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MANAGERIAL DETERMINANTS TO THE PERFORMANCE OF PRIMARY HEALTH CARE IN EDO SOUTH SENATORIAL DISTRICT

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ABSTRACT

Primary health care provide the integral part of a country health care system and its effective and efficient performance is a matter of concern for all stakeholders in the health care delivery system. The study investigated the determinants to the performance of primary health care services in Edo South senatorial district as it relate to the availability of health care workers, maintenance of existing primary health care centres, community participation and corruption in the administration of primary health care. A descriptive-cross sectional quantitative research design was used for the study and a target population of 1002 health care workers in Edo south senatorial district. The multi-stage sampling technique which included the cluster, stratified and purposive sampling was used to get the sample of 344 health care workers. Structured questionnaire was developed by the researchers for this study. The instrument was face and content validated. The internal consistency of the instrument was tested through the split half reliability and Cronbach alpha analysis revealed 0.77 reliability coefficient. Collected data were analyzed using linear regression at 0.05 level of significance. The findings revealed that availability of health care workers, maintenance of existing primary health care centres, community participation and

corruption in the administration of primary health care services are determinants to the performance of primary health care in Edo south senatorial district. In conclusion, the effectiveness and efficiency of the implementation of primary health care is evident on the availability of health care workers such as CHO, CHEW, JCHEW. The maintenance of primary health care facilities and equipment, community involvement in the planning, implementation and evaluation of primary health care programmes and corruption practices were evident. Therefore, school of health technology and the Universities should produce more health care workers such as CHO, CHEW, JCHEW and government should engage them in the health facilities with adequate basic amenities to keep them, especially in rural areas; maintenance of primary health care structures and equipment should be done periodically by government and other stakeholders, at least annually to keep them adequate and functional.

Keywords: determinants, performance, primary health care, rural health care, Edo south senatorial district

Introduction

Optimal health is fundamental to improved quality of life and the socio-economic development of any nation. The provision of health services that is accessible and affordable to all in the community can be achieved through Primary Health Care (PHC). PHC is the essential health service provided at the grass root level that is accessible, culturally accepted, technological driven with maximum coverage level to ensure health for all. (Starfield, Shi, & Macinko, 2015). PHC forms an integral part of a country's health care system that ensure basic provision of health services to community members. Despite this central role, PHC services are still inefficient and still lack full coverage in relation to accessibility, affordability and acceptability and presently lacking the needed technologies to promote efficiency and coverage in Nigeria (Oyibocha, et al., 2014). Strengthening PHC is the most inclusive,

effective and efficient approach to enhance people's health and well-being. The challenges facing primary health care services has raised death rate, infant mortality rate, maternal mortality rate, child mortality rate increased prevalence rate of chronic diseases such as diabetes mellitus, stroke, hypertension and equally lower the life expectancy of the people in Nigeria (Adebayo & Asuzu, 2015; Efe, 2013). In Edo state, Aideyan (2019) reported that the utilization of PHC in the rural areas of the state is poor and also made mention of the emphasis placed on immunization programme to the neglect of other components of PHC such as nutrition, maternal and child health including health education.

Historically, the Ward Health System (WHS), which is the strategic thrust for the delivery of PHC services in Nigeria was introduced by the National Primary Health Care Development Agency (NPHCDA) in 2000 in order to improve health, sustain effective and efficient PHC service delivery at the electoral ward. The re-orientation of the existing health and health related staff is necessary in the light of the role these members of the health team play in implementing integrated Primary Health Care Services. The Orientation Programmes focus on the development of knowledge, attitude and skills required to perform expected responsibilities. In order to improve the performance of PHC in communities, the minimum health care package was established. This is a package aimed at providing the wards with a minimum set of interventions needed to meet the basic health requirements of households within the wards towards achieving the global target of "Health For All" (Daniel, Yanfang & Hong, 2016). This package comprises of components known to promote healthy growth and development with an impact for reducing mortality and morbidity rates. The components for the Minimum Ward Health Care Package are; control of Communicable diseases (Malaria STI/HIV/AIDS, TB), child survival (Including IMC) and basic immunization, safe Motherhood, nutrition, health Education and community mobilization. The Ward Development Committee has the overall responsibility of ensuring the implementation of the Ward Minimum

Health Care Packages at ward level. To facilitate this, effective integration of all PHC services under one authority is needed in order to reduce fragmentation in the delivery of PHC services, thus bringing Primary Health Care Under One Roof (PHCUOR) (Ogbuabor & Onwujekwe, 2019)

Primary Health Care emphasizes the importance of full involvement by all communities to ensure success in accordance with the Alma Ata Declaration of 1978 (WHO, 2000). Meaningful community participation in collaboration with health workers on health matters will result in improved quality of life of the communities. The provision of healthcare at PHC level is largely the responsibility of local governments with the support of State Ministries of Health in Nigeria. Staff salaries, facility construction and maintenance, including supply of drugs, equipment and other medical commodities are all predominantly provided by local governments, mainly funded from statutory allocations received from state government revenues (Ojeifo, 2008).

The delivery of healthcare at the primary level has been faced with many challenges in Nigeria, thus affecting efforts to reduce the burden of communicable and non-communicable diseases in the communities, including the reduction of the high maternal, newborn and child morbidity and mortality. According to Adam and Nwaogwugwu (2020), the challenges which ranges from managerial to governance include inadequate staffing and inequitable distribution of healthcare workers, low morale of workers due to irregular and unpaid salaries, poor working conditions including lack of basic amenities, lack of water and electricity supply. Again, there is issues of inadequate supply of essential drugs and its consequence constraint on service delivery, weak governance system and multiple lines of command or authority, inadequate and dilapidated infrastructure, poor sanitary and waste management system, as well as poor community participation (Adam & Awunor, 2016; Alhasem, et al., 2019). Beside the physical attractiveness of primary health care centres infrastructure, their overall acceptability would be perceived from the notion of workability of the complementary

technological and human resources, functionality of the road networks, water supply systems, electricity connectivity, e-readiness of the system and flexibility to adjust and be reintegrated with other future changes as more complex technological innovations unfold, among others (Iyanda & Akinyemi, 2017). However, such requirements are presently absent at many healthcare facilities in many developing countries. Although lack of proper maintenance culture may be easily attributed to the observed decadence, inability to provide sufficient funds in order to replace old structures also contributes significantly (Otovwwe & Elizabeth, 2017).

The state of PHC facilities' (building infrastructures) remains a serious matter in healthcare system given that the relevance of readily available and quality healthcare services for responding to emergencies, admittance into the PHCs, consultation of health professionals, health literacy, drugs storage and dispensation are indelible in quality healthcare services. Eboreime, et al., (2015) submitted that there are some gaps especially in form of maintenance in healthcare facilities across Nigerian geopolitical zones, in which these dilapidated structures erode the confidence in the effectiveness and efficiency of the services in primary health care centres. These disparities have been reported as the major supply-side factor affecting utilization of healthcare services. According to Measure evaluation technical report (2014), an enabling working environment is critical for effective and efficient delivery of quality service to the clients and patients by the health workers. The enabling environment should include the physical infrastructure and other basic requirements for delivering quality services. Yildam, Fabong, & Igboechesi, (2024) reported that most of the facilities accessed provide basic healthcare general services but in terms of adequate facilities specifically needed for certain aspects of the general services, they are limited with poor maintenance for the available facilities and equipment. They further expressed that only 44% of the facilities have waiting room in all of the 325 assessed. 82% have proper storage for drugs, only 16% of the facilities have proper means of medical waste disposal.

Community participation is a process by which individuals and family assume responsibility for their own health and those of the community and develop the capacity to contribute to their/the community development. Community participation help to address the health needs of the people ensures social responsibility, sustainability, cost sharing, enhancement of knowledge. This community participation is lacking in the Primary Health Care system in Nigeria and it has reduced the success of the system (Ogbuabor & Onwujekwe, 2019). The importance of community participation in primary health care cannot be overemphasized as it educates the people concerning prevailing health challenges and methods of preventing and controlling them. It also raise knowledge about promotion of food supply and proper nutrition as well as adequate supply of safe water and basic sanitation, maternal and child health care including family planning, immunization against major infectious disease and injuries. However, despite the benefits attributed to community participation in primary health care service delivery in the society; the level of community participation in primary health care service delivery seems to be low in Edo State (Aideyan, 2019; Ojeifo 2008). This claim can be linked to the following conditions witnessed in most of the health centres in the communities such as decayed infrastructure, prevalence of diseases, absence of community health committee, medical apathy, and so on. Combining community input for prioritization purposes is perceived as a means of improving trust, improving the quality of health services, better responsiveness, and more efficient use of resources (Muzyamba, et al., 2018). According to the literature, the most substantial barriers to social participation include the inadequate ability of community health workers and community members, incongruence of health education with community needs, structural problems (lack of proper communication, long-distance, lack of participatory groups in society), organizational problems (administrative bureaucracy, and inability to interpret goals for people), cultural problems and conflicts of interest (Abimbola, et al., 2018). Almeida et al. (2020) have pointed out that in rural and

resource-constrained areas, engaging healthcare consumers presents difficulties due to limited funding, lack of political support, corruption and inadequate infrastructure.

Corruption index in Nigeria is estimated to be 26.00 in 2024. Corruption is a serious threat to good governance in countries around the world, affecting healthcare as well as other social service sectors. According to Buowari (2017) drugs meant to be dispensed free at no charge and free healthcare for the elderly and the under-fives are sold or written as out of stock. In the area of medical devices and pharmaceuticals, procurement corruption and improper marketing relations appear to be the most prevalent type of corruption. Lewis (2016) found that in 10 countries, over 50% of respondents perceived high levels of corruption in the health sector; in Pakistan and Sri Lanka, over 90% of respondents perceived the health sector as highly corrupt. PATHS (2008a) in a review of drug supply system in Nigeria identified lack of transparency and accountability as major challenges accounting for the poor supply of drugs and needed consumables in public hospitals, including primary health care centres. In addition, high levels of corruption correlated with poor health-related outcomes, this includes higher infant and child mortality rates, lower life expectancy, lower immunization coverage rates (Adegboyega & Abdulkareem, 2012; Factor & Kang, 2015). The forms of corruption in the health care delivery system including the primary health setting include; improper financial relationships, fraudulent billing and claims, theft and diversion, absenteeism and counterfeit medical supplies (Onwujekwe, et al. 2019).

Statement of Problem

The implementation of PHC in Edo state, particularly in Edo South senatorial district is through services offered at various primary health care facilities and health posts across the state. These services include health education concerning prevailing health problems and their prevention and control, maternal and child health services including family planning, immunization against the major infectious diseases as well as treatment of minor ailments. Despite

repeated attempts by the government to reposition and revitalize PHC; various constraints have hampered its implementation and thus threaten the achievement of UHC, with poor or low utilization of PHC services being a major factor.

In order for the state to ensure the delivery and utilization of high quality and safe PHC services, the in-country choice of specific interventions should not only be informed by global but also local evidence driven by context-specific PHC-oriented research. Understanding the factors influencing utilization of PHC services especially in developing regions such as Nigeria and particularly Edo state would help guide policy formulation towards improving uptake of health services at the PHC level, thus contributing towards achieving universal health coverage and ensuring health and well-being, particularly among vulnerable populations and rural communities in poor-resource settings. It is widely accepted that certain factors ranging from sociocultural, structural factors affect the performance of primary health care with wide researches conducted in these areas to curtail poor performance of primary health care especially in Edo state with neglect to managerial factors which reflects on administration, governance, financial elements. This study therefore examined the managerial determinants of the performance of primary health care services in Edo South senatorial district.

Objectives of the study

The following are the objectives of the study as outlined;

1. To determine the influence of the availability of health care workers on the performance of primary health care services in Edo state
2. To determine whether the maintenance of existing primary health care centres influence the performance of primary health care services in Edo state
3. To determine the influence of community participation on the performance of primary health care services in Edo state

4. To determine whether corruption in administration of primary health care centres influence the performance of primary health care services in Edo state

Hypotheses

The following hypotheses were formulated to guide the study;

1. The availability of health care workers in primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo state
2. The maintenance of existing primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo state
3. The community participation will not be a significant determinant in the performance of Primary health care services in Edo state
4. Corruption in administration of primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo state

Method and Materials

The study adopted the descriptive-cross sectional quantitative research method. This is a research design that helps to investigate the variables of interest within a defined population in a given period of time. The target population of this study is health care workers of different cadres working in primary health care centres in Edo south senatorial district. The available data has shown 2689 as population size of Health Care workers working in primary health care facilities (PHCFs) of Edo state, however 1002 primary health care workers are in Edo south senatorial district (ESPHCDA, 2024).

The multi-stage sampling procedure was used to get the sample. Firstly, the cluster sampling technique was used to select the 7 local government areas into zone based on nature of the environment; zone 1 is the Egor, Oredo and Ikpoba okha LGAs; zone 2 is the Ovia NorthEast and Ovia South west LGAs and zone 3 is the Orhionmwon and uhunmwonde LGAs. Secondly, stratified sampling technique

was used to select the respondents based on job descriptions of doctors, nurses, CHOs, CHEWs, JCHEWs, Health record workers, Health Attendants, pharmacy technicians, laboratory scientist and health educators. Finally, purposive sampling technique was used to select 344 health care workers as respondents for the study. This was done based on availability of health care workers, willingness to attend to the instrument and criteria on equivalent of health care cadres and gender balance.

Structured questionnaire was developed by the researchers for this study. The instrument was divided into sections. Section A elicited the demographic profile of the respondents which entails age, gender, cadre, year of experience and qualification. Section B gathered data on the availability of health care workers in the primary health care centres, Section C is on the maintenance of existing primary health care centres measured by five items, section D the Level of community participation measured by six items, while section E is on corruption in the administration of primary health care centres measured by five items. All items are outlined on the modified four points Likert rating pattern scale domain thus; A: Strongly Agreed, SA: Agree A, : Disagree D; Strongly Disagree SD. The positive items were scored 4, 3, 2 and 1, while negative worded item had a reverse scoring. Administration of the questionnaire was done by the researcher and 6 research assistants (nursing staff in the selected primary health care centres).

Ethical considerations were adhered to in the process of data collection through the Edo state research ethical committee. The data collected were analyzed using the inferential statistical tests of linear regression.

Data analysis and Presentation of Results

A total of 344 copies of the questionnaire were distributed across the study areas in various primary health2 care settings. A total of three hundred and eighteen (318) duly completed copies of questionnaire, representing 92% of the total number distributed, collected and were used for data analysis.

H₀₁: The availability of health care workers in primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo State.

Table 1: Summary of linear regression analysis of the null hypothesis H₀₁

Variable	Sum of Squares	df	mean square	F	sig.	remark
Regression	44.641	1	44.641	6.711	.019	
Residual	93.821	313	18.775			
Total	138.462	314	63.416			

$\alpha=0.05$;

Table 1 shows an F value 6.711 and a P value of .019, testing at an alpha level of .05, the p value is lesser than the alpha level, so the null hypothesis which state that the availability of health care workers in primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo state is rejected. It then implies that the availability of Health Care Personnel, in Edo south senatorial district is inadequate, hence a determinant in the performance of primary health care services in Edo south senatorial district.

H₀₂: The maintenance of existing primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo State.

Table 2: Summary of linear regression analysis of the null hypothesis H₀₂

Variable	Sum of Squares	df	mean square	F	sig.	remark
Regression	34.069	1	31.641	6.907	.037	
Residual	73.001	313	17.775			
Total	107.07	314	49.416			

$\alpha=0.05$;

Table 2 shows an F value 6.907 and a P value of .039, testing at an alpha level of .05, the p value is lesser than the alpha level, so the null hypothesis which state that the maintenance of existing primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo state. It then implies that the maintenance of existing primary health care centres in Edo south senatorial district is a determinant in the performance of the implementation of primary health care in Edo south senatorial district.

H₀₃ : The community participation will not be a significant determinant in the performance of Primary health care services in Edo State

Table 3: Summary of one sample t-test analysis of the null hypothesis H₀₃

Variable	Sum of Squares	df	mean square	F	sig.	remark
Regression	30.065	1	29.641	5.882	.038	
Residual	69.779	313	19.713			
Total	99.844	314	49.354			

$\alpha=0.05$;

Table 3 shows an F value 5.882 and a P value of .038, testing at an alpha level of .05, the p value is lesser than the alpha level, so the null hypothesis which state that the The community participation will not be a significant determinant in the performance of Primary health care services in Edo state. It then implies that community participation in primary health care centres in Edo south senatorial district is a determinant in the performance of the implementation of primary health care in Edo south senatorial district.

H₀₄ : Corruption in administration of primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo State.

Table 4: Summary of one sample t-test analysis of the null hypothesis H_{04}

Variable	Sum of Squares	df	mean square	F	sig.	remark
Regression	28.443	1	26.005	5.903	.041	
Residual	51.093	313	21.668			
Total	99.844	314	49.354			

$\alpha=0.05$;

Table 4 shows an F value 5.903 and a P value of .041, testing at an alpha level of .05, the p value is lesser than the alpha level, so the null hypothesis which state that the corruption in administration in primary health care centres will not be a significant determinant in the performance of Primary health care services in Edo state. It then implies that corruption in administration of primary health care centres determines the performance of primary health care centres in Edo south senatorial district.

Discussion of Findings

The implementation of primary health care is anchored on various contributory factors that aid its effectiveness and efficiency. The performance of PHC can be bedeviled by certain impediment, hence the nature of this study to examine some of these possible determinants. The study analyzed the determinants of availability of health care workers, maintenance of existing primary health care centres, community participation and corruption in the administration of PHC. The finding of hypothesis one revealed that the availability of health care workers is evident in the performance of primary health care in Edo south senatorial district, hence the availability of health care practitioners is a determinant to the effectiveness and efficiency in the implementation of primary health care. This finding is in agreement with the finding of Adam and Nwaogwugwu (2020) which states that the availability of health care workers including their level of efficiency play a significant role in determining the implementation of primary health care in communities.

Again, the finding of hypothesis two revealed that the maintenance of existing primary health care centres is a crucial determinant to the performance of primary health care in Edo south senatorial district; hence the maintenance of the existing primary health care centres is a determinant to the effectiveness and efficiency in the implementation of primary health care. This finding corroborate the findings of Abimbola and Bozzani (2015); Yildam, et al (2024) which state the maintenance of existing primary health care centres is essential to the continuous services delivery of primary health care.

Furthermore, the finding of hypothesis three revealed that community participation is a significant determinant to the performance of primary health care in Edo south senatorial district; this is because, involving community members including health promotion stakeholders in the planning, implementation and evaluation of primary health care programmes help in efficiency and monitoring of the goals of health for all. This finding corroborate the findings of Abimbola et al, (2018), Aideyan, (2019); and Salam (2021) that community participation in the implementation of primary health care programmes and policies is very essential to the improved performance of primary health care to the people.

Finally, the finding of hypothesis four revealed that corruption affects the planning, organization, implementation and primary health care services delivery. Moreso, corruption deprived people with health needs of accessing drugs, competent health care providers, power supply to preserve vaccines, basic amenities to keep health care workers assigned to rural areas becomes challenging situations in primary health care delivery. This finding corroborate the findings Adegboyega et al (2012); Buowari, (2017) and Onwejekwe et al, (2017) which state that corruption affect all facet of development of a country and with huge effect on the administration of health care delivery system. Therefore, corruption also plays a significant role in the determination of the performance of primary health care in communities.

Conclusion

From the findings of the study, it was concluded that availability of health care workers, maintenance of existing primary health care centres, community participation and corruption in the administration of primary health care services are significant to the performance of the primary health care in Edo state. Therefore, it is evident that for effective and efficient implementation of primary health care, the aforementioned factors are important and their neglect can be impediments to the effectiveness in the implementation of primary health care and service delivery to the people.

Recommendations

The following recommendations are made from the findings and conclusion of the study;

1. School of health technology and the Universities should produce more health care workers such as CHO, CHEW, JCHEW and government should engage them in the health facilities with adequate basic amenities to keep them, especially in rural areas
2. Maintenance of primary health care structures and equipment should be done periodically by government and other stakeholders, at least annually to keep them adequate and functional.
3. There should be organized village health committee and related committees saddle with the responsibility of ensuring community involvement in the planning, implementation and evaluation of primary health care programmes and policies to address community health needs. This will help to raise the spirit of ownership and participation.
4. Government should set up mechanism to check corruption practices in the administration of primary health care and provide a monitoring and evaluation team to report corruption practices. This can also be achieved with inauguration of decent and proactive boards in primary health care administration.

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SOCIO-ECONOMIC DETERMINANTS OF ROAD SIGNS COMPLIANCE AMONG TRICYCLE RIDERS IN OKITIPUPA LOCAL GOVERNMENT AREA, ONDO STATE, NIGERIA

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ABSTRACT

This study was designed to examine socio-economic determinants of road signs compliance amongst tricycle riders in Okitipupa Local Government Area, Ondo State, Nigeria. A descriptive cross-sectional survey design was employed, and data were collected from 500 registered tricycle riders selected through multistage sampling across four operational zones. A structured, validated questionnaire was used to measure social variable (Peer Influence). Data were analysed using descriptive and inferential statistics with the Statistical Package for the Social Sciences (SPSS, version 25). The findings revealed that the majority of riders demonstrated moderate knowledge and compliance with road signs. Pearson correlation analysis showed significant relationships between socio variable and compliance ($r = 0.482, p < 0.05$). Multiple regression analysis indicated that peer influence ($\beta = 0.221, p < 0.05$) were significant predictors of compliance behaviour. The study was guided by the Health Belief Model and the theory of Planned Behaviour both of which provided theoretical foundations for understanding how cognitive, social, and environmental factors shape health-related and safety behaviours. The study concludes that socio factors

strongly influence compliance with road safety regulations among tricycle riders. It recommends context-specific road safety education, stricter enforcement, and media-driven campaigns to promote behavioural change.

Keywords: Peer Influence, determinants, compliance, behavioural factors

INTRODUCTION

Traffic signs are essential elements of road safety and the traffic management system, purposely designed to convey important information about regulations, warnings, and to direct road users for smooth and safe navigation. Road sign non-compliance refers to instances when drivers or road users generally fail to abide by the instructions of regulation, warning, and information indicated by road signs such as stop signs, speed limit, No Parking Zones, traffic lights, pedestrians crossing, one way, curvy road etc. as a result of either lack of knowledge, deliberate attitude, or distraction which can result in financial penalties, reputational damages to life and properties, and operational disruptions. Road traffic accidents (RTAs) are a serious public health challenge in Nigeria that leads to thousands of injuries, disabilities, and premature deaths annually.

According to the World Health Organisation (WHO, 2018), Nigeria was ranked among the countries with the highest road traffic fatality rates in sub-Saharan Africa. The situation is most acute in urban and semi-urban areas where traffic regulation enforcement is weak, and compliance with road signs is persistently poor. Road signs are a critical component of traffic management systems, purposely designed to regulate, warn, inform, and guide road users for the safe and orderly movement of vehicles and pedestrians. They play an essential role in preventing crashes and maintaining efficient traffic flow. However, in many Nigerian communities, especially semi-urban areas, non-compliance with these signs is widespread

among informal transport operators such as commercial tricycle riders. This disregard often manifests in behaviours such as ignoring “Stop” signs, exceeding speed limits, making prohibited turns, or failing to yield at pedestrian crossings, thereby contributing to traffic collisions, congestion, and heightened accident risks (Adeloye et al., 2016).

The informal transport sector, which includes motorcycles, tricycles (popularly called keke), and minibuses, has become indispensable to daily mobility in Nigeria. Tricycles, in particular, have experienced rapid growth in towns and semi-urban centres due to their affordability, accessibility, and ability to navigate narrow roads. While they provide crucial transport services, many riders operate without formal driver training or sufficient exposure to traffic safety education (Ipingbemi and Adebayo, 2016). Consequently, traffic violations and unsafe driving practices are common. In communities where tricycles dominate the local transport landscape, most importantly on mixed-use roads, the need for adherence to road signage is particularly urgent to manage traffic so as to prevent accidents. Observations from Okitipupa local traffic authorities and residents suggested that socio-economic pressures, rather than mere ignorance, often underlie non-compliant behaviour.

Socio-economic determinants play a pivotal role in shaping road users' behaviour, including compliance with traffic regulations. Income level has been linked to risk-taking tendencies; riders with lower incomes may be more inclined to violate road signs in a bid to increase their daily earnings. Financial constraints can also limit access to driver training or road safety resources. Educational attainment is another influential factor; riders with limited formal education may have a reduced understanding of road signs and traffic rules, which directly affects compliance levels. Studies in similar contexts have shown that education enhances comprehension of safety messages and promotes adherence to regulations (Gana & Emmanuel, 2024).

Marital status may influence compliance through the lens of responsibility and perceived consequences. Married riders, for

example, may drive more cautiously due to family obligations, while single riders may engage in higher-risk behaviours. Peer influence is a particularly strong factor in informal transport systems, where group norms often dictate behaviour more than formal regulations. Riders frequently adopt the practices of their colleagues, whether compliant or not, especially in areas where enforcement is weak. Years of riding experience can also determine compliance behaviour. Experienced riders often demonstrate better situational awareness, understanding of traffic flow, and adherence to rules, while less experienced riders may lack such skills and engage in riskier manoeuvres (Iyanda, 2023).

Vehicle ownership status is another important determinant. Riders who own their tricycles are generally more careful to protect their investment. In contrast, those operating under hire-purchase or rental arrangements may prioritise quick financial returns over compliance and safety. Despite the significant role of tricycle riders in Nigeria's transportation system, especially in semi-urban areas, few studies have specifically examined how these socio-economic variables collectively influence compliance with road signs.

Statement of the Problem

There have been incidents of infractions, congestions, and accidents between motorcycles and tricycles, cars and pedestrians, and even tricycles to tricycle, that has turned some individuals into disabled beings, and have even sent some future leaders to early graves as a result of the riders not complying with road signs. Knowing these road signs is not enough; it is very important for road users to always comply with traffic regulations. Non-compliance with road signs among commercial tricycle riders is a growing safety concern in Nigeria, particularly in semi-urban areas where informal transport services dominate. Despite the visible presence of regulatory, warning, and directional signs, tricycle operators frequently disregard them, violating one-way restrictions, exceeding speed limits, and neglecting pedestrian crossings. This led the researchers to investigate the socio-economic factors that could

surround the non-compliance, and suggest insights that could be helpful to reduce the situation to a minimum.

Reports from the Federal Road Safety Corps (2021) and local traffic enforcement units indicate that these violations significantly contribute to traffic infractions, congestion, and accidents. In Ondo State, anecdotal evidence from health and transport authorities points to a rising trend in tricycle-related road incidents, with many linked to road sign violations. This pattern reflects not only individual behavioural tendencies but also structural issues such as inadequate enforcement, limited driver training, and socio-economic pressures. In Okitipupa Local Government Area, where road infrastructure is narrow and traffic is often mixed, the implications of road sign non-compliance are especially serious. The reliance on tricycles for intra-town mobility means that operators are continually navigating high-density road environments, often without adequate regulatory oversight.

Hypotheses

These hypotheses were formulated to guide the study.

1. There will be no significant joint contribution of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.
2. There will be no significant relative contribution of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.
3. There will be no significant joint contribution of economic variables (income, vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.
4. There will be no significant relative contribution of economic variables (income, vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.

