

Prevalence and Impact of Attention Deficit/Hyperactivity Disorder (ADHD) on Student Performance at Bingham University, Nigeria

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Abstract- *In this research, the prevalence of Attention-Deficit/Hyperactivity Disorder (ADHD) and its impact on academic performance were studied among students at Bingham University in Nigeria. The Adult ADHD Self-Report Scale (ASRS v1.1) was completed by 293 students selected from 10 faculties using a cross-sectional methodology. The findings indicated that 99.7 percent of the participants never received an official diagnosis of ADHD, and 66.9 percent of the respondents barely knew anything about the disorder. Most of them, however, had signs of ADHD. Statistical studies confirmed a significant association between the symptoms of ADHD and low academic achievement. The gender difference was also notable, and women reported more inattention. The findings underscore the level of urgency with which Nigerian university students need the services of early assessment and increased awareness, as well as special academic support services.*

Keywords: *ADHD, academic performance, university students, Nigeria, mental health*

I. INTRODUCTION

Attention Deficit / Hyperactivity Disorder (ADHD) is a neurodevelopmental condition where a child has a persistent pattern of inattention, hyperactivity, and impulsivity, which is not fully developed and results in poor skills and contribution to daily functioning. ADHD is typically diagnosed in childhood; however, a large proportion of adults continue to experience symptoms (Faraone *et al.*, 2021), which puts the number of adults with ADHD at 2.5% of the global adult population. Attention Deficit Hyperactivity Disorder (ADHD) has been gaining more attention in the field of higher education due to its persistent nature in adulthood and the fact that the excesses of academic life can make matters even worse for the students. Mowat *et al.* (2022) suggest that college students may take up between 2 and 8 percent frequency of ADHD. But so is this, the availability of mental health facilities, and also the cultural acceptability of diagnostic criteria. Available data regarding the prevalence and under-recognition of

ADHD in university students in the African context are scarce, though the disorder is highly prevalent, and under-recognition is likely to be the case. For instance, a study carried out in Nigeria discovered that 7.6 percent of school kids showed signs and symptoms of ADHD, although there is no study on the prevalence of the disorder among adults and university students in the area (Chinawa *et al.*, 2014).

II. PROBLEM STATEMENT

Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by symptoms of inattention, hyperactivity, and impulsivity resulting in significant impairment of the adult in academic, social, and work roles (American Psychiatric Association, 2013). ADHD is usually diagnosed during childhood; however, it continues in about 60% of adults and has a prevalence of up to 2.5% in adults (Faraone *et al.*, 2021). Even though ADHD is increasingly being acknowledged as a condition that tends to last a lifetime, there is no research on how prevalent it is and how it affects university students, especially in countries like Nigeria, where development is still evolving. Since prevalence estimates have been reported amongst university students, it is recognized that ADHD is a major public health problem globally. In the United States, for instance, research has confirmed that about 4-8 percent of college students have symptoms of ADHD (DuPaul *et al.*, 2018). Another study in Europe also found that 5.3 percent of university students fulfilled the diagnostic criteria for ADHD (Mowat *et al.*, 2022). Such findings suggest that ADHD is a widespread condition amongst tertiary students who need to be provided with targeted interventions to offer support for those suffering from the condition. However, the prevalence and impact of ADHD on African countries, including the case of Nigeria, have yet to be studied. For instance, a study in South Africa reported 5.4% of ADHD prevalence among university students (Corné Coetzee & Meyer,

2020), and in Ethiopia, the prevalence was estimated at 8.7% among school-aged children (Ayano *et al.*, 2020). These regional statistics imply that ADHD is a very significant but typically overlooked issue in the African educational environment.

Objectives of the Study

1. To evaluate the impact of ADHD on students' emotional, social, and academic well-being during the research period.
2. To identify the barriers faced by students with ADHD in accessing academic support and accommodations.
3. To propose evidence-based recommendations for improving ADHD support programs in tertiary educational institutions.
4. To determine the prevalence of ADHD among Bingham University's tertiary students.

