention deficit hyperactivity disorder among primary school teachers in Oredo Local Government Area, Benin City” was conducted under supervision and was not submitted in part or in full for any purpose.

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CERTIFICATION

This is to certify that this research study titled "Knowledge and attitude of attention deficit hyperactivity disorder among primary school teachers in Oredo Local Government Area, Benin City" was conducted by Itohan Esosa Agbonile with matriculation number MED1807357 under the supervision of Prof. Vivian Omuemu in the Department of Public Health and Community Medicine, College of Medical Sciences, University of Benin as part of the requirements for the award of Bachelor of Medicine, Bachelor of Surgery (MBBS) degree.

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LIST OF ABBREVIATIONS

ADHD	Attention Deficit Hyperactivity Disorder
APA	American Psychiatric Association
CDC	Centre for Disease Control and Prevention
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5 th edition
ICD-11	International Classification of Diseases, 11 th edition
KADDS	Knowledge of Attention Deficit Disorders Scale
NIMH	National Institute of Mental Health
PLS-SEM	Partial Least Squares Structural Equation Modeling
SBSTs	School-Based Support Teams
SLD	Specific learning disabilities
SUBEB	State Universal Basic Education Board
VADRS	Vanderbilt ADHD Diagnostic Rating Scale
WHO	World Health Organization

DEFINITIONS OF TERMS

Attention Deficit Hyperactivity Disorder: A neurodevelopmental disorder in school-aged children characterized by persistent patterns of inattention, hyperactivity, and impulsivity that impair functioning or development.

Behavioural Interventions: Evidence-based practices aimed at modifying students' behaviour through structured strategies, reinforcement, or support systems.

Frontline Identification: The role of teachers or other first-contact professionals in recognizing early signs of disorders like ADHD in students.

Hyperactivity: Excessive motor activity (e.g., running about, fidgeting) or excessive talkativeness, inappropriate to the setting.

Inattention: Difficulty in sustaining focus, following instructions, and organizing tasks and activities.

Inclusive Education: Educational practices that accommodate students of all backgrounds and abilities, including those with ADHD and other special needs.

Neurodevelopmental Disorder: A disorder originating in the developmental period, often before a child enters grade school, marked by developmental deficits that produce impairments in personal, social, academic, or occupational functioning.

Primary School Teacher: A professional (minimum of Nigerian Certificate of Education) who educates young children typically between the ages of 6-12 in foundational learning, focusing on literacy, numeracy, and other basic skills

ABSTRACT

BACKGROUND: Attention Deficit Hyperactivity Disorder (ADHD) is a common neurodevelopmental disorder characterized by persistent patterns of inattention, hyperactivity, and impulsivity that interfere with functioning and development. In Nigeria, ADHD remains largely underdiagnosed and poorly understood, particularly among primary school teachers who serve as frontline identifiers of the condition. Children with ADHD in Nigerian classrooms are often mislabelled as stubborn, lazy, or poorly disciplined due to low teacher awareness and inadequate training on neurodevelopmental disorders. This study assessed the knowledge, attitudes, and classroom management practices regarding ADHD among primary school teachers in the Oredo Local Government Area, Benin City, to identify gaps in understanding and the factors influencing teachers' attitudes and practices. It further explores the impact of these factors on classroom identification and support for children with ADHD. The findings from this research will help develop targeted training approaches to raise awareness, reduce stigma, and improve educational outcomes for children with ADHD in primary schools.

METHODS: A descriptive cross-sectional study was conducted among 435 primary school teachers in Oredo Local Government Area, Benin City, who were selected using a multistage sampling technique. Data were collected via structured self-administered questionnaires adapted from the Knowledge of Attention Deficit Disorders Scale (KADDS), the ADHD-Specific Attitudes Scale (SASA), and the Behaviour and Instructional Management Scale (BIMS). IBM SPSS version 27.0 was used for data analysis. Descriptive data were expressed as frequencies, percentages, means, and standard deviation. Associations between socio-

demographic factors and knowledge, attitudes, and classroom management practices were analyzed using the chi-square test and logistic regression. The level of significance was set at $p < 0.05$ at 95% confidence interval. Results were presented in prose, tables, and bar charts.

RESULTS: The mean age of respondents was 38.72 ± 8.43 years. The majority 296 (68.0%) were female, and most identified as Benin 203 (46.7%). A significant portion 384 (88.3%) were Christians, and 217 (49.9%) held Nigeria Certificate in Education as their highest qualification. Most teachers, 241 (55.4%), worked in public schools, and 165 (37.9%) had 11 to 20 years of teaching experience. Knowledge assessment revealed that only 62 (14.3%) of teachers displayed adequate knowledge of ADHD, while 296 (68.0%) had low knowledge, particularly in the domains of symptoms, diagnosis, causes, and outcomes. Regarding attitudes, 255 (58.6%) held positive attitudes toward ADHD, though only 52 (11.9%) felt capable of effectively teaching students with ADHD behaviours. Classroom management practices showed that 359 (82.5%) demonstrated high adoption of general management strategies, yet all 435 (100%) teachers reported having no access to school counsellors or special education professionals. Nearly all teachers 431 (99.1%) expressed a strong desire for more training on ADHD. Significant associations were observed between knowledge and school type ($p = 0.039$), attitude and age group ($p = 0.025$), as well as attitude and school type ($p < 0.001$). Teachers with education-based qualifications were 4.2 times more likely to adopt evidence-based management strategies ($OR = 4.189$, $p < 0.001$).

CONCLUSION: The study demonstrated that more than two-thirds of primary school teachers had poor knowledge of ADHD, with factors such as school type, age, and qualification type playing significant roles. The study also revealed that while a slight majority held positive attitudes toward ADHD, only a small minority felt confident in teaching students with the condition. This study highlights significant gaps in teachers' knowledge and self-efficacy regarding ADHD, with important implications for classroom

identification and support. Addressing these challenges through mandatory ADHD training in teacher education, in-service workshops, and deployment of school counsellors is essential to improve early identification and educational outcomes for children with ADHD in Benin City.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Attention Deficit/Hyperactivity Disorder (ADHD) represents one of the most prevalent neurodevelopmental disorders affecting school-aged children globally, with estimated prevalence rates ranging from 5% to 12% across different populations and cultures.¹ Characterized by a persistent pattern of inattention, hyperactivity, and impulsivity that interferes with functioning or development, ADHD poses significant challenges not only for affected children but also for their families, educators, and the broader educational system.¹ The classroom environment, with its inherent demands for sustained attention, behavioral regulation, and academic productivity, often serves as the primary setting where ADHD symptoms become most apparent and problematic.²

Within educational contexts, primary school teachers occupy a uniquely critical position in the early identification and management of ADHD. Research demonstrates that teachers are often the first professionals to recognize potential ADHD symptoms, given their daily interactions with students in structured learning environments.² However, the effectiveness of this frontline identification and subsequent intervention depends heavily on teachers' knowledge about ADHD, their attitudes toward affected students, and their capacity to implement appropriate classroom strategies.²

Studies from various global contexts reveal concerning gaps in teacher preparedness for addressing ADHD. For instance, research in Iran found that while 66% of parents demonstrated adequate overall knowledge about ADHD, significant deficiencies existed in specific domains such as recognizing symptom variations (only 43.38% could identify

aberrations) and understanding treatment options (54.75% awareness).³ Likewise, findings from South Africa indicate that many teachers rely more on experiential learning than on formal professional development when managing students with ADHD, highlighting systemic limitations in teacher preparation.

In mainstream Nigerian schools, including those in Benin City, ADHD often remains underdiagnosed and poorly understood. The national teacher education curriculum does not consistently integrate mental health and behavioral disorders, leading to poor awareness and minimal use of evidence-based interventions. When left unrecognized or mismanaged, ADHD symptoms can result in academic underachievement, strained peer relationships, and increased dropout rates. Children exhibiting hyperactive or inattentive behavior may be labeled as stubborn or poorly disciplined rather than as students needing structured support.

Furthermore, negative teacher attitudes and cultural misconceptions about ADHD remain a persistent issue. Misunderstanding the nature of the disorder may lead to punitive disciplinary actions, social isolation of affected children, and reluctance to engage in inclusive practices.³ Research from Pakistan similarly underscores the lack of structured behavioral interventions in classroom settings, even when teachers recognize ADHD symptoms. Such gaps in knowledge and unfavorable attitudes ultimately undermine the creation of supportive learning environments for children with ADHD.

Given these realities, there is a pressing need to explore the knowledge, attitudes, and classroom practices of primary school teachers in Benin City, where little empirical research has been conducted to date. Teachers' perceptions of ADHD, their readiness to respond appropriately, and the structural challenges they face are critical to shaping inclusive education policy and teacher training frameworks in the region.

1.2. STATEMENT OF THE PROBLEM

Attention-Deficit/Hyperactivity Disorder (ADHD) is among the most prevalent neurodevelopmental disorders in children, affecting approximately 5–7% of the global child population.² Despite its widespread occurrence, many primary school teachers lack sufficient knowledge and maintain inappropriate attitudes toward the condition. This gap often results in poor classroom management and negative academic consequences for children with ADHD.

From a global perspective, studies highlight notable discrepancies in teachers' awareness and understanding of ADHD. In Ethiopia, for instance, only 44.8% of elementary school teachers were found to have a good grasp of the disorder, though a larger proportion 84.1% held favorable attitudes.² In Canada, while 68% of teachers showed accurate knowledge, many still held misconceptions about the causes and treatment options for ADHD³. Similarly, a study in Pakistan revealed that only 35% of teachers could correctly identify ADHD symptoms, underscoring a significant knowledge gap.⁵

From a regional African standpoint, the situation remains concerning. In South Africa, teachers expressed feelings of frustration and anxiety when managing children with ADHD. Many resorted to punitive disciplinary actions rather than adopting evidence-based strategies.⁴ In Ethiopia, only 29.2% of teachers had ever read materials related to ADHD, and a mere 13.7% had searched for such information online, reflecting limited access to educational resources.²

Locally, while specific data for Benin City is scarce, existing Nigerian studies suggest that ADHD awareness among teachers remains low. Fewer than 40% of teachers have received formal training on learning disabilities.⁵ Additionally, many schools in Nigeria lack

structured support systems for learners with ADHD, leading to high dropout rates and poor academic outcomes.⁴

Several factors contribute to the persistent knowledge and attitude gaps. A major issue is the lack of teacher training. In Ethiopia, for example, 77.8% of teachers reported never attending any workshop on ADHD.² In Pakistan, only 25% of teachers implemented strategies such as peer tutoring, with the majority relying instead on ineffective disciplinary approaches.⁵

Stigma and widespread misconceptions further complicate the issue. ADHD is often misunderstood by both parents and teachers, who may interpret its symptoms as deliberate misbehavior. This misunderstanding delay proper diagnosis and intervention.³ In South Africa, 62% of teachers described learners with ADHD as “difficult” or “frustrating,” revealing deep-rooted negative perceptions.⁴

Limited access to information and teaching resources is another significant barrier. In Ethiopia, 86.3% of teachers lacked internet access to research ADHD, thereby limiting their opportunities to build knowledge.² On a global scale, only 22.2% of teachers reportedly receive in-service training on ADHD, leaving many educators unprepared to address the needs of affected learners effectively.

The consequences of this knowledge and attitude gap are far-reaching. Academically, children with ADHD often lag behind their peers due to insufficient classroom support and instructional accommodations.⁵ There is also a heightened risk of school dropout and increased engagement in antisocial behaviors among these learners when their needs are unmet.⁴ Furthermore, teachers themselves face increased levels of stress and burnout when tasked with managing ADHD in the classroom without adequate training or support.²

Addressing these challenges requires a multi-faceted approach. Teacher training programs have proven effective in improving ADHD knowledge. For instance, Ethiopian teachers who

participated in structured workshops demonstrated three times better understanding of the condition.² Encouraging parent-teacher collaboration is another vital strategy. In South Africa, the establishment of school-based support groups helped enhance caregiver engagement and improve outcomes for children with ADHD.⁴

In Benin City, as in many other parts of the world, primary school teachers exhibit low knowledge and often negative attitudes toward ADHD. These factors contribute significantly to poor academic outcomes, higher dropout rates, and increased educator burnout. Without urgent and targeted interventions such as comprehensive teacher training, increased awareness, and educational policy reforms children with ADHD will continue to face systemic exclusion and academic failure. This study seeks to examine the extent of these gaps in Benin City's primary schools and to propose evidence-based solutions for improving ADHD management and support.

1.3 JUSTIFICATION OF THE STUDY

This study's importance stems from its potential to address critical gaps in both knowledge and practice regarding ADHD management in Benin City's primary education system.³ Currently, there is limited empirical data on primary school teachers' ADHD knowledge and attitudes in Benin City specifically and Nigeria more broadly. While studies from Iran³, South Africa, and Pakistan have illuminated various challenges in teacher preparedness, these findings cannot be automatically generalized to Benin City due to cultural, educational, and socioeconomic differences.

The findings will have direct implications for teacher training programs and classroom practices.³ Evidence from other contexts demonstrates that targeted ADHD education can improve teacher effectiveness.³ By identifying Benin City teachers' specific knowledge gaps

and attitudes, this study will inform the development of locally relevant training modules that address real classroom challenges.

At a systemic level, the study's results can guide education policy reforms related to inclusive education and special needs support. Improved ADHD understanding among teachers can reduce stigma and promote earlier intervention, ultimately enhancing academic and social outcomes for affected children.³

Additionally, the study will contribute to the limited body of Nigerian research on ADHD, helping to shape context-specific educational interventions and advocacy strategies. In doing so, it aims to foster a more inclusive, informed, and responsive educational environment for all children, particularly those whose learning is affected by ADHD.

1.4 RESEARCH QUESTIONS

1. What is the level of knowledge of Attention Deficit Hyperactivity Disorder among primary school teachers in Oredo Local Government Area?
2. What is the attitude of primary school teachers towards Attention Deficit Hyperactivity Disorder in Oredo Local Government Area?
3. What are the classroom management practices and challenges with regard to Attention Deficit Hyperactivity Disorder among primary school teachers in Oredo Local Government Area?
4. What are the factors affecting the knowledge and Attitude of primary school teachers towards Attention Deficit Hyperactivity Disorder in Oredo Local Government Area?

1.5. RESEARCH OBJECTIVES

1.5.1. General objective

To assess the knowledge and attitude of Attention Deficit/Hyperactivity Disorder among primary school teachers in Benin City.

1.5.2. Specific Objectives

This study aims to achieve the following objectives.

1. To determine the level of knowledge of ADHD among primary school teachers in Oredo Local Government Area.
2. To assess the attitude of primary school teachers towards children with ADHD in Oredo Local Government Area.
3. To evaluate the classroom management practices and challenges with regards to ADHD among primary school teachers in Oredo Local Government Area.
4. To identify the factors affecting the knowledge and attitude of primary school teachers towards ADHD in Oredo Local Government Area.

CHAPTER TWO

LITERATURE REVIEW

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental condition manifested by developmentally inappropriate levels of inattention, hyperactivity, and impulsivity that disrupt daily functioning across multiple settings. Symptoms such as difficulty sustaining attention, poor organization, forgetfulness, fidgeting, excessive movement, and interrupting typically begin before age 12 and must persist for at least six months to meet diagnostic criteria.⁷

ADHD is categorized into three clinical presentations: predominantly inattentive presentation (ADHD-PI), predominantly hyperactive-impulsive presentation (ADHD-HI), and combined presentation (ADHD-C). These subtypes reflect differing symptom clusters and developmental trajectories.