Methodology

This study adopted a descriptive cross-sectional survey research design. The population consisted of five hundred (500) registered commercial tricycle riders in Okitipupa Local Government Area of Ondo State. Total elimination sampling technique and convenient sampling technique were used to select all registered commercial tricycle riders in Okitipupa Local Government Area of Ondo State to ensure a representative and unbiased selection of respondents across Okitipupa Local Government Area (LGA) of Ondo State. In the first stage, Okitipupa LGA was stratified into key operational zones based on major transport hubs and political wards, namely: Okitipupa Township, Ode-Aye, Igbotako, and Ilutitun. This stratification accounted for geographical and operational variations that could influence road signs compliance, ensuring proportional representation of tricycle riders from different locations within the LGA. A self-structured questionnaire was used as an instrument for the study. The reliability of the research instrument was tested using Cronbach's Alpha, and it yielded a score of 0.70. The questionnaires were administered face-to-face to tricycle riders at designated parks, loading points, and union meeting locations across all political wards in Okitipupa Local Government Area, Ondo State.

Inferential analysis of Pearson Product-Moment Correlation (PPMC) was used to examine the relationship between socio-economic variables and compliance with road signs (Research Question Two). Furthermore, Multiple Regression Analysis was conducted to determine the relative and joint contributions of the independent variables, namely social variables (marital status, educational level, years of riding experience, peer influence, and social media influence) and economic variables (income level and vehicle ownership status) to the dependent variable, road signs compliance. All hypotheses were tested at a 0.05 level of significance.

Results

Hypothesis 1: There will be no significant joint contribution of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.

Table 1: Regression table showing joint contribution of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area

R	=	.420			
Multiple R	=	.176			
Multiple R ² adjusted	=	.168			
Standard Error Estimate	=	4.56534			
Analysis of Variance					
Model	Sum of square	Df	Mean square	F	P
Regression	2131.732	1	426.346	20.456	.000
Residual	9962.648	478	20.842		
Total	12094.380	483			

As shown in Table 1, it was found that the linear combination of social variables was tested significant on compliance with road signs among tricycle riders ($F_{(1,478)} = 20.456$; $P < .05$). The result yielded a coefficient of multiple regression of $R = 0.420$ and multiple R-square of 0.176 . The result also revealed that adjusted $R^2 = 0.168$; indicating that about 16.8% of variance was accounted for by the independent variables. This means that there was a significant joint contribution of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area. The null hypothesis was therefore not accepted.

Hypothesis 2: There will be no significant relative contribution of social variables (educational level, marital status, media influence,

years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.

Table 2: Regression table showing the significant relative contribution of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	42.417	1.245		34.081	.000
Educational Level	.169	.074	.125	2.278	.023
Marital Status	.138	.070	.107	1.972	.049
Social Media	.202	.056	.191	3.627	.000
Year of Riding Experience	.283	.067	.217	4.247	.000
Peer Influence	.174	.047	.191	3.664	.000

Table 2 showed relative contributions of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area. The contribution of each of the independent variables is presented in order of magnitude as follows: educational level ($\beta = 0.125$, $t = 2.278$, $p < 0.05$), marital status ($\beta = 0.107$, $t = 1.972$, $p < 0.05$), Social Media ($\beta = 0.191$, $t = 3.627$, $p < 0.05$), Year_of_Riding Experience ($\beta = 0.217$, $t = 4.247$, $p < 0.05$), and Peer Influence ($\beta = 0.191$, $t = 3.664$, $p < 0.05$). This implies that all the independent variables had significant effects on compliance with road signs. Therefore, the hypothesis which states that 'There will be no significant relative contribution of social variables (educational level, marital status, media influence, years of riding experience, and peer influence) on compliance with road signs among tricycle riders in Okitipupa Local Government Area' is hereby rejected.

Hypothesis 3: There will be no significant joint contribution of economic variables (income and vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.

Table 3: Regression table showing joint contribution of economic variables (income and vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area

R = .417					
Multiple R = .174					
Multiple R ² adjusted = .170					
Standard Error Estimate = 4.55788					
Analysis of Variance					
Model	Sum of square	df	Mean square	F	P
Regression	2101.965	2	1050.982	50.591	.000
Residual	9992.416	481	20.842		
Total	12094.380	483			

As shown in table 3, it was found that the linear combination of economic variables was tested significant on compliance with road signs among tricycle riders ($F_{(2,481)} = 50.591$; $P < .05$). The result yielded a coefficient of multiple regression of $R = 0.417$ and multiple R-square of 0.174. The result also revealed that adjusted $R^2 = 0.170$; indicating that about 17.0% of variance was accounted for by the independent variables. This means that there was a significant joint correlation of economic variables (income and vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area. The null hypothesis was therefore not accepted.

Hypothesis 4: There will be no significant relative contribution of economic variables (income and vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area.

Table 4: Regression table showing the significant relative contribution of economic variables (income and vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	42.494	.962		44.192	.000
Income Level	.545	.083	.279	6.527	.000
Vehicle Ownership	.611	.106	.248	5.783	.000

Table 4 showed relative contributions of economic variables (income and vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area. The contribution of each of the independent variables is presented in order of magnitude as follows: income level ($\beta = 0.279$, $t = 2.6.527$, $p < 0.05$), vehicle ownership ($\beta = 0.248$, $t = 5.783$, $p < 0.05$). This implies that all the independent variables had significant effects on compliance with road signs. Therefore, the hypothesis, which states that 'there will be no significant relative contribution of economic variables (income and vehicle ownership) on compliance with road signs among tricycle riders in Okitipupa Local Government Area, is hereby rejected.

Summary

The study investigates socio-economic determinants of road signs compliance among tricycle riders in Okitipupa Local Government Area of Ondo State. The study anchored on two theories namely: Health Belief Model and Theory of Planned Behaviour. A descriptive cross-sectional survey research design was used for the study. The population for the study consists of all registered commercial tricycle riders in Okitipupa Local Government Area of Ondo State. The sample for this study were 500 respondents drawn from the key operational zones and political wards namely; Okitipupa township, Ode aye, Igbotako and Ilutitun in Okitipupa

local government area of Ondo State Nigeria. Inferential analysis of Pearson Product Moment Correlation was used to examine the relationship between socio-economic variables and compliance with road signs. Multiple Regression Analysis was conducted to determine the relative and joint contributions of the independent variables (Income level, vehicle ownership status, educational attainment, marital status, peer influence, years of riding experience and social media influence). All hypothesis were tested at 0.05 level of significance.

Conclusion

The findings concluded that while most tricycle riders had a moderate level of knowledge of common road signs such as Stop, No U-turn, and Pedestrian Crossing, a considerable number still demonstrated limited comprehension of certain regulatory and warning signs. Importantly, knowledge did not always translate into consistent compliance, as riders often violated signs under the influence of time pressure, passenger demands, or peer behaviour.

Based on the findings, the following recommendations were made;

1. Federal Road Safety Corps (FRSC), in collaboration with the Ondo State Transport Department and the Okitipupa Tricycle Riders' Association, should design and implement periodic capacity-building workshops for tricycle riders.
2. Training materials should be developed in simple English and Yoruba to ensure comprehension among riders with limited formal education.
3. Interactive learning methods, such as illustrated manuals, visual posters, and simulation videos, should be used to improve cognitive retention and behavioural adaptation.
4. Ministry of Health and Ministry of Education in various local government and states should organize training sessions and workshops for union executives who in return, would encourage obedience to traffic signs and discourage risky riding behaviours among tricycle riders.

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PHYSICAL ACTIVITY AND SPORTS PARTICIPATION AS CORRELATES OF PHYSICAL AND MENTAL HEALTH AMONG STUDENT-ATHLETES IN ADEYEMI FEDERAL UNIVERSITY OF EDUCATION, ONDO.

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ABSTRACT

The study examined physical exercise and sports participation as correlates of physical and mental health among student-athletes in Adeyemi Federal University of Education, Ondo, Ondo State. The study employed the descriptive survey research approach with correlational research designs. The study involved 92 student athletes, who were participants in various sporting activities, including football, basketball, volleyball, badminton, handball, and tennis. Census method was used for sampling as the population under investigation was relatively small. Collection of data was done using a questionnaire titled “Physical Activity Participation, Sports Participation and Health Questionnaire. Validity of the instrument was assured by expert reviews, whereas reliability was established by obtaining a correlation coefficient of 0.76 with the help of

Cronbach Alpha. The data were analysed using Pearson Product Moment Correlation (PPMC) and multiple regression analysis at 0.05 level of significance. Results indicated that there was a strong positive correlation between physical activities participation and physical health of student-athletes ($r = 0.577, p < 0.05$) and sports participation and mental health ($r = 0.595, p < 0.05$). Furthermore, through regression analysis it was found that physical activities and sports participation played a vital role towards enhancing the mental health ($R^2 = 0.410, F(2,89) = 30.903, p < 0.05$) and physical health ($R^2 = 0.509, F(2,89) = 46.138, p < 0.05$) of student-athletes. The results suggested that regular participation in physical activities and sports is important in improving both physical and psychological well-being among student-athletes. It was recommended that universities should provide adequate sports facilities, trained personnel, and supportive environments that encourage consistent participation in sports and physical activities to promote holistic student well-being.

Keywords: Physical activity, Sports, Physical health; Mental health; Student-athletes.

Introduction

The term sports participation entails taking part in various types of sporting activities either in an organized or unorganized manner. Involvement in physical exercises such as football, basketball, athletics, volleyball, swimming and many other exercises that involve physical strength and skills fall under sports participation. Sports participation can be said to be an essential element in the development of humans as it brings about physical fitness, emotional balance and mental well-being, and social interactions. To the students, participating in sports help to increase focus, develop discipline, foster team building skills and lead to good leadership skills, and reduce anxiety related to studying. As indicated by WHO (2022), engagement in physical and sporting activities

plays an essential role in ensuring healthy lifestyles and thus preventing different chronic diseases like obesity, hypertension, and problems associated with the heart. Apart from that, as pointed out by Rochelle et al. (2013), sports can positively impact the welfare of students. Engaging in sports gives a chance for social integration due to forming of interpersonal relations in the sports team. Sports programs may be initiated in educational institutions to facilitate holistic development of students.

Physical activity participation means the engagement of people in body actions that involve energy usage for enhancing physical fitness and wellbeing. The activities that may be included within participation in physical activity include walking, running, biking, dancing, aerobic exercise, exercising at the gym and others forms of recreational physical activity. Participating in physical activities helps one to ensure that all his/her body systems are maintained in good condition through muscle toning, endurance building, increasing flexibility, coordination skills and others. Studies have shown that students who participate in physical activities perform better academically because of less stress and increased concentration skills. Thus, it affects the academic performance of the participant positively. Participation in physical activities is very important for proper growth and development of individuals. Participation in physical activities helps people in colleges and universities to build social skills, work as teams and live healthy lives (Harold, et. al., 2012).

The physical health of student-athletes is concerned with the overall health status and functionality of body systems of students who take part in sporting activities. It entails the ability of the body to undertake various daily activities efficiently without getting exhausted, at the same time retaining strengths, energy, resistance to diseases, and flexibility. The students take part in numerous exercises and games which have an effect on their cardiac fitness, muscle growth, body coordination, and physical fitness among others. Student athletes have to be in great shape to balance the academics and the competitions. Exercise will certainly contribute towards

better fitness levels and body composition. The health status of student athletes is highly dependent on many aspects such as proper nutrition, sufficient sleep, safety issues, and sports equipment (Bouchard et al., 2015).

The mental wellbeing of student athletes refers to the psychological and emotional well-being of students who participate actively in different types of sport activities. The mental well-being of the students determines their thought processes, emotions, stress management, social relations, and decision-making in academic and sporting arenas. There are various forms of pressure associated with the involvement of student-athletes in academic and extracurricular activities. These include pressure from academics, competition, physical exercise, expectations, and personal relationships, all of which may impact the psychological state of the student-athlete positively or negatively. Physical activities have been found to be beneficial to participants in reducing levels of stress, anxiety, and depression; improving emotional stability and boosting self-esteem, self-confidence, and mood of participants. Healthy mental condition allows people to respond effectively to life issues and work efficiently to benefit the community. Smith and Cotton (2020) observe that engaging in physical activities by student-athletes is likely to promote psychological wellbeing and social adaptation in athletes than in non-athletes. Mental health affects the focus, motivation, interaction, and academic performance of learners. In some cases, stress linked to training, injuries, and the fear of failing may affect mental health.

In Nigeria, student athletes are students in secondary schools, colleges, polytechnics and universities who combine their studies with sports and physical activities. Student athletes compete for their institutions in various sporting tournaments at local, national and international levels including Nigerian University Games Association (NUGA) games and intercollegiate sporting

tournaments. Student athletes in Nigeria are very important in promoting sports development, institutional prestige and identification of talented persons in the country. Sports for Nigerian students fosters physical fitness, discipline, teamwork, leadership, emotional wellness and career progression in the sports industry (Jaiyeoba, 2022).

In spite of this, there are some challenges faced by Nigerian student athletes such as poorly developed sports infrastructure, lack of funds, pressure from studies, inadequate institutional support, among others. These studies have found that all these might negatively influence the academic performance of the students along with their psychological wellbeing. According to studies carried out by Henriksen, et al., (2010), motivational, confidence-related, and social psychological factors highly affect sports participation of the student athletes in South-Western Nigerian tertiary institutions. Despite the infrastructure and organizational problems faced by sports in Nigeria, student athletes still play an important role in sports development. Against the background, the study examines physical activity and sports participation as correlates of physical and mental health among student-athletes in Adeyemi Federal University of Education, Ondo, Ondo State.

Statement of the Problem

The issues of health problems amongst undergraduate students have been on the rise in the Nigeria universities. The students who combine study and athletics are supposed to strike a balance between the two, but in most cases, they face stress, fatigue, anxiety, emotional instability, and physical tiredness because of the pressures that come along with studying and engaging in athletics. Even though involvement in physical activities is known for improving one's health condition, it has been seen that some students who combine study and athletics face health problems because of poor conditions in training, overtraining, inadequate rest and lack of enough support from the institution. It has also been noted that student athletes engage in sporting and recreational activities both

inside and outside the institution. Nonetheless, some student athletes still go through physical discomfort, stress, lack of motivation and other health issues despite participating in sports activities. As a result of this, the study seeks to investigate physical activity and sports participation as correlates of physical and mental health among student-athletes in Adeyemi Federal University of Education, Ondo.

Research Hypotheses

- H₁ There is no significant relationship between physical activity participation and physical health among student-athletes in Adeyemi Federal University of Education, Ondo.
- H₂ There is no significant relationship between sports participation and mental health among student-athletes in Adeyemi Federal University of Education, Ondo.
- H₃: There will be no significant joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo.
- H₄: There will be no significant joint contribution of physical activity and sports participation to physical health among student-athletes in Adeyemi Federal University of Education, Ondo.

Methodology

The study adopted a descriptive survey research design of correlational type, which was considered appropriate for examining the relationship among physical activity participation, sports participation, and the physical and mental health of student-athletes without manipulating any variable. The population of the study consisted of student-athletes in Adeyemi Federal University of Education, Ondo, with a total population made up of 30 soccer players, 15 basketball players, 15 volleyball players, 8 badminton players, 18 handball players and 6 tennis players, giving a total of 92

respondents. Since the population was manageable, the entire population was used as a census. The instrument for data collection was a structured questionnaire titled “Physical Activity Participation, Sports Participation and Health Questionnaire (PAPS-HQ)”, which was used to obtain information on respondents. The questionnaire was divided into sections and designed using a Likert-scale format. The face and content validity of the instrument were ensured through expert review in Human Kinetics and Health Education, while reliability was established through a pilot test using Cronbach's Alpha method, which yielded a reliability coefficient of **0.76**, indicating that the instrument was reliable for the study. Data collection was carried out through the administration of questionnaires to the selected student-athletes with the assistance of (coach of each game), which ensured proper completion and a high return rate. Pearson Product Moment Correlation (PPMC) and regression was used to test the hypotheses at a 0.05 level of significance.

Results

Hypothesis 1: There is no significant relationship between physical activity participation and physical health among student-athletes in Adeyemi Federal University of Education, Ondo.

Table 1: Pearson Product Moment Correlation (PPMC) Analysis showing the relationship between the variables

Variables	N	Mean	Standard deviation	Df	r	P-value
Physical Activity	92	3.5625	± .2544	90	.577	.00
Physical Health	92	3.4275	± .3470			

$P < 0.05$

Table 1, revealed there is significant relationship between physical activity participation and physical health among student-athletes in

Adeyemi Federal University of Education, Ondo ($r = .577$, $p < 0.05$), calculated significant value (.000) lesser than 0.05 significant level. Therefore, this indicates a moderate positive and statistically significant relationship between physical activity participation and physical health among the student-athletes.

Hypothesis 2: There is no significant relationship between sports participation and mental health among student-athletes in Adeyemi Federal University of Education, Ondo.

Table 2: Pearson Product Moment Correlation (PPMC) Analysis showing the relationship between the variables

Variable	N	Mean	Standard deviation	Df	r	P-value
Sports Participation	92	3.489	$\pm .309$	90	.595	.000
Mental health	92	3.396	$\pm .266$			

$P < 0.05$

Table 2, revealed there is significant relationship between sports participation and mental health among student-athletes in Adeyemi Federal University of Education, Ondo ($r = .595$, $p < 0.05$), calculated significant value of 0.000, which is less than the 0.05 level of significance ($P < 0.05$). This indicates that there is a statistically significant positive relationship between sports participation and mental health among student-athletes.

Hypothesis 3: There will be no significant joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo.

Table 3: Regression Analysis showing the contribution of physical activities and sports participation on mental health

R	= 0.640 ^a				
Multiple R	= 0.410				
Multiple R ² adjustment	= 0.397				
Standard Error Estimate	= 0.26960				
Analysis of Variance					
Model	Sum of square	Df	Mean square	F	P
Regression	4.492	2	2.246	30.903	.000 ^b
Residual	6.469	89	.073		
Total	10.961	91			

Table 3 presents the regression analysis showing the joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo. The result revealed a multiple correlation coefficient (R) of 0.640, indicating a moderate positive relationship between (physical activity and sports participation) and (mental health). The Multiple R² of 0.410 showed that physical activity and sports participation jointly accounted for 41.0% of the variance observed in the mental health of the student-athletes, while the adjusted R² value of 0.397 indicated that the model remained reliable after adjustment for sampling error.

The result revealed that the regression model was statistically significant with ($F(2,89) = 30.903$, $p = 0.000$, which is less than the 0.05 level of significance. The null hypothesis stating that there will be no significant joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo was rejected. Therefore, the study concluded that physical activity and sports participation jointly contributed significantly to the mental health of student-athletes.

Hypothesis 4: There will be no significant joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo.

Table 4: Regression Analysis showing the contribution of physical activities and sports participation on mental health

R	= 0.713 ^a				
Multiple R	= 0.509				
Multiple R ² adjustment	= 0.498				
Standard Error Estimate	= 0.18872				
Analysis of Variance					
Model	Sum of square	Df	Mean square	F	P
Regression	3.287	2	1.643	46.138	.000 ^b
Residual	3.170	89	.036		
Total	6.457	91			

Table 4 presents the regression analysis showing the joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo. The result revealed a multiple correlation coefficient (R) of 0.713, indicating a strong positive relationship between (physical activity and sports participation) and (mental health). The coefficient of determination (R²) of 0.509 showed that physical activity and sports participation jointly accounted for 50.9% of the variance in mental health among the student-athletes, while the adjusted R² value of 0.498 indicated that the model remained stable and reliable after adjustment.

Furthermore, the Analysis of Variance (ANOVA) result showed that the regression model was statistically significant with (F(2,89) = 46.138, p = 0.000), which is less than the 0.05 level of significance. The null hypothesis which stated that there would be no significant joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo was rejected. Therefore, the study concluded that physical activity and sports participation jointly contributed significantly to the mental health of student-athletes.

Discussion of Findings

Based on table 1, findings indicates a moderate positive and statistically significant relationship between physical activity participation and physical health among the student-athletes. The current finding is in line with the findings of Warburton & Bredin (2017), who discovered that involvement in physical activities contributes significantly to the enhancement of physical health, performance, and general wellbeing for young adults and athletes. The authors also noted that involvement in exercise on a daily basis led to improvement in cardiovascular health, endurance, metabolic efficiency, and general physical wellbeing, hence minimizing health problems related to inactivity. On the same note, the current findings are supported by Antonio García-Hermoso et al. (2021), whose findings indicated that student-athletes involved in moderate to vigorous physical exercises possessed better physical fitness status and better physiological performance than those not involved in such exercises.

Findings from table 2 revealed that there is a statistically significant positive relationship between sports participation and mental health among student-athletes. The finding is consistent with the study carried out by Narelle et. al., (2023), where sports have been found to have several positive impacts on the psychological and social dimensions of youth and athletes. The systematic literature review conducted by them focused on the positive impact of sports activities on the mental and social well-being of players. It is also in accordance with the report of the National Collegiate Athletic Association (2023) which found that the students engaged in regular sports activities exhibit more emotional well-being and lesser mental exhaustion than those who participate less in sports activities. Moreso, the result is supported by the research conducted by Barbara Nuetzel (2023), who found that engaging in physical activities improved athletes' ability to cope with life's challenges, manage their stress, and make adjustments psychologically.

Table three discovered that there is significant joint contribution

of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo which means that when athlete-students engage consistently in physical exercises and organized sports activities, they are more likely to experience reduced stress, anxiety, and depressive symptoms, while also developing better emotional balance, self-esteem, psychological resilience, and social well-being. This observation concurs with the findings by Chekroud, et al. (2018), which showed that regular physical activity and sports were strongly linked to reduced mental health burden and improved emotional health in adolescents and sportsmen. From their extensive research, it was clear that people who are physically active have more days of good mental health than those who do not. In a similar way, the result is also consistent with the findings by Smith, et. al., (2023), which suggested that physical activity and sports are important in lowering stress, anxiety, and depression in college sportsmen.

Lastly, table four revealed that there is significant joint contribution of physical activity and sports participation to mental health among student-athletes in Adeyemi Federal University of Education, Ondo. This indicates that the combined involvement in regular physical activity and organized sports significantly enhances the psychological well-being of student-athletes. This finding is in line with the research done by Herring, et. al. (2022) which showed that physical activities and participation in sports were very beneficial in promoting better mental health among youth and athletes. In particular, the study noted that there was a positive correlation between engaging in exercises and playing sports on emotional stability and mental strength of individuals. This finding supports the studies carried out by Simon Rosenbaum et al. (2021). who found that physical activity and sports play an important role in making one achieve good mental health by lowering depression, anxiety, and stress levels.

Conclusion

On the basis of the results obtained from this study, it can be said that the level of physical activity and sports activities play a very crucial role in determining the physical health and mental well-being of student-athletes at Adeyemi Federal University of Education, Ondo. In addition, it has been found that there exists a moderate positive and statistically significant correlation between the participation in physical activities and physical well-being of student-athletes. This means that participation in physical activities makes students physically fit. In addition to that, participation in sports plays a very crucial role in developing the psychological state of mind of student-athletes in terms of making them emotionally stable and reducing mental stress and fatigue. It helps student-athletes in developing self-confidence and emotional stability.

Recommendations

As a result of the findings from this research, the following recommendations have been made:

- i. School management should provide adequate sports facilities, modern equipment and an environment which would motivate student athletes to be involved in active physical exercises and sporting activities.
- ii. Coaches, instructors and physical and health education lecturers in charge of sports should design exercise training programmes aimed at ensuring not only physical fitness but also the mental well-being of student athletes.
- iii. Student athletes should be encouraged to engage themselves in sports for recreation and competition as a way of enhancing their physical and mental well-being.
- iv. Institution health services and counseling unit should coordinate with the sports directorate to organise seminars and workshops on the mental benefits of physical and sports activities among students.
- v. Governmental organisations and educational stakeholders

should provide financial and material support to universities so they can create sports programmes that improve student-athletes' physical and mental health.

- vi. Parents/guardians should encourage their children to engage themselves in regular sports activities alongside academic activities in order to maintain healthy lifestyles and better mental health outcomes.

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INFLUENCE OF RECREATIONAL SPORTS PARTICIPATION ON STRESS REDUCTION AND IMPROVED WORK-LIFE BALANCE AMONG SECONDARY SCHOOL TEACHERS IN EGOR LOCAL GOVERNMENT AREA, EDO STATE

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ABSTRACT

Teaching involves substantial professional demands that may contribute to occupational stress and difficulties in maintaining work-life balance. Recreational sports may provide opportunities for physical activity, relaxation, and recovery from work-related pressures. This study investigated the influence of recreational sports participation on stress reduction and work-life balance among secondary school teachers in Egor Local Government Area of Edo State, Nigeria. A survey research design was adopted, and data were collected through a questionnaire "Influence of Recreational Sports on Stress Reduction and Work-Life Balance Questionnaire (IRS-SRWLBQ) designed by the researcher and administered to 100 secondary school teachers selected through a multistage sampling procedure comprising purposive and stratified sampling techniques. The questionnaire was validated by experts in Human Kinetics and Sports Science, and the data were analyzed using descriptive

statistics, including frequency counts, percentages, means, and standard deviations, while Pearson Product Moment Correlation was employed to test the hypotheses at the 0.05 level of significance. The findings revealed a significant negative relationship between participation in recreational sports and teachers' stress levels ($r = -0.758, p < 0.05$), indicating that increased participation was associated with reduced stress. The study also established a significant positive relationship between recreational sports participation and work-life balance ($r = 0.718, p < 0.05$), suggesting that teachers who engaged more frequently in recreational sports reported better work-life balance. Furthermore, participation in recreational sports was positively associated with perceived physical, psychological, and social benefits, while perceived barriers to participation showed a significant negative relationship with recreational sports engagement. The study concludes that recreational sports constitute an important lifestyle strategy for enhancing teachers' well-being through stress reduction and improved work-life balance. It is recommended that school administrators and education stakeholders promote structured recreational sport programmes and provide enabling environments that will encourage teachers' regular participation in recreational physical activities.

Keywords: Recreational sports, stress reduction, work-life balance, secondary school teachers, teacher well-being, Edo State.

Introduction

Teaching is widely recognized as a demanding profession that requires educators to manage classroom instruction, lesson preparation, student assessment, classroom management, administrative responsibilities, and extracurricular activities. These demands frequently extend beyond official working hours, leaving

limited time for leisure, relaxation, and personal activities. Sustained exposure to such pressures may contribute to occupational stress, emotional exhaustion, burnout, reduced job satisfaction, and difficulties in maintaining a healthy balance between work and personal life (Greenhaus & Allen, 2011; Shockley et al., 2017). Teachers' well-being is particularly important because it is associated with professional commitment, classroom interactions, teaching effectiveness, and students' learning experiences (Dreer, 2023; Zhou et al., 2024). The need to identify practical ways of helping teachers manage occupational demands and maintain their physical and psychological well-being is therefore increasingly important.