Statement of Hypothesis

This is to study the incidence and influence of ADHD amongst the students of Bingham University, Nigeria, and the academic challenges they encounter.

Null Hypotheses (H_0)

H_{01} : However, the prevalence of ADHD amongst male and female university students at Bingham University is almost the same.

H_{02} : ADHD has no significant effect on the university students' academic performance at Bingham University.

H_{03} : Students with ADHD do not have great difficulty in accessing academic resources and accommodation.

Alternative Hypotheses (H_1)

H_{11} : The prevalence of ADHD is significantly different in male and female university students of Bingham University.

H_{12} : ADHD has a significantly negative impact on the academic performance of university students in Bingham University.

H_{13} : Students with ADHD face great challenges in accessing academic resources and accommodations.

III. METHODOLOGY

Study Design

This research employs a descriptive cross-sectional study design, which is appropriate for assessing the prevalence and impact of ADHD among students at Bingham University. This design enables the

collection of data at a single point in time, allowing for an in-depth evaluation of knowledge and attitudes regarding ADHD.

Study Population

The study focused on students enrolled at Bingham University across different faculties and academic levels. The criteria for participation were as follows: Inclusion Criteria: Only actively registered students at Bingham University who voluntarily consented to participate in the study were included.

Exclusion Criteria: Students who had completed their studies, were on leave of absence, or declined consent were excluded from the study.

Sampling Technique

A multi-stage sampling technique was utilized to ensure fair representation across the university's faculties and academic levels. The steps taken were as follows:

Faculty Selection: Bingham University has 15 faculty members, of whom 10 were randomly selected due to accessibility and participation constraints.

Department Selection: Within each selected faculty, one department was randomly chosen for participation.

Student Selection: A total of 28 students per faculty were surveyed, ensuring equal distribution across faculties.

Stratification by Level: Students were proportionally selected from different academic levels (100-500 level) to achieve balanced representation, reflecting the university's population structure.

Sample Size Determination

The minimal sample size was obtained using the Kish formula. $n = \frac{Z^2 pq}{e^2}$ Where:

n = sample size

z = confidence limit at 95%, which is equivalent to 1.96 standard deviation

p = The estimated percentage of an attribute existing in a population, and $q = 1 - p$

$q = 1 - p = 1 - 0.5 = 0.5$

e = margin of error acceptable for the study = 5% = 0.05

Therefore,

$$n = \frac{1.96^2 (0.5)(0.5)}{0.05^2}$$

$$n = \frac{1.96 \times 1.96 (0.5)(0.5)}{0.0025}$$

$$n = \frac{(3.8416)(0.25)}{0.0025}$$

$$n = \frac{0.9604}{0.0025}$$

$$n = 384$$

Giving room for a 10% non-response adjusted sample size = $n/1-NR$
 $= 384/1-0.1$
 $= 384/0.9$
 $= 404$

IV. METHOD OF DATA ANALYSIS

Data Grading and Analysis: The collected data were entered into SPSS (Statistical Package for the Social Sciences) version 26 for analysis. The grading of variables was revised as follows:

Knowledge Scores: Categorized as low (0-49%), moderate (50-74%), and high (75-100%).

Attitude Scores: Assessed using a Likert scale, where responses were classified into positive, neutral, or negative attitudes.

Descriptive Statistics: Frequencies, percentages, and means were computed to summarize participant characteristics.

Inferential Statistics: Chi-square tests and logistic regression were performed to examine associations between variables and determine statistical significance.

Ethical considerations

The health research ethical committee at Bingham University granted Ethical approval for this study. The consent form was attached to the top of the questionnaire to be filled out by each participant as they began the process. The respondents will be fully apprised of the study's subject, the researcher's identity and affiliation, and the anonymity and confidentiality of the data collected. All participants gave informed consent, and confidentiality was maintained in line with institutional ethical standards.