Assessment tools commonly employed include multi-informant behavioral rating scales such as the Vanderbilt ADHD Diagnostic Rating Scale (VADRS), which aligns with Diagnostic and Statistical Manual of Mental Disorders (DSM) criteria and evaluates a child's symptoms across home and school environments. The VADRS has demonstrated strong psychometric properties, including internal consistency coefficients between 0.91 and 0.94, test-retest reliability greater than 0.80, acceptable sensitivity (0.80) and specificity (0.75), and a strong negative predictive value (0.98), rendering it reliable for both clinical and research settings.⁸

Management of ADHD follows a multimodal approach. Pharmacotherapy is central, with stimulant medications (e.g., methylphenidate and amphetamines) and non-stimulants (e.g., atomoxetine, guanfacine) approved for use in children and adults. These agents improve symptoms such as inattention, hyperactivity, impulsivity, and quality of life when compared to placebo controls.⁹

2.1. LEVEL OF KNOWLEDGE OF ADHD AMONG PRIMARY SCHOOL TEACHERS IN BENIN CITY.

A cross-sectional descriptive study conducted in 2017 in Gulshan-e-Hadeed, Karachi, Pakistan, assessed knowledge, attitudes, and practices related to ADHD among private elementary school teachers.¹⁰ The study involved 264 teachers selected through purposive sampling. Data were collected using a semi-structured questionnaire based on Conner's Teacher's Rating Scale.¹⁰ The findings indicated that 94.7% of the teachers had a positive level of knowledge, while 5.3% had poor knowledge. However, only 66.3% practiced effective classroom strategies, suggesting a gap between knowledge and practical implementation. Teachers who had received prior ADHD training demonstrated significantly better knowledge and practical application.¹⁰

A 2017 cross-sectional analytic study in Shebin El-Kom district, Menoufia, Egypt, utilized a structured interview and the Knowledge of Attention Deficit Disorders Scale to evaluate ADHD awareness among 500 primary school teachers across two villages.¹¹ Employing multistage random sampling to ensure representativeness, the study revealed critical knowledge deficiencies: 81.4% of participants reported no formal ADHD training during their collegiate education, and only 10.2% demonstrated proficient overall knowledge.¹¹ The majority (59%) exhibited poor understanding, particularly regarding treatment protocols.

Notably, 37.8% cited television programs as their primary information source, a finding that raises methodological concerns about the reliability of ADHD related information accessed by educators.¹¹

In 2020, a descriptive cross-sectional study in Isfahan, Iran, investigated the knowledge, attitudes, and behaviors of public and private school teachers regarding ADHD.¹² The study included 120 teachers selected through random sampling, and data were gathered via a self-administered questionnaire.¹² Results showed that 65% of the participants had favourable knowledge. Notably, teachers working in public schools were found to have better knowledge than those in private schools. Additionally, younger teachers and those who had prior exposure to ADHD through either experience or formal training were more knowledgeable.¹²

In 2022, a cross-sectional study conducted in Sharjah, United Arab Emirates, assessed ADHD knowledge among 264 primary school teachers from public and private institutions using the Knowledge of Attention-Deficit Disorders Scale.¹³ Teachers were selected through convenience sampling. The results revealed that 56.3% of participants could identify ADHD symptoms.¹³ However, only 34.4% were knowledgeable about associated features, and just 34.1% understood treatment options. It was observed that most teachers received their ADHD information from workshops (32%) and social media (23%). Additionally, private school teachers were found to have better overall knowledge than those in public schools.¹³

A 2023 cross-sectional investigation in Riyadh, Saudi Arabia, evaluated ADHD knowledge among 448 government primary school teachers selected through multistage random sampling.¹⁴ Employing the Knowledge of Attention Deficit Disorders Scale, the study revealed an overall knowledge proficiency of 43.1%. While diagnostic acuity was moderate (61.0% exhibited symptom recognition), therapeutic understanding proved deficient (36.0% demonstrated competence in treatment modalities).¹⁴ Regression analyses identified

significant positive associations between knowledge retention and male gender ($\beta=5.85$, $p<0.01$) as well as prior ADHD exposure ($\beta=5.21$, $p<0.01$). Conversely, an inverse association emerged between knowledge acquisition and both advanced age ($\beta=-2.16$, $p=0.15$) and extended teaching tenure ($\beta=-0.43$, $p=0.65$), suggesting experiential factors may not compensate for formal ADHD training.¹⁴

A 2015 cross-sectional descriptive study published in the *British Journal of Medicine & Medical Research* investigated the level of knowledge about Attention-Deficit/Hyperactivity Disorder among primary school teachers in Lagos, Nigeria.¹⁵ The research assessed educators' understanding of ADHD symptoms and management approaches by surveying 144 primary school teachers from four institutions selected through convenience sampling.¹⁵ Using a vignette-based questionnaire that presented a case of ADHD (combined subtype) following DSM-IV criteria, along with follow-up questions, the study found alarmingly low levels of ADHD awareness. Only 7.6% of participants correctly identified the ADHD case description, while most misinterpreted the symptoms as mere “playfulness” (49.3%), “stubbornness” (30.6%), or “over-indulgence” (12.5%).¹⁵ The results further revealed limited familiarity with evidence-based treatments, with just 9% acknowledging medication's role, 16.7% recognizing psychological interventions, and a minimal 6.3% understanding teachers' potential contribution to ADHD management. These findings highlight significant gaps in ADHD literacy among Nigerian educators and underscore the pressing need for comprehensive teacher training programs.

In conclusion, this literature review highlights the widespread variability and frequent inadequacy of ADHD knowledge among primary school teachers globally, particularly in relation to treatment and classroom management. These international findings provide valuable guidance for developing teacher training and research agendas in Benin City. As teachers play a pivotal role in identifying and supporting students with ADHD, investing in

their knowledge and practice will be essential for fostering more inclusive, supportive, and effective educational environments.

2.2. ATTITUDE OF PRIMARY SCHOOL TEACHERS TOWARDS CHILDREN WITH ADHD IN BENIN CITY.

Teachers' attitude toward children with ADHD significantly influences educational outcomes, classroom inclusion, and support strategies. This literature review explores key studies examining primary school teachers' attitudes toward students with ADHD, analyzing the design, methodology, and findings of research conducted in both Nigerian and international contexts, and drawing implications for future interventions in Benin City.

A cross-sectional survey conducted in 2016 in Tehran, Iran, examined the knowledge and attitudes of primary school teachers toward ADHD and specific learning disabilities (SLD).¹⁶ The study sampled 205 teachers selected through a multi-stage random sampling process that covered 25 schools across five districts.¹⁶ Data were collected using self-administered questionnaires. The results showed that 65.1% of the teachers held neutral attitudes, while 48.4% reported positive views. Negative attitudes were comparatively rare. A significant relationship was found between higher levels of ADHD knowledge and more favorable teacher attitudes.¹⁶ Misconceptions, such as attributing ADHD to poor parenting or behavioral laziness, were found to contribute to some of the teachers' negative perceptions.¹⁶

A quasi-experimental study in Hail City, Saudi Arabia, to evaluate the effect of an educational program on elementary school teachers' knowledge, attitudes, and classroom management techniques related to Attention-Deficit/Hyperactivity Disorder.¹⁷ The study employed a pre- and post-intervention design involving 95 teachers (53 males and 42 females) selected through convenience sampling.¹⁷ Data were collected using a self-administered questionnaire that incorporated the Knowledge of Attention Deficit Disorders Scale to assess

knowledge, a Likert scale for attitudes, and a structured tool for evaluating classroom management practices.¹⁷ Before the intervention, 76.8% of the participants displayed uncertain attitudes toward ADHD, and only 2.1% expressed positive attitudes.¹⁷ However, after participating in the educational program, 55.8% of the teachers exhibited positive attitudes, indicating a significant shift in perception.¹⁷ The study also found a strong positive correlation between teachers' knowledge levels, their attitudes toward ADHD, and their ability to implement effective classroom management strategies, highlighting the importance of targeted training in improving both understanding and practical skills for supporting students with ADHD.

A quantitative cross-sectional study conducted in 2022 in Debre Markos and Dejen towns, Northwest Ethiopia, sought to assess the attitudes of primary school teachers toward students with ADHD and to identify the factors influencing those attitudes.¹⁸ The research included 417 primary school teachers selected using random sampling from lists of educators in selected schools. Data were gathered through face-to-face interviews using a pre-tested structured questionnaire that included a case vignette designed to evaluate teacher attitudes.¹⁸ The findings revealed a mean attitude score of 41.6 ± 5.4 , with approximately 46% of the respondents demonstrating unfavorable attitudes toward students with ADHD. Further analysis indicated that teachers with lower levels of formal education, less teaching experience, and no prior ADHD-related training were significantly more likely to express negative attitudes.¹⁸ Interestingly, familiarity with teaching students diagnosed with ADHD was associated with more favorable attitudes, suggesting that direct exposure can help mitigate stigma and improve teacher perceptions.¹⁸

A study conducted in 2014 in Lagos State, Nigeria, utilized a descriptive cross-sectional survey to evaluate the knowledge and attitudes of 250 randomly selected primary school teachers, equally divided between male and female participants.¹⁹ The results revealed a

moderate average attitude score (42.26 ± 4.79), with male teachers demonstrating slightly more favorable attitudes than their female counterparts.¹⁹ Nonetheless, misconceptions were prevalent; many teachers mistakenly attributed ADHD symptoms to poor parenting, highlighting a critical gap in understanding the disorder's neurobiological roots.¹⁹

Given these findings, it is reasonable to infer that primary school teachers in Benin City may exhibit attitudes similar to those observed in Lagos and Kaduna, where moderate understanding and persistent misconceptions co-exist.

2.3. CLASSROOM MANAGEMENT PRACTICES AND CHALLENGES WITH REGARDS TO ADHD AMONG PRIMARY SCHOOL TEACHERS IN BENIN CITY.

Primary school teachers are critical in identifying and managing the behaviours associated with ADHD, yet they frequently encounter significant challenges due to limited knowledge, inadequate professional training, and constrained classroom resources. This literature review synthesizes findings from various international studies, with a specific focus on their relevance to the context of Benin City, Nigeria. The aim is to explore teachers' practices and the challenges they face in managing children with ADHD, and to provide implications for improved support within Nigerian primary schools.

Some insights into teachers' awareness and classroom practices emerged from a descriptive study conducted in Rawalpindi and Islamabad, Pakistan, in 2021.⁵ The study surveyed 200 elementary school teachers from both public and private schools to assess teachers' awareness of ADHD, the perceived prevalence of the condition in classrooms, and the management strategies employed.⁵ Data were collected using three self-developed questionnaires that focused on ADHD awareness, observed prevalence, and classroom

interventions.⁵ The findings revealed that classroom management practices among the teachers were limited in scope.⁵ Only 25% of the respondents reported using peer tutoring as a strategy for managing ADHD-related behaviors. Similarly, 20% made modifications to physical classroom arrangements, and just 16% increased their direct attention to students with ADHD.⁵ These figures suggest that despite recognizing behavioral difficulties, many teachers may not be adequately equipped with or confident in applying effective intervention strategies.

A 2015 cross-sectional descriptive study conducted in Kimberley, South Africa, assessed primary school teachers' knowledge of ADHD symptoms, treatments, and classroom management strategies.²⁰ This study employed a quantitative survey design and included 200 teachers from grades 1 to 4. The data were collected using a self-administered Knowledge of Attention-Deficit Disorder Scale.²⁰ It showed that in terms of classroom management, most teachers reported using structured educational interventions (97%), token reinforcement (86.9%), and clear rule-setting (91%).²⁰ These findings suggest that while basic strategies may be in use, deeper conceptual understanding of ADHD remains lacking.

A qualitative interpretive study from South Africa conducted in 2020 further explored teachers' experiences and professional development needs related to ADHD.²¹ The study involved semi-structured interviews with seven primary school teachers, each representing a different grade level from grades 1 to 7, and was conducted across several provinces, including Eastern Cape, Northern Cape, Mpumalanga, and Gauteng.²¹ Although participants were selected from schools with some support systems in place for ADHD, the interviews revealed that teachers had limited formal understanding of the condition.²¹ Many relied on personal or anecdotal experiences to guide their classroom management. Teachers expressed frustration at having to cope with large class sizes and demanding curricula, which hindered their ability to provide individualized support.²¹ Additionally, social stigma surrounding

ADHD was a recurring challenge, as parents often resisted assessments and medication due to fear of labeling. Teachers reported using basic strategies such as repeating instructions, changing seating arrangements, and allowing breaks to manage student behavior.²¹ However, these efforts were not systematically reinforced by structured behavioral interventions. Collaboration with parents and School-Based Support Teams (SBSTs) was noted to be inconsistent, reducing the effectiveness of classroom strategies.²¹

The effectiveness of structured training programs was highlighted in a quasi-experimental study conducted in Qalyubia, Egypt, in 2016.²² The study utilized a one-group pre-test/post-test design to evaluate the impact of a targeted teaching program on 60 primary school teachers.²² Data collection tools included the Teachers' Knowledge Scale, an Attitude Scale, and a Behavior Management Strategies Scale.²² The results showed teachers reported greater use of reinforcement techniques, which increased from 55.14% to 71.78%, and a higher application of emotional support strategies, which rose from 50.35% to 68.82%.²²

A 2023 exploratory qualitative study conducted in the rural community of Ago-Iwoye, Ogun State, purposively recruited eighteen primary school teachers (four males and fourteen females) from two public schools with notably high enrolment of children exhibiting ADHD symptoms; using a cross-sectional design, researchers carried out in-depth, semi-structured interviews that were audio-recorded, transcribed verbatim, and analyzed thematically to uncover levels of ADHD awareness, classroom management practices, coping strategies, and systemic challenges.²³ Despite only five teachers (27.8%) having received any formal training on ADHD, a majority had devised their own support mechanisms: 41.2% relied on calm verbal redirection to steer students back to tasks, 27.8% admitted to raising their voices when calmer strategies failed, 44.4% creatively introduced locally available teaching aids such as seeds for counting and measurement exercises to make abstract concepts more tangible, and 22.2% used positive reinforcement by praising correct classwork to encourage on-task

behavior; furthermore, 89.3% of participants observed that children with ADHD often thrived socially in extracurricular activities like sports and debates, suggesting strong peer integration when lessons were more active or interactive.²³ However, pervasive knowledge gaps two-thirds (66.7%) of teachers could not accurately define ADHD combined with the daily reality of managing inattention, hyperactivity, and impulsivity (61.1% cited these symptoms as severely disrupting lesson flow), chronic resource shortages (no access to special-education experts or adapted curricula), and the absence of institutional protocols forced teachers into punitive responses 91% reported referring “out-of-control” students to headmasters or proprietors, and 39.8% involved parents primarily as disciplinarians while many educators, including a 61-year-old female participant, confessed to mounting frustration and a “lack of patience” under constant strain.²³ This study thus highlights an urgent need for Nigeria’s primary education system to integrate structured ADHD training into teacher preparation, develop clear school-based management protocols, allocate specialist support and tailored materials, and foster policies that reduce stigma and bolster both teacher resilience and student inclusion.²³

2.4. FACTORS INFLUENCING THE KNOWLEDGE AND ATTITUDE OF PRIMARY SCHOOL TEACHERS TOWARDS ADHD IN BENIN CITY.

Teachers serve a critical role in the early identification and classroom management of ADHD symptoms; however, their knowledge and attitudes toward the disorder vary widely across regions. This literature review synthesizes findings from multiple studies to explore the key factors influencing primary school teachers’ knowledge and attitudes toward ADHD, with particular relevance to the educational context of Benin City, Nigeria.