Occupational stress becomes problematic when the demands of work exceed the resources available to individuals for managing them. For teachers, persistent exposure to heavy workloads, time pressures, administrative responsibilities, and other professional demands may negatively affect productivity, job satisfaction, health, and overall quality of life. Evidence from educational workplaces in Nigeria has similarly identified occupational stress as an important concern among academic and teaching personnel (Aina & Adeleke, 2018; Akah et al., 2022). These circumstances raise the need for approaches that do not merely address stress after it has occurred but also provide opportunities for recovery from the pressures of work and recreational sports offer one such opportunity. Unlike occupational activities, participation in recreational sports is generally voluntary and undertaken primarily for enjoyment, relaxation, physical activity, and personal fulfilment rather than competitive achievement (Coakley, 2009). Regular participation can provide physiological and psychological benefits, including improved physical fitness, enhanced mood, greater self-esteem, and reduced symptoms of stress and anxiety (Eime et al., 2013; Hoye et al., 2015). Physical activity has also been associated with neurochemical changes that support mood regulation and psychological well-being which relationship is particularly relevant

(Basso & Suzuki, 2017). Da Silva et al. (2024), for example, found that higher physical activity levels among public school teachers were associated with lower perceived stress and better quality of life. Such evidence suggests that recreational sports may provide a practical means through which teachers can temporarily disengage from occupational pressures while engaging in activities that promote physical and psychological restoration.

The relevance of recreation extends beyond immediate stress relief. Work demands can consume physical and emotional resources, making opportunities for recovery essential to maintaining well-being over time. Leisure activities can provide a psychological break from work, restore depleted resources, strengthen social relationships, and contribute to life satisfaction (Newman et al., 2014). These functions are closely related to work-life balance, which concerns the effective management of work and personal responsibilities with minimal conflict between them (Greenhaus & Allen, 2011). Evidence among teachers indicates that work-leisure balance is associated with important occupational outcomes. Cho et al. (2023) reported significant relationships between work-leisure balance, job satisfaction, task performance, and intention to remain in the teaching profession, while Zhou et al. (2024) linked better work-life balance with lower burnout and greater professional effectiveness. Recreational sports may therefore be understood not simply as physical activities undertaken during free time, but as a potential resource for recovering from work demands and maintaining a healthier relationship between profession and personal life.

Empirical evidence from Nigeria provides further support for this perspective. Ogabor et al. (2024), in their study of lecturers at the University of Calabar, found that recreational activities significantly influenced stress management, subjective well-being, and job satisfaction. The study also drew attention to the limited place sometimes given to recreation amid demanding professional

responsibilities. This finding is noteworthy because it demonstrates that the potential contribution of recreation to occupational well-being is not merely theoretical but has been observed within an educational work environment. However, the evidence has largely centred on tertiary education and academic staff, leaving less attention to teachers at the secondary school level. The limited attention to secondary school teachers in this study is important because their work involves a combination of instructional, administrative, assessment, supervisory, and extracurricular responsibilities that can create substantial occupational demands. At the same time, participation in recreational sports may be influenced by practical constraints such as limited time, competing responsibilities, accessibility of recreational opportunities, and the extent to which recreation is regarded as a legitimate component of personal well-being. Consequently, examining participation alone may not provide a complete understanding of its potential contribution to teachers' well-being; consideration must also be given to whether teachers have sufficient opportunities to engage in such activities within the realities of their everyday lives.

Egor Local Government Area, which forms part of the Benin metropolis in Edo State, provides an appropriate setting for examining these issues. The area contains a considerable number of public and private secondary schools, bringing together teachers who operate within demanding educational environments. Understanding how participation in recreational sports relates to their experience of occupational stress and work-life balance may provide useful evidence for strengthening teacher wellbeing within the school system. Against this background, the present study examines the influence of recreational sports participation on stress reduction and work-life balance among secondary school teachers in Egor Local Government Area, Edo State. The study is expected to provide evidence that can inform school administrators, education authorities, and other relevant stakeholders on the potential role of

recreational sports in creating opportunities for stress management, recovery, and healthier integration of teachers' professional and personal lives.

Statement of the Problem

Secondary school teaching involves substantial instructional, administrative, assessment, supervisory, and extracurricular responsibilities. The cumulative demands of these responsibilities may extend beyond regular working hours and reduce the time available for leisure, relaxation, and personal activities. When opportunities for recovery are limited, teachers may be exposed to occupational stress, emotional exhaustion, reduced job satisfaction, and difficulties in maintaining a satisfactory balance between professional and personal responsibilities. Recreational sports provide one potential avenue for physical activity, psychological recovery, relaxation, and social interaction and have been associated with positive outcomes for stress management and work-life balance. Although these benefits have been documented in the wider literature, the circumstances surrounding recreational sports participation among secondary school teachers may differ according to the characteristics of their work and residential environments. More so, previous studies have established relationships between physical activity, recreation, stress, wellbeing, and work-life outcomes, evidence specifically concerning secondary school teachers remains limited. Existing evidence within educational settings has also given considerable attention to academic staff in tertiary institutions. For example, Ogabor et al. (2024) reported significant relationships between recreational activities, stress management, subjective wellbeing, and job satisfaction among university lecturers. However, the extent to which recreational sports participation is related to stress levels and work-life balance among secondary school teachers, particularly within Egor Local

Government Area of Edo State, remains insufficiently established. This study is particularly relevant to secondary school teachers in Egor Local Government Area because the area forms part of the Benin metropolitan area with a considerable concentration of educational institutions. Teachers working within this setting perform their professional responsibilities within an urban environment characterized by competing occupational and personal demands. Yet, there is limited empirical evidence showing the extent to which secondary school teachers in this Local Government Area participate in recreational sports, probably, such participation is related to their stress levels and work-life balance, and what benefits or barriers they perceive in relation to participation.

The absence of such context-specific evidence creates an important practical problem. Without understanding the relationship between recreational sports participation and teachers' stress and work-life balance within the local school environment, school administrators and education stakeholders may have limited empirical basis for determining whether recreational sports should be incorporated more deliberately into strategies for promoting teacher wellbeing. Furthermore, without information on perceived benefits and barriers, interventions may fail to address the circumstances that encourage or discourage participation. The problem, therefore, is not simply that teachers experience occupational demands, but that there is insufficient local evidence concerning the potential role of recreational sports in helping secondary school teachers in Egor Local Government Area manage those demands and maintain a healthier balance between work and personal life. This study was consequently undertaken to examine the relationship between recreational sports participation, stress levels, and work-life balance among secondary school teachers in Egor Local Government Area, Edo State, while also examining the perceived benefits and barriers associated with participation.

Purpose of the Study

The main objective of this study was to examine the relationship between recreational sports participation, stress levels, and work-life balance among secondary school teachers in Egor Local Government Area of Edo State.

Specifically, the study sought to:

1. determine the extent of recreational sports participation among secondary school teachers in Egor Local Government Area of Edo State;
2. examine the relationship between recreational sports participation and stress levels among secondary school teachers in Egor Local Government Area of Edo State;
3. examine the relationship between recreational sports participation and work-life balance among secondary school teachers in Egor Local Government Area of Edo State;
4. determine the relationship between recreational sports participation and perceived benefits of recreational sports among secondary school teachers in Egor Local Government Area of Edo State; and
5. determine the relationship between recreational sports participation and perceived barriers to participation in recreational sports among secondary school teachers in Egor Local Government Area of Edo State.

Research Questions

Based on the purpose of the study and the issues raised in the statement of the problem, the study was guided by the following research questions:

1. To what extent do secondary school teachers in Egor Local Government Area participate in recreational sports?

2. How is recreational sports participation associated with stress levels among secondary school teachers in Egor Local Government Area, Edo State?
3. In what way is recreational sports participation related to work-life balance among secondary school teachers in Egor Local Government Area, Edo State?
4. How is recreational sports participation related to the perceived benefits of recreational sports among secondary school teachers in Egor Local Government Area, Edo State?
5. How is recreational sports participation related to the perceived barriers to participation in recreational sports among secondary school teachers in Egor Local Government Area, Edo State?

Research Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

- H01:** There is no significant relationship between recreational sports participation and stress levels among secondary school teachers in Egor Local Government Area, Edo State.
- H02:** There is no significant relationship between recreational sports participation and work-life balance among secondary school teachers in Egor Local Government Area, Edo State.
- H03:** There is no significant relationship between recreational sports participation and perceived benefits of recreational sports among secondary school teachers in Egor Local Government Area, Edo State.
- H04:** There is no significant relationship between recreational sports participation and perceived barriers to recreational sports participation among secondary school teachers in Egor Local Government Area, Edo State.

Methodology

A survey research design was adopted for this study because it was considered appropriate for obtaining information on the

influence of recreational sports participation on stress reduction and work-life balance among secondary school teachers. The study was conducted in Egor Local Government Area of Edo State, Nigeria. The population comprised secondary school teachers in selected public secondary schools within the study area. A sample of 100 teachers was selected through a multistage sampling procedure. First, five secondary schools were purposively selected based on their accessibility and the availability of teachers suitable for the study. Within each selected school, teachers were stratified according to relevant demographic characteristics, including gender, age, years of teaching experience, and academic department, to ensure adequate representation of the different categories of teachers. Thereafter, respondents were proportionately selected from each stratum to obtain the required sample size of 100 teachers.

Data were collected using a researcher-developed questionnaire titled “*Influence of Recreational Sports on Stress Reduction and Work-Life Balance Questionnaire (IRS-SRWLBQ)*”. The instrument comprised two sections. Section A elicited respondents' demographic information, while Section B contained items measuring recreational sports participation, stress reduction, work-life balance, perceived benefits, and barriers to participation. The instrument was validated by experts in Human Kinetics and Sports Science to establish its face and content validity. A pilot study was conducted to determine the reliability of the instrument, and a reliability coefficient of **0.71** was obtained, indicating that the instrument was reliable for the study. Prior to data collection, approval was obtained from the management of the selected secondary schools. The questionnaires were personally administered by the researcher with the assistance of two trained research assistants, and all completed copies were retrieved immediately after completion, resulting in a high retrieval rate.

Data were analysed using descriptive and inferential statistics. Frequency counts, percentages, means, and standard deviations were used to describe the respondents' characteristics and answer the

research questions, while Pearson Product Moment Correlation (PPMC) was employed to examine the relationships specified in the research questions and test the four null hypotheses at the 0.05 level of significance.

The results of the study are presented in this section using descriptive statistics (frequency, percentage, mean, and standard deviation) and Pearson Product Moment Correlation (PPMC) to address the research objectives and test the hypotheses.

Results

Table 1

Variable	Category	n	%
Gender	Male	40	40.0
	Female	60	60.0
Age (years)	Under 25	2	2.0
	25–34	13	13.0
	35–44	45	45.0
	45–54	27	27.0
	55–64	10	10.0
	65 years and above	3	3.0
Teaching Experience	Below 5 years	5	5.0
	6–10 years	25	25.0
	11–15 years	40	40.0
	Above 15 years	30	30.0
Department	Arts	25	25.0
	Sciences	40	40.0
	Humanities	15	15.0
	Physical Education	5	5.0
	Others	15	15.0
Educational Qualification	Bachelor's Degree	62	62.0
	Master's Degree	28	28.0
	PhD	10	10.0

Demographic Characteristics of Respondents (N = 100)

Table 1 presents the demographic characteristics of the respondents. From the 100 teachers who participated in the study, 60.0% were female and 40.0% were male. Most respondents (45.0%) were between 35 and 44 years of age, while 40.0% had between 11

and 15 years of teaching experience. The majority (40.0%) were from the Science Department, followed by the Arts Department (25.0%). Regarding educational qualification, 62.0% possessed bachelor's degrees, 28.0% held master's degrees, and 10.0% possessed doctoral degrees, indicating that the respondents were academically qualified to provide reliable information for the study.

Table 2

Recreational Sports Participation, Stress Reduction and Work-Life Balance

Item	Mean	SD	Decision
Participation in recreational sports	3.00	0.492	Agree
Regular participation in recreational sports	2.95	0.479	Agree
Feeling stressed at work	3.58	0.572	Agree
Recreational sports reduce stress	2.99	0.522	Agree
Difficulty maintaining work-life balance	2.54	0.576	Agree
Recreational sports improve work-life balance	2.93	0.408	Agree
Recreational sports help relaxation	2.57	0.728	Agree
Recreational sports improve mood	2.58	0.684	Agree
Recreational sports promote social interaction	3.03	0.413	Agree
Recreational sports improve physical activity	3.05	0.435	Agree
Recreational sports reduce stress levels	3.00	0.471	Agree
Recreational sports provide energy and motivation	2.95	0.411	Agree

Grand Mean = 2.96

Criterion Mean = 2.50

Table 2 shows that all the items recorded mean scores above the criterion mean of 2.50, indicating respondents' agreement that participation in recreational sports contributes positively to stress reduction and improved work-life balance. Respondents agreed that recreational sports enhance relaxation, improved mood, promote social interaction, encouraged physical activity, and provided the motivation needed to maintain a healthy balance between work and personal life. The grand mean of 2.96 indicates an overall positive perception of the role of recreational sports in enhancing teachers' well-being.

Table 3
Perceived Benefits and Barriers to Participation in Recreational Sports

Item	Mean	SD	Decision
Improves physical health	3.15	0.386	Agree
Improves mental health	3.19	0.443	Agree
Builds social connections	3.01	0.389	Agree
Lack of time	1.80	0.667	Disagree
Financial constraints	2.61	0.840	Agree
Lack of interest	1.75	0.642	Disagree
Lack of facilities	1.71	0.671	Disagree
Lack of support	1.63	0.677	Disagree

Grand Mean = 2.36

Criterion Mean = 2.50

Table 3 indicates that respondents agreed that participation in recreational sports improved their physical health, mental health, and social relationships. Among the barriers examined, only financial constraints recorded a mean score above the criterion mean, suggesting that cost constituted the major obstacle to participation. Respondents generally disagreed that lack of time, inadequate facilities, lack of interest, or insufficient support from family or colleagues prevented them from engaging in recreational sports. Overall, the findings suggest that the perceived benefits of recreational sports outweigh the barriers to participation.

Table 4
Pearson Product Moment Correlation Matrix

Variables	1	2	3	4	5
1. Recreational sports participation	1				
2. Stress level	- 0.758	1			
3. Work-life balance	0.718		1		
4. Perceived benefits	0.648			1	
5. Perceived barriers	- 0.784		- 0.780		1

Note. All reported correlations were statistically significant ($p < .001$).

Table 4 presents the Pearson Product Moment Correlation analysis of the study variables. Recreational sports participation demonstrated a strong negative relationship with stress levels ($r = -0.758$, $p < .001$), indicating that increased participation was associated with reduced occupational stress. A strong positive relationship was also observed between recreational sports participation and work-life balance ($r = 0.718$, $p < .001$), suggesting that teachers who participated more frequently in recreational sports reported better work-life balance. Furthermore, recreational sports participation was positively related to perceived benefits ($r = 0.648$, $p < .001$) and negatively related to perceived barriers ($r = -0.784$, $p < .001$). In addition, perceived benefits showed a strong inverse relationship with perceived barriers ($r = -0.780$, $p < .001$). Based on the observed correlation coefficients and their associated significance levels, the four null hypotheses were rejected, indicating statistically significant relationships between recreational sports participation and stress levels, work-life balance, perceived benefits, and perceived barriers among the respondents.

Discussion of Findings

The findings of this study revealed a significant negative relationship between participation in recreational sports and stress levels among secondary school teachers in Egor Local Government Area of Edo State. This indicates that teachers who participated more frequently in recreational sports experienced lower levels of occupational stress. The finding supports the view that recreational sports provide opportunities for physical activity, relaxation, and psychological recovery from work-related demands. It is consistent with Coakley (2009), who observed that recreational sports promote emotional well-being through enjoyable physical activity, and Eime et al. (2013), who reported that participation in sport is associated with improved mental health and reduced stress. **Ogabor et al. (2024) similarly found that recreational activities significantly influenced stress management among lecturers, with greater engagement in recreational activities associated with better**

management of occupational stress. The finding also agrees with da Silva et al. (2024), who found that physically active teachers reported lower perceived stress and better quality of life than their less active counterparts. The observed relationship may be attributed to the ability of recreational sports to reduce psychological tension, facilitate recovery from occupational demands, improve emotional resilience, and provide teachers with a healthy means of coping with work-related pressures.

The study further established a significant positive relationship between participation in recreational sports and work-life balance among secondary school teachers. This suggests that teachers who engaged more regularly in recreational sports were more likely to experience a healthier balance between their professional responsibilities and personal lives. The finding is consistent with Greenhaus & Allen's (2011) conceptualization of work-life balance as the effective management of work and non-work roles. It also supports Newman et al. (2014), who reported that participation in leisure activities enhances life satisfaction and personal well-being. Similarly, Cho et al. (2023) found that work-leisure balance positively predicts teachers' job satisfaction, work engagement, and intention to remain in the profession. **The finding also extends the observation of Ogabor et al. (2024), who reported significant positive outcomes of recreational participation among university lecturers, particularly in relation to subjective well-being and job satisfaction.** Recreational sports may therefore serve as an effective strategy for helping teachers temporarily disengage from occupational pressures, restore emotional energy, and maintain a healthier integration of professional and personal responsibilities.

The findings also demonstrated that participation in recreational sports was positively associated with perceived physical, psychological, and social benefits, while perceived barriers were negatively associated with recreational sports participation. Teachers generally acknowledged that recreational sports can improve physical health, mental health, and social relationships, although financial constraints emerged as the major barrier to

participation. This finding is consistent with Dawodu & Sholanke (2023), who reported that recreational activities provide physical and mental health benefits and found that financial constraints and distance were among the major factors discouraging participation in recreational activities. Their findings suggest that the availability of recreational opportunities does not necessarily guarantee participation when practical constraints remain. The present finding similarly indicates that, although teachers recognize the benefits of recreational sports, financial considerations may limit their engagement.

The finding concerning the benefits of recreational sports is also consistent with Hoye et al. (2015), who emphasized the social and relational benefits associated with sport participation, and Penedo & Dahn (2005), who documented the physical and psychological benefits associated with regular physical activity. Ogabor et al. (2024) further reported significant relationships between recreational activities, stress management, subjective well-being, and job satisfaction among university lecturers. Dreer (2023) likewise highlighted the contribution of health-enhancing behaviours to teachers' well-being and professional functioning. These findings provide support for the present observation that recreational sports participation is associated with perceived physical, psychological, and social benefits among secondary school teachers.

The finding concerning perceived barriers is particularly noteworthy because financial constraints emerged as the only barrier with a mean score above the acceptance criterion. This suggests that teachers generally recognized the value of recreational sports and did not perceive lack of time, facilities, interest, or social support as major impediments to participation, although financial considerations could constrain engagement. **This finding is important when considered alongside Dawodu & Sholanke (2023), whose work draws attention to factors associated with recreational participation and the need to understand the conditions that facilitate or constrain engagement.** The present

finding therefore suggests that improving participation may require not only encouraging teachers to engage in recreational sports but also ensuring that available opportunities are affordable and accessible.

The findings reinforce the view that recreational sports can constitute a practical lifestyle strategy for promoting teachers' occupational well-being. The significant relationships observed between recreational sports participation and stress levels, work-life balance, perceived benefits, and perceived barriers suggest that participation is connected not only with how teachers manage occupational pressure but also with their perceptions of the value and accessibility of recreational engagement. The findings of Ogabor et al. (2024) provide further support for the relevance of recreational participation to occupational well-being, particularly through its association with stress management and subjective well-being, while Dawudu & Sholanke (2023) add evidence concerning recreational participation and its associated considerations. The present study extends these observations by focusing specifically on secondary school teachers and by examining stress, work-life balance, perceived benefits, and perceived barriers within the context of Egor Local Government Area. The findings therefore provide useful evidence for school-based wellness initiatives and the provision of accessible recreational opportunities for teachers.

Limitations of the Study

This study was limited to secondary school teachers in selected public secondary schools within Egor Local Government Area of Edo State. Consequently, the findings may not be generalizable to teachers in other local government areas of the State, private secondary schools, or different educational settings, therefore, the findings should be interpreted within this context. In addition, the correlational design identified relationships among the variables without establishing causal relationships. These limitations do not diminish the study's contribution to understanding the influence of recreational sports on teachers' well-being.

Conclusion

This study examined the influence of recreational sports participation on stress reduction and work-life balance among secondary school teachers in Egor Local Government Area of Edo State. The findings established that participation in recreational sports was significantly associated with lower stress levels and improved work-life balance among teachers. Teachers who engaged more frequently in recreational sports also reported greater physical, psychological, and social benefits, while perceived barriers to participation were generally low, except for financial constraints. The study therefore concludes that recreational sports constitute an effective lifestyle strategy for promoting teachers' overall well-being by reducing occupational stress and enhancing a healthy balance between work and personal life. Encouraging regular participation in recreational sports may contribute to improved teacher health, job satisfaction, and workplace effectiveness.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. School administrators should promote regular participation in recreational sports by organizing periodic recreational and wellness programmes for secondary school teachers.
2. The Edo State Ministry of Education and school management should provide accessible recreational facilities and supportive environments that encourage teachers' participation in recreational sporting activities.
3. Financial support, incentives, or subsidized access to recreational facilities should be considered to reduce the cost-related barriers that may discourage teachers from participating in recreational sports.
4. Teachers should be encouraged to incorporate recreational sports into their regular lifestyle as a practical strategy for managing occupational stress and maintaining a healthy work-life balance.

5. Future studies should examine the influence of recreational sports on teachers' well-being across other local government areas and educational settings using larger samples and additional variables to enhance the generalizability of the findings.

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AWARENESS OF HEALTH EFFECTS AND PSYCHOACTIVE SUBSTANCE CONSUMPTION AMONG COMMERCIAL MOTORCYCLISTS IN EKITI STATE, NIGERIA

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ABSTRACT

This study investigated the extent of psychoactive substance consumption among commercial motorcyclists and assessed their awareness of the physical, psychological, and sociological health effects associated with such use. A descriptive survey design was employed, involving 600 commercial motorcyclists selected through a multistage sampling technique across Ekiti State. Data were collected using a validated and reliable instrument (PSCQ; $r = 0.84$). Results revealed that 46.2% of respondents consumed psychoactive substances, although overall consumption was low. Awareness of health effects was moderate, with mean scores of 2.50 for physical effects, 2.53 for psychological effects, and 2.50 for social effects. Pearson Product Moment Correlation showed significant

relationships between awareness of physical ($r = 0.304$, $p < 0.05$), psychological ($r = 0.233$, $p < 0.05$), and social effects ($r = 0.147$, $p < 0.05$) and substance consumption. Multiple regression analysis further indicated that awareness of health effects significantly predicted substance use ($F_{3,11} = 20.954$, $p < 0.05$), explaining 9.5% of the variance ($R^2 = 0.095$). Awareness of physical health effects was the strongest predictor ($\beta = 0.287$). The study concludes that increased health awareness plays an important role in reducing psychoactive substance use among commercial motorcyclists and recommends intensified health education and sensitization programmes.

Keywords: *Awareness, Health effects, Psychoactive substances, Commercial motorcyclists, Consumption*

Introduction

Psychoactive substance abuse has become one of the most enduring global public health challenges, which has added significantly to the social and health burden that many countries are experiencing, Nigeria inclusive. Psychoactive substances are chemical substances which are capable of influencing perception, mood, cognition, behaviour or motor functioning of a person upon consumption of such substances. Their use dates back through the centuries, to the stone age when humans used various forms of natural substances to create relaxation, achieve psychological escape or alter physiological functioning (Adegboyega & Awosusi, 2012). While some of the drugs used for their psychoactive properties have medicinal value, their abuse comes with far-reaching risks to individuals and communities. Psychoactive substance abuse therefore includes the use of substances that are harmful in nature and lead to physical, psychological, or social consequences to the abusers and those

around them.

In modern society, a broad range of psychoactive substances are commonly consumed, with some of the more widely accepted, such as alcohol, tobacco, and coffee, to some of the more potent and illicit drugs such as cocaine, benzodiazepines, heroin, tramadol, codeine, and pentazocine. Local mixtures such as palm wine and "paraga" an alcoholic herbal concoction also come under this category. Advances in drug synthesis have led to an even broader availability of new psychoactive substances of unpredictable effects. These substances can be taken in various ways which include smoking, inhalation, drinking, sniffing, and injections which are administered intramuscularly, subcutaneously and intravenously (Adegboyega & Awosusi, 2012). Regardless of the way one consumes them, psychoactive substances have well documented risks such as injuries, illnesses, disabilities, depression, sexual dysfunction, psychosis, and even death. Globally, their abuse continues to increase, especially among youths and special risk occupational groups such as commercial drivers, sex workers, and motor park touts (Ishaku et al., 2020).

In Nigeria, there is a growing body of evidence indicating that the use of psychoactive substances is also very high among commercial motorcyclists, popularly known as "okada riders" (Ishaku et al., 2020). Commercial motorcycling has become a significant transport option for millions of Nigerians because of the affordability, flexibility and capabilities of the mode of transport in navigating poor road networks and congested traffic. It has about 24% of transportation modes in the country (Ibitayo, 2021). In Lagos alone, an estimated 45,000 motorcycles were being used for public transportation by the year 2016 (Ojekunle, 2016). Ekiti State is no exception to this national trend with many unemployed youths taking up the operation of motorcycles as the main source of livelihood. However, the long hours on the road and the high risks of operating often expose operators to physical and psychological stressors that

may foster psychoactive substance use.

Previous research has found that commercial motorcyclists often use psychoactive drugs to manage fatigue, improve alertness, improve performance and reduce stress (Mundenga et al, 2019). Their choices are determined by affordability, availability and peer pressure. With the appearance of new psychoactive substances (NPS) the riders have now tried using unusual combinations of substances such as glue, fumes, gutter water, petrol, monkey tail and flurazepam, which they take all to help them feel some temporary euphoria or forget their hardships. Common over-the-counter drugs such as diclofenac, ibuprofen and cough syrups are also abused for their stimulating or sedative effects (UNODC, 2021). Early exposure to alcohol or cigarettes may further lead to multiple substance abuse that increases the risk of health risks. The sources of these substances are widespread, especially in motor parks where the vendors are openly displaying "sepe," Indian hemp, tobacco, kolanuts and other intoxicants. These environments can be conducive to drug use, making drug use easier for riders to use before or on the job. This behaviour not only exposes the riders but also exposes passengers and other road users to great danger, especially considering that the psychoactive substances can impair judgement, reaction time and motor coordination.

The health consequences of the consumption of psychoactive substances among commercial motorcyclists are extensive. Physically, substances may harm vital organs and body systems causing such illnesses as liver cirrhosis, cardiovascular disease, peptic ulcers, malnutrition, disability, or premature death (Hales, 2014; Awosusi & Adegboyega 2015). Drug-related fatalities are common through overdose or road traffic accidents. Obele (2011), stated that 95% of the commercial motorcyclists in road traffic accidents had been under the influence of some psychoactive substances. Records of the Accident and Emergency Unit of the Ekiti State Teaching Hospital (EKSUTH, 2023) revealed more than 300

cases of motorcycle accidents involving substance abuse, and many of them had hypertension, kidney disease or heart problems associated with the abuse of drugs.

Psychologically, the psychoactive substances may lead to addiction, emotional instability, delay in reaction time, impaired visual memory, and impaired stereoscopic vision (Umar et al., 2017). These effects negate safe riding practices and put riders at a higher risk of an accident. Long term use may trigger mental disorder like depression, anxiety, aggression or memory loss or schizophrenia especially in case of cannabis and colorado users. Caldwell (2014) associated the episodes of anxiety, memory loss and poor behavioural control of commercial motorcyclists with the consumption of psychoactive substances.