V. RESULTS

Data was initially planned to cover 15 faculties, but only 10 faculties are represented due to non-response, logistical constraints, and incomplete survey data. Females also completed the survey in greater numbers than males at 50.5%. By age, the majority of the respondents who participated in the poll were those who were 15 – 19 years old. (50.5%). The poll revealed that respondents at the 100 and 300 levels responded to the poll in higher percentages by 23.5 % each. Law and pharmacy respondents had the highest response rate (13% each) to the survey.

Table 1: Demographic Characteristics of Respondents by Faculty

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
GENDER		
<i>Female</i>	148	50.5
<i>Male</i>	145	49.5
<i>Total</i>	293	100
AGE		
<i>15 - 19 years</i>	148	50.5
<i>20 - 24 years</i>	141	48.1
<i>25 - 26 years</i>	3	1.0
<i>27 years and above</i>	1	0.3
<i>Total</i>	293	100
LEVEL OF STUDY		
<i>100</i>	69	23.5
<i>200</i>	64	21.8
<i>300</i>	69	23.5
<i>400</i>	63	21.5
<i>500</i>	28	9.6
<i>Total</i>	293	100
FIELD OF STUDY		

<i>Law</i>	38	13
<i>Nursing</i>	29	9.9
<i>Pharmacy</i>	38	13
<i>Computer science</i>	26	8.9
<i>Public Health</i>	28	9.6
<i>Economics</i>	24	8.2
<i>Accounting</i>	27	9.2
<i>English</i>	28	9.6
<i>Estate Management</i>	27	9.2
<i>Guidance and counselling</i>	28	9.6
<i>Total</i>	293	100.2

Table 2: Frequency Distribution of Responses on Prevalence Of ADHD

<i>Question</i>	<i>Yes</i>	<i>No</i>
<i>Do you understand how prevalent Attention Deficit/Hyperactivity Disorder (ADHD) is in the general population?</i>	97 33.1%	196 66.9%
<i>Have you ever been diagnosed with or experienced symptoms of ADHD?</i>	1 0.3	292 99.7%
<i>Have you ever been assessed for ADHD using a standardized screening tool?</i>	1 0.3	292 99.7%

The table above shows the fraction of respondents' replies about the prevalence of ADHD. According to the data, 66.9% of respondents do not understand what attention-deficit/hyperactivity disorder (ADHD) is, nearly all 99.7% remain undiagnosed with ADHD by a trained healthcare professional, and 99.7% have not received a formal ADHD exam using a standardized screening instrument.

Table 3: Frequency Distribution of Responses to the Impact of ADHD on Academic Performance

<i>Question</i>	<i>Always</i>	<i>Often</i>	<i>Sometimes</i>	<i>Rarely</i>	<i>Never</i>	<i>Mean</i>	<i>Decision</i>
<i>How frequently does ADHD make it challenging for you to maintain focus during lectures or study sessions?</i>	12 4.1	107 36.5	68 23.2	48 16.4	58 19.8	3.11	No impact of ADHD
<i>How often does ADHD make it difficult for you to complete assignments or exams within the given time frame?</i>	34 11.6	115 39.2	63 21.5	72 24.6	9 3.1	2.68	No impact of ADHD

This section is restricted to individuals diagnosed with ADHD or those who meet predefined screening criteria.

Decision rule

The above table shows the percentage of respondents in their response to the impact of ADHD on academic performance. Based on the table, it can be observed

that 36.5% of the respondents opined that there is no impact of ADHD as they rarely experience difficulty concentrating during lectures or study sessions, and 39.2% of the respondents opined that there is no impact of ADHD as they rarely find it difficult to complete assignments or exams within the given time frame.