A cross-sectional study conducted in Jeddah, Saudi Arabia, in 2017 and published in 2019 assessed the level of knowledge and attitudes among female primary school teachers toward

ADHD.²⁴ The study involved 376 participants selected through multistage sampling and utilized a validated structured questionnaire. Findings revealed that while 54.3% of teachers believed they were knowledgeable about ADHD, only 24.5% actually demonstrated good knowledge. Older teachers had significantly better understanding of the disorder.²⁴ A majority of teachers (57.2%) preferred referring suspected ADHD cases to school advisors rather than addressing them directly, underscoring a lack of confidence in handling such cases.²⁴ The study concluded that there was a pressing need for structured training programs to equip teachers with practical knowledge and skills to manage ADHD effectively.²⁴

In a 2020 study from Kota Bharu, Malaysia, researchers applied Partial Least Squares Structural Equation Modeling (PLS-SEM) to identify the factors influencing ADHD awareness among 115 primary school teachers.²⁵ Participants were selected through stratified random sampling and completed structured questionnaires measured on a Likert scale.²⁵ The study found that both knowledge and attitude had a weak but statistically significant influence on ADHD awareness. More notably, teacher perception showed a moderate positive relationship with awareness, and prior experience managing students with ADHD correlated with higher levels of understanding.²⁵ The authors emphasized the importance of targeted training programs to enhance teacher knowledge, particularly for those without firsthand experience with ADHD students.²⁵

A more recent descriptive study conducted in 2024 in Bangalore, India, aimed to assess ADHD knowledge among primary school teachers using a non-experimental univariate design.²⁶ The study involved 30 teachers who responded to a questionnaire distributed via Google Forms. The findings showed that 90% of the participants demonstrated inadequate knowledge of ADHD.²⁶ No significant associations were found between knowledge and demographic variables such as age, gender, or teaching experience. While teachers who had received prior training in ADHD awareness showed slightly better understanding, their

overall knowledge still fell short.²⁶ The study strongly recommended the implementation of formal ADHD education programs within teacher training institutions to address these persistent gaps.²³

In a cross-sectional study carried out in Changchun, China, during the 2020–2021 academic years, researchers examined the discrepancies in ADHD symptom recognition between parents and teachers of primary school students.²⁷ The study included a large sample of 1,118 students, with responses from 24 teachers and their parents, collected through the SNAP-IV questionnaire. Results showed that teachers were more effective than parents in identifying ADHD symptoms, particularly those related to hyperactivity and impulsivity, with detection rates of 5.4% versus 2.7%, respectively.²⁷ The study also noted that mothers and more highly educated parents displayed greater awareness of ADHD. Media sources such as television and the internet, as well as healthcare professionals, were the primary sources of information for both groups.²⁷

A 2023 controlled trial conducted in Kano, Nigeria, investigated the impact of an ADHD training program on teachers' knowledge and perceptions.²⁸ The study involved 200 primary school teachers randomly assigned to either an intervention group that received specialized ADHD training or a waitlist control group.²⁸ Using pre- and post-intervention questionnaires, the researchers found that only 12.4% of participants had prior ADHD training.²⁸ However, after the intervention, teachers demonstrated significantly improved knowledge of ADHD symptoms and behavioral management strategies, with effect sizes of 0.7 and 0.3, respectively.²⁸ Interestingly, while knowledge increased, teachers' attitudes toward ADHD students became more negative, possibly because the training heightened their awareness of the challenges associated with managing these children in the classroom.²⁸ Despite this, teachers reported high satisfaction with the training, suggesting that structured programs could be valuable for improving ADHD management in Nigerian schools.

In conclusion, the reviewed literature consistently demonstrates that teachers' knowledge and attitudes toward ADHD are shaped by a combination of training, classroom experience, and access to reliable information. Structured educational interventions, when properly implemented, can significantly improve ADHD awareness and management among primary school teachers. As no large-scale studies currently exist on this topic within Benin City, future research should assess local knowledge levels and evaluate the effectiveness of targeted ADHD training programs, with the ultimate goal of fostering inclusive and supportive learning environments for all children.

CHAPTER THREE

METHODOLOGY

3.1 STUDY AREA

Oredo Local Government Area (LGA) is one of the five LGAs that make up Benin City, the capital of Edo State in southern Nigeria. Located at approximately latitude 6°20'N and longitude 5°37'E, Oredo serves as the administrative and commercial heart of the city. According to 2025 estimates, the population of Oredo LGA is approximately 500,000 residents, and 12 wards in the Local Government Area, making it one of the most densely populated areas in Benin City.²⁹

The primary education sector in Oredo LGA is overseen by the Edo State Universal Basic Education Board (SUBEB) under the Edo Basic Education Transformation System (EdoBEST). Oredo LGA has a total of 62 primary schools, comprising 37 public and 25 private institutions, which cater to a significant portion of the city's pupil population. These schools are equipped with varying levels of teaching resources, digital learning platforms, and teacher training support, reflecting the diverse socio-economic and educational landscape of the area.^{30,31}

This concentration of educational institutions with a mix of public and private schools, varying resource allocations, and a broad spectrum of teacher qualifications and experience makes Oredo LGA an ideal and focused setting for assessing how primary school teachers understand, perceive, and manage Attention Deficit/Hyperactivity Disorder (ADHD) in their

classrooms. The findings from this area provided valuable insights that can inform localized teacher training and policy interventions.

3.2. STUDY DESIGN

This study used a descriptive cross-sectional survey design. In this approach, information on teachers' knowledge and attitudes was collected at a single point in time via structured questionnaires. Such a design is well-suited to “making careful descriptions of educational phenomena” on a representative sample.

3.3 STUDY POPULATION

The target population consisted of all full-time primary school teachers working in Benin City. This included teachers in both public (government-run) and private primary schools within the city limits. By sampling from both sectors, the study ensured coverage of the range of training backgrounds and teaching environments present in Benin City.

3.4 SELECTION CRITERIA

3.4.1 Inclusion Criteria

- Full-time primary school teachers currently employed in public or private schools in Benin City.
- Teachers with at least one year of teaching experience (to ensure familiarity with the school environment and curriculum).

3.4.2 Exclusion Criteria

- Teachers who declined or were unwilling to participate in the study

3.5 STUDY DURATION

The study was carried out over a 12-month period. This timeframe allowed for adequate preparation, ethical approvals, pilot testing of the questionnaire, data collection across multiple schools, and data entry and analysis.

3.6 SAMPLE SIZE DETERMINATION

The sample size was determined using Cochran's formula for sample size calculation in cross-sectional studies

$$\text{Where: } n = \frac{z^2 pq}{d^2}$$

n = Minimum sample size

z = Standard normal deviate set at 1.96 (at 95% confidence interval)

p = Proportion in the target population estimated to have a particular characteristic

A prevalence rate of 22% was used. This is the prevalence of knowledge of ADHD among teachers in private elementary school teachers of Karachi, Pakistan.¹⁰

d = Desired level of precision = 0.05

Therefore, substituting the sample size, it will be computed as follows

$$P = 22\% = 0.22$$

$$q = \text{The complementary probability, } 1 - p \quad q = 1 - 0.22 = 0.78$$

$$\text{Therefore } n = \frac{1.96^2 \times 0.22 \times 0.78}{0.05^2}$$

$$n = \frac{3.8416 \times 0.1716}{0.0025}$$

$$n = \frac{0.6595}{0.0025}$$

$$n = 264$$

10% non-response rate = 26

Therefore, the minimum sample size is $264 + 26 = 290$ respondents.

Design Effect

Since this study used stratified random sampling technique, a design effect (DE) of 1.5 was applied:

$$n_{\text{adjusted}} = 290 \times 1.5 = 435$$

Thus, the final adjusted sample size was 435 teachers.

3.7 SAMPLING TECHNIQUE

A multistage sampling technique comprising three stages was used in this study to select respondents.

STAGE 1: SELECTION OF WARDS

There are twelve wards in Oredo Local Government Area, namely: Ogbe, GRA/Etete/Iyekogba, Uzebu, Urubi, Oliha/Ukhegie, Iyaro/New Benin I, New Benin II, Oredo, Ikpema/Eguadase, Uneru/Ugboka, Ogbelaka/Nekpenekpen, Ibiwe/Iwegie/Ugbague.

Four wards were chosen by simple random sampling technique.

STAGE 2: SELECTION OF SCHOOLS

A comprehensive list of all primary schools in each ward, along with the number of full-time teachers, was obtained from the Edo State SUBEB and Ministry of Education records. Within each ward, schools were stratified into public and private categories to ensure representation from both sectors. The number of schools to be selected from each stratum was determined by proportionate allocation. Thereafter, the required number of schools from each stratum (public/private) were selected using simple random sampling (balloting or computer-generated random numbers).

STAGE 3: SELECTION OF TEACHERS

A list of all eligible teachers (full-time, at least one year of continuous service) in the selected schools were compiled. Each teacher was assigned a unique identification number. Using simple random sampling, the allocated number of teachers for that school were selected. If the total number of eligible teachers in a school is less than the allocated quota, all eligible teachers in that school will be included. If a selected teacher is unavailable or declines to participate, a replacement was chosen from a pre-generated list of alternate teachers within the same school, using simple random sampling. No replacement was drawn from a different school to maintain sampling integrity.

3.8 DATA COLLECTION

3.8.1 Tools for Data Collection

Data was collected using a structured, self-administered questionnaire. Five Research assistants with tertiary level of education, helped visit each selected school and distribute paper questionnaires to the sampled teachers. Teachers will complete the questionnaire on-site in a private setting during a break or free period to minimise disruptions. Instruction sheets were provided, and respondents were assured that their participation is voluntary and confidential.

The questionnaire will comprise of the following sections:

Section A – Demographic & Professional Profile

The first part of the questionnaire gathers essential background information such as age, gender, highest academic qualification, and years of teaching experience alongside contextual variables like school type (public versus private) and grade levels taught.

Section B – Knowledge of ADHD

Section B will adapt 12 questions from the Knowledge of Attention Deficit Disorders Scale (KADDS),³² which uses true/false/don't know responses to assess teachers' understanding across three domains: symptoms and diagnosis, treatment options, and causes and outcomes. By structuring the instrument into these specific subscales, we can pinpoint strengths and gaps in factual knowledge, which in turn informs targeted professional development.

Section C – Attitudes toward ADHD

In Section C, the ADHD Specific Attitudes Scale (SASA)³³ from the broader ASKAT tool was adapted, presenting 12 statements rated on a five-point Likert scale (1 = Strongly

Disagree to 5 = Strongly Agree). Items tap into cognitive beliefs (for example, whether teachers believe students with ADHD can thrive in mainstream classrooms), affective responses (such as feelings of frustration), and perceived competence in managing ADHD behaviors. This structure allows us to quantify emotional and belief based dimensions of attitude, which often predict classroom practices.

Section D – Classroom Management Practices & Challenges

Section D used the 12-item Behavior & Instructional Management Scale (BIMS)³⁴ to explore how frequently teachers engage in specific strategies, six items on behavioral management (e.g., redirecting off task students, enforcing consistent rules) and six on instructional management (e.g., grouping techniques, pacing adjustments). A five-point frequency scale (1 = Never to 5 = Always) captures real world application of evidence-based practices, revealing both adoption barriers and common challenges.

Section E – Factors influencing knowledge and attitude

Finally, Section E assessed teachers on factors that influence their knowledge and attitudes toward ADHD. These closed-ended questions provide qualitative depth, allowing participants to highlight contextual nuances. Collectively, these five parts ensure a comprehensive, reliable, and valid assessment of teachers' knowledge, attitudes, and practices related to ADHD.

Training of research assistants.

Research assistants were trained for 2 days on how to accurately collect data from the respondents using the questionnaire.

3.8.2. Pretesting

A pretest of the study was conducted with 43 teachers (10% of 435) to validate the research instruments. The questionnaire was pretested among primary school teachers in Sapele, Delta State. The pre-test helped to determine the clarity, relevance, sensitivity, and reliability of the questions. Based on the feedback received, necessary adjustments were made to ensure ease of understanding.

3.9 Data Analysis

All responses were coded and analyzed using SPSS (or equivalent statistical software). Descriptive statistics first summarized participant characteristics and questionnaire responses. For categorical variables such as gender, school type, and responses to individual KADDS or SASA items, frequencies and percentages were calculated. For continuous variables such as overall KADDS knowledge score, BIMS-based attitude score, and SASA composite classroom practices score, means and standard deviations (\pm SD) were reported.

Inferential analyses were employed to test specific hypotheses regarding the relationship between teacher characteristics and their knowledge, attitudes, or classroom practices. Examples include:

Chi-square tests to explore associations between categorical variables (e.g., level of ADHD knowledge by school type).

Where necessary, multivariate regression analyses (e.g., logistic regression for categorical outcomes such as “adequate knowledge”, positive attitude, and adoption of ADHD management strategies) were done.

3.9.1. Measurement of variables and scoring

Prior to analysis, the dataset was cleaned and validated. Completed questionnaires were checked for completeness; missing or inconsistent responses were flagged for verification. Data entry used a double-entry system or random verification to minimize errors.

The scoring proceeds as follows:

Knowledge (KADDS)

Knowledge was assessed using 12 questions. One (1) point will be awarded for each correct response and 0 points for incorrect or "Don't Know."

Ranging from 0–12, with 0 being the minimum total score and 12 being the maximum total score.

Interpretation: Higher scores indicate greater ADHD knowledge. Consider ≥ 8 as "Adequate Knowledge," 5–7 as "Moderate Knowledge," and < 5 as "Low Knowledge."³²

Attitudes (SASA)

Attitude was assessed using 12 items on a five-point Likert scale as: 1= strongly disagree, 2 = disagree, 3= neutral, 4= agree. 5= strongly agree. Reverse-scoring will be applied to negatively phrased items (22, 23, 26).

Ranging from 12–60 points, with 12 being the minimum total score and 60 being the maximum total score

Interpretation: Higher total scores reflect more positive attitudes toward students with ADHD. Scores ≥ 36 indicate positive attitudes, scores < 36 indicate negative attitudes.³³

Practices (BIMS)

Practices were assessed by the sum of the frequency ratings (1–5) across all 12 items. Where 1= never, 2= rarely, 3= sometimes, 4= often, 5= always

Range: 12 being the minimum total score and 60 being the maximum total score

Interpretation: Higher scores reflect more frequent use of evidence-based classroom management strategies for ADHD. Scores ≥ 45 indicate high adoption, 30–44 moderate adoption, and < 30 low adoption.³⁴

Any missing data was assessed to determine whether they are missing at random. If so, pairwise deletion or mean imputation were considered. If not, sensitivity analyses or exclusion of cases were applied.³⁴

3.9.2. Data Presentation

Findings were presented using a combination of:

Tables: These were used to present detailed numerical information in an organized format. It includes socio-demographic characteristics of the respondents, item-wise response distributions for the knowledge scale (KADDS) and attitude scale (SASA), as well as computed summary statistics such as means and standard deviations for continuous variables and composite scores. The tables have clear titles, labelled columns, and footnotes explaining abbreviations and indicating the number of respondents (n) used in each analysis.