Socially, substance use among motorcyclists has been linked to violence, unrest, thuggery, burglary, stealing, vandalism and kidnapping. These behaviours disturb the peace of the community and threaten the safety of the public. Many unlawful acts by commercial motorcyclists have been linked to periods during which the motorcyclists were under the influence of psychoactive substances. Despite these far reaching consequences, the use of psychoactive substances continues to occur among motorcycle operators. Understanding their level of awareness of the effects on physical, psychological and social health is thus important in designing effective preventive and intervention strategies. This research examines the patterns of consumption of psychoactive substances by commercial motorcyclists and how their understanding of the health risks associated with these substances affects their psychoactive substance consumption patterns.

The study aims to examine the extent to which commercial motorcyclists consume psychoactive substances and to assess their level of awareness regarding the perceived physical, psychological, and sociological health effects of such substances. It further seeks to determine whether awareness of physical, psychological, and social

health consequences is significantly related to their consumption patterns, and to evaluate the extent to which these dimensions of health awareness collectively contribute to the prediction of psychoactive substance use among commercial motorcyclists.

The following research questions were raised to guide the study:

1. Do commercial motorcyclists consume psychoactive substances?
2. What is the level of awareness of the perceived health effects (physical, psychological and sociological) of psychoactive substances consumed?

The following research hypotheses were postulated and tested for the study:

1. There is no significant relationship between the awareness of physical effects and consumption of psychoactive substances.
2. There is no significant relationship between the awareness of psychological effects and consumption of psychoactive substances.
3. There is no significant relationship between the awareness of social effects and consumption of psychoactive substances.
4. Awareness of health effects (Physical, Psychological or Sociology) factors will not significantly contribute to psychoactive substances consumption among commercial motorcyclists.

Literature Review

Psychoactive substance use continues to pose serious public health and social challenges, especially among high-risk occupational groups such as commercial motorcyclists. Numerous road accidents resulting in injuries and deaths have been attributed to motorcyclists riding under the influence of alcohol or other psychoactive substances. Igwe et al. (2013) found that psychoactive substance use adversely affects users' health and increases the likelihood of risky sexual behaviour and other harmful activities.

Their cross-sectional survey of 400 commercial motorcyclists in Enugu demonstrated that substance use may expose users to blood-borne viruses, including hepatitis and HIV, especially when drugs are injected using shared needles. Supporting this, the Health Protection Agency (HPA, 2016) estimated that nearly half of all injecting drug users have contracted hepatitis C. Psychoactive substances also play a role in mediating sexual risk-taking, increasing susceptibility to HIV and other sexually transmitted infections. The Federal Ministry of Health (2020) additionally reported that excessive amphetamine use damages the liver, brain and kidneys, causes arrhythmia, and leads to poor personal hygiene, which further exacerbates health problems. UNODC (2017) noted that the dangers of amphetamines range from mild effects such as nausea and chills to life-threatening conditions like convulsions, stroke, kidney failure, and dependence. Although Bruan et al. (2019) found no relationship between heavy cocaine use and cardiovascular risk, several other studies contradict this. Hales (2017) discovered that cocaine can constrict blood vessels, trigger cardiac arrhythmia, and cause stroke or myocardial infarction.

The physical health implications of psychoactive substances for commercial motorcyclists are severe. According to Hales (2017), habitual substance use affects every organ system and increases the likelihood of disease, disability, and premature death. Cannabis, for example, has been linked to impaired driving performance and elevated crash risk (Lasebikan, 2010). In a study among long-distance motorcyclists, Lasebikan and Baiyewu (2009) reported high prevalence rates of alcohol (77.5%), tobacco (60.5%), cannabis (52.5%), and inhalant use (8.1%). Road accidents were the most common consequences, especially among those with alcohol use disorders. Ngesu et al. (2017), studying fatal accident cases in Benin City, found that commercial motorcyclists who died in crashes had an average blood alcohol concentration of 54.16 mg/dl. Hales (2016) similarly emphasized that continuous substance use predisposes

individuals to diseases, disability, and early death. Alti-Muazu and Aliyu (2008) observed that motorcyclists using substances like marijuana, cannabis, and tramadol frequently sustain bruises, lacerations, and limb fractures, highlighting the physical toll of psychoactive substance consumption.

Psychological effects of psychoactive substances are equally profound. Kaplan and Sadock (2018) emphasized that the psychological impact of drug use on society is difficult to quantify, as effects vary and may take decades to manifest. Oladeji et al. (2010) noted that individuals raised in drug-using environments are at heightened risk of developing psychological and physical difficulties, which may affect educational and socioeconomic outcomes. Hababu (2010) reported that individuals who used cannabis before age 18 were two to four times more likely to develop schizophrenia than those who had not. Psychoactive substance addiction may present as psychological dependence, where the user feels compelled to continue drug use despite negative consequences, or as physical dependence, characterized by withdrawal symptoms upon discontinuation. Upadhayaya (2011) found that many commercial motorcyclists would discontinue drug use if withdrawal symptoms did not occur and if they could sleep well without drugs. Asogun et al. (2016) added that opioid analgesics can induce seizures, tremors, panic attacks, vomiting, mania, hostility, and mental disorders, further illustrating their psychological dangers.

The social consequences of psychoactive substance use are significant and far-reaching. Oladipo et al. (2017) found a significant relationship between substance use and domestic violence, as well as deterioration in health status, in their survey of 350 youths in Lagos State. Ngesu et al. (2017) reported that motorcyclists using tramadol and cannabis often exhibit mood swings, negative behaviours, cult-like tendencies, destructiveness, confusion, anxiety, rebelliousness, and unhappiness. Ajayi and Ekundayo (2010) stated that while substances do not inherently produce criminals, they often intensify criminal tendencies; many offenders engage in violent crimes under

the influence of marijuana, inhalants, paint fumes, or glue. Psychoactive substances impair judgement, coordination, and concentration, increasing the likelihood of accidents, violence, assaults, and suicide. Hales (2017) noted that marijuana significantly contributes to accidental deaths, particularly through motor vehicle crashes. Oshikoya and Alli (2006) identified a link between substance use and anti-social behaviours such as rape, robbery, cultism, and violent demonstrations leading to destruction of life and property.

Social disruption extends beyond individual users to family and community levels. Obele (2011) observed that psychoactive substance use among motorcyclists flourishes in environments where violence, betting, sexual misconduct, and verbal aggression are normalized. Gudayi et al. (2016) linked rising violence in motor parks to substance use among riders. Social consequences of substance use may include drunken behaviour, violent acts, murder, incoherent speech, loss of self-esteem, and deterioration in personal character. Babalola et al. (2013) identified ages 16 to 18 as the peak period for initiation into alcohol and marijuana use, with the risk of trying other illicit drugs highest at age 18. Religious influences have also been studied: Christian denominations generally disapprove of psychoactive drugs, while Islam forbids drugs not medically prescribed. Adetunji et al. (2015) found no significant association between religious affiliation and lifetime substance use, whereas lower alcohol use among religious individuals was reported by Olofin-Samuel et al. (2025). Babalola et al. (2014) argued that youths with low religious involvement are more likely to abuse drugs. Gboyega (2014) found that poor participation in religious activities correlated positively with substance use, while not having drug-using friends correlated negatively, suggesting that religious participation may offer protective social networks.

Methods and Materials

The study adopted a descriptive survey research design to investigate psychoactive substance consumption among commercial

motorcyclists. The population comprised all registered commercial motorcyclists operating across the sixteen Local Government Areas of Ekiti State. A total sample of 600 commercial motorcyclists was selected using a multistage sampling procedure. First, two senatorial districts were chosen out of the three in the state through simple random sampling. From each selected district, four Local Government Areas were randomly chosen, making a total of eight. In the final stage, seventy-five commercial motorcyclists were sampled from parks within each selected Local Government Area, specifically targeting parks known for high patronage and heavy usage of motorcycles (“okada”). A self-developed instrument titled Psychoactive Substances Consumption Questionnaire (PSCQ) was used for data collection. The tool comprised six sections, including biodata, patterns of substance use elicited through Yes/No responses, and perceived physical, psychological, and sociological effects measured on a modified four-point Likert scale of Strongly Agree to Strongly Disagree, with a criterion mean of 2.5 for decision-making. To ensure validity, the instrument underwent rigorous face and content validation by experts in Health Education, Sociology, Community Medicine, and Test and Measurement. Following validation, the final version of the PSCQ was administered to the participants. The reliability of the instrument was established through the test–retest method. Twenty commercial motorcyclists from Ikere Motorcyclist Park, an area excluded from the main study sample completed the questionnaire twice within a two-week interval. Using Pearson Product Moment Correlation, a reliability coefficient of 0.84 was obtained, demonstrating strong internal consistency at the 0.05 significance level.

For the data collection process, the researcher liaised with the chairmen of the motorcyclist unions to obtain consent and schedule appropriate dates for administration. The purpose of the study was clearly explained to respondents, and clarifications were provided where necessary to enhance accurate responses. Data analysis involved both descriptive and inferential statistics. Percentages,

mean scores, and standard deviations were used to answer the research questions, while Pearson Product Moment Correlation (PPMC) was employed to test hypotheses 1 to 3. The fourth hypothesis was tested using Multiple Regression Analysis. All hypotheses were examined at the 0.05 level of significance, ensuring robust and reliable interpretation of findings.

Results

Research Question 1: Do commercial motorcyclists consume psychoactive substances?

Table 1: Consumption of psychoactive substances among commercial motorcyclists.

Responses		Yes		No	
Do you consume any psychoactive substances?	N	%		N	%
	277	46.2		323	53.8
Regularity of psychoactive substance consumption among commercial motorcyclists?	More Regular		Regular		Used but Discontinued
	N		N		N
	%		%		%
	73	26.3	91	32.6	78 28.2 35 12.6

Table 1 presents the extent of psychoactive substances consumption among commercial motorcyclists. The result indicates that more than one-third of the respondents (n=277, 46.2%) consume one form of psychoactive substances or the other while 323 (53.8%) respondents representing the majority do not consume psychoactive substances. Regarding the frequency of consumption of psychoactive substances, out 277 commercial motorcyclists who consumed psychoactive substances, majority of them (n=91, 32.9%) consume it occasionally, 78 (28.2%) used the psychoactive substances but

discontinued while 35 (12.6%) and 73 (26.3%) indicate 'regular' and 'more regular' respectively. This implies the extent of psychoactive substances consumption among commercial motorcyclists is low.

Question 2: What is the level of awareness of the perceived health effects (physical, psychological and sociological) of psychoactive substances consumed?

Table 2: Level of awareness of the perceived health effects (physical, psychological and sociological) of psychoactive substances consumed.

S/N	ITEMS	SA	A	D	SD	MEAN
	Psychoactive Substance can cause/leads to					
1	Physical Effects	166 (27.7)	147 (24.4)	139 (23.2)	148 (24.7)	2.50
2	Psychological Effects	149 (24.8)	157 (26.2)	155 (25.9)	139 (23.2)	2.53
3	Social Effects	150 (25.1)	147 (24.4)	134 (22.4)	169 (28.1)	2.50

Table 2 presents the level of awareness of the perceived health effects (physical, psychological and sociological) of psychoactive substances consumed. Using the mean benchmark cut-off of 2.50 for the rating scale, all the items had mean scores above the cut-off point. This implies that the level of awareness of the perceived health effects (physical, psychological and sociological) of psychoactive substances consumed is moderate.

Testing of Hypotheses

Hypothesis 1: There is no significant relationship between the awareness of physical effects and consumption of psychoactive substances.

Table 3: Awareness of health effects and psychoactive substances consumption

Variable	N	Mean	SD	R	P
Awareness of physical effects	600	25.51	6.24	0.304	*0.000
Consumption of psychoactive substances	600	21.16	8.16		

***p<0.05**

Table 3 shows that the computed r-value (0.304) is significant at $p<0.05$ level of significance. The null hypothesis was rejected. This implies that there is significant relationship between the awareness of physical effects and psychoactive substances consumption.

Hypothesis 2: There is no significant relationship between the awareness of psychological effects and consumption of psychoactive substances.

Table 4: Awareness of psychological effects and psychoactive substances consumption

Variable	N	Mean	SD	R	P
Awareness of psychological effects	600	25.25	5.79	0.233*	0.000
Consumption of psychoactive substances	600	21.16	8.16		

***p<0.05**

Table 4 shows that the computed r-value (0.233) is significant at $p<0.05$ level of significance. The null hypothesis was rejected. This implies that there is significant relationship between the awareness of psychological effects and psychoactive substances consumption.

Hypothesis 3: There is no significant relationship between the awareness of social effects and consumption of psychoactive substances.

Table 5: Awareness of social effects and psychoactive substances consumption

Variable	N	Mean	SD	r	p
Awareness social health effects	600	24.64	7.079	0.147*	0.000
Consumption of psychoactive substances	600	21.16	8.16		

***p<0.05**

Table 5 shows that the computed r-value (-0.147) is significant at $p<0.05$ level of significance. The null hypothesis was rejected. This implies that there is significant relationship between the awareness of social effects and psychoactive substances consumption.

Hypothesis 4: Awareness of health effects (Physical, Psychological or Sociology) factors will not significantly contribute to psychoactive substances consumption among commercial motorcyclists.

Table 6: Awareness of health effects (Physical, Psychological or Sociology) factors *as Predictors of* consumption of psychoactive substances *among* commercial motorcyclists

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.T
	B	Std. Error	Beta		
(Constant)	10.650	1.522		6.998	.000
Awareness of physical health effects	.374	.072	.287	5.201	.000
Awareness of Psychological health effects	.097	.080	.069	1.222	.222
Awareness social health effects	-.061	.058	.053	-1.065	.287
Multiple R = 0.309, Multiple $R^2 = 0.095$, Adj. $R^2 = 0.091$, $F_{3,596} = 20.954$					

***p<0.05**

The regression equation showing the multiple relationship between the dependent and independent variables can therefore be given as follow:

$$Y = 10.650 + 0.374X_1 + 0.097X_2 - 0.061X_3$$

Where

 X_1 = Awareness of physical health effects X_2 = Awareness of Psychological health effects X_3 = Awareness social health effects

bi = (i=1-3) Regression Weight Coefficients

a = Constant (other variables other than X_1 - X_3)

Awareness of health effects significantly influenced psychoactive substance consumption among commercial motorcyclists ($F_3 = 20.954$, $p < 0.05$), leading to rejection of the null hypothesis. The predictors such as physical, psychological, and social health awareness showed significant multiple correlations with consumption ($R = 0.309$, $p < 0.05$). They jointly explained 9.5% of the variance ($R^2 = 0.095$), while 90.5% remained unexplained. Among the predictors, awareness of physical health effects was the strongest contributor ($\beta = 0.287$), followed by psychological health effects ($\beta = 0.069$), with social health effects contributing the least ($\beta = 0.053$).

Discussion

The study revealed that psychoactive substance consumption among commercial motorcyclists was generally low. This contrasts with the report by Omolase et al. (2011), which indicated that the level of psychoactive substance use in Nigeria had risen sharply over the past decade. The present finding suggests a more cautious or declining trend in substance use within this specific occupational group. Furthermore, the study found that awareness of the perceived physical, psychological, and sociological health effects of psychoactive substances was moderate, implying a generally good level of understanding among respondents. This aligns with Hales (2017), who emphasized that habitual use of psychoactive

substances affects virtually every organ and system in the body and increases susceptibility to disease, disability, and premature death. The study also identified a significant relationship between awareness of physical health effects and psychoactive substance consumption. This indicates that commercial motorcyclists' knowledge of physical consequences influences their consumption patterns. This finding supports Hales (2014), who noted that psychoactive substances can compromise bodily systems and elevate risks of chronic illness and early mortality. Similarly, Alti-Muazu and Aliyu (2008) reported that substances such as marijuana, cannabis, and tramadol contribute to the high frequency of accidents among motorcyclists, often resulting in bruises, lacerations, and limb fractures.

A significant relationship was equally found between awareness of psychological health effects and psychoactive substance consumption. This suggests that psychological awareness shapes consumption behaviour. Kaplan and Sadock (2018) similarly observed that the psychological effects of drug use are far-reaching and may take decades to fully manifest. Further, Fasoro et al. (2020) identified several psychological and neurological implications of opioid analgesics, including seizures, drowsiness, panic attacks, mania, and mental disorders.

The study also established a significant relationship between awareness of social effects and psychoactive substance consumption. This implies that increased awareness of social consequences tends to reduce consumption. This finding is consistent with Ngesu et al. (2017), who reported that motorcyclists who consume tramadol and cannabis often exhibit mood swings, negative behaviours, cult involvement, social misconduct, confusion, and rebellious tendencies. Ajayi and Ekundayo (2010) likewise noted that many offenders commit violent crimes under the influence of substances such as marijuana, inhalants, and glue.

In a nutshell, the study demonstrated that awareness of physical, psychological, and sociological health effects significantly contributes to psychoactive substance consumption among

commercial motorcyclists. Awareness of physical health effects emerged as the strongest predictor, while awareness of social health effects contributed the least. The significant F-ratio (20.954) at the 0.05 level indicates that the predictor variables jointly explain variations in substance consumption. This finding aligns with Obele (2011), who observed that psychoactive substance use is more prevalent in environments characterized by violence, betting, sexual activities, and verbal aggression. Gboyega (2014) further linked increasing violence among commercial motorcyclists to psychoactive substance use in motor parks.

Conclusion

The study concludes that although psychoactive substance consumption among commercial motorcyclists is generally low, their moderate awareness of the physical, psychological, and social health effects plays a meaningful role in shaping their consumption patterns. Awareness across these domains showed significant relationships with substance use, with physical health awareness emerging as the strongest predictor. The findings underscore the importance of sustained health education and targeted behavioural interventions to further reduce psychoactive substance consumption within this occupational group.

Recommendations

Sequel to the findings of the study, the following recommendations were made;

1. Public health educators and the Ministry of Health should intensify awareness campaigns on the dangers of psychoactive substances, with emphasis on physical health risks, since this was the strongest predictor of consumption.
2. Motorcycle unions and transport regulatory agencies should implement continuous sensitization programmes at motor parks to improve psychological and social health awareness among riders.

3. Healthcare providers and community health workers should integrate routine screening and brief counselling on substance use into outreach services targeted at commercial motorcyclists.
4. Local and state governments, in collaboration with NGOs, should provide accessible rehabilitation and support services for riders who currently use or are at risk of using psychoactive substances.

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SICKLE CELL DISEASE: PREVENTION METHODS AND MANAGEMENT APPROACHES

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ABSTRACT

Sickle cell disease (SCD) is an inherited blood disorder, where red blood cells become rigid, sticky, and shaped like crescents instead of smooth discs. It is identified to affect all races but is prominent among the black, this growing burden presents a significant global health challenge, affecting both high- and low income countries. Environmental determinants such as climate, air quality, housing conditions, socio-economic status, good nutrition, and physical activity levels all play crucial roles in shaping health outcomes for SCD patients. This study therefore, looks at the concepts, mode of transmission, signs and symptoms and management approaches of sickle cell disease. Based on the findings sickle cell disease is not a form of leukemia or cancer; not HIV/AIDS; even not iron deficiency or infectious diseases. Thus the study recommended that the public should be enlightened that sickle cell disease depends on the haemoglobin an individual has inherited from both parents. Thus health education as a subject should be re-introduced in all Nigerian primary and secondary schools where pupils and students would be taught or educates on some communicable diseases prevalent in our areas most especially among school children.

Keywords: sickle cell, disease, prevention, methods and management.

Introduction

Sickle cell disease is an inherited blood disorder where red blood cells become rigid, sticky, and shaped like crescents instead of smooth discs. For the tissues to work well, they need constant supply of oxygen, the haemoglobin in red blood cells takes up oxygen in the lungs and carried it to all tissues of the body. Red blood cells that contain normal haemoglobin are round, soft, spongy, flexible, disc shaped to allow the cells to be flexible so that they can move through large and small blood vessels so as to deliver oxygen and to be able to participate in physical activities. The sickle red blood cells on the other hand is hard, brittle, breaks easily and is not able to keep its round shape. Red blood cells change to a sickle shape when oxygen levels in the body are low. They usually return to their original round shape when they get more oxygen most especially when they have passed through the lungs. Some people have deformities in their blood cells and find it difficult to take part in strenuous activities, if they do, they may have serious health problems, because their red blood cells are sickle shaped or half moon shaped due to inherited condition from their parents whether it is sickle cell or other inherited diseases (NTI 2000, NCE/DLS).

Sickle cell is identified to affects all races but is prominent among the black, some people develop symptoms after strenuous physical activities while some aware of the disease after medical checkup or examination.

Concept of Sickle Cell Anemia

Sickle cell disease is a life long illness, the severity of the disease varies widely from person to person. Sickle cell disease or sickle cell anemia is a group of disorder that affects haemoglobin, haemoglobin gives blood its red colour and is responsible for carrying oxygen from the lungs to all parts of the body. Haemoglobin disorders are inherited blood diseases that affect how oxygen is carried in the body, these disorders are inherited from parents in the same way as the blood type, hair, colour and other physical traits, the molecules in the

red blood cells that deliver oxygen to cell throughout the body, the people with this disorder have molecules called hemoglobin S which can distort red blood cells into a sickle, crescent shaped National Health Standard (2015), causing a thickening of the red blood and sometimes blocking the blood carrying vessels and resulting in large number of symptoms. Normally, humans have haemoglobin A which consists of two alpha and two alpha delta chains and haemoglobin F consisting of two alpha and two gamma chain in their bodies, of these haemoglobin F dominates until about six weeks of age, afterwards haemoglobin A dominates throughout life. Sickle red blood cells are not flexible as normal red blood cells and cannot always pass through the small blood vessels. It is trapped in the vessels, resulting in large number of symptoms and reduces the blood supply to that part of the body. People with sickle cell disease inherit two abnormal haemoglobin genes, one from each parent (National Health Standard, 2015). An attack can be set off by temperature changes, stress, dehydration and high altitude. A person with a single copy does not usually have symptoms and is said to have sickle cell trait. Such people are referred to as carriers (National Heart, Lung and Blood Institute, 2015).

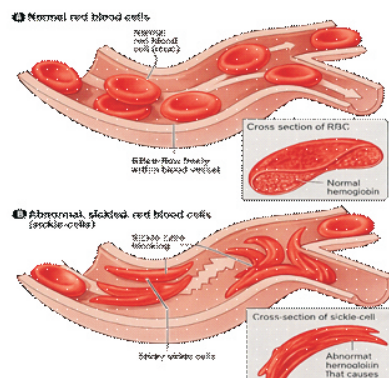


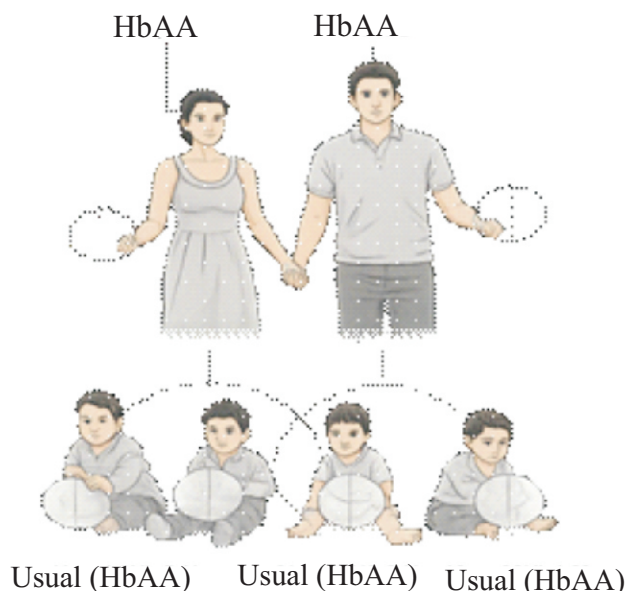
Figure A shows the normal red blood cells flow freely in a blood vessel. Figure B clearly depicts how abnormal sickle red blood cells block blood flow in a blood vessel.

Sickle cell hemoglobin is not shaped like other red blood cells, but somewhat curved instead of round as the normal red blood cells and very sensitive to lowered oxygen supply because they breakdown prematurely and lead to anamea. These peculiarly shaped cells do not pass through the small blood vessels readily because of their curved shaped and may subsequently block the supply of blood to the vital areas and lead to organ damage especially the lungs, kidneys, spleen and brain. Sickle cell disease affects millions of people worldwide. It is common among people whose ancestors came from Africa, Mediterranean countries such as Greece, Turkey and Italy.

Mode of Transmission

Sickle cell disease is a hereditary disease. It is inherited in recessive gene, i.e if two recessive genes unit, one from each parent, their trait will appear in their offspring. If only one parent has a recessive gene, he or she is a carrier, their offspring will not express the trait because it would suppress by the dominant gene from the other parent. If one parent has sickle cell anemia and the other sickle cell trait, there is a 50% chance that each child born to them will have the trait but non will have the full disease, when both parents have sickle cell trait, a child has a 25% chance of sickle cell disease, 25% do not carry any sickle cell alleles and 50% have the hereozygous condition (Allison A. C, 2009)) allele responsible for sickle cell anemia can be found on the short arm of chromosome 11. Therefore, a person who receives the defective gene from both father and mother develop the disease, a person who receives one defective and one healthy allele remains healthy, but can pass on the disease. The following examples are given to demonstrate the mode of transmission as stated by Oni, Dick, Walters and Rees (2012). This mode of transmission of sickle cell disease is demonstrated in figure a, b, c, d, and e

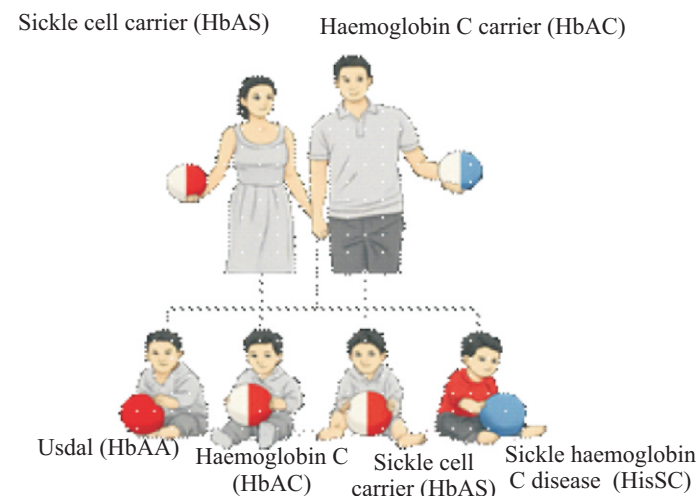
- (a) If both parents have the usual and most common haemoglobin combination AA (HbAA), Each and every time they are expecting a child: there is a 4 in 4 chance (100%) that their child will inherit the usual and most common haemoglobin combination (HbAA).