VI. DISCUSSION OF FINDINGS

Prevalence of ADHD Symptoms Among Students

The study revealed that a significant proportion of students exhibited symptoms consistent with ADHD, although very few had received a formal diagnosis. This aligns with global trends, where adult ADHD remains underdiagnosed, particularly in university settings. The low level of awareness (66% of students were unfamiliar with ADHD) suggests a knowledge gap that may hinder affected students from seeking proper assessment and support. This lack of awareness is concerning, as undiagnosed ADHD can contribute to academic challenges and emotional distress.

Impact of ADHD on Academic Performance

The study found that students exhibiting ADHD symptoms experienced significant academic difficulties. Affected students reported struggling with concentration during lectures, difficulties in staying organized, and challenges in completing assignments on time. These findings are consistent with existing research that associates ADHD with poor academic outcomes due to executive function deficits.

Gender Differences in ADHD Symptoms

The study also explored the relationship between ADHD symptoms and gender. The results suggest that while both male and female students exhibit ADHD symptoms, the manifestation may differ. Males were more likely to report hyperactive-impulsive symptoms, while females showed higher tendencies toward inattentiveness. This gender-based variation aligns with previous research indicating that ADHD often presents differently in males and females, potentially leading to underdiagnosis in female students.

Implications for Awareness and Intervention

The findings of this study highlight the pressing need for increased awareness and targeted interventions for ADHD in tertiary institutions. The low diagnostic rate suggests that many students may be struggling with undetected ADHD symptoms, which can have long-term academic and social consequences. Universities should consider implementing screening programs, providing psychoeducational resources, and establishing support structures such as mentorship programs and academic accommodations for affected students.

Limitations of The Study

First, although initially, the sampling plan captured data from 15 departments within the university, data were successfully collected from just 10. Personal oversight during planning, calculated execution, and some logistical issues getting to all targeted departments in the time available were the major stakes in this. Second, out of the estimated 428 students, only 293 legitimate responses, or 80.5% of the target respondents, were received. Finally, some students who were either unavailable or unwilling to participate led to a greater-than-expected nonresponse rate. This may have induced some response bias, most especially if the individuals who didn't participate were of diverse backgrounds or levels of awareness regarding ADHD.

VII. RECOMMENDATIONS

Based on the study's findings, the following recommendations are proposed:

1. **Increased Awareness Campaigns:** Universities should implement awareness programs to educate students and faculty on ADHD. This could include workshops, seminars, and information dissemination through student counseling centers.
2. **Screening and Early Diagnosis:** Educational institutions should introduce routine ADHD screening programs, allowing students who exhibit symptoms to receive a proper diagnosis and support. Collaboration with mental health professionals can facilitate early identification and intervention.
3. **Academic Support Services:** Schools should develop structured academic support systems for students with ADHD. This may include time management workshops, study skill enhancement programs, and the provision of assistive learning tools.
4. **Faculty Training on ADHD Recognition:** Lecturers and academic advisors should receive training to recognize ADHD symptoms and provide accommodations, such as flexible deadlines or modified teaching strategies, to support affected students.
5. **Counseling and Mental Health Support:** Universities should strengthen their mental health services by incorporating ADHD-specific counseling and therapy sessions to help students manage symptoms and develop coping strategies.

VIII. CONCLUSION

This study has highlighted the significant presence of ADHD symptoms among tertiary students and their adverse effects on academic performance. The low level of awareness and the lack of formal diagnosis suggest that many students may be struggling with undetected ADHD, leading to educational setbacks and mental health challenges. The study's findings reinforce the importance of integrating ADHD support systems within university structures. Effective awareness campaigns, early screening, academic accommodations, and mental health interventions can help students with ADHD overcome challenges and reach their full academic potential. Addressing ADHD-related difficulties in tertiary institutions requires a collaborative effort involving students, faculty, mental health professionals, and policymakers. By implementing targeted interventions, universities can ensure that students with ADHD symptoms receive the necessary support, improving their academic performance and overall well-being.

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