Bar charts and histograms: These graphical displays were used to show the distribution of continuous or categorical scores. Bar charts illustrated the proportion of respondents in different categories of KADDS knowledge scores, SASA attitude scores, and classroom practice scores (BIMS). Histograms were used to depict the frequency distribution of continuous scores, enabling quick visual assessment of the spread and central tendency of responses.

Cross-tabulations: These were employed to display relationships between two categorical variables in a matrix form. Examples include comparing gender with level of ADHD knowledge, or school type with classroom practice level. Cross-tabulations presented counts and percentages in each cell, and were accompanied by statistical tests (such as the Chi-square test or Fisher's exact test) to assess whether the observed differences are statistically significant.

Statistical summary tables: These tables summarized the results of inferential analyses. They displayed p-values, effect sizes, and measures of association such as odds ratios with their 95% confidence intervals (for logistic regression), or mean differences between groups with corresponding confidence intervals (for continuous outcomes). This format provided both the statistical significance and the magnitude of observed effects, facilitating clear interpretation of the results.

3.10 ETHICAL CONSIDERATION

Ethical approval for this study was obtained from the University of Benin Teaching Hospital Ethics and Research Committee to ensure compliance with ethical guidelines and standards. Permission from the school authorities and written informed consent were obtained from all participants, ensuring that they fully understand the purpose, procedures, and potential

implications of the study. Participation was entirely voluntary, with individuals having the right to withdraw from the study at any time without facing any form of penalty. Additionally, strict confidentiality measures were maintained throughout the research process. All collected data was anonymized, and no identifying information was published, thereby safeguarding the privacy and rights of the participants.

3.11. LIMITATION OF STUDY

This cross-sectional survey had several limitations. First, reliance on self-reported questionnaires introduced recall bias (teachers might not have accurately recalled training or experiences) and social desirability bias (teachers might have given answers they perceived as socially acceptable rather than their true beliefs). Second, because the study was confined to Benin City, the findings might not have been generalizable to teachers in other regions of Nigeria with different cultural or educational contexts.

CHAPTER FOUR

RESULTS

A total of four hundred and thirty-five (435) respondents participated in this study. The results were presented in the following sections in line with the specific objectives.

SECTION A: Sociodemographic characteristics of respondents

SECTION B: Respondents' knowledge of ADHD

SECTION C: Respondents' attitudes towards children with ADHD

SECTION D: Respondents' adoption of classroom management practices regarding ADHD

SECTION E: Factors affecting the knowledge of respondents on ADHD

SECTION A

SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Table 1a: Socio-demographic characteristics and professional profile of respondents

Variable	Frequency (n = 435)	Percent
Age Group (years)		
20–29	56	15.2
30–39	157	36.1
40–49	159	36.6
50–59	53	12.2
Mean age ± (SD) = 38.72 ± 8.43		
Sex		
Male	139	32.0
Female	296	68.0
Ethnicity		
Benin	203	46.7
Afemai	77	17.7
Esan	61	14.0
Yoruba	29	6.7
Urhobo	21	4.8
Hausa	10	2.3
Itsekiri	8	1.8
Others*	26	5.9
Religion		
Christianity	384	88.3
Islam	50	11.5
None	1	0.2

Others*: Ika, Isoko, Ijaw, Ibibio, Ibira, Ndokwa, Ukwani, Anioma, Efik, Igbo, and Tiv

The respondents were predominantly middle-aged, with the highest proportions in the 40–49 years (36.6%) and 30–39 years (36.1%) age groups. There was a clear female predominance (68.0%), with males accounting for 32.0%, showing that the teaching workforce is largely female. The majority of respondents were of Benin 203 (46.7%), followed by Afemai 77 (17.7%), Esan 61 (14.0%), reflecting the ethnic composition of the study area. Christianity was the dominant religion 384 (88.3%), with a much smaller proportion of Muslims 50 (11.5%) and negligible representation of other groups.

Table 1b: Socio-demographic characteristics and professional profile of respondents

Variable	Frequency(n=435)	Percent
Educational level attained		
SSCE	4	0.9
NCE	217	49.9
HND/OND	51	11.7
B.Sc/B.Ed.	139	32.0
M.Sc/ PGDE	24	5.5
Grade level		
Primary 1	87	20.0
Primary 2	83	19.1
Primary 3	86	19.8
Primary 4	77	17.7
Primary 5	69	15.9
Primary 6	33	7.6
Years of Experience		
1–10	116	26.7
11–20	165	37.9
21–30	119	27.4
31–40	35	8.0
Type of School		
Public	241	55.4
Private	194	44.6

Nearly half of the respondents, 217 (49.9%), had NCE qualifications, making it the most common educational level, while about one-third, 139 (32.0%), had B.Sc/B.Ed degrees. Teachers were fairly evenly distributed across Primary 1 to Primary 5, with the highest in Primary 1, 87 (20.0%), while Primary 6 had the least representation, 33 (7.6%). A substantial proportion of respondents had 11–20 years of experience, 165 (37.9%), followed by 21–30 years, 119 (27.4%), indicating a predominantly experienced teaching population. More than half of the respondents, 241 (55.4%), worked in public schools, compared to 194 (44.6%) in private schools

SECTION B

RESPONDENTS' KNOWLEDGE OF ADHD

Table 2: Knowledge of ADHD among primary school teachers in Benin City

Domains	Frequency (n = 435)		
	True (%)	False (%)	Don't Know (%)
Symptoms and diagnosis			
ADHD symptoms appear in more than one setting for a diagnosis	48 (11.0)	13 (3.0)	374 (86.0)
ADHD children are better behaved in one-to-one interactions	188 (43.2)	6 (1.4)	241 (55.4)
ADHD co-occur with other learning or emotional difficulties	49 (11.3)	14 (3.2)	372 (85.5)
Children with ADHD focus on activities they enjoy	127 (29.2)	10 (2.3)	298 (68.5)
Causes and outcomes			
ADHD has a biological basis and runs in families	52 (12.0)	10 (2.3)	373 (85.7)
Diet influences ADHD symptoms	164 (37.7)	2 (0.5)	269 (61.8)
Sugar or food additives are not the primary cause of ADHD	164 (37.7)	2 (0.5)	269 (61.8)
ADHD persists into adulthood for many individuals	50 (11.5)	35 (8.0)	350 (80.5)
Treatment options			
Medication used for ADHD often improves concentration and behaviour	158 (36.3)	4 (0.9)	273 (62.8)
Behavioural therapy and classroom intervention are important in managing ADHD	201 (46.2)	6 (1.4)	228 (52.4)
A consistent classroom routine helps ADHD behaviour management	213 (49.0)	3 (0.7)	219 (50.3)
Neurofeedback or brain training programs are not proven to be effective	47 (10.8)	10 (2.3)	378 (86.9)

In the symptoms and diagnosis domain, awareness was very low, as only 48 (11.0%) correctly identified that ADHD symptoms must occur in more than one setting for diagnosis, and 374 (86.0%) were unsure of key diagnostic features. Knowledge of co-occurring conditions and persistence into adulthood was similarly poor, with 49 (11.3%) and 50 (11.5%) correct responses, respectively.

For causes and outcomes, only 52 (12.0%) recognized the biological basis of ADHD, while over 373 (85.7%) were uncertain. Misconceptions and uncertainty were also high regarding diet and long-term outcomes.

In the treatment domain, knowledge was relatively better, with about 201 (46.2%) and 213 (49.0%) correctly identifying behavioural therapy and consistent classroom routines as effective management strategies, though a substantial proportion remained unsure.

Awareness of medication benefits was lower, 158 (36.3%), while understanding of ineffective interventions such as neurofeedback was poor, 47 (10.8%) correct and 378 (86.9%) unsure.

Table 3: Overall knowledge of ADHD among primary school teachers in Benin City

Knowledge Level	Frequency (n=435)	Percent
Low Knowledge	296	68.0
Moderate Knowledge	77	17.7
Adequate Knowledge	62	14.3

Two hundred and ninety-six (68%) of the respondents had low knowledge, 77 (17.7%) had moderate knowledge and 62 (14.3%) had adequate knowledge.

SECTION C

RESPONDENTS' ATTITUDES TOWARDS CHILDREN WITH ADHD

Table 4a: Attitude toward ADHD among primary school teachers in Benin City

Variable	SA (%)	A (%)	N (%)	D (%)	SD (%)
ADHD is a valid medical diagnosis	101 (23.2)	170 (39.1)	164 (37.7)	0 (0.0)	0 (0.0)
Students with ADHD behaviors are rewarding to teach	0 (0.0)	9 (2.1)	384 (88.3)	38 (8.7)	4 (0.9)
ADHD behaviours in class are irritating	1 (0.2)	69 (15.9)	353 (81.1)	12 (2.8)	0 (0.0)
ADHD is overdiagnosed in school-age children	1 (0.2)	12 (2.8)	393 (90.3)	17 (3.9)	12 (2.8)
Students with ADHD require structured classroom environments	222 (51.0)	148 (34.0)	65 (14.9)	0 (0.0)	0 (0.0)
It is rewarding to see the accomplishments of students with ADHD	26 (6.0)	144 (33.1)	257 (59.1)	7 (1.6)	1 (0.2)
Teaching students with ADHD is stressful	51 (11.7)	127 (29.2)	236 (54.3)	8 (1.8)	13 (3.0)

n=435

Most respondents, 271 (62.3%), agreed that ADHD is a valid medical diagnosis. A large proportion, 370 (85.0%), also agreed that students with ADHD require structured classroom environments. In addition, 417 (95.8%) indicated willingness to refer students with ADHD behaviours for professional assessment, and almost all respondents, 431 (99.1%), expressed a need for more training on ADHD classroom strategies

Only 52 (11.9%) felt they could effectively teach students with ADHD behaviours, while 236 (54.3%) disagreed or strongly disagreed, indicating low self-efficacy.

Table 4b: Attitude toward ADHD among primary school teachers in Benin City

Variable	SA (%)	A (%)	N (%)	D (%)	SD (%)
I have received adequate training to manage ADHD	0 (0.0)	3 (0.7)	51 (11.7)	138 (31.7)	243 (55.9)
Evidence-based knowledge needed	0 (0.0)	10 (2.3)	42 (9.7)	152 (34.9)	231(53.1)
Will refer students with ADHD behaviour to a counsellor	255 (58.6)	162 (37.2)	18 (4.1)	0 (0.0)	0 (0.0)
Need for more training on ADHD classroom strategies	343 (78.9)	88(20.2)	4 (0.9)	0 (0.0)	0 (0.0)
Can effectively teach students with ADHD behaviours	7 (1.6)	45 (10.3)	147 (33.8)	126 (29.0)	110 (25.3)

n=435 *SA= strongly agree, A = agree, N = neutral, D= disagree, SD = strongly disagree

Similarly, 381 (87.6%) reported that they had not received adequate training to manage ADHD, and 383 (88.0%) indicated a lack of knowledge in evidence-based interventions.

Most teachers, 384 (88.3%), neither agreed nor disagreed that working with students with ADHD is rewarding. Also, 353 (81.1%) were neutral on whether ADHD behaviours are irritating. In contrast, 178 (40.9%) agreed that teaching students with ADHD is stressful, while 236 (54.3%) remained neutral. While 393 (90.3%) neither agreed nor disagreed that ADHD is overdiagnosed in school-aged children.

Table 5: Overall attitude toward ADHD among primary school teachers in Benin City

Variable	Frequency (n=435)	Percent
Negative Attitude	180	41.4
Positive Attitude	255	58.6

One hundred and eighty (41.4%) of the respondents had negative attitude, while 255 (58.6) had positive attitude towards ADHD.

SECTION D

**RESPONDENTS' ADOPTION OF CLASSROOM MANAGEMENT PRACTICES
REGARDING ADHD**

Table 6: Classroom management practices towards ADHD among primary school teachers in Benin City

Variable	Always n (%)	Often n (%)	Sometimes n (%)	Rarely n (%)	Never n (%)
Clearly communicates classroom rules & expectations	209 (48.0)	184 (42.3)	40 (9.2)	2 (5.0)	0 (0.0)
Praise the student when they follow the rules and complete tasks	96 (22.1)	277(63.7)	56(12.9)	6 (1.4)	0 (0.0)
Usage of non-punitive methods to manage behaviours	147 (33.8)	196 (45.1)	84 (19.3)	8 (1.8)	0 (0.0)
Remain Calm and patient when students act out	115 (35.6)	228 (52.4)	52 (12.0)	0 (0.0)	0 (0.0)
Arrange seating to minimise disruption and maintain focus	147 (33.8)	212 (48.7)	53 (12.2)	23 (5.3)	0 (0.0)
Break Lessons into small, manageable steps	140 (32.2)	217 (49.9)	50 (11.5)	27 (6.2)	1 (0.2)
Usage of varied instructional methods	161 (37.0)	196 (45.1)	49 (11.3)	25 (5.7)	4 (0.9)
Provides additional support	161 (37.0)	192 (44.1)	49 (11.3)	20 (4.6)	13(3.0)
Involve students in setting the classroom routines and rules	170 (39.1)	190 (43.7)	41 (9.4)	30 (6.9)	4 (0.9)
Give student Feedback	167 (38.4)	200 (46.0)	42 (9.7)	24 (5.5)	2 (0.5)
Reinforce objectives in class to maintain focus	157(36.1)	200 (46.0)	45 (10.3)	29 (6.7)	4 (0.9)
Incorporate structured activity to help refocus	182 (41.8)	183 (42.1)	36 (8.3)	31 (7.1)	3(0.7)

n= 435

The majority of teachers demonstrated positive classroom management practices. A total of 209 (48.0%) teachers always communicated classroom rules and expectations clearly, while 184 (42.3%) did so often. For praising students, 96 (22.1%) always did so, and 277 (63.7%)

often. Non-punitive methods were always used by 147 (33.8%) teachers and often used by 196 (45.1%).

When students acted out, 115 (26.4%) teachers always remained calm and patient, while 228 (52.4%) often did. Seating was always arranged to minimise disruption by 147 (33.8%) teachers and often by 212 (48.7%). Lessons were always broken into small, manageable steps by 140 (32.2%) teachers and often by 217 (49.9%).

Varied instructional methods were always used by 161 (37.0%) teachers and often by 196 (45.1%). Additional support was always provided by 161 (37.0%) teachers and often by 192 (44.1%). Feedback was always given by 167 (38.4%) teachers and often by 200 (46.0%).

Structured activity breaks were always incorporated by 182 (41.8%) teachers and often by 183 (42.1%).

Students were always involved in setting classroom routines by 170 (39.1%) teachers and often by 190 (43.7%). Lesson objectives were always reinforced by 157 (36.1%) teachers and often by 200 (46.0%). Only a small minority rarely or never engaged in these practices, with the highest being 13 (3.0%) who rarely or never provided additional support.

Table 6b: Classroom management practices towards ADHD among primary school teachers in Benin City

Adoption of classroom management strategies	Frequency (n=435)	Percent
High adoption	359	82.5
Moderate adoption	74	17.0
Low adoption	2	0.5

Most respondents showed high adoption, 359 (82.5%), followed by 74 (17.0%) with moderate adoption, while only 2 (0.5%) had low adoption.