Source Lola, Moral, Joan and David, (2012)

Figure 3a. Demonstration of mode of transmission of sickle cell disease

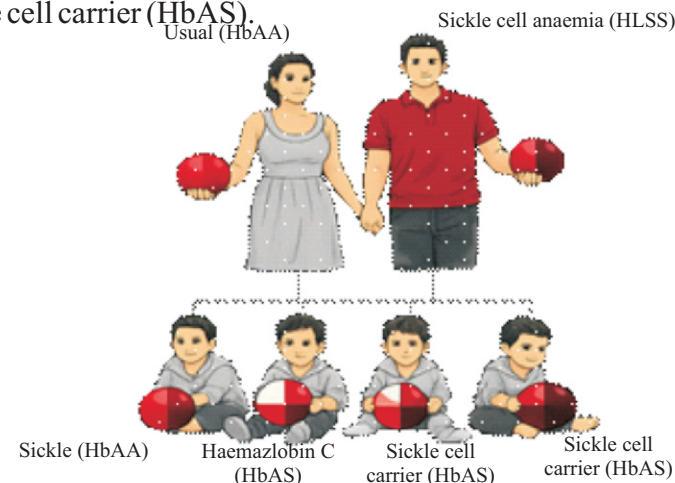
- (b) If both parents are sickle cell carriers of haemoglobin AS (HbAS), Each and every time they are expecting a child, there is a 1 in 4 chance (25%) that their child could inherit the usual haemoglobin (HbAA), a 2 in 4 chance (50%) that their child could be a sickle cell carrier (HbAS) and a 1 in 4 chance (25%) that their child could inherit sickle cell anaemia (HbSS).
- © If one parent is a sickle cell carrier (HbAS) and the other parent is a carrier of haemoglobin C (HbAC), each time they are expecting a child. There is a 1 in 4 chance (25%) that their child could inherit the usual haemoglobin (HbAA), a 1 in 4 chance (25%) that their child could be a hemoglobin C carrier (HbAC), a 1 in 4 chance (25%) that their child could be a sickle cell carrier (HbAS) and a 1 in 4 chance (25%) their child could inherit sickle haemoglobin C disease (HbSC).



Source: Lola, Moral, Joan and David, (2012)

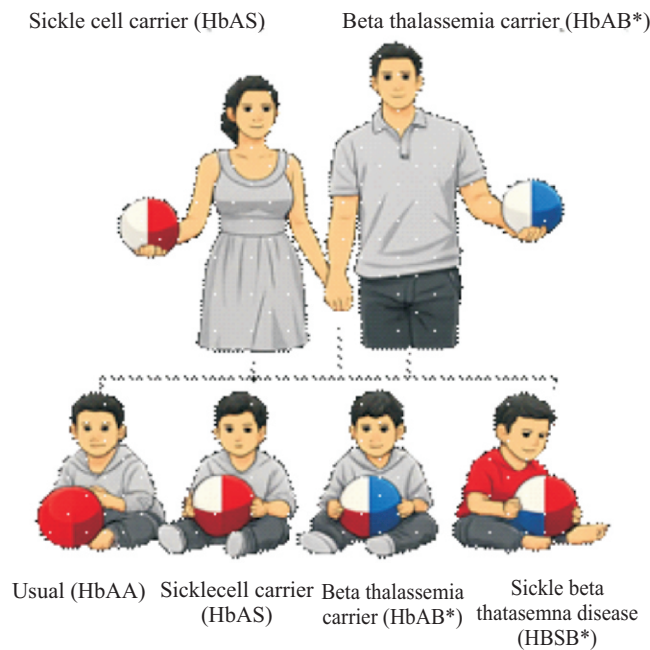
Figure 3b. Demonstration of mode of transmission of sickle cell disease

- (d) If one parent has the usual hemoglobin (HbAA) and the other parent has sickle cell anaemia (HbSS), Each and Every time they are expecting a child: There is a 4 in 4 chance (100%) their child will be a sickle cell carrier (HbAS).



Source: Lola, Moral, Joan and David, (2012)

(e) If one parent is a sickle cell carrier (HbAS) and the other parent is a beta thalassaemia carrier (HbA), Each and every time they are expecting a child. There is a 1 in 4 chance (25%) that their child could inherit the usual haemoglobin (HbAA), a 1 in 4 chance (25%) that their child could be a sickle cell carrier (HbAS), a 1 in 4 chance (25%) that their child could be a beta thalassaemia carrier (HbA) and a 1 in 4 chance (25%) that their child could inherit sickle beta thalassaemia disease (HbS).

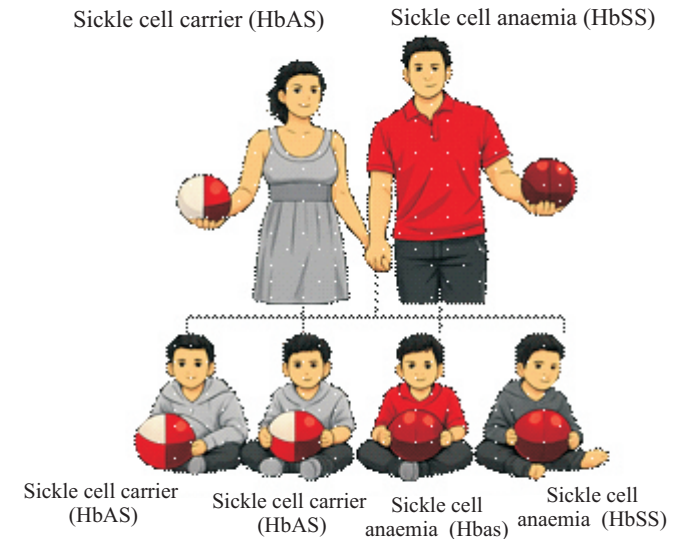


Source Lola, Moral, Joan and David, (2012)

Figure 3d. Demonstration of mode of transmission of sickle cell disease

(f) If one parent is a sickle cell carrier (HbAS) and the other parent has sickle cell anaemia (HbSS), each and every time they are expecting a child, there is a 2 in 4 chance (50%) that their child could

be a sickle cell carrier (HbAS) and a 2 in 4 chance (50%) that their child could inherit sickle cell anaemia (HbSS). Remember that in all these examples, the four possible chances are the same for each and every pregnancy.



Source: Lola, Moral D, Joan W and David R, (2012)

Figure 3e. Demonstration of mode of transmission of sickle cell disease

Type of Sickle Cell Disease, According to Oni, Dick, Walter and Rees (2012), and Health line (2016)

Type of Sickle Cell Disease

- 1) **Haemoglobin SS Disease (HBSS):** This is the most common type of sickle cell disease. It occurs when one inherits copies of the haemoglobin 'S' gene from both parent. It is the most severe form of SCD, individuals with this form experience the worst symptoms of a higher rate.

- 2) **Sickle haemoglobin C Disease (HBSC):** The second most common type of sickle cell diseases, it occurs when one inherits the Hbc gene from one parent and HBs gene from the other. Individuals with HBSC have similar symptoms to individuals with HbSS, the anaemia is less severe.
- 3) **Sickle beta haemoglobin SBT (Beta) thalassaemia:** This affects beta globin gene production, i.e. if a child inherits a sickle haemoglobin S gene from one parent and a Beta thalassaemia gene from the other parent. Symptoms are not severe.
- 4) **Sickle Haemoglobin O. Arab Disease (HBSO):** This occurs when haemoglobin S is inherited from one parent and haemoglobin O Arab from the other, it is a rare form of sickle cell disease and occurs in the Middle East.
- 5) **Sickle haemoglobin D disease (HbSD):** a milder disease i.e. when one inherits haemoglobin S from one parent and haemoglobin D from the other.
- 6) **Sickle haemoglobin E disease (HbSE):** It is a form of thalassaemia sickle haemoglobin E occurs when a person inherits sickle HbS from one parent and haemoglobin E from another. This is very common in South East Asian Countries.

Signs and Symptoms of Sickle Cell

Signs and symptoms of sickle cell disease usually begin in early childhood, the severity of symptoms varies from one person to another, characteristic features of this disorder as reported in Oni, Dick, Walters and Rees (2012), National Health, Lung and Blood Institute (2016) and World Health Organisation (2016):

- 1) **Low number of red blood cells (Anaemia).** Sickle cell diseases are caused by the sickling of red blood cells, they breakdown prematurely which can lead to anaemia. Anaemia can cause shortness of breath, fatigue, and delayed growth and development in children, constant breakdown of red blood cells may also cause yellowing of the skin.

- 2) **Jaundice.** When the red blood cells come to the end of their useful life, they are broken down in the body, one of the substances produced during the process is a yellow pigment called bilirubin. The liver clears the bilirubin from the body, but if there is a lot of bilirubin, the liver may not be able to clear it all away and yellow pigment appears in the eyes.
- 3) **Physical growth and development.** It is usual for children with sickle cell disease to be thinner and shorter than children who do not have the condition but generally grow at a steady rate.
- 4) **Enlarged spleen.** Spleen helps to clear infection and old damaged cells from the body. It is situated on the left side of the stomach under the rib cage. Spleen becomes enlarged when it is jammed or affected with sickle red blood cells that are trying to clear from the body and if it is affected with sickle cells, it cannot clear the body of infection.
- 5) **Bedwetting (nocturnal enuresis).** It takes longer time for a child with sickle cell disease to become dry at night because of anaemia and makes the child to sleep deeply at night and not wake up in time to go to toilet, and the kidneys are not able to produce concentrated urine.
- 6) **Painful episode.** This occurs when the small blood vessels become blocked by sickled cells, this episode lasts several days. Dactylitis (swelling of the fingers, toes and other parts of the feet) is the first painful episode noticed between the ages of 6 to 18 months. Other symptoms include acute chest syndrome like cough, chest pain, pneumonia, repeated infection, appearance of dark coloured urine, respiration symptoms/hypoxemia etc.

Complication of Sickle Cell Anaemia

In National Health Standard (2015), and NTHI (2000), NCE/DLS sickle cell anaemia can lead to various complications, including Stroke, resulting from a progressive narrowing of blood vessels, preventing oxygen from reaching the brain, increased risk of severe bacterial infections due to loss of functioning spleen tissue,

decreased immune reactions due to hyposplenism (malfunctioning of the spleen), bacteria bone infection (osteomyelitis), leg ulcers, intrauterine growth retardation for example during pregnancy, which can lead to spontaneous abortion, chronic pain, pulmonary hypertension such as increased pressure on the pulmonary artery leading to a risk of heart failure, chronic kidney failure due to sickle cell nephropathy with manifestation of hypertension, protein loss in the urine, loss of red blood cells on the urine and worsened anaemia, delayed growth, neurological complication like seizures, bleeding in the brain, coma, eye problems (blindness due to blockages in the vessels supplying the eyes) heart disease and chest syndrome.

Management Approaches of Sickle Cell

The parents, schools and communities have a vital role to play in the control or management of sickle cell disease. When these are properly executed the transmission of sickle cell disease could be controlled or managed to an appreciable extent and those having the disease will know what to do so as to minimize crises. Living a healthy lifestyle is important for everyone, but it is even more important for those with sickle cell disease. Minor illnesses can quickly turn into a medical crisis so it is important to monitor our health and know what our body can and cannot handle. People with sickle cell disease can live full lives and enjoy most of the activities that other people do (Children Sickle Cell Foundation, 2014). The following tips are guideline for helping prevent crisis and living healthy lifestyle, according to Joseph (2016), Oni, Dick, Walter, and Rees (2012), and Children Sickle Cell Foundation (2014):

1. **Checkup Appointment:** Make and keep doctors appointment such as constant health check ups with primary care physicians and up to date patients health records help prevent serious health problems.
2. **Regular Drug Dosage:** Keep up to date on all vaccines including the flu vaccine, pneumococcal vaccine and any other recommended by a doctor, take all medications, do not miss

doses and do not take more than recommended.

3. **Adequate medical care:** Your doctors, nurses and health care professionals should have thorough knowledge of sickle cell disorder in order to help prevent serious problems with ones health, people with sickle cell disorder should have a hematologist that knows the patients detailed medical history so as to provide the best medical care. Stay hydrated and eat healthy foods, drinking at least 8 glasses of water everyday, eating a balanced diet and making health choices is important for proper nutrition, hydration with water is important before, during and after activities.
4. **Avoid extreme temperature:** Maintaining a body balanced temperature is very important, getting too hot or too cold can cause sickness, be sure to wear layers to adapt to changing temperatures. Blood transfusion therapy: used in management of sickle cell disorder in acute cases and to prevent complication by decreasing the number of Red Blood Cell and when hospitalization is needed for pain episode or any other sickle cell disease complication patients should be admitted consistently to the same unit if possible.
5. **Pain episodes:** Painful events are common in children with sickle cell disorder (dactylitis), this can start suddenly or they may follow an illness along with decreased activity, loss of appetite e.t.c, parent should not blame themselves or their children. Parent should be taught to assess the degree of pain for appropriate treatment i.e the proper analgesic use in order to manage most pain episode at home, non medical therapies such as hot bath and showers, massage and relaxation techniques can help relieve pain, home pain management should include four stages, assessment, treatment, reassessment and adjustment.
6. **Recreation and travel:** Patients should be encouraged to exercise regularly on a self-limited basis, school-age children should participate in Physical education but they should be allowed to rest if they tire and encouraged to drink fluid after exercise, they should be encouraged to dress warmly in cold

weather and avoid swimming in cold weather and patients are encouraged to consult their physicians before travel and advised to carry with their specific medication about their diagnosis, list of current medications, name and telephone number of their physicians and if possible they should be given names of physicians or health care facilities to contact in case of emergencies.

7. **Child bearing and birth control:** This should be discussed with patients and their partners, discussion should include the risk during pregnancy the potential for spontaneous abortion; the physical and emotional challenges of raising infant, preconception education should include genetic counselling and testing of the partner.
8. **Vocational goal:** individual with sickle cell disorder should be encouraged to complete their educational and pursues vocation, long work hours, exposure to extreme temperature may not be tolerated and should be discouraged.

Pregnancy Management

Women with sickle cell disorder can successfully carry pregnancy to term or near term, the patient and her family are to be informed that the frequency and severity of pain episodes may increase during pregnancy. However, there is no overall decrease in pain frequency, premature labour or deliveries for women who are transfused prophylactically during pregnancy, but the patients must see their health providers every week for reinforcement and the obstetric staff must be current and give out standard treatment for sickle cell disorder during pregnancy and advocates events.

Conclusion

Since sickle cell disease remains one of the most common inherited blood disorders in Nigeria and across sub-Saharan Africa. It is a life-long condition that affects not only the physical health of

individual but also their emotional, social, and economic well-being. It is not a form of leukemia or cancer, not HIV/AIDS, even not iron deficiency or infectious diseases, therefore, parents need not to blame God/feel that God does not care about the family any more especially during the first sickle cell illness, though feeling, emotion are beyond our control are just feel them and have to accept them when they occur, giving your child proactive images of herself, showing her that you love even though you may not like her illness.

Recommendations

There is need for increased public awareness and education on sickle cell disease. Many cases of the disease can be prevented through knowledge of genotype and informed marital choice. Government agencies, schools, religious institutions, and NGOs should intensify campaigns on premarital genotype screening and genetic counselling. This will help individuals with the AS genotype make informed decisions and reduce the birth rate of children with HbSS. public should be enlightened that sickle cell disease depends on the haemoglobin an individual has inherited from both parents and not to hold strong cultural and religious beliefs that a child born with sickle cell disease is as a result of punishment from God, for these myths and cultural beliefs from public, friends or even family members may lead to a negative attitude towards children with sickle cell disease or to the labeling of the child and their family.

Communities can become involved through providing social support, job opportunities and blood donations as patient go through different life stages, more of their contact will have to be educated.

Newborn screening for sickle cell disease should be made mandatory in all hospitals and primary healthcare centers across Nigeria. Early diagnosis allows for early intervention such as prophylactic antibiotics, folic acid supplementation and vaccination, which can significantly reduce mortality in children. The Government should subsidize the cost of screening to make it

accessible to low-income families.

Health education as a subject should be re-introduced in our primary/secondary schools where they will be taught/educate on some communicable diseases prevalent in our area most especially among school children.

Access to comprehensive management should be improve. This includes making essential drugs like hydroxyurea, pain medications, and folic acid affordable and available. Healthcare workers should be trained on current management protocols for both acute crises and long-term complications. The establishment of specialized sickle cell clinic in every state will ensure patients receive consistent and holistic care.

Emphasis should be placed on supportive care. Patients with sickle cell disease require adequate nutrition, hydration and psychosocial support to cope with the physical and emotional challenges of the condition. Foundations, support groups and community organizations have a vital role to play providing this support and in reducing stigma.

Government, in collaboration with private and international partners, should invest more in research and in advanced treatment options such as bone marrow transplant and gene therapy.

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INFLUENCE OF PRENATAL CARE ON PREGNANCY OUTCOMES AMONG CHILD BEARING WOMEN IN ONDO WEST LOCAL GOVERNMENT AREA, ONDO

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ABSTRACT

Prenatal care is an essential maternal health intervention that seeks to ensure positive pregnancy outcomes by diagnosing and treating pregnancy-related complications early in pregnancy. But inequalities in use remain a significant contributor to poor maternal and neonatal outcomes in many developing countries. The study focused on the influence of prenatal care on pregnancy outcomes of child bearing women in Ondo West Local Government Area of Ondo State, Nigeria. A descriptive survey design was used. The study was conducted with 285 women of reproductive age (15-49 years) who were sampled using multistage sampling from public and private health care facilities. A researcher-designed questionnaire, with a reliability coefficient of 0.82 was used to collect the data. Data were analysed using descriptive statistics and tested for hypotheses at 0.05 significance level using Pearson's Chi-square test. Results indicated a relatively high rate of prenatal care utilisation: 51.9% of respondents registered during the first trimester and 41.4% had more than seven antenatal contacts. The majorities of the respondents (83.5%) had favourable pregnancy outcomes, and the minorities (16.5%) had unfavourable ones. There was significant association between attendance of adequate prenatal care and pregnancy outcomes ($\chi^2 = 31.462, p < .05$) and early antenatal registration and pregnancy outcomes ($\chi^2 = 23.884, p < .05$). Pregnant women who attend adequate prenatal care and register early during the

pregnancy have a better pregnancy experience. Quality antenatal services and regular attendance of antenatal by pregnant women, among others are recommended as key inclusions to improve maternal and neonatal health outcomes.

Keywords: *Prenatal care, pregnancy outcomes, maternal health, antenatal registration, Ondo*

Introduction

Maternal health is one of the most significant indexes of the efficacy of any country's health system and indeed its socio-economic progress. Pregnancy and childbirth is a natural physiological process but at the same time has many risk factors that can endanger the lives of the mother and the baby if good health care measures are not implemented to manage these risks. Prenatal care, also known as antenatal care (ANC), is one of the best strategies available to promote good maternal and newborn health outcomes as it enables continuous monitoring of pregnancy, timely detection of complications, delivery of preventive interventions, and preparation for safe delivery (World Health Organization [WHO], 2016).

Over the past 30 years there has been significant progress worldwide in decreasing maternal and neonatal mortality. However, maternal deaths are still too high, especially in low and middle income countries. In 2020, the WHO estimated that there were about 287,000 deaths of women due to pregnancy-related causes, with almost 70% of those deaths occurring in sub-Saharan Africa. The majority of these fatalities are avoidable through timely access to quality maternal health services, such as pre-natal care, skilled birth attendance and emergency obstetric care (WHO, 2023).

Prenatal care, also referred to as antenatal care (ANC), comprises routine health-care contacts between a pregnant woman

and qualified health-care providers throughout pregnancy. It provides an important platform for health promotion, screening, diagnosis, disease prevention, maternal and fetal assessment, counselling, and timely identification and management of pregnancy-related complications. The World Health Organization (WHO) recommends a model of at least eight antenatal contacts during pregnancy, beginning within the first 12 weeks of gestation, to improve the quality of care and the likelihood of positive pregnancy outcomes (World Health Organization [WHO], 2016). Regular antenatal contacts provide opportunities for monitoring maternal and fetal well-being, identifying potential risks, and providing appropriate preventive and therapeutic interventions.

Prenatal care is more than just medical measures. Antenatal clinics provide opportunities for health promotion, prevention and communication of change in behaviour. On such visits the pregnant women are informed about nutrition, personal hygiene, breast feeding, family planning, care of newborn, danger signs of pregnancy and preparation for child birth. The information helps women to take decisions about their health and the health of their unborn children (Fagbamigbe and Idemudia, 2015). Adequate antenatal care provides opportunities for the early identification of maternal and fetal risks, delivery of preventive interventions, health education and timely management or referral of pregnancy complications. Evidence underpinning the WHO antenatal-care model indicates that more frequent, quality contacts can improve the opportunity for detecting and managing potential complications and are associated with improved perinatal outcomes (WHO, 2016). However, the benefits of antenatal care depend not only on the number or timing of contacts but also on the quality and content of services provided during those contacts.

Although prenatal care is known to have advantages, the actual level of care received is suboptimal in a number of developing countries (DDCs). Socioeconomic circumstances are important

determinants of maternal health service utilisation in Nigeria. Evidence indicates that inequalities in antenatal care utilisation are associated with socioeconomic position, including differences in household economic circumstances and other characteristics that shape women's ability to obtain maternal health services (Nwosu and Ataguba, 2019). Such inequalities may interact with geographical accessibility, availability of services and other health-system or individual-level factors to influence the use of antenatal care.. These issues are more prominent in sub-Saharan Africa, where many women are late to seek prenatal care or do not attend the recommended amount of prenatal visits. Nigeria continues to experience a substantial burden of maternal mortality, and inequalities in access to and utilisation of maternal health services remain important public health concerns. These challenges underscore the importance of timely access to quality antenatal, skilled delivery and emergency obstetric services.

The Nigeria Demographic and Health Survey 2023, shows that there are still inequalities in the use of maternal health care services among geographical, socioeconomic and education groups. Although access to antenatal care services is generally good for women in urban areas, there are still barriers to accessing healthcare among rural women (National Population Commission [NPC] and International Classification of Functioning, Disability and Health [ICF], 2024). Different studies have clearly linked the use of prenatal care and favourable outcomes of pregnancy in Nigeria. Fagbamigbe et al. (2021) reported substantial variation in the number of antenatal-care contacts among women in Nigeria and identified individual, household and contextual factors associated with antenatal care utilisation. Their findings underscore the importance of improving timely and adequate utilisation of antenatal care in Nigeria.

Ondo state has been lauded by the nation for its innovative interventions in the care of mothers, especially the Abiye Safe

Motherhood Programme. The Abiye programme was launched in 2009 to improve access to ante and post-natal care, skilled birth attendance, as well as emergency obstetric services, and to reduce maternal mortality. The programme was found to have made significant improvements in maternal health indicators in the State (Adewuyi et al., 2018). However, despite these progressions, there remain differences in health care services use and pregnancy outcomes between Local Government Areas. Ondo West Local Government Area (LGA), which is one of the urban centres in Ondo state is composed of a diverse population with varying socio-economic and educational backgrounds. Health facilities are fairly available within the locality, but there are inequalities in utilisation of prenatal care services, which can be attributed to socio-economic factors, level of education, cultural beliefs, access, quality of healthcare services and others. These differences could be a cause of differences in pregnancy outcomes of women living in the area.

Pregnancy outcome is defined as the health status of the mother and baby after delivery. The positive outcomes are healthy mothers, full term births, normal birth weight infants and no complications. On the other hand, maternal morbidity refers to severe maternal complications, such as neonatal mortality, stillbirth, low birth weight, birth defects, and so on while adverse pregnancy outcomes include maternal mortality and others. (WHO, 2016). Knowledge of the effects of prenatal care on these outcomes is critical to the development of evidence-based interventions for improving maternal and child health. Therefore, it is deemed pertinent to investigate the level of influence of prenatal care on pregnancy outcome among the women in Ondo west LGA.

Statement of the Problem

While there are several studies that have explored prenatal care utilisation, little empirical data are available on the specific effect of prenatal care on pregnancy outcomes of women of reproductive age

in Ondo West Local Government Area in Nigeria. In addition, published research may be conducted at the national or state level, which may not be relevant for the local level when making policy decisions. Thus, this study specifically sets out to ascertain the influence of prenatal care on pregnancy outcomes among child bearing women of Ondo West Local Government Area of Ondo state, Nigeria.

Research Objectives

The specific objectives of the study are:

- a) ascertain the level of prenatal care utilisation among child-bearing women in Ondo West LGA;
- b) examine pregnancy outcomes among women in Ondo West LGA;
- c) identify factors influencing prenatal care utilisation among child-bearing women in Ondo West LGA.
- d) determine the association between prenatal care attendance and pregnancy outcomes among child-bearing women in Ondo West LGA; and
- e) assess the influence of timing of antenatal registration on pregnancy outcomes among child-bearing women in Ondo West LGA.

Research Questions

The following questions were raised to guide the study:

- a) What is the level of prenatal care utilisation among child-bearing women in Ondo West LGA?
- b) What are the pregnancy outcomes among women in Ondo West LGA?
- c) What factors influence prenatal care utilisation among child-bearing women among child-bearing women in Ondo West LGA?

- d) What association exists between prenatal care attendance and pregnancy outcomes among child-bearing women in Ondo West LGA?
- e) How does timing of antenatal registration influence pregnancy outcomes among child-bearing women in Ondo West LGA?

Hypotheses

The null hypotheses generated for the study include:

- H₀₁: There is no significant association between prenatal care attendance and pregnancy outcomes among child-bearing women in Ondo West Local Government Area.
- H₀₂: There is no significant association between timing of antenatal registration and pregnancy outcomes among child-bearing women in Ondo West Local Government Area.

Methodology

Descriptive survey research design was used for this study. This form of research design is deemed appropriate when a researcher seeks to obtain information from a representative sample of a population regarding existing conditions, practices, behaviors, attitudes, or relationships among variables (Creswell and Creswell, 2018). The population for this study comprised women of reproductive age (15-49 years) who have experienced pregnancy and utilized maternal healthcare services within Ondo West Local Government Area. A multistage sampling procedure was adopted. Stratified sampling technique was employed in arranging the hospitals into the “public” and “private” category and random sampling was used to pick a hospital with prenatal care services from the public and private categories. Simple random sampling was employed in selecting eligible respondents from antenatal and postnatal clinic attendance registers, totaling two hundred and eighty five (285) women.

Table 1: Distribution of Respondents from the Population

S/N	Category	Population of Respondents	Sample
1.	Public Hospital	180	180
2.	Private Hospital	105	105
	TOTAL	285	285

A researcher-structured questionnaire titled “Influence of Prenatal Care on Pregnancy Outcome Questionnaire (IPCPOQ)” was used to elicit responses from the respondents with sections; A-E, which assessed the demographic characteristics, prenatal care utilisation, pregnancy outcomes, factors influencing prenatal care utilisation and its barriers. A pilot study was conducted among 30 women in a neighboring Local Government Area not included in the main study, with the obtained responses subjected to Cronbach's Alpha reliability analysis, yielding a reliability coefficient of 0.82. According to Nunnally (1978), reliability coefficients above 0.70 are considered acceptable. Hence, the overall reliability coefficient of 0.82 indicated that the instrument was sufficiently reliable. Prior to data collection, permission was obtained from the facility management and informed consent of eligible respondents were obtained. Descriptive statistics of frequency counts and percentages were used in answering the research questions while inferential statistics of Pearson Chi-Square (χ^2) was employed to test the null hypotheses at 0.05 alpha level.