SECTION E

FACTORS AFFECTING THE KNOWLEDGE OF RESPONDENTS' ON ADHD

Table 7: Factors influencing knowledge and attitude towards ADHD

Variable	Frequency (n=435)	Percent
Formal training on ADHD during teacher education		
Yes	32	7.4
No	403	92.6
Attended workshops or seminars on ADHD in the last 12 months		
Yes	5	1.1
No	430	98.9
Taught a student with a formal diagnosis of ADHD		
Yes	18	4.1
No	417	95.9
Rate access to information on ADHD		
Very Good	5	1.1
Good	20	4.6
Fair	23	5.3
Poor	181	41.6
Very poor	206	47.4
Support received from the school for managing students with ADHD		
Very adequate	0	0.0
Adequate	0	0.0
Neutral	12	2.8
Inadequate	182	41.8
Very inadequate	241	55.4
Access to special education professionals or counsellors at school?		
Yes	0	0.0
No	435	100.0
Confidence in identifying ADHD symptoms in students		
Very confident	4	0.9
Somewhat confident	17	3.9
Neutral	38	8.7
Not very confident	136	31.3
Not confident at all	240	55.2
Seeking out new information or updates about ADHD?		
Very frequently	2	0.5
Frequently	5	1.1
Occasionally	18	4.1
Rarely	119	27.4
Never	291	66.9

Only 32 (7.4%) respondents reported receiving formal training on ADHD during their teacher education, while a vast majority, 403 (92.6%) had no training. And just 5 (1.1%) had attended workshops or seminars on ADHD in the last 12 months, compared to 430 (98.9%) who had not.

In terms of experience, only 18 (4.1%) respondents had taught a student with a formal diagnosis of ADHD, whereas 417 (95.9%) had not. Access to ADHD-related information was generally poor, with 181 (41.6%) rating it as poor and 206 (47.4%) as very poor; only 25 (5.7%) rated access as good or very good, and 23 (5.3%) considered it fair.

None of the respondents rated support from as adequate or very adequate. Instead, 182 (41.8%) described it as inadequate and 241 (55.4%) as very inadequate, with only 12 (2.8%) remaining neutral. Furthermore, all respondents 435 (100.0%) indicated that they had no access to special education professionals or counsellors in their schools.

Confidence in identifying ADHD symptoms was notably low, with only 21 (4.8%) reporting being very or somewhat confident. In contrast, 136 (31.3%) were not very confident, and 240 (55.2%) were not confident at all, while 38 (8.7%) were neutral.

Finally, most respondents demonstrated limited initiative in updating their knowledge, as 291 (66.9%) reported never seeking out new information on ADHD, and 119 (27.4%) did so rarely. Only 25 (5.7%) reported seeking information occasionally, frequently, or very frequently.

Table 7b: Factors influencing knowledge and attitude towards ADHD

Variable	Frequency (n=435)	Percent
Cultural beliefs or community attitudes can affect your perception of ADHD		
Yes, significantly	3	0.7
Yes, somewhat	7	1.6
No	123	28.3
I'm not sure	302	69.4
Attitude towards managing ADHD		
Positive and supportive	31	7.1
Frustrated but trying to help	12	2.8
Neutral	106	24.4
Overwhelmed or helpless	15	3.4
Unsure how to respond	271	62.3
Recommendations for improving knowledge and management of ADHD		
More training and workshops	207	47.6
More classroom support/resources	136	31.3
Access to specialists	84	19.3
Better internet and reading materials	5	47.6
Peer support or mentorship	3	0.7

With respect to cultural influence, only 3 (0.7%) respondents reported that cultural beliefs significantly affected their perception of ADHD, while 7 (1.6%) indicated some influence. However, 123 (28.3%) reported no influence, and a large majority, 302 (69.4%), were unsure.

Regarding attitudes toward managing ADHD, only 31 (7.1%) of respondents described their attitude as positive and supportive, while 12 (2.8%) felt frustrated but were still trying to help. About 106 (24.4%) were neutral, whereas 15 (3.4%) reported feeling overwhelmed or helpless. Notably, the majority, 271 (62.3%), indicated they were unsure how to respond.

In terms of recommendations for improving knowledge and management of ADHD, the most commonly suggested intervention was more training and workshops, reported by 207 (47.6%) of respondents. This was followed by the need for more classroom support/resources 136

(31.3%) and access to specialists 84 (19.3%). Very few respondents recommended better internet and reading materials 5 (1.1%) or peer support/mentorship 3 (0.7%).

Table 8: Association between socio-demographic characteristics of respondents and their knowledge of ADHD

Variables	Good Knowledge (n=62) Freq (%)	Poor Knowledge (n=373) Freq (%)	Test statistics	p- value
Age Group			$\chi^2=0.531$	0.278
< 40 years	32 (14.3)	191 (85.7)		
\geq 40 years	30 (14.2)	182 (85.8)		
Sex			$\chi^2=0.003$	>0.999
Male	20 (13.4)	119 (85.6)		
Female	42 (14.2)	254 (85.8)		
Indigene Status			$\chi^2=0.040$	0.868
Indigene	48 (14.1)	293 (85.9)		
Non-Indigene	14 (14.9)	80 (85.1)		
Qualification Type			$\chi^2=0.152$	0.757
Education-based	47 (14.6)	274 (85.4)		
Non-education- based	15 (13.2)	99 (86.8)		
Experience Group			$\chi^2=1.196$	0.274
\leq 10 years	116 (47.3%)	129 (52.7%)		
> 10 years	100 (52.6%)	90 (47.4%)		
School Type			$\chi^2=4.456$	0.039
Public	42 (17.4)	199 (82.6)		
Private	20 (10.3)	174 (89.7)		
Division Taught			$\chi^2=0.178$	0.680
Lower Primary	38 (14.8)	218 (85.2)		
Upper Primary	24 (13.4)	15 (86.6)		

There was no statistically significant association between age group and knowledge of ADHD, with similar proportions of respondents with good knowledge among those aged <40 years, 32 (14.3%), and \geq 40 years, 30 (14.2%).

Similarly, gender was not significantly associated with knowledge, as comparable proportions of males 20 (13.4%) and females 42 (14.2%) had good knowledge. Indigene

status also showed no significant association, with nearly equal proportions among indigenes 48 (14.1%) and non-indigenes 14 (14.9%).

Qualification type and years of teaching experience were not significantly associated with knowledge of ADHD. Likewise, there was no statistically significant association between division taught and knowledge, with similar proportions observed in lower primary 38 (14.8%) and upper primary 24 (13.4%).

School type was the only variable significantly associated with knowledge of ADHD. A higher proportion of respondents in public schools 42 (17.4%) demonstrated good knowledge compared to those in private schools 20 (10.3%).

Table 9: Predictors of adequate knowledge of ADHD among primary school teachers

Predictors	β coefficient	Odds ratio	95% CI for OR		p- value
			Lower	Upper	
Age (years)	0.007	1.007	0.917	1.105	0.891
Sex					
Male *		1			
Female	0.107	1.113	0.527	2.350	0.780
Indigene Status					
Non-Indigene *		1			
Indigene	-0.059	0.943	0.488	1.823	0.861
Experience (Years)	0.015	1.015	0.932	1.105	0.734
School Type					
Public *		1			
Private	0.609	1.838	1.024	3.297	0.041
Primary Division Taught					
Lower Primary *		1			
Upper Primary	0.278	1.320	0.641	2.717	0.051
Qualification Type					
Non-Education *		1			
Education-Based	-0.148	0.863	0.432	1.724	0.676

***Reference Category; R² = 1.6-2.8**

Age was not a significant predictor of adequate knowledge of ADHD, as respondents were only marginally more likely to have adequate knowledge with increasing age (OR = 1.007; 95% CI = 0.917–1.105; p = 0.891).

Female respondents were 1.113 times more likely than males to have adequate knowledge (OR = 1.113; 95% CI = 0.527–2.350), although this association was not statistically significant (p = 0.780).

Indigenes were slightly less likely than non-indigenes to have adequate knowledge (OR = 0.943; 95% CI = 0.488–1.823), but this was not statistically significant ($p = 0.861$).

Years of teaching experience did not significantly predict adequate knowledge, with only a minimal increase in likelihood observed (OR = 1.015; 95% CI = 0.932–1.105; $p = 0.734$).

Teachers in private schools were 1.838 times more likely than those in public schools to have adequate knowledge of ADHD (OR = 1.838; 95% CI = 1.024–3.297), and this association was statistically significant ($p = 0.041$).

Teachers who taught upper primary were 1.320 times more likely to have adequate knowledge compared to those teaching lower primary (OR = 1.320; 95% CI = 0.641–2.717), although this association was borderline and not statistically significant ($p = 0.051$).

Respondents with education-based qualifications were less likely to have adequate knowledge compared to those with non-education qualifications (OR = 0.863; 95% CI = 0.432–1.724), but this finding was not statistically significant ($p = 0.676$).

Table 10: Sociodemographic of Primary School Teachers and Attitude toward ADHD

Variables	Positive Attitude (n=255) Freq (%)	Negative Attitude (n=180) Freq (%)	χ^2	p-value
Age Group			9.342	0.025
20 – 29	46 (69.7)	20 (30.3)		
30 – 39	164 (70.1)	70 (29.9)		
40 – 49	129 (81.1)	30 (18.9)		
50 - 59	48 (90.6)	5 (9.4)		
Sex			1.183	0.292
Male	109 (71.9)	30 (21.6)		
Female	245 (82.8)	51 (17.2)		
Indigene Status			0.561	0.278
Indigene	275 (80.6)	66 (19.4)		
Non-Indigene	79 (84.0)	15 (16.0)		
Qualification Type			2.614	0.123
Education-based	267 (83.2)	54 (16.8)		
Non-education-based	87 (76.3)	27 (23.7)		
Experience Group			0.447	0.504
≤ 10 years	92 (79.3)	24 (20.7)		
> 10 years	262 (82.1)	57 (17.9)		
School Type			11.822	< 0.001
Public	210 (87.1)	31 (12.9)		
Private	144 (74.2)	50 (25.8)		
Division Taught			1.366	0.243
Lower Primary	213 (83.2)	43 (16.8)		
Upper Primary	141 (78.8)	38 (21.2)		

Age group was significantly associated with teachers' attitude toward ADHD ($\chi^2 = 9.342$; $p = 0.025$). A higher proportion of positive attitude was observed with increasing age: 46 (69.7%) among those aged 20–29 years, 164 (70.1%) among those aged 30–39 years, 129 (81.1%) among those aged 40–49 years, and 48 (90.6%) among those aged 50–59 years.

Sex was not significantly associated with attitude toward ADHD ($\chi^2 = 1.183$; $p = 0.292$).

However, a higher proportion of females, 245 (82.8%), had a positive attitude compared to males, 109 (71.9%), while negative attitudes were reported among 51 (17.2%) females and 30 (21.6%) males.

Indigene status showed no statistically significant association with attitude ($\chi^2 = 0.561$; $p = 0.278$). Positive attitudes were reported among 275 (80.6%) indigenes and 79 (84.0%) non-indigenes, while negative attitudes were seen in 66 (19.4%) and 15 (16.0%), respectively.

Qualification type was not significantly associated with attitude toward ADHD ($\chi^2 = 2.614$; $p = 0.123$). Teachers with education-based qualifications had a higher proportion of positive attitude 267 (83.2%), compared to those with non-education-based qualifications, 87 (76.3%); negative attitudes were observed in 54 (16.8%) and 27 (23.7%), respectively.

Teaching experience was also not significantly associated with attitude ($\chi^2 = 0.447$; $p = 0.504$). Among teachers with ≤ 10 years of experience, 92 (79.3%) had a positive attitude and 24 (20.7%) had a negative attitude, while among those with > 10 years, 262 (82.1%) had a positive attitude and 57 (17.9%) had a negative attitude.

School type was significantly associated with teachers' attitude toward ADHD ($\chi^2 = 11.822$; $p < 0.001$). A greater proportion of teachers in public schools 210 (87.1%) demonstrated a positive attitude compared to those in private schools 144 (74.2%), while negative attitudes were reported among 31 (12.9%) and 50 (25.8%) respectively.

Division taught was not significantly associated with attitude ($\chi^2 = 1.366$; $p = 0.243$).

Teachers in lower primary had a slightly higher proportion of positive attitude, 213 (83.2%), compared to those teaching upper primary, 141 (78.8%), while negative attitudes were observed among 43 (16.8%) and 38 (21.2%), respectively

Table 11: Predictors of positive attitude toward ADHD among primary school teachers

Predictors	β coefficient	Odds ratio	95% CI for OR		p- value
			Lower	Upper	
Age (years)	-0.004	0.996	0.928	1.070	0.921
Sex					
Male *		1			
Female	0.300	1.350	0.781	2.333	0.282
Indigene Status					
Non-Indigene *		1			
Indigene	-0.153	0.858	0.509	1.447	0.566
Experience (Years)	0.044	1.045	0.977	1.117	0.202
School Type					
Public *		1			
Private	0.729	2.072	1.351	3.179	0.001
Qualification Type					
Non-Education *		1			
Education-Based	-0.407	1.107	0.657	1.864	0.703
Primary Division Taught					
Lower Primary *		1			
Upper Primary	0.281	1.324	0.792	2.214	0.284

*Reference Category; $R^2 = 6.5 - 9.1$

Age was not a significant predictor of positive attitude toward ADHD, as respondents were slightly less likely to have a positive attitude with increasing age (OR = 0.996; 95% CI = 0.928–1.070; $p = 0.921$).

Female respondents were 1.350 times more likely than males to have a positive attitude (OR = 1.350; 95% CI = 0.781–2.333), although this association was not statistically significant ($p = 0.282$).

Indigenes were 0.858 times less likely than non-indigenes to have a positive attitude (OR = 0.858; 95% CI = 0.509–1.447), but this was not statistically significant ($p = 0.566$).

Respondents were 1.045 times more likely to have a positive attitude with increasing years of teaching experience (OR = 1.045; 95% CI = 0.977–1.117), although this association was not statistically significant ($p = 0.202$).

Teachers in private schools were 2.072 times more likely than those in public schools to have a positive attitude toward ADHD (OR = 2.072; 95% CI = 1.351–3.179), and this association was statistically significant ($p = 0.001$).

Respondents with education-based qualifications were 1.107 times more likely to have a positive attitude compared to those with non-education-based qualifications (OR = 1.107; 95% CI = 0.657–1.864), although this was not statistically significant ($p = 0.703$).

Teachers who taught upper primary were 1.324 times more likely to have a positive attitude compared to those teaching lower primary (OR = 1.324; 95% CI = 0.792–2.214), but this association was not statistically significant ($p = 0.284$).