Results**Table 2:** Demographic Characteristics of Respondents

Variable	Frequency	Percentage (%)
Age		
15- 24yrs	68	23.9
25-34yrs	127	44.6
35-44yrs	72	25.3
Above 44 years	18	6.3
Total	285	100
Marital Status		
Single	36	12.6
Married	214	75.1
Divorced	14	4.9
Widowed	21	7.4
Total	285	100
Educational Qualification		
No Formal Education	21	7.4
Primary Education	52	18.2
Secondary Education	109	38.2
Tertiary Education	103	36.1
Total	285	100
Occupation		
Civil Servant	76	26.7
Trader	89	31.2
Artisan	41	14.4
Farmer	33	11.6
Unemployed	46	16.1
Total	285	100

Table 2 shows the spread of respondents across different categories in Ondo West Local Government Area. The table indicates that 127 respondents (44.6%) were between 25 and 34 years, representing the largest age category. Respondents aged 35–44 years constituted 25.3%, while those aged 15–24 years represented 23.9%. Women aged 45 years and above accounted for only 6.3%. Most respondents (75.1%) were married, suggesting that pregnancy experiences occurred predominantly within marital unions. A significant proportion of respondents possessed secondary education (38.2%) and tertiary education (36.1%), suggesting a relatively high literacy level among participants. Trading constituted the predominant occupation among respondents, accounting for 31.2%.

Answers to Research Questions

Research Question One: What is the level of prenatal care utilisation among child-bearing women in Ondo West Local Government Area?

Table 3: The Timing of Antenatal Registration and Number of Antenatal Contacts

Variable	Frequency	Percentage (%)
Registration Period		
First Trimester	148	51.9
Second Trimester	97	34.0
Third Trimester	40	14.1
Total	285	100
Number of Antenatal Contacts		
Less than 4	51	17.9
4–7 contacts	116	40.7
Above 7 contacts	118	41.4
Total	285	100

Results from table 3 above clearly indicate that more than half of the respondents (51.9%) initiated antenatal care during the first trimester, while 34.0% registered during the second trimester and 14.1% during the third trimester. This suggests relatively good awareness regarding early antenatal registration. Furthermore, a total of 118 respondents (41.4%) reported eight or more antenatal contacts in line with WHO recommendations, while 40.7% reported between four and seven contacts. This indicates a generally satisfactory level of antenatal care utilisation.

Research Question Two: What are the pregnancy outcomes among respondents in Ondo West Local Government Area?

Table 4: The pregnancy outcomes among respondents in Ondo West Local Government Area

Variable	Frequency	Percentage (%)
Positive Outcome	238	83.5
Adverse Outcome	47	16.5
Total	285	100

Results from table 4 above vividly indicate that most respondents (83.5%) experienced positive pregnancy outcomes, while only 16.5% reported adverse outcomes. Positive outcomes included: full-term delivery, healthy birth weight, absence of serious complications. Adverse outcomes included: low birth weight, preterm birth, pregnancy complications and neonatal complications.

Research Question Three: What factors influence prenatal care utilisation among child-bearing women among child-bearing women in Ondo West LGA?

Table 5: The factors influencing prenatal care utilisation among child-bearing women among child-bearing women in Ondo West LGA

Factor	Agree (%)	Disagree (%)
Educational Level	82.1	17.9
Household Income	79.6	20.4
Distance to Health Facility	75.8	24.2
Husband's Support	80.4	19.6
Health Workers' Attitude	77.5	22.5

Results from table 5 above indicate clearly that respondents identified education, income, spousal support, accessibility, and health worker attitudes as major determinants of prenatal care utilisation.

Testing the Null Hypotheses

Ho₁: There is no significant association between prenatal care attendance and pregnancy outcomes among child-bearing women in Ondo West Local Government Area.

Table 6a: Cross-tabulation of Prenatal Care Attendance and Pregnancy Outcomes among child-bearing women in Ondo West Local Government Area

Antenatal Care Attendance	Positive Outcome	Adverse Outcome
Adequate Antenatal Care	182	18
Inadequate Antenatal Care	56	29
Total	238	47

Table 6b: Pearsons' Chi-Square Analysis showing the association between prenatal care attendance and pregnancy outcomes among child-bearing women in Ondo West Local Government Area

Test	Value	df	Sig
Pearson Chi-Square	31.462		< .001
Likelihood Ratio	32.814	1	< .001
N of Valid Cases	285		

Results from tables 6a and 6b revealed that women who attended antenatal clinics adequately experienced significantly better pregnancy outcomes than those who attended inadequately. On this premise, the follow-up Pearson's chi-square pointed out p-value ($<.001$), as being less than the significance level of 0.05. Hence, the null hypothesis is rejected. This implies that there is a statistically significant association between prenatal care attendance and pregnancy outcomes among child-bearing women in Ondo West Local Government Area.

Ho₂: There is no significant association between timing of antenatal registration and pregnancy outcomes among child-bearing women in Ondo West Local Government Area.

Table 7a: Cross-tabulation of between timing of antenatal registration and pregnancy outcomes among child-bearing women in Ondo West Local Government Area

Registration Period	Positive Outcome	Adverse Outcome	Total
First Trimester	137	11	148
Second Trimester	77	20	97
Third Trimester	24	16	40
Total	238	47	285

Table 7b: Pearsons' Chi-Square Analysis showing the association between timing of antenatal registration and pregnancy outcomes among child-bearing women in Ondo West Local Government Area

Test	Value	Df	Sig
Pearson Chi-Square	23.884		< .001
Likelihood Ratio	24.911	2	< .001
N of Valid Cases	285		

Results from tables 7a and 7b revealed that women who commenced antenatal care during the first trimester experienced more favorable pregnancy outcomes than women who registered during later stages of pregnancy. On this premise, the follow-up Pearson's chi-square pointed out p-value ($<.001$), as being less than the significance level of 0.05. Hence, the null hypothesis is rejected. This implies that there is a statistically significant association between timing of antenatal registration and pregnancy outcomes among child-bearing women in Ondo West Local Government Area.

Discussion of Findings

The results of this study further strengthened the importance of the utilisation of prenatal care services as a determinant of good pregnancy outcome, which should be seen as a major facet of enhancing maternal and child health in Ondo West Local Government Area and in Nigeria generally. Education was found to be one of the strongest factors associated with utilisation of prenatal care, with better prenatal care being used among women with higher levels of education. Educational status came out as one of the strongest factors associated with the utilisation of prenatal care with better utilisation of prenatal care being seen among women with higher educational status. This result corroborates Nwosu and Ataguba (2019), who found education as a good predictor of maternal health care utilisation in Nigeria. Utilisation patterns were also significantly influenced by household income, spouse support, accessibility of health care facilities and positive attitudes of health care workers.

The study found that there was a significant association between the prenatal care attendance and pregnancy outcome. The rates of good pregnancy outcomes were significantly higher in those who attended antenatal clinics adequately than in those who failed to attend adequately. This discovery aligns with the WHO recommendation that the number of contacts with adequate antenatal care is associated with better maternal and child outcomes (WHO, 2016; Tunçalp et al., 2017). The results also support the study carried out by Fagbamigbe et al. (2021) which concluded that women who had attended the recommended ANC visits had better pregnancy outcomes and deliveries. They also singled out socioeconomic factors like income, education, and access to healthcare services as key factors affecting the quality of prenatal care. The results revealed that women who started ante natal care in 1st trimester had better pregnancy outcomes than women who registered later.

The study found a statistically significant relationship between the number of antenatal contacts and occurrence of pregnancy complications. The lowest rates of complications were seen among those that reported eight or more antenatal contacts. The finding is consistent with the WHO eight-contact model because increased contact with healthcare providers creates additional opportunities for maternal and fetal assessment, preventive care and timely identification and management of complications (WHO, 2016). Evidence from multiple low- and middle-income countries also indicates that antenatal care utilisation is associated with child health outcomes, although the magnitude of the association may vary according to the quality and content of care and the characteristics of the population studied (Kuhnt & Vollmer, 2017).

In addition, Awoleke and Olofinbiyi (2020) reported an association between inadequate utilisation of prenatal services and adverse pregnancy outcomes in their study population. Their findings support the broader observation that inadequate use of

antenatal services may be associated with poorer pregnancy outcomes. The importance of the content and quality of antenatal care is also supported by Salomon et al. (2019), who examined the quality of antenatal care in Nigeria in relation to the detection and management of hypertensive disorders during pregnancy. The discovery is congruent with the previous studies of Partridge et al. (2012) and Fagbamigbe et al. (2021) which found that early registration enables healthcare workers to correctly identify and handle risks associated with pregnancy before they escalate into serious complications. Early registration also provides more opportunities for nutritional interventions, immunisations, health education and monitoring fetal growth.

Conclusion

The conclusions drawn on the basis of the findings are highlighted as follow:

- Utilisation of prenatal services among the respondents was relatively high.
- The majority of respondents had favourable pregnancy experiences.
- The attendance for adequate prenatal care was significantly associated with the outcomes of pregnancy for child bearing women in Ondo West LGA.
- Prenatal care utilisation was significantly associated with pregnancy outcomes among women of reproductive age in Ondo West LGA.
- Prenatal care utilisation among child bearing women in Ondo West LGA is greatly influenced by the socioeconomic and healthcare system factors.

Recommendations

Based on the findings, the following recommendations were made for improvement:

- Health authorities and healthcare providers should intensify community health education to encourage pregnant women to register for antenatal care during the first trimester.
- Pregnant women should be educated on the importance of regular antenatal attendance, while health facilities should strengthen follow-up and appointment reminder mechanisms to promote continuity of care.
- Government should strengthen maternal-health support programmes that reduce financial and accessibility barriers, particularly for women with low income or limited educational opportunities.
- Health authorities should ensure adequate staffing, essential medicines, diagnostic services and positive healthcare worker attitudes across maternal-health facilities to improve utilisation and pregnancy outcomes.
- Community health programmes should provide sustained education on pregnancy danger signs, birth preparedness and timely healthcare-seeking behaviour, while involving husbands and families in supporting pregnant women.

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TOBACCO USE KNOWLEDGE, ATTITUDE, AND PRACTICE AMONG STUDENTS IN TERTIARY INSTITUTIONS IN ONDO TOWN, NIGERIA

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ABSTRACT

This study examined the knowledge, attitudes, and practices related to tobacco use among undergraduate students in three major tertiary institutions in Ondo Metropolis: Adeyemi Federal University of Education (AFUED), University of Medical Sciences (UNIMED), and Wesley University of Science and Technology (WUSTO). Adopting a descriptive survey design, a sample of 600 students was selected through stratified random sampling. Data were collected using a self-developed questionnaire, and analyzed using SPSS version 26. Results revealed that while students demonstrated high levels of knowledge regarding the health risks of tobacco use—such as lung cancer and addiction—misconceptions still existed, particularly about chewing tobacco. Attitudes toward tobacco use were largely negative, with widespread disapproval of smoking in public and on campus. However, 25.5% of respondents reported having used tobacco, and 15.5% were current users. Chi-square and ANOVA tests indicated significant relationships between tobacco use and knowledge, gender-based attitudes, and exposure to tobacco education. The findings highlight the gap between awareness and

behaviour, suggesting that knowledge alone is insufficient to curb tobacco use. The study recommends institution-wide education campaigns, stricter enforcement of smoke-free policies, and peer-led interventions to address the underlying factors sustaining tobacco use among students

Keywords: *Tobacco, Tobacco Use, Attitude, Practice, Tobacco Education*

Introduction

Tobacco use remains one of the most significant public health challenges globally. According to the World Health Organization (WHO, 2023), tobacco kills more than 8 million people annually, with over 7 million of those deaths resulting from direct tobacco use and approximately 1.2 million due to exposure to second-hand smoke. Despite widespread awareness of its harmful health effects, tobacco continues to be widely consumed, particularly among youths and young adults, including those in tertiary institutions. In Nigeria, tobacco use among youths is on the rise, fueled by factors such as peer pressure, stress, social influence, and the aggressive marketing tactics of tobacco companies (Global Youth Tobacco Survey, 2019).

Tobacco use is a major preventable cause of morbidity and mortality worldwide, yet its prevalence among young adults, particularly university students, remains alarmingly high. In Nigeria, despite the introduction of tobacco control policies such as the National Tobacco Control Act (2015), implementation and enforcement remain weak, particularly within tertiary institutions. The lack of effective health education campaigns and the normalization of tobacco use in social settings continue to contribute to the problem.

Tertiary institutions serve as a critical setting for shaping the behaviors, attitudes, and lifestyles of young adults. During this phase of life, students often gain greater independence and may be more

susceptible to engaging in risky behaviors, including tobacco use. The university environment, with its diverse social circles and academic pressures, may contribute to the initiation and maintenance of such behaviors. Moreover, the increased accessibility of tobacco products, along with limited enforcement of smoking bans on campuses, exacerbates the problem.

Ondo Metropolis, located in Ondo State, Nigeria, is home to several tertiary institutions, including Adeyemi Federal University of Education, University of Medical Sciences (UNIMED), and Wesley University of Science and Technology. These institutions attract a diverse student population from various socio-economic and cultural backgrounds. However, there is limited empirical data on the knowledge, attitudes, and practices (KAP) regarding tobacco use among students in these institutions. Understanding these factors is crucial for developing effective public health interventions and policies aimed at curbing tobacco use among young adults.

While national surveys provide broad insights into tobacco use trends, localized studies are essential to capture the specific dynamics within particular communities or institutions. The findings from such studies can guide tailored intervention programs that address the unique needs and challenges of the student population in Ondo Metropolis. Furthermore, exploring the knowledge, attitudes, and practices of students concerning tobacco use can help identify gaps in awareness, misconceptions, and behavioral patterns that may be targeted through health education and policy measures.

Furthermore, cultural, social, and psychological factors influencing tobacco use among students in Ondo Metropolis are not well understood. For instance, peer influence, stress management, and the desire for social acceptance may all play roles in encouraging tobacco use, yet these factors have not been sufficiently studied within the region. As a result, policy makers, school authorities, and health practitioners lack the necessary information to craft evidence-based strategies for prevention and cessation.

Therefore, this study is essential to fill the knowledge gap by providing a comprehensive analysis of tobacco use knowledge,

attitudes, and practices among students in Adeyemi Federal University of Education, University of Medical Sciences, and Wesley University of Science and Technology. By doing so, it aims to contribute to the growing body of literature on youth tobacco use in Nigeria and inform stakeholders on effective strategies to promote healthier lifestyles within academic environments. The insights gained will serve as a foundation for designing effective public health interventions and promoting tobacco-free environments in tertiary institutions in Ondo Metropolis.

Methodology

The study employed a descriptive survey research design, which was deemed appropriate for obtaining information on the prevailing status of phenomena such as students' knowledge, attitudes, and practices regarding tobacco use. This design facilitated the collection of both qualitative and quantitative data through standardized instruments. The target population consisted of undergraduate students from three major tertiary institutions in Ondo Metropolis: Adeyemi Federal University of Education (AFUED), University of Medical Sciences (UNIMED), and Wesley University of Science and Technology (WUSTO), with an estimated combined population of approximately 15,000 students.

A stratified random sampling technique was used to ensure equitable representation across the institutions. Students were selected from different faculties or departments using proportional allocation. A total sample size of 600 students was drawn, with 200 respondents from each institution. Data were collected using a self-designed instrument titled *Tobacco Knowledge, Attitude and Practice Questionnaire (TKAPQ)*, which comprised both closed-ended and Likert-scale items.

The face and content validity of the questionnaire were established by experts in health education and measurement and evaluation, whose feedback was used to refine unclear or ambiguous items. Reliability was assessed through a pilot study involving 30 students from a comparable institution not included in the main

study. Internal consistency was evaluated using Cronbach's Alpha. A coefficient of 0.70 was found and considered acceptable. Questionnaires were distributed in person with the assistance of trained research assistants. Respondents were assured of confidentiality and anonymity. Participation was voluntary, and informed consent was obtained from all participants.

Descriptive statistics such as frequencies and percentages were used to summarize demographic data and responses to questionnaire items. Inferential statistics, including chi-square tests and analysis of variance (ANOVA), were applied to test the study's hypotheses and examine relationships among variables. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS), version 26. The study adhered to ethical principles including voluntary participation, informed consent, confidentiality, and the right of respondents to withdraw at any point.

Results

Demographic Characteristics of Respondents

Table 1: Demographic Characteristics of Respondents (N = 550)

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	280	50.9%
	Female	265	48.2%
	Other	5	0.9%
Age	16–20	150	27.3%
	21–25	310	56.4%
	26–30	75	13.6%
	31+	15	2.7%
Institution	AFUED	190	34.5%
	UNIMED	180	32.7%
	WUSTO	180	32.7%

Out of 600 questionnaires distributed, 550 were properly completed and returned, resulting in a high response rate of **91.7%**. The sample included slightly more males (**50.9%**) than females (**48.2%**), with a very small representation of other gender identities (**0.9%**). This indicates a relatively balanced gender composition. The majority of respondents fell within the **21–25 age group (56.4%)**, followed by **16–20 years (27.3%)**, **26–30 years (13.6%)**, and a small percentage aged **31 and above (2.7%)**. This distribution reflects a typical undergraduate age range, suggesting the sample is representative of the general student population. All three institutions—**AFUED (34.5%)**, **UNIMED (32.7%)**, and **WUSTO (32.7%)**—were nearly equally represented. This demonstrates successful implementation of the stratified random sampling strategy, ensuring proportional inclusion across institutions. Overall, the demographic profile indicates a diverse and representative sample of undergraduate students in Ondo Metropolis, suitable for generalizing findings within this population.

Analysis of Respondents' Knowledge on Tobacco Use

Table 2: Knowledge of Tobacco Use and Health Risks (N = 550)

Statement	Yes (%)	No (%)	Not Sure (%)
Smoking can lead to lung cancer	92.5	4.0	3.5
Second-hand smoke is harmful	88.0	6.2	5.8
Chewing tobacco is less harmful	21.4	65.3	13.3
Tobacco use is addictive	90.6	3.2	6.2
Occasional smoking does no harm	18.1	71.7	10.2

The data indicate that the respondents generally possess a high level of knowledge regarding the health risks associated with tobacco use: An overwhelming majority (92.5%) recognized that smoking can

cause lung cancer, reflecting strong awareness of this widely known health risk. Similarly, 88.0% acknowledged the dangers of second-hand smoke, suggesting good public health messaging has reached this demographic. A significant proportion (90.6%) understood that tobacco use is addictive, which is essential knowledge for tobacco prevention efforts.

Only 21.4% of respondents correctly disagreed that chewing tobacco is less harmful, while 65.3% correctly identified it as harmful, and 13.3% were unsure. This reveals some lingering misconceptions and indicates a need for education about non-smoking forms of tobacco. A large portion (71.7%) correctly rejected the idea that occasional smoking is harmless, although 18.1% still believed it posed no danger, showing that certain myths persist among a minority of students. While overall knowledge is high concerning major tobacco-related risks, there are still gaps in understanding regarding less commonly discussed forms (e.g., chewing tobacco) and beliefs about "occasional" use. These gaps highlight the need for comprehensive tobacco education targeting all forms and usage patterns.

Analysis of Attitudes toward Tobacco Use

Table 3: Attitudes toward Tobacco Use (Likert Scale Responses, N=550)

Statement	Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)
Smoking relieves stress	12.5%	28.2%	35.6%	23.6%
Tobacco makes one look mature	9.1%	18.9%	40.2%	31.8%
Disapproval of public smoking	54.6%	30.1%	10.9%	4.4%
Smokers deserve equal respect	46.2%	32.0%	12.5%	9.3%
Smoking should be allowed on campus	6.7%	10.4%	41.6%	41.3%

The attitude of respondents toward tobacco use was largely negative, as reflected in their responses to various attitude statements: Only 40.7% (SA + A) agreed, while the majority (59.2%) disagreed,

indicating that most students do not perceive smoking as a valid stress-relief method. Just 28.0% agreed, whereas a notable 72.0% (D + SD) disagreed, debunking the common misconception that tobacco enhances personal image or maturity. A large majority (84.7%) expressed disapproval, with 54.6% strongly agreeing. This shows strong support for smoke-free public spaces among students.

Although 78.2% agreed, this reflects a nuanced view where students disapprove of the act of smoking but do not necessarily stigmatize smokers themselves. This suggests an empathetic but health-conscious student population. An overwhelming majority (82.9%) disagreed with allowing smoking on campus, reinforcing students' support for smoke-free academic environments. Students showed predominantly negative attitudes toward tobacco use and its acceptability, particularly in academic and public settings. However, the recognition that smokers deserve respect signals a balanced perspective that opposes the behavior, not the individual. These attitudes align well with anti-smoking policies and can be leveraged in peer-led interventions and public health campaigns.

Analysis of Tobacco Use Practices

Table 4: Tobacco Use Behavior (N = 550)

Variable	Category/Statistic	Value
Ever used tobacco	Yes	140 (25.5%)
Currently using tobacco	Yes	85 (15.5%)
Most common forms of use	Cigarettes	50.6%
	Shisha	25.3%
	E-cigarettes	13.4%
	Snuff/Chew	10.7%
Usage frequency	Daily	7.3%
	Weekly	8.2%
	Occasionally	65.4%
	Rarely	19.1%
Mean age of first use	—	18.4 years

Out of 550 respondents, 25.5% had used tobacco at least once, and 15.5% reported current use. This indicates that although awareness is high, a significant proportion of students still engage in tobacco use. Cigarettes were the most commonly used form (50.6%), followed by shisha (25.3%), e-cigarettes (13.4%), and snuff/chewing tobacco (10.7%). This suggests that both traditional and alternative tobacco products are present among users, with conventional cigarettes still dominating. The majority of users reported using tobacco occasionally (65.4%), while only 7.3% used it daily and 8.2% weekly. A smaller group (19.1%) used it rarely. This pattern may reflect social or recreational usage rather than habitual dependence among most users.

The mean age of first use was 18.4 years, indicating that tobacco initiation typically begins around the late teenage or early tertiary education years—a critical period for prevention interventions. The findings highlight that while most students are not regular tobacco users, a considerable number have experimented with or currently use tobacco, often in social contexts. Cigarettes remain the most popular form, but shisha and e-cigarettes are also notably used. The data underscore the importance of early intervention and sustained education programs, particularly targeting first-year students and new entrants into tertiary institutions.

Exposure to Tobacco Control Policies and Education

Table 5: Policy Awareness and Education

Statement	Yes (%)	No (%)
Seen anti-smoking campaigns	62.0%	38.0%
Aware of laws on public smoking	70.4%	29.6%
School has smoke-free policy	54.7%	45.3%
Received tobacco education	48.2%	51.8%
Support ban on tobacco use in school	81.3%	18.7%

A moderate 62.0% of students reported exposure to anti-smoking campaigns, indicating that public health messaging is reaching the majority, but not all. There remains a gap in campaign visibility or reach. 70.4% of respondents were aware of laws prohibiting public smoking. This high awareness level is encouraging and suggests that legislative efforts are being communicated effectively. Only 54.7% were aware that their school had a smoke-free policy. This suggests that even where such policies exist, communication or enforcement may be insufficient. Less than half of the respondents (48.2%) reported receiving formal tobacco education, while a majority (51.8%) had not. This highlights a critical gap in preventive education within institutional settings.

An overwhelming 81.3% of students supported banning tobacco use in schools, reflecting strong backing for campus-based tobacco control measures. While awareness of public smoking laws and anti-smoking campaigns is relatively high, institutional policies and education programs are less consistently recognized. The strong support for banning tobacco in schools shows that students are receptive to stricter regulations, and institutions can capitalize on this by increasing visibility of existing policies and integrating structured tobacco education into student programs.

Hypotheses Testing

Hypothesis 1: There is no significant relationship between knowledge and tobacco use behavior.

Table 6: Relationship between Knowledge and Tobacco Use Behavior

Hypothesis	Test Used	Test Statistic	p-value	Decision
H0	Chi-square (χ^2)	$\chi^2(2, N = 550) = 21.37$	$p < 0.05$	Rejected

The chi-square test examined the association between students' knowledge of tobacco risks and their actual tobacco use behavior. The test yielded a chi-square statistic of 21.37 with 2 degrees of

freedom, and the p-value was less than 0.05, indicating statistical significance. Since the p-value is below the 0.05 threshold, the null hypothesis (H_0)—which stated that there is no significant relationship between knowledge and tobacco use behavior—was rejected.

There is a significant relationship between students' knowledge about tobacco and their tobacco use behavior. This implies that students who are more informed about the risks of tobacco are less likely to use it, although, as noted in earlier results, knowledge alone does not entirely prevent use, pointing to the influence of other social and environmental factors.

Hypothesis 2: There is no significant difference in attitude based on gender.

Table 7: Difference in Attitude Based on Gender

Hypothesis	Test Used	Test Statistic	p-value	Decision
H0	ANOVA	$F(2, 547) = 3.92$	$p < 0.05$	Rejected

An Analysis of Variance (ANOVA) test was conducted to determine whether students' attitudes toward tobacco use differ significantly based on gender. The result showed an F-value of 3.92 with 2 and 547 degrees of freedom, and a p-value less than 0.05, indicating a statistically significant difference. Since the p-value is below the 0.05 threshold, the null hypothesis (H_0)—which stated that there is no significant difference in attitude based on gender—was rejected.

There is a significant difference in attitudes toward tobacco use among different gender groups. This suggests that male, female, and other gender-identifying students hold varying perceptions and responses to tobacco-related issues, which may be influenced by cultural, social, or psychological factors. This finding emphasizes the need for gender-sensitive tobacco education and intervention strategies, as a one-size-fits-all approach may not effectively address the differing attitudes across gender groups.

Hypothesis 3: There is no significant association between exposure to tobacco education and tobacco use.

Table 8: Association between Exposure to Tobacco Education and Tobacco Use

Hypothesis	Test Used	Test Statistic	p-value	Decision
H0	Chi-square (χ^2)	$\chi^2(1, N = 550) = 18.14$	$p < 0.05$	Rejected

Discussion of Major Findings

The findings show that most respondents (above 85%) are aware that tobacco use is harmful and can cause lung cancer, addiction, and other health risks. This aligns with previous studies (Oladele & Afolayan, 2019; WHO, 2020) that found high levels of awareness among educated youth populations. However, some misconceptions persist, such as the belief that chewing tobacco is less harmful, indicating a gap in comprehensive knowledge.

Attitudes toward tobacco use among students were largely negative. The majority disagreed with statements that smoking relieves stress or should be allowed on campuses. This mirrors findings by Adesokan et al. (2020) that increasing awareness contributes to negative perceptions of tobacco. However, about 40% agreed that smokers deserve equal respect, highlighting a nuanced view on stigma and personal rights.

Despite good knowledge and negative attitudes, 25.5% of respondents had used tobacco, and 15.5% were current users. This discrepancy between knowledge/attitude and behavior has been noted in similar research (Ibrahim & Owoyele, 2018). Factors such as peer pressure, stress, and social influences may explain why some students continue to use tobacco despite awareness of its risks.

The study found that exposure to tobacco control campaigns and education correlates with reduced usage. Students aware of anti-smoking policies and who received education were significantly less likely to use tobacco. This supports the Social Ecological Model, which highlights the importance of environmental and policy-level interventions in shaping behavior (McLeroy et al., 1988).

Conclusion

The study concludes that while knowledge and attitudes about tobacco use are generally positive among students in Ondo Metropolis, a significant proportion still engages in tobacco use. This paradox underscores the need for more targeted, sustained, and institution-wide efforts to discourage tobacco use. Educational programs, stricter campus policies, and peer-led initiatives could bridge the gap between awareness and behavior.

Recommendations

The following were recommended in line with the conclusion of the study.

Strengthen Health Education Programs: Institutions should integrate tobacco education into general health curricula and orientation programs.