Table 12: Sociodemographic of Primary School Teachers and Adoption of Management Practice of ADHD

Variables	High Adoption (n=359) Freq (%)	Low Adoption (n=76) Freq (%)	χ^2	p-value
Age Group			174.671	< 0.001
20 – 29	17 (25.8)	49 (74.2)		
30 – 39	143 (91.1)	14 (8.9)		
40 – 49	148 (93.1)	11 (6.9)		
50 – 59	51 (96.2)	2 (3.8)		
Sex			3.892	0.058
Male	122 (87.8)	17 (12.2)		
Female	237 (80.1)	59 (19.9)		
Indigene Status			1.103	0.358
Indigene	278 (81.5)	63 (18.5)		
Non-Indigene	81 (86.2)	13 (13.8)		
Qualification Type			84.858	<0.001
Education-based	297 (92.5)	24 (7.5)		
Non-education-based	62 (54.4)	52 (45.6)		
Experience Group			0.612	0.434
≤ 10 years	116 (47.3%)	129 (52.7%)		
> 10 years	97 (51.1%)	93 (48.9%)		
School Type			9.456	0.002
Public	211 (87.6)	30 (12.4)		
Private	148 (76.3)	46 (23.7)		
Division Taught			1.018	0.313
Lower Primary	206 (80.5)	50 (19.5)		
Upper Primary	153 (85.5)	26 (14.5)		

Age group was significantly associated with the adoption of ADHD management practices ($\chi^2 = 174.671$; $p < 0.001$). High adoption increased markedly with age, from 17 (25.8%) among teachers aged 20–29 years to 143 (91.1%) in the 30–39 age group, 148 (93.1%) in the 40–49 age group, and 51 (96.2%) among those aged 50–59 years. Correspondingly, low

adoption was highest among the youngest group 49 (74.2%) and lowest among the oldest group 2 (3.8%).

Sex was not statistically significant in its association with adoption of management practices ($\chi^2 = 3.892$; $p = 0.058$), although a higher proportion of male teachers 122 (87.8%) demonstrated high adoption compared to females 237 (80.1%). Low adoption was observed among 17 (12.2%) males and 59 (19.9%) females.

Indigene status was not statistically significant in its association with adoption ($\chi^2 = 1.103$; $p = 0.358$). High adoption was reported among 278 (81.5%) indigenes and 81 (86.2%) non-indigenes, while low adoption occurred among 63 (18.5%) and 13 (13.8%), respectively.

Qualification type was significantly associated with adoption of ADHD management practices ($\chi^2 = 84.858$; $p < 0.001$). Teachers with education-based qualifications had a markedly higher proportion of high adoption, 297 (92.5%), compared to those with non-education-based qualifications, 62 (54.4%). Conversely, low adoption was substantially higher among those with non-education-based qualifications 52 (45.6%) compared to 24 (7.5%) among those with education-based qualifications.

Teaching experience was not statistically significant in its association with adoption ($\chi^2 = 0.612$; $p = 0.434$). Among teachers with ≤ 10 years of experience, 116 (47.3%) had high adoption, while 129 (52.7%) had low adoption. Similarly, among those with > 10 years, 97 (51.1%) had high adoption, and 93 (48.9%) had low adoption.

School type was significantly associated with adoption of management practices ($\chi^2 = 9.456$; $p = 0.002$). A higher proportion of teachers in public schools 211 (87.6%) demonstrated high adoption compared to those in private schools 148 (76.3%), while low adoption was more common in private schools 46 (23.7%) than in public schools 30 (12.4%).

Division taught was not statistically significant in its association with adoption ($\chi^2 = 1.018$; $p = 0.313$). Teachers in upper primary showed a slightly higher proportion of high adoption 153 (85.5%) compared to those in lower primary, 206 (80.5%), while low adoption was reported among 26 (14.5%) and 50 (19.5%), respectively.

Table 13: Predictors of ADHD management strategies adoption among primary school teachers

Predictors	β coefficient	Odds ratio	95% CI for OR		p- value
			Lower	Upper	
Age (years)	0.189	1.208	1.085	1.344	0.001
Sex					
Male *		1			
Female	0.062	1.064	0.458	2.472	0.885
Indigene Status					
Non-Indigene *		1			
Indigene	-0.226	0.788	0.353	1.804	0.588
Experience (Years)					
School Type	0.033	0.968	0.875	1.070	0.522
Public *		1			
Private	0.474	1.606	0.851	3.033	0.144
Primary Division Taught					
Lower Primary *		1			
Upper Primary	-0.252	0.778	0.360	1.680	0.522
Qualification Type					
Non-Education *		1			
Education-Based	1.432	4.189	2.120	8.278	<0.001

***Reference Category; $R^2 = 27.5 - 45.5$**

Age was a significant predictor of adoption of ADHD management strategies among primary school teachers. With increasing age, teachers were 1.208 times more likely to adopt ADHD management strategies (OR = 1.208; 95% CI = 1.085–1.344; p = 0.001).

Female teachers were 1.064 times more likely than males to adopt ADHD management strategies (OR = 1.064; 95% CI = 0.458–2.472), although this association was not statistically significant (p = 0.885).

Indigenes were 0.788 times less likely than non-indigenes to adopt ADHD management strategies (OR = 0.788; 95% CI = 0.353–1.804), but this was not statistically significant ($p = 0.588$).

Teaching experience did not significantly predict adoption of ADHD management strategies, as teachers were slightly less likely to adopt the strategies with increasing years of experience (OR = 0.968; 95% CI = 0.875–1.070; $p = 0.522$).

Teachers in private schools were 1.606 times more likely than those in public schools to adopt ADHD management strategies (OR = 1.606; 95% CI = 0.851–3.033), although this association was not statistically significant ($p = 0.144$).

Teachers who taught upper primary were 0.778 times less likely than those teaching lower primary to adopt ADHD management strategies (OR = 0.778; 95% CI = 0.360–1.680), and this was not statistically significant ($p = 0.522$).

Teachers with education-based qualifications were significantly more likely to adopt ADHD management strategies compared to those with non-education-based qualifications (OR = 4.189; 95% CI = 2.120–8.278; $p < 0.001$).

CHAPTER FIVE

DISCUSSION

This study assessed the knowledge, attitudes, classroom management practices, and influencing factors regarding Attention Deficit Hyperactivity Disorder (ADHD) among 435 primary school teachers in Oredo Local Government Area, Benin City. The findings are discussed according to the four specific objectives of the study.

The finding that most teachers in this study were concentrated in the 30-to-49- year age range, with a mean age of approximately 39 years, indicates that the primary teaching workforce in Oredo Local Government Area is relatively mature. Teaching in Nigeria has traditionally been a career that individuals enter after completing tertiary education in their early to mid-twenties, then remain in for decades. There may be fewer young people entering the profession due to relatively low salaries and limited career progression compared to other sectors, leading to a workforce that is aging without adequate replacement.

A study conducted in Kano, Nigeria, in 2023 also reported that most primary school teachers were in their thirties and forties, with fewer young teachers entering the profession.²⁸ Another study conducted in Gondar, Ethiopia, in 2021 found a younger teaching workforce, with a mean age of approximately 32 years, which the authors attributed to recent government hiring of young graduates to expand access to primary education.² This is in contrast with the older workforce in this study.

There is a female predominance in this study, with women comprising more than two-thirds of the teaching workforce. This may be due to the general view that women are better suited to working with young children and lower salaries in teaching that may discourage male

breadwinners, and the availability of part-time or flexible arrangements that accommodate women's caregiving responsibilities.

This is similar to the findings in a 2017 study conducted in Kaduna, which also reported female predominance in the teaching workforce.⁴⁰ This is also consistent with a study conducted in Sharjah, United Arab Emirates, in 2022, which also reported female predominance, with women accounting for more than three-quarters of teachers.¹³

The finding that nearly half of the respondents were of Benin ethnicity, with the remainder representing more than fifteen other ethnic groups, reflects the cosmopolitan nature of Benin City as an urban centre. This diversity may be due to rural-to-urban migration from surrounding areas and other regions of Nigeria, the presence of higher education institutions attracting students and graduates from across the country, and Benin City's role as the capital of Edo State, drawing civil servants and professionals from various ethnic backgrounds. Similarly, a study conducted in Lagos, Nigeria, reported similar ethnic diversity.¹⁵ This diversity has implications for the development of culturally appropriate ADHD training materials.

The study revealed that nearly half of teachers held NCE qualifications, as the Nigeria Certificate in Education is the standard teaching qualification for primary school teachers. It also showed that approximately one-third held bachelor's degrees, indicating a trend toward higher qualifications. However, there was a small number of teachers with only secondary school certificates, and this may be due to the proliferation of low-cost private schools that employ unqualified teachers to reduce costs, the weak enforcement of the National Policy on Education, which requires all teachers to hold at least the NCE, and teacher shortages in some areas that force schools to hire whoever is available.

A study conducted in Northwest Ethiopia in 2022 found that nearly all teachers held at least a diploma, with very few unqualified teachers.¹⁸ A study conducted in Kaduna, Nigeria in 2017 similarly found that NCE was the most common qualification⁴⁰ which is consistent with the findings in this study.

Teachers with higher qualifications may have stronger foundational knowledge in child development and educational psychology, which could facilitate learning about ADHD. However, the study found no significant association between qualification type and knowledge of ADHD, suggesting that even well-qualified teachers have not received specific training on neurodevelopmental disorders. This indicates that the content of teacher education, not only the level of qualification, must be addressed.

This study found that most teachers had more than a decade of experience, with the largest group having 11 to 20 years, which indicates that the teaching workforce is experienced rather than novice. This may be due to the age profile discussed earlier, low rates of attrition among mid-career teachers, and limited recruitment of new teachers in recent years.

Experienced teachers bring valuable classroom wisdom and established management routines. However, the study found no significant association between years of experience and knowledge of ADHD, confirming that experience alone does not compensate for a lack of formal training. This finding is consistent with a study conducted in Nigeria in 2016, which also found that years of teaching experience did not predict ADHD knowledge.⁴²

The study revealed a concerning level of ADHD knowledge deficiency among primary school teachers in Oredo Local Government Area. More than two-thirds of respondents demonstrated low knowledge of ADHD. Approximately one out of every six teachers had moderate knowledge, while less than one out of every seven teachers exhibited adequate knowledge.³² Knowledge deficits were particularly pronounced in the domains of symptoms

and diagnosis, as well as causes and outcomes. Specifically, only approximately one out of every nine teachers correctly understood that ADHD symptoms must occur in more than one setting for a diagnosis to be made. Furthermore, only approximately one out of every nine teachers was aware that ADHD commonly co-occurs with other learning or emotional difficulties, and merely one out of every eight teachers recognized the biological basis of ADHD and its heritability.⁷ In contrast, knowledge was relatively better in the treatment domain, where nearly half of the teachers correctly identified behavioural therapy and consistent classroom routines as effective management strategies for ADHD.⁹

The extremely low levels of knowledge about ADHD observed in this study can be attributed to several interrelated factors. First and foremost, there is a profound lack of formal training on ADHD within teacher education programmes. Fewer than one out of every thirteen teachers reported receiving any formal training on ADHD during their teacher education, and a mere one out of every hundred teachers had attended any workshop or seminar on ADHD in the preceding twelve months.²⁸ This finding indicates that ADHD is either entirely absent or grossly underrepresented in the teacher preparation curriculum in Nigeria.³⁷ Second, teachers reported very poor access to information about ADHD, with nearly nine out of every ten teachers rating their access as poor or very poor. Moreover, two-thirds of teachers reported never actively seeking out new information about ADHD, suggesting a combination of limited access and low motivation, likely stemming from a lack of awareness that ADHD is a condition they should know about. Third, the complete absence of school-based support structures for ADHD management was striking. Every single respondent reported having no access to special education professionals or counsellors in their schools.⁴ This leaves teachers entirely without expert guidance when they encounter students who may have ADHD. Fourth, at a systemic level, the national teacher education curriculum in Nigeria has historically not integrated mental health and behavioural disorders into its core requirements.³⁸ This

represents a fundamental gap in the preparation of teachers for the realities of inclusive classrooms.³⁷

A study in Gondar, Ethiopia, conducted in 2021 found that less than half of elementary school teachers had good knowledge of ADHD, and more than three-quarters had never attended any ADHD workshop.² While the Ethiopian knowledge levels appear higher than those observed in Benin City, this may reflect differences in measurement tools and scoring criteria rather than actual knowledge disparities

A recent qualitative study conducted in Ago-Iwoye, Ogun State, Nigeria in 2023 found that the level of teachers' knowledge of ADHD among primary school children is low, with two-thirds of teachers unable to accurately define ADHD. This corroborates the present findings and suggests that poor ADHD knowledge among Nigerian teachers is a widespread national challenge rather than a problem isolated to a particular region or local government area.²³

A 2023 controlled trial conducted in Kano, Nigeria, found that only approximately one out of every eight teachers had prior ADHD training at baseline.²⁸ This closely mirrors the findings of the present study. The Kano study further demonstrated that structured training using the World Health Organization's Mental Health Gap Action Programme Intervention Guide could significantly improve teacher knowledge, with large effect sizes for ADHD knowledge and moderate effect sizes for behavioural management knowledge. This finding from Kano is particularly significant because it suggests that the low knowledge observed in Benin City is not due to teacher inability or lack of intelligence, but rather a lack of opportunity for training.

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Teachers are often the first professionals to observe ADHD symptoms, as children spend the majority of their daytime hours in school settings.³⁶ With more than two-thirds of teachers in this study lacking adequate knowledge of ADHD, millions of Nigerian children with ADHD

may go unrecognized during critical developmental windows when early intervention could make the greatest difference.³⁵ The World Health Organization recognizes ADHD as a significant cause of disability in children and adolescents, with untreated ADHD being associated with academic underachievement, school dropout, substance use disorders in adolescence, and long-term socioeconomic burden.⁴⁴ When teachers lack knowledge about ADHD, affected children may be mislabelled as lazy, stubborn, or unintelligent, leading to inappropriate disciplinary actions rather than supportive interventions.³⁵ The American Academy of Pediatrics notes that this mislabeling can result in reduced self-esteem, peer rejection, academic failure, and a trajectory of school disengagement that begins in the primary years and continues through secondary education.³⁵

The National Commission for Colleges of Education should mandate comprehensive ADHD modules in all teacher training programmes across Nigeria. Evidence from Kaduna and Kano demonstrates that structured ADHD training significantly improves teacher knowledge, with moderate to large effect sizes.

The Edo State Universal Basic Education Board should implement mandatory in-service training workshops on ADHD for all practicing primary school teachers. The World Health Organization's Mental Health Gap Action Programme Intervention Guide module on behavioural disorders provides a cost-effective, evidence-based curriculum that can be delivered in two to three sessions.

The Edo State Ministry of Education should prioritise the recruitment and deployment of qualified school counsellors to primary schools. Fourth, the Federal Ministry of Education should commission the development of culturally appropriate, low-literacy resource materials on ADHD in local languages.

The study revealed majority of the teachers held positive views, while a substantial minority maintained negative attitudes. More than three-fifths of teachers agreed that ADHD is a valid medical diagnosis, indicating that most teachers do not dismiss the condition as mere misbehaviour or poor parenting. Additionally, more than four-fifths of teachers agreed that students with ADHD require structured classroom environments, and nearly all teachers expressed willingness to refer students exhibiting ADHD behaviours for professional assessment. Most strikingly, virtually every teacher indicated a strong desire for more training on how to support students with ADHD in their classrooms.

However, these positive attitudes exist alongside a profound lack of self-efficacy. Only a small fraction of teachers felt that they could effectively teach students who exhibit ADHD behaviours. The vast majority of teachers reported that they had not received adequate professional development on ADHD management and lacked knowledge about evidence-based interventions. This creates a disconnect where teachers recognize the legitimacy of ADHD and want to help, but do not believe they personally possess the skills to make a difference in their own classrooms.

A large proportion of teachers also demonstrated uncertainty or ambivalence about ADHD. This pattern of neutrality suggests that many teachers have not formed clear opinions about ADHD, likely due to limited exposure to formally diagnosed students and insufficient information about the condition.

The reasons for these findings are rooted in systemic factors. Very few teachers had ever received formal training on ADHD during their teacher education, and almost none had attended a workshop on ADHD in the preceding year. The majority of teachers had never taught a student with a formal diagnosis of ADHD, meaning their understanding of the condition remains abstract rather than grounded in classroom experience. Furthermore, the

complete absence of school counsellors or special education professionals leaves teachers without expert guidance when they encounter students who may have ADHD.

A study conducted in Kaduna, Nigeria, in 2017 found that teachers had negative attitudes toward ADHD at baseline, but a three-hour training session significantly improved those attitudes, demonstrating that attitude change is possible with appropriate intervention.⁴⁰

A study conducted in Kano, Nigeria, in 2023 found that while training improved knowledge, attitudes sometimes became more negative because teachers became more aware of the challenges of managing ADHD without adequate support, warning that training must be accompanied by practical strategies and ongoing support.²⁸

In 2022, a study conducted in Northwest Ethiopia found that nearly half of teachers held unfavourable attitudes, and teachers with no prior training were significantly more likely to express negative views, while those who had taught diagnosed students held more favourable attitudes.¹⁸

A South African study done in 2021 revealed that teachers expressed frustration and anxiety when managing children with ADHD, describing themselves as ill-prepared and unsupported, which closely matches the low self-efficacy observed in the present study.⁴

The combination of positive attitudes among a slight majority of teachers and the near-universal demand for training represents a critical opportunity for intervention, as teachers are receptive and motivated to learn.⁴³ However, the gap between positive attitudes and low self-efficacy creates a high-risk situation where good intentions cannot translate into effective action, potentially leading to teacher frustration, moral distress, and burnout.³⁵

The willingness of nearly all teachers to refer students for professional assessment is encouraging, but the complete absence of school counsellors means there are no referral

destinations, leaving children with ADHD without access to diagnostic assessment or specialized support.⁴⁴

The Edo State Universal Basic Education Board should implement a structured training programme for all primary school teachers that focuses on practical, actionable classroom strategies rather than only theoretical knowledge about ADHD, delivered through multiple modalities including in-person workshops, online modules, and school-based learning communities where teachers can practise strategies with peer feedback

The Edo State Ministry of Education should prioritize the recruitment and deployment of qualified school counsellors to primary schools, and while full deployment takes time, an interim referral pathway to primary care providers or community mental health services should be established so that teachers have somewhere to refer the children they are willing to help.

The study found that a large majority of teachers demonstrated high adoption of classroom management strategies relevant to ADHD. This suggests that many respondents were already using practical methods such as setting clear rules, giving praise, varying teaching methods, monitoring pupils closely, and responding calmly to disruptive behaviour.

This is an encouraging finding because it indicates that teachers may already possess practical classroom instincts even when formal ADHD knowledge is limited.

Experienced teachers often learn effective behaviour management informally through repeated classroom exposure. They may also adopt strategies shared by colleagues or school administrators.

Despite this high adoption, only approximately one out of every nine teachers felt that they could effectively teach students with ADHD behaviours.

The apparent inconsistency can be understood through several contributing factors. First, there is an important distinction between general teaching strategies that benefit all students and interventions specifically tailored for ADHD. While teachers may be applying effective general practices, they often lack specialized approaches such as token economy systems, self-monitoring checklists, antecedent-based interventions, and ADHD-focused daily report cards.

Secondly, with fewer than one in thirteen teachers having received formal training on ADHD, it is unrealistic to expect familiarity with condition-specific techniques.²⁸ Finally, the absence of counsellors or special education professionals leaves teachers without access to expert guidance on implementing appropriate ADHD interventions.⁴

A 2019 study conducted in Rawalpindi and Islamabad, Pakistan, found relatively low use of ADHD-related strategies: only about one-quarter of teachers reported using peer tutoring, one-fifth modified physical classroom arrangements, and roughly one-sixth increased direct attention to students with ADHD. In contrast, teachers in Benin City showed markedly higher levels of adoption across these areas.⁵

A study conducted in 2023 found in Ogun State that teachers had devised their own support mechanisms, including calm verbal redirection, locally available teaching aids, and positive reinforcement, but more than nine out of every ten referred out-of-control students to headmasters.²³ The Benin City teachers' high adoption of positive strategies is consistent with these findings.²³

A 2016 nationwide study of one thousand Nigerian teachers revealed that teachers implemented negative disciplinary consequences for shaping specific negative behaviours associated with ADHD.⁴² In contrast, the present study found that more than three-quarters of teachers reported using non-punitive methods, suggesting improvement over time that may

reflect the influence of Nigeria's ban on corporal punishment under the Child Rights Act of 2003.³⁸

The high adoption of general classroom management practices among teachers is encouraging, as it prevents the use of harsh discipline and corporal punishment, which disproportionately affects children with ADHD and can lead to school exclusion and antisocial behaviour.³⁵ However, the complete absence of access to special education professionals means that even well-intentioned teachers lack the specialist support needed to implement ADHD-specific interventions, representing a systems-level failure that perpetuates educational inequity.⁴ Without urgent deployment of school counsellors and ADHD training programmes, the majority of children with ADHD in Benin City will continue to experience academic failure, teacher frustration, and missed opportunities for early intervention, contributing to the broader mental health treatment gap in Nigeria.⁴⁴

The Edo State Universal Basic Education Board should deploy at least one trained school counsellor or special education needs coordinator to every primary school in Oredo Local Government Area, given that 100 percent of teachers in this study reported having no access to such professionals. This should be implemented in phases, starting with a cluster model where one counsellor serves three to four neighboring schools on a rotating basis, followed by full-time deployment as more counsellors are trained and recruited.

The Edo State Universal Basic Education Board should develop and implement a structured ADHD training programme that builds on teachers' existing strong classroom management practices, introducing evidence-based ADHD-specific strategies including daily report cards, self-monitoring checklists, antecedent-based modifications, structured activity breaks, and task chunking. Training should be delivered through the EdoBEST digital platform and

include follow-up classroom observations and coaching, as research consistently shows that one-time workshops are less effective than training combined with ongoing support.

The study revealed that a teacher's background and work environment significantly shape how much they know about ADHD and how they feel toward children living with the condition. School type emerged as a consistent predictor across multiple outcomes. Teachers working in public schools demonstrated better knowledge of ADHD and held more positive attitudes compared to their counterparts in private schools. While approximately one out of every six public school teachers had good knowledge of ADHD, only one out of every ten private school teachers could say the same. This pattern persisted with attitudes as well, where more than eight out of every ten public school teachers held positive attitudes toward children with ADHD, compared to approximately seven out of every ten private school teachers.

Age also proved to be an important factor, particularly when it came to attitudes. As teachers grew older, their attitudes toward ADHD became progressively more positive. Among the youngest teachers, those in their twenties, approximately seven out of every ten held positive attitudes. But among teachers in their fifties, more than nine out of every ten held positive attitudes. This steady improvement with age suggests that something about the experience of growing older in the teaching profession, perhaps the accumulation of classroom experience or the maturity that comes with age, helps teachers develop more accepting views of children with ADHD.

Qualification type made a dramatic difference in how teachers managed their classrooms. Teachers who held education-based qualifications, meaning they had formally studied teaching as a discipline, were vastly more likely to adopt effective classroom management

practices compared to those who entered teaching with non-education qualifications. More than nine out of every ten teachers with education-based qualifications demonstrated high adoption of management strategies, whereas only about half of teachers without such qualifications could say the same. Years of teaching experience did not predict better knowledge of ADHD. Similarly, sex made no difference, nor did indigene status or whether a teacher worked in lower or upper primary grades. What mattered most was not how long a teacher had been teaching, but what kind of training they had received and what kind of school they worked in.

The consistent advantage that public-school teachers showed over private school teachers likely stems from differences in access to professional development. Public school teachers in Edo State benefit from the Edo Basic Education Transformation programme, a government initiative that provides structured training, digital learning platforms, and ongoing support to teachers. This programme has been running for several years and includes modules on inclusive education and classroom management. Private school teachers, particularly those in low-cost private schools, are often excluded from these government-sponsored training initiatives and must bear the cost of their own professional development if they seek it at all. Many low-cost private schools operate on thin margins and cannot afford to provide regular training for their staff. The result is a two-tier system where public school teachers receive ongoing support while private school teachers are left to figure things out on their own.

Teachers who study education learn about child development, learning theory, classroom management, and educational psychology. They complete supervised practice teaching and receive feedback on their performance. Teachers who enter the classroom with degrees in other fields, such as the arts or sciences, have none of this preparation. The National Policy on Education (2013) explicitly states that only professionally trained teachers should be employed in Nigerian schools. Yet the reality, particularly in private schools, is that many

teachers lack any formal pedagogical training. School owners hire them because they can be paid less than qualified teachers. The children pay the price.

The finding that older teachers hold more positive attitudes while not necessarily knowing more about ADHD is fascinating and speaks to the difference between experiential wisdom and formal knowledge. Older teachers have spent decades in classrooms. Over those years, they have taught hundreds, perhaps thousands, of children. Among those children, they have undoubtedly encountered many with undiagnosed ADHD. Through trial and error, they have learned which strategies work and which do not.

The lack of association between years of experience and knowledge of ADHD shatters the common assumption that teachers simply pick up knowledge over time. They do not. Without structured training, misconceptions persist. Worse, incorrect beliefs may become fixed and resistant to change the longer they are held. A teacher who has believed for twenty years that ADHD is caused by poor parenting is unlikely to change that belief without a deliberate educational intervention.

A study conducted in Northwest Ethiopia in 2022 found that nearly half of primary school teachers held unfavourable attitudes toward students with ADHD, a figure comparable to the present study. Teachers with lower levels of education, less teaching experience, and no prior ADHD training were significantly more likely to express negative attitudes. However, teachers who had actually taught a child with a formal diagnosis of ADHD held more favourable attitudes, consistent with the present study's finding that older teachers with more experience had more positive attitudes. ¹⁸

A study conducted in Bangalore, India, in 2024 found that nine out of every ten teachers demonstrated inadequate knowledge of ADHD, and no significant associations were found between knowledge and demographic variables such as age, gender, or teaching experience.

This lack of association with basic demographics is consistent with the present study and suggests that ADHD knowledge is not something teachers acquire naturally through life experience but rather requires specific, targeted instruction.²⁶

A study conducted in Kaduna, Nigeria in 2017 found that teachers had poor knowledge and negative attitudes toward ADHD at baseline, and importantly, no association was found between knowledge and years of teaching experience. That study also demonstrated that a three-hour training session followed by a booster session could significantly improve both knowledge and attitudes, suggesting that the deficits observed in the present study are reversible with appropriate intervention.⁴⁰

Children attending private schools in Oredo Local Government Area may be less likely to have their ADHD identified and appropriately supported than children in public schools, because their teachers demonstrated lower knowledge and more negative attitudes toward the condition.^{30,31} This disparity means that the type of school a child attends significantly influences their chances of receiving early identification and appropriate classroom support for ADHD, creating an inequitable educational landscape.

The complete absence of school counsellors reported by every single teacher represents a critical systems failure that no amount of individual teacher effort or experience can overcome. However, the near-universal demand for more training (99.1%) signals an unprecedented public health opportunity, as teachers are ready and willing to learn, and with the deployment of school counsellors and implementation of targeted training programmes that reach teachers at all career stages, Benin City could significantly reduce the mental health treatment gap for the estimated five to seven percent of children with ADHD.⁴⁴

The Edo State Ministry of Education should enforce the requirement that all teachers in both public and private schools hold education-based qualifications or complete mandatory

pedagogical training, as teachers with education-based qualifications were more than four times as likely to adopt evidence-based classroom management strategies, and schools found employing unqualified teachers should face sanctions including fines or closure for persistent non-compliance, in line with the National Policy on Education (2013) which already specifies this requirement.

The Edo State Universal Basic Education Board should develop targeted training programmes specifically for private school teachers who demonstrated lower knowledge and more negative attitudes in this study, and should also establish formal peer mentorship programmes pairing younger teachers with experienced older teachers to transfer the practical wisdom that older teachers have developed through years of classroom experience, as research consistently shows that peer coaching is more effective than one-time workshops in changing classroom practices.

CONCLUSION

Knowledge of ADHD among primary school teachers in Oredo Local Government Area is predominantly low, with more than two-thirds of teachers demonstrating poor understanding of symptoms, diagnosis, causes, and outcomes.

While a slight majority of teachers hold positive attitudes toward ADHD and virtually all desire more training, only a small minority feel capable of effectively teaching students with ADHD behaviours.

Although most teachers demonstrate high adoption of general classroom management practices, the complete absence of school counsellors and lack of ADHD-specific strategies leave them ill-equipped to support children with ADHD.

School type, age, and qualification type significantly influence ADHD knowledge and attitudes, with public school teachers, older teachers, and those with education-based qualifications performing better than their counterparts.

RECOMMENDATIONS

TO THE EDO STATE GOVERNMENT AND EDO STATE MINISTRY OF EDUCATION

1. The Edo State Government should recruit, train, and deploy at least one qualified school counsellor to every primary school in Oredo Local Government Area. Counsellors should be trained specifically in ADHD symptom recognition, evidence-based classroom interventions, and referral pathways.
2. The Edo State Universal Basic Education Board should implement mandatory ADHD training for every practicing primary school teacher. Training should be delivered through the existing EdoBEST digital platform to ensure consistency and reach. Each teacher should receive a minimum of six hours of structured training covering ADHD symptom recognition, evidence-based classroom strategies (daily report cards, self-monitoring checklists, antecedent modifications, structured breaks, and task chunking), and appropriate referral procedures.

TO THE COMMUNITY (PARENTS, LOCAL LEADERS, AND COMMUNITY ORGANIZATIONS)

1. Establish Monthly Parent-Teacher ADHD Support Groups. These groups should bring together parents of children with ADHD symptoms, classroom teachers, school counsellors (once deployed), and community health workers. Each meeting should include a brief educational session on a specific ADHD topic, followed by open discussion where parents and teachers share challenges and successful strategies. The groups should develop written behaviour plans that are consistent across home and school, including common rules, rewards, and consequences.

2. Mobilize Community Resources to Create ADHD-Inclusive Classroom Environments.

Community members, local businesses, and non-governmental organizations should contribute resources to support children with ADHD in their local primary schools. Specific contributions should include funding for classroom modifications (noise-reducing headphones, fidget tools, wiggle seats, and visual schedules), sponsorship of teacher training on ADHD, provision of volunteers to serve as classroom assistants during high-need lessons, and organization of inclusive extracurricular activities such as sports, arts, and music programmes where children with ADHD can succeed. Communities should establish recognition awards for schools that demonstrate exemplary inclusive practices.

3. Train Religious and Community Leaders as ADHD Referral Gatekeepers. The Edo State Primary Health Care Development Agency should partner with religious institutions and community organizations to train imams, pastors, traditional rulers, and market women leaders as ADHD referral gatekeepers. Training should be delivered in Bini and Edo languages through existing community structures such as churches, mosques, town hall meetings, and local radio stations. Gatekeepers should be taught to recognize basic ADHD symptoms (inattention, hyperactivity, impulsivity) and to refer families to the nearest primary school counsellor or primary health centre for further assessment.