Enforce Smoke-Free Campus Policies: Clear signage and enforcement of existing policies should be improved across all campuses.

Peer Education and Support Groups: Encourage student-led campaigns and support groups for cessation.

Regular Awareness Campaigns: Collaborate with health organizations to conduct periodic awareness drives using both digital and physical media.

Further Research: More qualitative research is needed to explore underlying motivations behind tobacco use despite high awareness.

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PHYSICAL ACTIVITY LEVEL AND ACADEMIC PERFORMANCE AMONG UNDERGRADUATES IN ADEYEMI FEDERAL UNIVERSITY OF EDUCATION, ONDO, ONDO STATE

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Abstract

This study investigates the relationship between physical activity and academic performance among undergraduates in Adeyemi Federal University of Education, Ondo State, Nigeria. In an academic environment where physical wellness is often overlooked, students are increasingly exposed to sedentary habits, stress, and declining academic efficiency. While existing global studies affirm the cognitive and academic benefits of physical activity, there is limited empirical evidence within Nigerian tertiary institutions to support these claims. This study adopted an ex post facto research design with a sample size of 390 undergraduates selected through multistage sampling techniques. Data were collected using the International Physical Activity Questionnaire (IPAQ) to assess physical activity levels, and students' Cumulative Grade Point Average (CGPA) was used to measure academic performance. Analysis was conducted using SPSS version 23, employing Mean, Standard Deviation (SD), and Pearson Product-Moment Correlation (PPMC) as statistical tools. Findings revealed that majority of the students (67.7%) fall within the unhealthy category of physical activity participation. Moreover, a statistically significant positive correlation was found between physical activity level and academic performance ($r(388) = 0.53, p = 0.034$). Based on the findings, it is concluded that students in Adeyemi Federal University of Education, Ondo have not been engaging in adequate physical activities as recommended and, there is positive relationship between physical activity participation and academic performance. It is then recommended that there is need for

institutional strategies by the University management and the Government to promote physical activity as a means of enhancing student academic performance and overall well-being.

Keywords: Physical Activities, Academic Performance, Undergraduates, CGPA

Introduction

Academic performance in youth is an important indicator of adult physical and mental health. An active lifestyle, being physically fit and a healthy body composition during childhood and adolescence and young adulthood may have an influence on academic performance. As such, engaging in physical activity, being physically fit and maintaining a healthy body composition may be crucial for a better healthy life. (Ruiz et al., 2010). Although their physical health benefits are well-known (Luppino et al., 2010; Ortega et al., 2008; Strong et al., 2005), there is an emerging body of evidence of the potential effects of these health-related factors on academic performance in children and adolescents.

Several cognitive processes have been widely related to academic performance (i.e. general cognitive ability, intelligence, and processing speed, and executive control function) (Hillman et al., 2012). Specifically, executive control function (also known as cognitive control) is one of the most important processes for academic performance, which involves inhibition, working memory and cognitive flexibility (Hillman et al., 2012).

Inhibition refers to the ability to filter irrelevant environmental information, override a prepotent response, and stop an ongoing response, abilities that are central to attention and action control. Working memory is defined as an ability to temporarily store and manage information while learning and responding to cognitive challenges. Cognitive flexibility includes the ability to restructure knowledge and information based on changing situational demands (Chaddock et al., 2012). Among the cognitive control factors, both

inhibition and working memory have been implicated in mathematical and reading ability, however the role of cognitive flexibility on academic performance has not been identified (Bull and Scerif, 2001). The positive relationship between exercise and physical activity is a precursor to the discussion concerning the connection between physical fitness and academic performance.

Physical activities refer to all human movement including during leisure time, home and workplace. In 2008, the US Department of Health and Human Services defined physical activity as any bodily movement produced by the contraction of skeletal muscle that increases energy expenditure above a basal level (US Department of Health and Human Services, 2008; Bakinde & Akinkuade, 2022). It includes all types of movements and contributes to the overall energy expenditure. The term exercise describes different concepts. Exercise is defined as that physical activity which is planned, structured, repetitive, and maintains or improves physical fitness. In turn, physical fitness is a set of outcomes or traits that relates to the ability to perform physical activity. Hence, physical activity is viewed as a health-related behavior that can influence the development of physical fitness (Welk, 2002).

It is also important to take into account physical activity as it relates to the multiple demands of childhood and adolescence associated with physical growth, biological maturation, and behavioral development (Strong et al., 2005). Additionally, the evidence has led to recent reports, such as *the Healthy People 2020* in the United States, that establishes health goals, recognizes the importance of physical activity and includes new specific physical activity goals. In 2010, the World Health Organization developed similar Physical Activity Recommendations for children and adolescents aged 5-17 years: youth should accumulate at least 60 minutes of moderate- to vigorous-intensity physical activity daily and the majority of this physical activity should be aerobic. Physical activity at vigorous intensity should be included, as well as those exercises that strengthen muscle and bone, at least 3 times per week.

The association between physical activity and academic

performance is of great relevance due to the ongoing debate between health organizations which aim to increase physical activity during the school days and educational institutions which aims to increase time devoted to academic subjects. The effect of physical activity on the brain could be the results of several factors, including increased flow of blood (VicenteCampos et al., 2012; Jorgensen et al., 2000), and oxygen to the brain (Vicente-Campos et al., 2012), as well as higher levels of chemicals and increased activity-dependent synaptic plasticity (Vivar et al., 2013). These physiological changes may be associated with (i) improved attention, (ii) improved information processing, storage, and retrieval; (iii) enhanced coping; (iv) enhanced positive affect and (v) reduced sensations of cravings and pain.

Impacts of Physical Activity on Learning in Classroom

Physical activity increases students' capacity for learning (Kong, 1999). Learning through movement is vital for a successful experience in school. "Exercise, besides shaping up bones, muscles, heart and lungs also activates major growth of neurons and nerve nets in the basal ganglion, cerebellum and corpus callosum of the brain. Aerobic exercise increases the supply of blood and oxygen to the brain" (Hannaford, 2005). Physical activity helps individuals concentrate and focus (Young, 2001). Being physically active in school has positive impacts on learning in the classroom. Thanks to advances in brain research, we are now aware that most of the brain is activated during some sort of physical activity, much more than when sitting behind a desk (Maier, 2001). Movement expands blood vessels that allow for the delivery of oxygen, water, and glucose to the brain, which optimizes the brain's performance (Pica, 2004). Therefore, physical activity increases the blood flow, which in turn, increases cognitive functioning.

One Canadian study conducted by Pica (2004) shows how academic scores increased when a third of the school day was devoted to physical education. Another study by Pica (2004) demonstrated children participating in five hours of vigorous

physical activity a week had stronger academic performance in math, English, natural sciences, and French than children with only two hours of physical activity per week. Children who participate in daily physical education have been shown to perform better academically and to have a better attitude toward school (Sadler & Tentinger, 1993).

Physiology of Physical Activity and Fitness

When the body experiences increase in physical activity and exercise, especially increased aerobic demands, changes occur instantaneously. These changes occur for males and females, and for children and adults alike. All of the body's systems change dramatically when a person transitions from resting state to exercise. Increased blood flow because of cardiorespiratory response to exercise includes an increase of blood flow to the skin and active skeletal muscles (U.S. Surgeon General, 1996). Short-term and long-term effects of improved cardiorespiratory fitness may include a reduction of depression and anxiety, and an increase in self-esteem. These effects can lead to a positive relationship with academic performance (Sigman, 2008). Blood pressure increases with dynamic exercise, and oxygen extraction and pulmonary ventilation occurs instantaneously. More blood flow to the brain helps the brain function at a more efficient level (U.S. Surgeon General, 1996). Physical activity also reduces the levels of cortisol while stress triggers an increase of cortisol. Excess cortisol renders the brain less capable of completing complex skills, as well as basic planning, judgment, and problem solving which can negatively affect academic performance in children and adolescents (Hall, 2007).

Studies on brain research that concentrate on the relationship between physical activity and cognition usually focus on the hippocampus, which controls memory and learning. Exercise has been shown to increase more synaptic connections, which can be an indicator for improved academic achievement (Trudeau & Shephard, 2008). According to Taras (2005), physical activity also improves overall circulation and blood flow to the brain, along with higher

levels of endorphins and nor-epinephrine. Shephard (1996) concluded that exercise and physical activity helps reduce boredom, thus increasing attention span, and increases self-esteem and concentration. Physiologic differences between boys and girls have been noted, as boys may need a greater level of activity stimulus to achieve the same effects as girls (Carlson et al., 2008; Sigman, 2008). The positive relationship between exercise and physical activity is a precursor to the discussion concerning the connection between physical fitness and academic performance.

Statement of the Problem

In Nigeria, particularly at the tertiary education level, academic excellence is often prioritized at the expense of students' physical well-being. Institutions like Adeyemi Federal University of Education in Ondo State, emphasis is heavily placed on intellectual achievement, often leading to limited participation in structured physical activity among undergraduates. As academic workloads increase, physical activities and recreational opportunities are frequently overlooked, with little awareness of the potential consequences on students' academic performance and mental health. This growing neglect of physical activity among university students is particularly concerning given the rising prevalence of sedentary lifestyles, academic burnout, stress, and declining cognitive efficiency. Despite international studies suggesting a strong link between regular physical activity and improved concentration, memory, and overall academic performance, there remains a lack of localized research within Nigerian tertiary institutions to confirm or challenge these findings. Therefore, it is imperative to investigate the relationship between physical activity and academic performance among undergraduates at Adeyemi Federal University of Education to inform evidence-based strategies that foster both academic and physical development.

Objectives of the Study

The objectives of the study are:

- to find out the physical activity level of students in Adeyemi Federal University of Education, Ondo
- to investigate the relationship between the physical activity level and the academic performance of students in Adeyemi Federal University of Education, Ondo.

Research Questions

The following questions were raised and answered;

- What is the physical activity level of undergraduates in Adeyemi Federal University of Education.
- is there any significant relationship between the physical activity level and the academic performance of undergraduates in Adeyemi Federal University of Education, Ondo?

Methodology

Ex-post facto research design was adopted for this study. An ex-post facto research design is a method in which groups with qualities that already exist are compared on some dependent variable and the assignment of subjects to different groups is based on whichever variable is of interest to the researcher. The population of the study comprised all the undergraduates in Adeyemi Federal University of Education, Ondo. A sample of 390 respondents was selected for this study. Multistage sampling technique was used in selecting the sample. An adapted International Physical Activity Questionnaire (IPAQ) was used to obtain the physical activity status of the respondents and the Cumulative Grade Point Assessment (CGPA) was used to obtain information about the academic performance of the respondents. A coefficient ($r = 0.72$) was obtained after a test-retest method was carried out to check the reliability of the instrument. Data were analysed with Statistical Package for Social Science (SPSS) version 23.0 using frequency, percentage, mean and standard deviation for the demographic data of the respondents, while Pearson Product Moment Correlation (PPMC) analysis was used to test the relationship between the physical activity level and the academic performance of the respondents at 0.05 alpha level.

Table 1: Classification of Physical Activity Level

Physical Activity Level	Low/Sedentary Vigorous		Moderate
Rating	Less than 600 <i>METmin/week</i>	601-3000 <i>MET-min/week</i>	Above 3000 <i>METmin/week</i>

Source: (WHO, 2004; Bakinde & Akinkuade, 2022)

Results

Table 2

Physical Activity Level of the respondents in the study

Variable & Category	Mean $\pm$ SD (MET – min/week)	Frequency	Percentage (%)
MET	1548.89 $\pm$ 967.11		
Healthy Level		126	32.3
Non - Healthy Level		264	67.7
Total		390	100.0

Table two reveals that majority of the students ($N = 264$) are within the unhealthy level of physical activity ($MET < 600\text{min/week}$) while only 32.3% ($N = 126$) of the respondents are within the healthy level of physical activity ($MET > 600\text{min/week}$).

Question 2: Is there any significant relationship between the physical activity level and the academic performance of undergraduates in Adeyemi Federal University of Education, Ondo?

Table 3: Pearson Product Moment Correlation (PPMC) Analysis showing the relationship between the variables

Variable	N	Mean	Standard deviation	Df	r	P-value
Physical Activity Level	390	1548.89	± 967.11	388	.53	.034
Academic Performance	390	3.27	.74			

$P < 0.05$

Table three revealed that there is a significant correlation between physical activity level and the academic performance of undergraduates in Adeyemi Federal University of Education, Ondo because the calculated significant value (.034) is lesser than the 0.05 alpha level, that is, $r(388) = 0.53$, $p = 0.034$. This indicates that physical activity level and academic performance were moderately positive correlated.

Discussion of findings

The results indicate a significant proportion of students (67.7%) are not engaging in physical activity at a level considered beneficial for health. This trend aligns with broader patterns observed among university students globally, where academic obligations often lead to decreased physical engagement. Sedentary behaviours, if not addressed, could lead to poor physical health and decreased mental performance.

The positive and statistical correlation between physical activity and academic performance observed in this study agrees with existing findings in literature. Researchers like Vilas (2021) and Hillman et al. (2012) have demonstrated how physical activity enhances brain function, memory, and attention. These factors significantly contribute to better academic outcomes. Moreover, the moderate strength of the correlation reveals that while physical activity is not the sole determinant of academic performance, it plays a meaningful contributory role. These findings support biopsychosocial perspectives which argue that physical health and mental function are interconnected (Vilas, 2021). The use of CGPA as an academic metric and IPAQ for physical activity assessment lends credibility to the study's findings.

Conclusion

Based on the findings of this study, the following conclusions were drawn;

1. A large proportion of students engage in physical activity at unhealthy levels, which may negatively affect their academic and psychological well-being.

2. The significant correlation between physical activity and CGPA indicates that students who are more physically active tend to perform better academically.

Recommendations

Based on the conclusion, it is then recommended that,

1. The college should implement structured physical activity sessions as part of the academic timetable to encourage regular student participation.
2. The government and non-governmental organisations should create more periodic awareness programs highlighting the benefits of physical activity for mental and academic health.
3. Educational institutions should mandate a minimum level of physical engagement for students and support recreational programs with adequate funding.

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**PSYCHOLOGICAL FACTORS AS PREDICTORS OF
ANOREXIA NERVOSA AMONG FEMALE IN-SCHOOL
ADOLESCENTS IN IBADAN NORTH LOCAL
GOVERNMENT AREA OF OYO STATE**

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ABSTRACT

Anorexia Nervosa is an eating disorder that is characterized by deliberate restriction of food intake, obsessive fear of weight gain, and an overpowering desire to be thin, leading to severe caloric reduction and self-starvation. Despite the challenging and health consequences of anorexia nervosa, this disease mostly affects adolescents, especially females. It is on this premise that this study seeks to examine psychological factors as predictors of anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. Descriptive research design of correlational type was adopted. Multistage sampling procedure was used to select three hundred (300) respondents for the study. A self-constructed questionnaire was used as an instrument for data collection. The study revealed, among others, that low self-esteem, fear of weight gain, and history of trauma had significant joint predictions on anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. Based on the findings, it was recommended that educational programmes should be included in the school curriculum to create

awareness of the negative impact of anorexia nervosa on the health of the students. Also, the government, through the Ministry of Health and Education, should create platforms to sensitize the students on the importance of adequate nutrition to the body.

Key words: Anorexia Nervosa, Female in-School Adolescents, Ministry of Health, Ibadan North Local Government.

Introduction

An eating disorder is a serious mental health condition characterized by abnormal or disturbed eating habits that negatively impact an individual's physical and emotional well-being. Eating disorders are associated with eating behaviours such as either consuming too little or too much food. They are intricate conditions resulting from a mix of genetic, biological, psychological, and sociocultural factors that interfere with normal eating behaviours. This interference in eating patterns can manifest as extreme diets, compulsive overeating, or severe fear of gaining weight. Individuals with eating disorders can experience significant distress, anxiety, depression, and even suicidal thoughts. It can also lead to severe medical complications, which include malnutrition, heart problems, digestive issues, weak immunity, organ damage, and, in extreme cases, can be life-threatening.

Among the examples of eating disorders is anorexia nervosa, which is a particularly life-threatening mental illness, commonly prevalent among teenagers and characterised by a deliberate restriction of food intake and an obsessive fear of gaining weight, leading to severe caloric reduction and self-starvation. Anorexia nervosa, also called anorexia, is an eating disorder that has consequences on both the physical, emotional, and psychological well-being of an individual. The word anorexia nervosa literally means "nervous loss of appetite", and persons with anorexia struggle with hunger daily (Peleg, Boniel-Nissim and Tzichinsky, 2022). Thus, an anorexic patient suffers from self-starvation and sees weight loss as a sign of accomplishment.

The onset of anorexia nervosa typically occurs in adolescence, whereby females are ten times more likely to be diagnosed with anorexia nervosa compared to males. Hormonal changes like puberty, menstruation, and pregnancy among females affect mood and appetite. Pregnancy, for instance, intensifies body image issues due to the occurrence of physical changes. In several parts of the world, thinness has been idealized as the standard for beauty in women and this has led to women and girls trying to conform to unrealistic standards thereby altering their eating beliefs. The incidence rate of anorexia nervosa varies widely depending on the methodology, population, and diagnostic criteria used. The lifetime incidence of anorexia nervosa has increased from 0.1 to 5.4 per 100,000 over the last fifty years. It is estimated to occur in 0.3% to 4.3% of women and 0.2% to 1% of men in Western countries at some point in their life. About 0.4% of young women are affected in a given year, and 1 in 5 patients with anorexia dies due to complications of the disease (Royal College of Psychiatrists, 2022).

The lifetime prevalence of anorexia nervosa is 0.66-1.9% based on geographical location, with a higher prevalence in developed countries. The prevalence of anorexia nervosa has been investigated mainly in samples of young women in Europe and North America, where the average point of prevalence has been 0.3%. The lifetime prevalence among adult women has been reported as 0.5% - 0.6% in two large population-based surveys in the United States and Canada, while the prevalence among men is 0.1% (Muhammed al., 2018).

According to Edwards (2017), several characteristics distinguish disorders associated with avoiding or restricting food intake, including a lack of interest in food itself or in selected food products, which leads to weight loss and/or impaired growth. Infants and small children are reluctant to eat meals and do not inform their parents/caregivers when they are hungry and, at the same time, engage in other activities/games in order to avoid eating. Other symptoms may include drowsiness or excessive agitation during feeding. However, in older children and adolescents, avoiding or restricting food intake may be related with general emotional

disorders, which are not diagnosed as, among others: anxiety, bipolar disorder, at times described as an “food avoidance emotional disorder” (Ogundele, 2018).

Affective symptoms of anorexia nervosa may include depression, feeling ashamed of oneself or one's body, rapid mood swings, emotional dysregulation, alexithymia, behavioural symptoms, food or energy restrictions despite being underweight or at a healthy weight, food rituals, such as cutting food into tiny pieces, refusing to eat around others, and hiding or discarding of food. Purging (only in the anorexia purging subtype) with laxatives, diet pills, ipecac syrup, or diuretics to flush food out of their system after eating or engage in self-induced vomiting. Anorexia purging is a subtype of anorexia, wherein the person severely restricts most of the time but has recurring episodes of binge eating. After bingeing, they engage in purging behaviors. This is different from bulimia nervosa (WHO, 2019).

The causes of anorexia are varied and may differ from individual to individual. One of the major causes is a result of genetic risk factors; all eating disorders were associated with variable heritability rates. Anorexia nervosa seems to be highly familial, with heritability estimates from twin studies ranging from 28% to 74% and a potential risk of eleven times higher than in the general population of female relatives of individuals with anorexia nervosa of developing the disorder themselves. Perceptual symptoms of anorexia may include perception of self as overweight, in contradiction to a normal or underweight reality, namely "body image disturbance" (Edwards, 2017).

The prevalence of anorexia nervosa is estimated to be 1.5% in adolescent females and 0.1% in adolescent males. In females aged 15-19 years, the incidence has increased from 56.4 to 109 100,000 person-years. There is only sparse data related to the racial and ethnic distribution of anorexia nervosa, but recent studies suggested that the disorder may be less common in people of African origin (Gibson et al., 2020). Low self-esteem is a major psychological factor that causes anorexia nervosa in female in-school adolescents. Low self-

esteem is a negative evaluation of oneself, which is usually accompanied by a lack of confidence and a feeling of deficiency. Female students who have low self-esteem lack confidence about who they really are and their abilities, as they often feel not qualified, not loved or inadequate.

People who struggle with low self-esteem are consistently afraid of making mistakes or letting other people down (Ogundele, 2018). Low self-esteem can result from various factors, including genetic factors, physical appearance or weight, mental health issues, socioeconomic status, significant emotional experiences, social stigma, peer pressure, and even bullying. A major factor in low self-esteem, however, comes from an individual's mental state. Mostly, the individual believes negative thoughts and an inner voice telling them they aren't good enough or not worth anything, even when there is evidence to the contrary. Negative thinking is linked to low self-worth and low self-esteem. They also use negative words to describe themselves and have a strong conviction about such words (Yang, 2021).

Female adolescents are vulnerable to low self-esteem. There is a relationship between body dissatisfaction, drive for thinness, and low self-esteem in girls aged 14-24 (Lombardi *et al.*, 2019). Specifically, the pervasive sense of inadequacy in managing the increase of pubertal drives may disrupt the body's relationship, leading to a detachment from the body, along with a less protective stance toward the body. Such a body image disregard pattern stays stable or increases over adolescence and the transition into adulthood. They are concerned about their body as their attention is channeled to developing a fit physical body. Many adolescents with low self-esteem seek methods to gain control over their lives and enhance their self-worth. Thus, anorexia nervosa can be perceived as a way to achieve this control. By rigorously regulating their food intake and achieving weight loss, they may experience a sense of accomplishment and mastery. Perfectionism, which frequently accompanies low self-esteem, can also contribute, as these

adolescents strive to attain the "perfect" body (Edwards, 2017).

Furthermore, another psychological factor that causes anorexia nervosa in female in-school adolescents is the fear of gaining weight. Weight gain refers to an increase in body weight. This can result from increases in muscle mass, fat deposits, excess body fluids, and other factors. During adolescence, hormonal changes can lead to weight gain. Hormones such as insulin, cortisol, and thyroid hormones can influence body weight. Hormonal imbalances can lead to weight gain or difficulty losing weight. Moreover, among female adolescents, they become picky with the type of diet they consume in the quest for keeping a particular body shape, thereby engaging in restrictive diets or self-starvation. In addition, genetics also is a predictor of body weight and fat distribution. Some individuals are genetically predisposed to gain weight more easily, irrespective of their diet. Parents who are huge or plump in size have a tendency to produce children with that same stature. These individuals tend to undergo strenuous exercise just to keep their bodies in check (Treasure *et al.*, 2021).

School environments can heighten the fear of gaining weight due to the strong focus on physical appearance and social acceptance. Adolescents often face pressure from peers to meet specific body standards. Remarks and actions from peers, whether explicit or implicit, can reinforce the belief that thinness is preferable and weight gain is undesirable. Most of the time, female students form cliques among themselves and tend to share similar body sizes and weights. This peer pressure can exacerbate the fear of gaining weight, as adolescents strive to conform and be accepted by their social circles (Yang, 2021).

History of trauma amongst female in-school adolescents is a psychological factor that predicts the prevalence of anorexia nervosa. Adolescents who have experienced trauma or abuse may develop anorexia nervosa as a coping mechanism. Engaging in restrictive eating can offer them a sense of control and help numb emotional pain. Adolescents are prone to various forms of trauma that may contribute to the development of anorexia nervosa. Trauma may

include: physical abuse, emotional abuse, sexual abuse, bullying, parental neglect, witnessing domestic violence, chronic illnesses, and loss of loved ones (World Health Organization, 2019).

According to Sehm and Warschburger (2018), adolescents who have experienced trauma often feel a loss of control over their lives. Restrictive eating and weight control can provide a sense of mastery and autonomy. By controlling their food intake, they reclaim a sense of order and predictability in their lives, which they lack due to traumatic experiences. Also, when sexually abused, individuals can dissociate from their bodies. Anorexia nervosa can be a means to further disconnect from their physical self, as they view their body as what needs to be controlled and disciplined rather than a source of trauma.

Adolescence is a phase of growth and development between childhood and adulthood, typically experienced by people called adolescents. In-school adolescents refer to young individuals, typically aged 10 to 19, who are actively enrolled in and attending educational institutions such as middle schools, high schools, or secondary schools. They are undergoing formal education and experiencing the developmental challenges and milestones characteristic of adolescence within a school setting (WHO, 2019). The prevalence of anorexia nervosa among female adolescent students in Nigeria is a subject of growing concern, although specific data on this is limited compared to more widely researched regions. Studies suggest that eating disorders, including anorexia nervosa, are increasingly being recognized in Nigerian adolescents, particularly in urban areas where Western cultural influences and media exposure are more pronounced. Research from urban centers like Lagos and Ibadan indicates a rise in body dissatisfaction and unhealthy weight control practices among female adolescents. It is based on these premises, therefore, that this study investigated psychological factors as predictors of anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.

Statement of the Problem

Anorexia nervosa remains a life-threatening problem in the world, especially among female in-school adolescents, due to factors such as low self-esteem, fear of weight gain, and anxiety on body image. There is little knowledge and understanding of anorexia nervosa among secondary school students in Nigeria, and its negative impact on their health, well-being, and academic performance. Most female adolescents deprive themselves of good meals to meet the standard of beauty idealised by peers and media, and in return, are being exposed to the dangers of ill health.

Due to the portrayal of the standard of beauty as thinness on social media platforms, television, billboards, and newspapers, especially in advertisements for products like creams, soaps, and clothes, and in a bid to appear like those they see in the media, students engage in restrictive diets. However, the prevalence rate is not specifically direct, but research suggests that 30% to 50% of eating disorders, including anorexia nervosa cases, may be influenced by sociocultural factors, including media exposure (WHO, 2019).

Anorexia Nervosa suppresses the immune system and increases the risk of death due to starvation, gastrointestinal issues, cardiac complications, or even suicide attempts. The body becomes deficient in essential nutrients like vitamins, minerals, and proteins, all of which are crucial for maintaining a healthy immune response. Severe restriction of food and dehydration can lead to constipation, which can cause abdominal pain, discomfort, and further complicate nutritional absorption among female in-school adolescents. The intestines can shrink and lose function due to prolonged malnutrition, impairing nutrient absorption and leading to severe deficiencies, and if adequate treatment is not given, it could lead to death.

The school also plays a major role in the health of the students, as some of the students who are overweight are prone to abuse from their colleagues, forcing them into shedding weight, and avoiding meals that are nutritious to their health. It is based on this

premise, therefore, that this research seeks to investigate psychological factors as predictors of anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.

Hypotheses

1. There would be no significant joint contribution between low self-esteem and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.
2. There would be no significant joint contribution between fear of weight gain and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.
3. There would be no significant joint contribution between history of trauma and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.

Methodology

Descriptive research design of correlational type was used for the study. The population for this study comprised all female in-school adolescents in Ibadan North Local Government Area of Oyo State. The sample size for this study comprised three hundred (300) respondents. Multistage sampling procedure was used to select the respondents for the study. For stage one, purposive sampling technique was used to select only five (5) private secondary schools in Ibadan North Local Government Area of Oyo State, because they are more prone to anorexia nervosa compared to students from public secondary schools, due to their greater socioeconomic status and exposure to western images. For stage two, simple random sampling technique of fish bowl without replacement was used to select six private secondary schools out of the thirty-four (34) private secondary schools in Ibadan North Local Government Area of Oyo

State. Stage three adopted simple random sampling technique of fish bowl without replacement to select fifty (50) students each from the selected private secondary schools in Ibadan North Local Government Area of Oyo State. A self-developed questionnaire was used for data collection, and multiple regression analysis was used to test hypotheses at 0.05 level of significance.