TO THE PRIMARY SCHOOL TEACHERS

1. Implement Three Evidence-Based ADHD Strategies Immediately. Every primary school teacher should commit to implementing at least three specific, evidence-based ADHD strategies in their classroom starting the day after training. First, teachers should use a three-to-one praise-to-correction ratio by deliberately praising each

student with ADHD at least three times for every one correction or redirection.

Second, teachers should arrange preferential seating for students with ADHD symptoms near the teacher's desk, facing away from windows and high-traffic areas, and with reduced visual and auditory distractions. Third, teachers should break all assignments into smaller chunks, checking for understanding after each chunk, and allowing structured movement breaks every fifteen to twenty minutes for students with hyperactivity.

2. Establish Daily Home-School Communication for Students with ADHD. For any student suspected of having ADHD or already diagnosed, teachers should implement a daily report card system. The teacher should select two to three target behaviors (for example, "completed seat work," "raised hand before speaking," "stayed in seat during lesson") and rate the student's performance each day using a simple smiley face or color-coded system. The daily report card should be sent home in the student's notebook each evening, and parents should initial it and provide a small home reward (such as extra playtime or a favorite snack) for achieving the daily goal. The report card should be returned to school the next morning. This strategy has strong evidence of effectiveness and directly addresses teachers' low self-efficacy by providing a structured, manageable intervention.
3. Seek Active Peer Mentorship from Experienced Teachers. Mentorship should include at least two classroom observations per term in each direction, weekly fifteen-minute check-in meetings to discuss challenges and solutions, and joint problem-solving of difficult cases. Schools should formally recognize mentor teachers with certificates and small stipends or gift items.

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APPENDIX 1

The timeline is represented in the Gantt chart below.

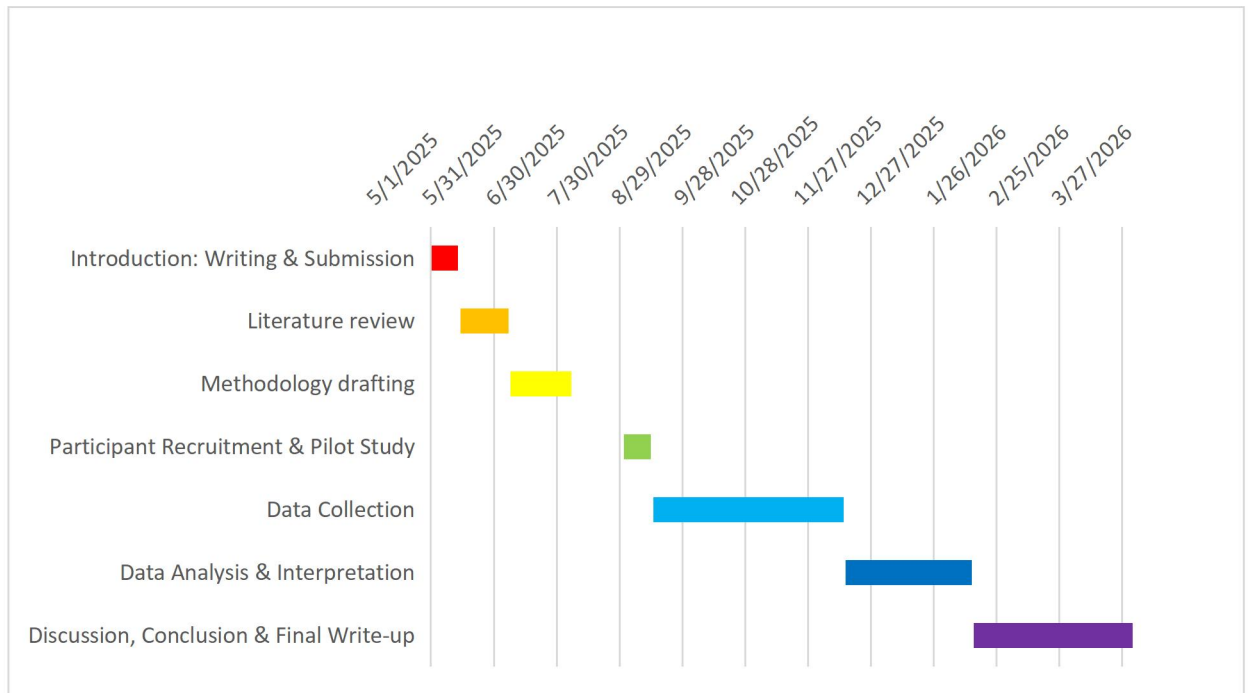


Figure 1: Gantt chart showing the work plan of the one-year project

APPENDIX 2

INFORMED CONSENT FORM

TITLE OF STUDY

Knowledge and Attitude of Attention Deficit Hyperactivity Disorder among Primary School Teachers in Oredo Local Government Area, Benin City.

INSTITUTION

Department of Public Health and Community Medicine, College of Medical Sciences, University of Benin, Benin City.

PRINCIPAL INVESTIGATOR

Itohan Esosa Agbonile

SUPERVISOR

Professor Vivian Omuemu

FINANCIAL SPONSORSHIP

This research work is financially sponsored by the principal investigator

PURPOSE OF RESEARCH

The purpose of this research work is to assess the Knowledge and Attitude of Attention Deficit Hyperactivity Disorder among Primary School Teachers in Oredo Local Government Area, Benin City.

PROCEDURES TO BE FOLLOWED

If respondents agree to participate, they will receive a google form containing a questionnaire to assess the Knowledge and Attitude of Attention Deficit Hyperactivity Disorder among Primary School Teachers in Oredo Local Government Area, Benin City.

PARTICIPATION

Participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits. You may discontinue your participation at any time, the principal investigator may decide to withdraw you from the study if unable to obtain the necessary information.

CONFIDENTIALITY

All information will be kept confidential and stored securely. Data collected will be anonymous and only accessible to the research team.

COMPENSATION

Participants will not receive any financial compensation for their participation in this study

BENEFITS

Participants will contribute to important research that may help improve the Knowledge and Attitude of Attention Deficit Hyperactivity Disorder among Primary School Teachers in Benin City. The result of this study will help primary school teachers in the management of children with ADHD.

RISKS

There are no risks associated with the participation of this study.

CONTACT INFORMATION

If you have any questions concerning this research work, please contact:

Itohan Esosa Agbonile

Email: itosagbonile@gmail.com

Phone number: 09160844605

OR

Ethics and Research Committee, University of Benin Teaching Hospital, Benin City

Email: ubthresearchethics@gmail.com

Phone number: 07063331337

IF THERE IS ANY PORTION OF THIS CONSENT AGREEMENT THAT YOU DO NOT UNDERSTAND, ASK THE FIELD WORKER OR INVESTIGATOR BEFORE SIGNING

Please sign below if you have agreed to participate in this study.

CERTIFICATION OF CONSENT

I, _____ having full capacity to consent for myself do thereby consent to my participation in the research study.

The methods by which the study would be conducted have been explained to me by the ethical committee. I have been given the opportunity to ask questions concerning this investigational study and all questions have been answered to my full and complete satisfaction.

I understand that I may at any time during the course of this study revoke this consent and withdraw myself from the study.

Participants Signature: _____

Date: _____

APPENDIX 3

QUESTIONNAIRE

KNOWLEDGE AND ATTITUDE OF ATTENTION DEFICIT/ HYPERACTIVITY DISORDER AMONG PRIMARY SCHOOL TEACHERS IN BENIN CITY

This questionnaire is designed to assess the Knowledge, Attitude and Classroom management practices among Primary school teachers in Benin city, Edo state city towards children with ADHD. It also explores the factors influencing the Knowledge and Attitude of Primary school teachers in Benin city towards children with ADHD. The questionnaire is divided into five sections (A to E) and will take approximately 12-15 minutes to complete.

Section A: Demographic and Professional Profile

1. Age in years as at last birthday: _____
2. Gender: Male Female
3. Ethnic group: Benin Esan Igbo Yoruba Etsako Urhobo Itsekiri Others; specify _____
4. Religion: Christianity Islam African traditional religion Others; specify _____
5. Highest teaching qualification: _____
6. Years of teaching experience: _____ years
7. Type of school where you teach: Public Private
8. Grade level(s) you teach: _____

Section B: KNOWLEDGE OF ADHD

Instruction: Please TICK how the following statement applies to you

Statement	True	False	Don't know
9. ADHD often has a biological basis and can run in families			
10. The symptoms of ADHD must appear in more than			

one setting (e.g., home and school) for a diagnosis.			
11. ADHD can persist into adulthood for many individuals			
12. Properly prescribed medication often improves concentration and behavior in children with ADHD.			
13. Behavioral therapy and classroom interventions are as important as medication in managing ADHD			
14. A consistent daily routine and clear classroom rules help children with ADHD manage their behavior			
15. Children with ADHD are typically better behaved in one-to-one interactions than in group settings			
16. Diets that remove certain foods or additives usually do not eliminate ADHD symptoms			
17. Sugar or food additives are not primary causes of ADHD.			
18. Children with ADHD can focus better on activities they enjoy than on boring tasks.			
19. Neurofeedback or brain-training programs are not proven effective treatments for ADHD.			
20. ADHD commonly co-occurs with other learning or emotional difficulties.			
21. ADHD often has a biological basis and can run in families.			

SECTION C: ATTITUDE TOWARDS ADHD

Instruction: Please TICK how the following statement applies to you

Statement	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
22. I believe ADHD is a valid medical diagnosis.					
23. I find students who exhibit ADHD behaviors rewarding to work with.					
24. I find behaviors associated with ADHD in class irritating.					
25. I believe ADHD is over-diagnosed in school-aged children.					
26. I believe students with ADHD need more structure and clear rules in the classroom.					
27. I find it rewarding to see the accomplishments of students with ADHD.					
28. I find teaching students with ADHD behaviors causes me stress.					

29. I feel I have received adequate professional development on ADHD management.					
30. I feel knowledgeable about evidence-based interventions for ADHD.					
31. I would refer a student exhibiting ADHD behaviors to a counselor for assessment.					
32. I want more information on classroom strategies to support students with ADHD.					
33. I feel I can effectively teach students who exhibit ADHD behaviors.					

SECTION D: CLASSROOM MANAGEMENT PRACTICES

Instruction: Please TICK how the following statement applies to you

Statement	Never	Rarely	Sometimes	Often	Always
34. I clearly communicate classroom rules and expectations.					
35. I praise students when they follow rules or complete tasks correctly.					
36. I use non-punitive methods (e.g.,					

redirection, encouragement) to manage misbehavior.					
37. I remain calm and patient when students act out.					
38. I arrange seating to minimize disruptions and maintain focus.					
39. I break lessons into smaller, manageable steps and check for understanding.					
40. I use varied instructional methods to engage all learners.					
41. I provide additional support (e.g., tutoring or extra explanation) to struggling students.					
42. I involve students in setting classroom routines and rules.					
43. I give immediate feedback to students about their behavior.					
44. I reinforce lesson objectives throughout the class to maintain engagement.					
45. I incorporate short, structured activity breaks to help students refocus.					

Section E: FACTORS INFLUENCING KNOWLEDGE AND ATTITUDE

46. Have you received formal training on ADHD during your teacher education? Yes
 No
47. Have you attended any workshops or seminars on ADHD in the last 12 months? Yes
No
48. Have you taught a student with a formal diagnosis of ADHD? Yes No
49. What is your main source of information about ADHD? Formal teacher training
Workshops/seminars Internet/social media Books/journals Colleagues or other
teachers None
50. How would you rate your access to information on ADHD? Very Good Good
Fair Poor Very Poor
51. How much support do you receive from your school for managing students with ADHD?
 Very Adequate Adequate Neutral Inadequate Very Inadequate
52. Do you have access to special education professionals or counselors in your school?
Yes No
53. How confident are you in identifying ADHD symptoms in students? Very confident
Somewhat confident Neutral Not very confident Not confident at all
54. How often do you seek out new information or updates about ADHD? Very
frequently Frequently Occasionally Rarely Never
55. Do you believe cultural beliefs or community attitudes affect your perception of ADHD?
 Yes, significantly Yes, somewhat No I'm not sure
56. Which of the following best describes your attitude toward students with ADHD?
Positive and supportive Neutral Frustrated but trying to help Overwhelmed or
helpless Unsure how to respond
57. What do you think would most help improve your knowledge and attitude toward ADHD?
 More training and workshops More classroom support/resources Access to
specialists Better internet and reading materials Peer support or mentorship


APPENDIX 4
ETHICAL CLEARANCE FORM



**HEALTH RESEARCH
ETHICS COMMITTEE (HREC)**

UNIVERSITY OF BENIN TEACHING HOSPITAL
P.M.B. 1111 BENIN CITY NIGERIA Telephone: 052-600418 Website: ubth.org

CHIEF MEDICAL DIRECTOR **DIRECTOR OF ADMINISTRATION** **CHAIRMAN**
Prof. (Mrs) I.N Ize-Iyamu Jim Uwadie, Esq Prof. (Mrs.) Antoinette N. Ofili

 **HREC OFFICE:**
Committee email: ubthresearchethics@gmail.com
Registration Number:
NHREC-UBTH-HREC/24/12/2022B

PROTOCOL NUMBER: ADM/E 22/A/VOL. VII/14865491272159

PROPOSAL TITLE: "KNOWLEDGE AND ATTITUDE OF ATTENTION DEFICIT HYPERACTIVITY DISORDER AMONG PRIMARY SCHOOL TEACHER IN OREDO LOCAL GOVERNMENT AREA, BENIN CITY"

PRINCIPAL INVESTIGATOR(S): AGBONILE ITOHAN

DEPARTMENT/INSTITUTION: DEPARTMENT OF PUBLIC HEALTH AND COMMUNITY MEDICINE, SCHOOL OF MEDICINE, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA

DATE CONSIDERED: JANUARY 12TH, 2026

DECISION OF THE COMMITTEE: APPROVED

THIS APPROVAL DATES 12/1/2026 TO 11/1/2027. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO THAT THE DATES OF APPROVAL CAN BE EXTENDED ACCORDINGLY
REMARK:

CHAIRMAN: PROF. (MRS) A.N. OFILI SIGNATURE & DATE  12/1/2026

SUPERVISOR (S): PROF. VIVIAN OMUEMU

DECLARATION BY INVESTIGATOR(S):
PROTOCOL NUMBER (please quote in all enquiries)

Note that no participant accrual or activity related to this research may be conducted outside of these dates. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual re-port to the HREC early in order to obtain renewal of your approval and avoid disruption of your research. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previous notification

Signature & Date.....




ubthresearchethics@gmail.com Registration Number: NHREC/24/01/2020

APPENDIX 5

PLAGIARISM CLEARANCE CERTIFICATE

INTELLECTUAL PROPERTY & TECHNOLOGY TRANSFER OFFICE (IPTTO)
Vice Chancellor's Office
University of Benin
PMB1154, Benin City, Nigeria



CLEARANCE FORM

DATE: 28/04/2026


NAME: AGBENILE ROTAN ESOSA

MATRIC NO: MED1507357

DEPARTMENT: MEDICINE

FACULTY: MEDICINE

SESSION OF GRADUATION: 2024/2025

DIRECTOR
DATE

Head Of Unit (IPTTO)

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