Results

R	= .240				
Multiple R	= .058				
Multiple R ² adjusted	= .055				
Standard Error Estimate	= 4.54064				
Analysis of Variance					
Model	Sum of square	Df	Mean square	F	P
Regression	376.853	1	376.853	18.278	.000 ^b
Residual	6143.983	298	20.617		
Total	6520.837	299			

As shown in table 4.1, it was found that the linear combination of low self-esteem was tested significant on anorexia nervosa among female in-school adolescents ($F_{(1,298)} = 18.278$; $P < .05$). The result yielded a coefficient of multiple regression of $R = 0.240$ and multiple R-square of 0.58. The result also revealed that adjusted $R^2 = 0.55$; indicating that about 5.5% of variance was accounted for by the independent variables. This means that, there was a significant joint contribution of low self-esteem on anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. The null hypothesis was therefore rejected.

Hypothesis Two: There will be no significant joint contribution between fear of weight gain and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.

Table 4.2: Multiple Regression table showing significant joint contribution of fear of weight gain and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.

R = .190					
Multiple R = .036					
Multiple R ² adjusted = .033					
Standard Error Estimate = 4.59293					
Analysis of Variance					
Model	Sum of square	Df	Mean square	F	P
Regression	234.513	1	234.513	11.117	.001 ^b
Residual	6286.323	298	21.095		
Total	6520.837	299			

As shown in Table 4.2, it was found that the linear combination of fear of weight gain was tested significant on anorexia nervosa among female in-school adolescents ($F_{(1,298)} = 11.117$; $P < .05$). The result yielded a coefficient of multiple regression of $R = 0.190$ and multiple R-square of 0.36. The result also revealed that adjusted $R^2 = 0.33$, indicating that about 3.3% of variance was accounted for by the independent variables. This means that there was a significant joint contribution between fear of weight gain on anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. The null hypothesis was therefore not accepted.

Hypothesis Three: There will be no significant joint contribution between history of trauma and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.

Table 4.3: Regression table showing significant joint contribution between history of trauma and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State.

R = .571					
Multiple R = .326					
Multiple R ² adjusted = .323					
Standard Error Estimate = 3.84148					
Analysis of Variance					
Model	Sum of square	Df	Mean square	F	P
Regression	2123.259	1	2123.259	11.117	.000 ^b
Residual	4397.577	298	14.757		
Total	6520.837	299			

As shown in Table 4.3, it was found that the linear combination of history of trauma was tested significant on anorexia nervosa among female in-school adolescents ($F_{(1,298)} = 11.117$; $P < .05$). The result yielded a coefficient of multiple regression of $R = 0.571$ and multiple R-square of 0.326. The result also revealed that adjusted $R^2 = 0.323$, indicating that about 3.2% of variance was accounted for by the independent variables. This means that there was a significant joint contribution between the history of trauma and anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. The null hypothesis was therefore rejected.

Discussion of Findings

The result of the joint contribution of low self-esteem on anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State, Nigeria, revealed that low self-esteem significantly contributed to anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. This means that low self-esteem contributes greatly to the development of anorexia nervosa among in-school adolescents, and also influences behaviours such as negative self-talk and body dissatisfaction. In addition, low self-esteem is associated with having a negative self-concept about oneself, and people with low self-esteem are prone to developing anorexia nervosa.

This finding corroborated the observation of Bulik et al., (2019), who reported that negative self-esteem and body dissatisfaction are prevalent in teenage years, and also exacerbate the risk of developing anorexia nervosa. This showed that there is a relationship between body image dissatisfaction, low self-worth, drive for thinness, and low self-esteem among adolescent girls. It also showed that females who believe in, and use negative words to describe themselves, and also have strong convictions about such words, can be linked to low self-esteem and are prone to anorexia nervosa.

The findings on the joint contribution of fear of weight gain to anorexia nervosa revealed that this characteristic significantly contributed to anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State, Nigeria. This means that female adolescents who have a fear of weight gain ensure they stay away from food and burn off calories in their bodies. Hence, to have the body structure they desire, they engage in restrictive eating, which leads to anorexia nervosa.

The finding was supported by Voelker et al., (2015), who reported that body dissatisfaction and preoccupation with weight were found to be related to eating disorders. Individuals with anorexia often exhibit a distorted perception of their body size and shape, perceiving themselves as overweight even when they are underweight. Hence, they get dissatisfied with their bodies and develop a phobia of weight gain.

The findings on the joint contribution of history of trauma on anorexia nervosa revealed that it significantly contributed to anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State, Nigeria. This means that individuals who experience repeated trauma, like those who experience trauma perpetrated by a caregiver or loved one, have increased symptoms and severity of anorexia and a greater prevalence of comorbid psychiatric diagnoses.

This finding was supported by Sehm and Warschburger (2018), who stated that traumatic events can lead to intrusive and obsessive

thoughts, and the symptom of anorexia that has been most closely linked to a PTSD diagnosis is increased obsessive thoughts about food. A complicated symptom profile develops when trauma and anorexia meld; the bodily experience of the individual is changed, and intrusive thoughts and sensations may be experienced.

Royal College of Psychiatrists (2022) also identified sexual abuse as one of the possible risk factors for the development of anorexia nervosa. In cases of sexual abuse, the victims find means to dissociate from their physical bodies and starve themselves to have control over them. However, other traumatic events, such as physical and emotional abuse, have a serious effect on the health of an individual.

Female in-school adolescents are advised to take good care of their bodies by ensuring that they consume an adequate proportion of a diet that will nourish their bodies.

Conclusion and Recommendation

Based on the findings of this study, it was concluded that there was a significant joint correlation of low self-esteem on anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. In addition, it was concluded that low self-esteem is associated with having a negative self-concept about oneself, which could lead to anorexia nervosa. It was concluded that there was a significant joint correlation between fear of weight gain and history of trauma on anorexia nervosa among female in-school adolescents in Ibadan North Local Government Area of Oyo State. It was concluded that body image disturbance can lead to fear of weight gain, thereby predicting anorexia nervosa.

Based on the findings of this study, the following recommendations were made:

- i. Educated programmes should be included in the school curriculum to create awareness on the importance of anorexia nervosa and its negative impact on the health of the students.

- ii. The school management should create an enabling environment for the students by providing at least one meal per day.
- iii. The health education teacher should endeavour to sensitize the students on the importance of eating an adequate diet.
- iv. Parents should ensure that they provide an adequate, balanced diet for their children to look healthy.
- v. The government, through the Ministry of Health and Education, should create platforms to sensitize the students on the importance of nutrition to the body.

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KNOWLEDGE AND PERCEPTION OF AI-DRIVEN MENTAL HEALTH TOOLS AMONG UNDERGRADUATES IN ADEYEMI FEDERAL UNIVERSITY OF EDUCATION, ONDO STATE

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Abstract

This study investigated the knowledge and perception of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo. The study adopted a descriptive survey research design. The population of the study comprised 358 undergraduates of Adeyemi Federal University of Education, Ondo. A structured questionnaire titled Knowledge and Perception of AI-Driven Mental Health Support Tools Questionnaire (KPAIMHSTQ) was used for data collection. The data collected were analyzed using frequency counts, percentages, weighted mean, and Pearson Product Moment Correlation statistics. The findings revealed that undergraduates possessed a high level of knowledge of AI-driven mental health support tools with a weighted mean score of 2.56, which exceeded the criterion mean of 2.50. The study also found that respondents had a high positive perception toward AI-driven mental health support tools with a weighted mean score of 4.06, which was above the criterion mean of 3.50. Furthermore, the result of the hypothesis tested showed a significant positive relationship between knowledge and perception of AI-driven mental health support tools among undergraduates ($r = 0.516$, $p < 0.05$). This implies that increased knowledge of AI-driven mental health support

tools significantly influences students' positive perception toward the tools. The study concluded that knowledge plays an important role in shaping undergraduates' perception and acceptance of AI-driven mental health support tools. It was therefore recommended that universities should promote AI literacy and awareness programmes among students.

Keywords: Artificial intelligence, mental health support tools, knowledge, perception, undergraduates.

Introduction

Mental health is a state of emotional, psychological, and social well-being in which individuals are able to think clearly, manage stress, maintain positive relationships, make sound decisions, and contribute meaningfully to society. It is not merely the absence of mental disorders, but also the presence of positive functioning, resilience, and emotional balance. In recent years, mental health has become a major public health concern globally, particularly among adolescents and young adults. Mental health disorders affect approximately one billion people worldwide, while about one in every eight individuals lives with a mental health condition (WHO, 2022). The burden of mental health problems continues to increase globally, accounting for approximately 16% of the global disease burden and resulting in significant social and economic consequences (Arias et al., 2022; The Lancet Global Health, 2020).

Undergraduates constitute one of the most vulnerable populations to mental health challenges due to academic pressures, financial difficulties, social adjustments, and uncertainties about future careers. Studies have shown that university students frequently experience stress, anxiety, depression, and other forms of psychological distress (Browning et al., 2021). Despite the growing need for mental health services, many students face barriers such as stigma, limited access to mental health professionals, cost of

treatment, and inadequate support systems. The World Health Organization (2020), reported that more than 75% of individuals with mental health disorders in low-income countries do not receive appropriate treatment. Consequently, there is an increasing demand for innovative approaches that can improve access to mental health support.

Artificial Intelligence (AI) has emerged as a promising technology with the potential to transform mental health care. AI-driven mental health support tools, including chatbots, virtual counsellors, and emotion-detection applications, are increasingly being utilized to provide real-time, personalized, and accessible mental health support (Abd-alrazaq et al., 2019). Evidence suggests that AI-based interventions can help reduce symptoms of mental health problems, encourage positive health behaviours, and improve emotional well-being (He et al., 2023; Singh et al., 2023). Furthermore, AI technologies can analyse large datasets, identify behavioural patterns, and deliver tailored recommendations that support mental health management (Bajwa et al., 2021; Nilsen et al., 2022). Their accessibility, anonymity, and 24-hour availability make them particularly attractive to young people who may be reluctant to seek face-to-face counselling services (Limpanopparat et al., 2024).

In Nigeria, mental health issues among undergraduates have become increasingly prevalent. Studies have reported considerable levels of depression, anxiety, and psychological distress among university students (Ayinde et al., 2021; Falade et al., 2020). Adeleke et al. (2023) found that a substantial proportion of Nigerian undergraduates exhibited symptoms of depression, while Saka et al. (2024) reported that many students of Adeyemi Federal University of Education experienced varying degrees of mental health challenges. Although increasing internet penetration and smartphone ownership among students create opportunities for the use of AI-driven mental health support tools, their utilization remains limited (Sawyerr-George and Agina-Obu, 2023).

Knowledge and perception have been identified as important factors influencing the acceptance and use of emerging technologies.

Knowledge here refers to the extent to which individuals are aware of AI-driven mental health support tools, understand their functions, and know how to access them. Inadequate knowledge may limit students' ability to benefit from these innovations. Ogundipe et al. (2025), reported that although many undergraduates have access to digital technologies, awareness and use of digital mental health platforms remain relatively low. Perception, on the other hand, involves individuals' beliefs and attitudes regarding the effectiveness, confidentiality, usefulness, and reliability of AI-driven mental health support tools. According to Davis (1989), users are more likely to accept a technology when they perceive it as useful and easy to use. Positive perceptions can encourage engagement with AI-based mental health services, whereas concerns about privacy, trust, and effectiveness may discourage their use (Ogundipe et al., 2025; Inkster et al., 2018).

Statement of the Problem

Despite the growing potential of AI-driven mental health support tools, empirical evidence on undergraduates' knowledge and perception of these technologies remains limited, particularly within the Nigerian context. Existing studies have focused largely on students' perceptions of AI mental health tools in countries such as Oman, Jordan, India, and Saudi Arabia (Almaskari et al., 2025; Albikawi et al., 2025; Varghese et al., 2024; Kuhail et al., 2024). There is therefore a need to examine the level of knowledge and perception of AI-driven mental health support tools among Nigerian undergraduates. Understanding these factors is essential for developing appropriate interventions, awareness programmes, and policies that will enhance the effective utilization of AI technologies for mental health support among students. Therefore, this study investigates the knowledge and perception of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State.

Objectives of the Study

The specific objectives are to:

- a) assess the level of knowledge of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State.
- b) examine the perception of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State.
- c) investigate the relationship between knowledge and perception of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State.

Research Questions

- a) What is the level of knowledge of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State?
- b) What is the perception of undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State about AI-driven mental health support tools?

Hypothesis

H₀: There will be no significant relationship between knowledge and perception of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State.

Methodology

Research Design - The study employed a descriptive survey research design. Descriptive research is defined as a type of quantitative research, which aims at accurately and systematically describing a population, situation or phenomenon. It is a quantitative research methodology used to collect and analyse data from a sample population, to describe the characteristics, attitudes, opinions or behaviours of a large population (McCombes, 2023).

Population of the Study - The population of the study consist all

6,658 undergraduates enrolled in Adeyemi Federal University of Education Ondo, Ondo State, in 2025/2026 academic session.

Sample and Sampling Techniques - To determine the appropriate sample size for the study, Taro Yamane's formula for sample size determination was adopted which arrived at a final total of 358 respondents. The study adopted a multistage sampling procedure which include proportionate stratified, purposive, and simple random sampling techniques to select the sample.

Research Instrument - The instrument used for data collection was a self developed structured questionnaire titled Knowledge and Perception of AI-Driven Mental Health Support Tools Questionnaire (KPAIMHSTQ). The questionnaire comprises of three sections A-C. Section A focuses on demographic characteristics of the respondents. Section B focuses on knowledge, while Section C assesses perception of AI-driven mental health support tools. The instrument was validated through experts in test and measurement to assess its face, content and construct validity. A pilot study was conducted with 30 undergraduates of Adekunle Ajasin University, Akungba Akoko, Ondo State to ensure that the questionnaire is clear, concise, and easy to understand. Cronbach's Alpha Coefficient was used to calculate the reliability coefficient. A coefficient of 0.87 obtained clearly indicated that the instrument was reliable for data collection.

Data Collection - The questionnaires were administered personally to students in their respective faculties with the help of trained research assistants. Participants were assured of confidentiality and anonymity. The purpose of the study was explained to the respondents.

Data Analysis - The completed questionnaires were collated, coded and analysed using descriptive statistics of frequency count and percentages to describe the demographic data of the respondents, while mean scores and standard deviations were used to provide

overview of their responses on each item of the research questions. Pearson Product Moment Correlation was used to test the null hypothesis at 0.05 level of significance.

Results

Table 1: Demographic Data of the Respondents

Category	Variable	Frequency	Percentage
Gender	Male	158	44.1
	Female	200	55.9
	Total	358	100.0
Age	Below 20years	160	44.7
	21 – 25years	160	44.7
	26 – 30years above	38	10.3
	Total	358	100.0
Level	Part II	164	45.8
	Part III	194	54.2
	Total	358	100.0
Faculty	Arts	125	34.9
	Education	36	10.1
	Management and Social Science	78	21.7
	Science	94	26.3
	Vocational and Technical Education	25	7.0
Total		358	100.0

Result in Table 1 showed that female have higher percentage of respondents than male. It also revealed that majority of the respondents (89.4%) were below 26years while very few (10.6%) were 26years and above. Furthermore, the results also showed that 300L have more respondents compare to 200L. Lastly, it was revealed that faculty of Arts had the highest percentage of respondents (34.9%), followed by Science, Management and Social Science respectively while Faculties of Education and Vocational and Technical Education had fewer respondents.

Research Question One: What is the level of knowledge of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State?

Table 2: Responses on Knowledge of AI-driven mental health support tools among undergraduates.

S/N	Respondents' Knowledge of AI-driven mental health support tools	Yes (%)	No (%)	I don't know (%)	Mean	Std. Deviation
1	Are you aware that some mental health apps are driven by artificial intelligence?	329 (91.9)	24 (6.7)	5 (1.4)	2.91	.33794
2	Do you know that AI-driven mental health support tools help detect signs of anxiety and depression?	140 (39.1)	204 (57.0)	14 (3.9)	2.35	.55421
3	Do you know that AI -driven mental health support tools are available for free on app stores?	250 (69.8)	72 (20.1)	36 (10.1)	2.60	.66543
4	Do you know how AI tools work to provide mental health support?	233 (65.1)	102 (28.5)	23 (6.4)	2.59	.60994
5	Have you read or heard about AI being used in psychological counseling?	160 (44.7)	174 (48.6)	24 (6.7)	2.38	.60884
6	Are you aware that AI-driven mental health support tools can provide 24/7 emotional support.	226 (63.1)	108 (30.2)	24 (6.7)	2.56	.61726
7	Do you know that AI-driven mental health support tools collect and analyze data to personalize mental health advice.	280 (78.2)	66 (18.4)	12 (3.4)	2.75	.50592
8	Is AI -driven mental health support tools only for professional psychologists.	166 (46.4)	150 (41.9)	42 (11.7)	2.35	.67995
9	Do you know at least one AI-driven mental health support tools by name.	214 (59.8)	89 (24.9)	55 (15.4)	2.44	.74545
10	Are you aware that AI-driven mental health support tools analyze speech or writing to detect emotional distress.	250 (69.8)	78 (21.8)	30 (8.4)	2.62	.63688
11	Do you know that AI mental health tools ensure user privacy and confidentiality.	250 (69.8)	78 (21.8)	30 (8.4)	2.62	.63688
12	Have you attended a seminar or class that discussed AI in mental health.	220 (61.5)	126 (35.2)	12 (3.4)	2.58	.55798
Weighted Mean					2.56	

The results in Table 2 revealed that respondents possessed a high level of knowledge of AI-driven mental health support tools. This was evidenced by the mean scores of the individual items, which ranged from 2.35 to 2.91. The weighted mean score obtained was 2.56, which is above the criterion mean of 2.50.

Research Question Two: What is the perception of undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State about AI-driven mental health support tools?

Table 3: Responses on Perception of AI-driven mental health support tools among undergraduates

S/N	Respondents' Perception of AI-driven mental health support tools	SA	A	N	D	SD	Mean	Std. Deviation
1	AI tools can provide reliable mental health support.	190 (53.1)	90 (25.1)	54 (15.1)	6 (1.7)	18 (5.0)	4.196	1.080
2	I trust AI mental health tools to understand emotional needs.	140 (39.1)	126 (35.2)	60 (16.8)	18 (5.0)	14 (3.9)	4.006	1.056
3	AI tools are effective in helping people manage stress or anxiety.	202 (56.4)	78 (21.8)	60 (16.8)	6 (1.7)	12 (3.4)	4.263	1.017
4	AI tools should be integrated into university mental health services.	190 (53.1)	72 (20.1)	42 (11.7)	6 (1.7)	48 (13.4)	3.978	1.388
5	It is risky to rely on AI for mental health advice.	154 (43.0)	120 (33.5)	60 (16.8)	6 (1.7)	18 (5.0)	4.078	1.056
6	I feel comfortable discussing personal issues with an AI chatbot.	126 (35.2)	126 (35.2)	72 (20.1)	27 (7.5)	7 (2.0)	3.941	1.015
7	AI mental health tools are as good as speaking with a real counselor.	140 (39.1)	126 (35.5)	30 (8.4)	48 (13.4)	14 (3.9)	3.922	1.167
8	I am open to learning more about AI-based mental health tools.	196 (54.7)	78 (21.8)	24 (6.7)	36 (10.1)	24 (6.7)	4.079	1.272
9	AI tools can help students who are afraid to talk to people.	172 (48.0)	102 (28.5)	48 (13.4)	36 (10.1)		4.145	.999
10	AI should complement, not replace, human mental health professionals.	154 (43.0)	108 (30.2)	60 (16.8)	30 (8.4)	6 (1.7)	4.045	1.042
11	The use of AI in mental health is a welcome innovation.	133 (37.2)	150 (41.9)	48 (13.4)	13 (3.6)	14 (3.9)	4.048	1.002
12	AI tools may misinterpret emotional issues due to lack of human empathy.	190 (53.1)	78 (21.8)	36 (10.1)	30 (8.4)	24 (6.7)	4.062	1.253
Weighted Mean							4.06	

The findings in Table 3 showed that respondents had a high positive perception toward AI-driven mental health support tools. The mean scores for the individual items ranged from 3.92 to 4.26, while the weighted mean score was 4.06, which exceeded the criterion mean of 3.50. most of the items recorded high mean score, indicating that respondents strongly perceived the item positively.

Hypothesis [Ho]: There will be no significant relationship between knowledge and perception of AI-driven mental health support tools among undergraduates in AdeyemFederal University of Education, Ondo, Ondo State.

Table 4: Pearson Correlation between Knowledge and Perception of AI-driven mental health support tools among undergraduates in Adeyemi Federal University of Education, Ondo, Ondo State.

	KNOWLEDGE	PERCEPTION
KNOWLEDGE		
Pearson Correlation	1	.516**
Sig. (2-tailed)		.000
N	358	358
PERCEPTION		
Pearson Correlation	.516**	1
Sig. (2-tailed)	.000	
N	358	358

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation analysis presented in Table 4 revealed a correlation coefficient of $r = 0.516$ with a significance value of $p = 0.000$. Since the p-value (0.000) is less than the 0.05 level of significance, the null hypothesis which stated that there will be no significant relationship between knowledge and perception of AI-driven mental health support tools among undergraduates was rejected. This means that there is a significant positive relationship between knowledge and perception of AI-driven mental health support tools among undergraduates. As knowledge increases, perception toward AI tools also becomes more positive.

Discussion of Findings

The findings of this study revealed that undergraduates possessed a high level of knowledge of AI-driven mental health support tools, as evidenced by the grand weighted mean score of 2.56, which exceeded the criterion mean of 2.50. This finding indicates that the respondents demonstrated substantial awareness and understanding of AI technologies used for mental health support and psychological well-being. The growing popularity of AI tools such as chatbots, virtual assistants, mental health applications, and AI-powered counseling systems may have contributed significantly to students' awareness and understanding of such technologies. The finding corroborates the study of Onyedikachi et al. (2025), who

found that university students in Nigeria possessed high level of awareness and knowledge of chat-based artificial intelligence tools. Similarly, the finding also agrees with Weale (2025), who reported that a large proportion of university students actively engage with AI technologies for educational and personal support purposes. This increasing interaction with AI systems may explain the high knowledge level observed among the respondents in the present study.

Furthermore, the findings of the study showed that undergraduates had a high positive perception toward AI-driven mental health support tools, as indicated by the weighted mean score of 4.06, which is above the criterion mean of 3.50. This implies that respondents generally perceived AI-driven mental health tools as beneficial, accessible, useful, and supportive for mental health care. The positive perception observed among the respondents may be attributed to the convenience, accessibility, anonymity, affordability, and non-judgmental nature of AI-driven mental health tools. Many students may prefer AI-supported mental health platforms because such tools provide immediate support without fear of stigma, discrimination, or embarrassment often associated with traditional mental health services. Additionally, respondents perceived that AI tools can provide reliable mental health support, understood emotional needs, effective in managing stress or anxiety and that the tools are as good as speaking with a real counsellor. This is in agreement with previous findings that AI tools could offer significant mental health support, especially within institutional settings where access to traditional mental health support services might be unavailable or adequately provided (Li et al., 2023). The study also revealed that most undergraduates were willing to learn more about AI-driven mental health support tools. This is similar to the study of Cherrez-Ojeda et al., (2024), which revealed that students displayed positive attitudes and acceptance toward AI tools and that most were willing to learn more about it.

However, the responses of respondents on some items particularly about the risk of misinterpretation of emotional issues

due to lack of human empathy did raise concerns. This is supported by previous studies which revealed that many students highlighted the empathy of AI communications as many reported that AI tools, although functional, felt mechanical and lacked warmth in most interactions, as is typically expected from human interactions (Alshammari, 2025). AI tool that can better simulate empathy would go a long way in improving user experience and satisfaction (Boucher et al., 2021). This implies that, AI should be designed to improve their level of empathy by using language that is more supportive, comforting phrases, and imitating human emotional intelligence

Furthermore, the findings of this study revealed a significant positive relationship between knowledge and perception of AI-driven mental health support tools among undergraduates ($r = 0.516$, $p < 0.05$). Since the p-value of 0.000 was less than the 0.05 level of significance, the null hypothesis which stated that there is no significant relationship between knowledge and perception of AI-driven mental health support tools among undergraduates was rejected. The correlation coefficient ($r = 0.516$) indicated a moderate positive relationship between the two variables. This implies that as students' knowledge of AI-driven mental health support tools increases, their perception toward such tools becomes more positive. Students who are knowledgeable about the functions, usefulness, accessibility, and benefits of AI technologies are more likely to perceive them as beneficial, reliable, innovative, and useful for mental health support and psychological well-being.

The findings agree with Turk et al. (2025), who reported that AI literacy significantly influenced students' attitudes and acceptance of artificial intelligence technologies among university students. The authors explained that students with greater knowledge and understanding of AI systems demonstrated more favourable perceptions and stronger acceptance toward AI technologies. Similarly, Serkan and Adem (2025) found that artificial intelligence literacy significantly mediated students' attitudes and perceptions toward AI technologies in higher education settings. It explained

further that greater acceptance and trust, combined with an increase in knowledge, education and analytical skills, can turn people's perception and attitude towards AI in a positive direction. The finding also corroborates the work of Cherrez-Ojeda et al. (2024), who found that healthcare students with higher levels of AI knowledge demonstrated more positive beliefs and perceptions toward AI-powered language models and digital healthcare systems. According to the authors, familiarity with AI systems improves trust, confidence, and positive attitudes toward technology adoption.

Likewise, Hatem et al. (2024) reported that students who possessed adequate understanding of AI technologies perceived AI applications in healthcare as innovative, efficient, and beneficial for improving healthcare delivery and psychological support services. The study emphasized that awareness and technological literacy play major roles in shaping users' perceptions and acceptance of AI systems. The finding is also consistent with the Technology Acceptance Model (TAM) developed by Davis (1989), which posits that users' knowledge and understanding of a technology influence their perceived usefulness and perceived ease of use of the technology. According to the theory, individuals who understand the benefits and functions of a technological system are more likely to develop positive attitudes toward its use. The moderate positive relationship observed in this study therefore indicates that knowledge is an important determinant of students' perception of AI-driven mental health support tools. Students who are more informed about AI technologies tend to perceive them more positively, while limited knowledge may contribute to uncertainty, fear, skepticism, or negative perceptions toward AI systems.

Conclusion

Based on the findings of this study, it was concluded that undergraduates possessed a high level of knowledge of AI-driven mental health support tools. The respondents demonstrated considerable awareness and understanding of AI technologies used for mental health support, psychological well-being, stress

management, and emotional assistance. The study also concluded that undergraduates had a high positive perception toward AI-driven mental health support tools as respondents generally perceived AI-driven mental health support tools as useful, accessible, beneficial, and supportive in addressing mental health challenges. Lastly, the study concluded that there was a significant positive relationship between knowledge and perception of AI-driven mental health support tools among undergraduates. This implies that students with higher knowledge of AI-driven mental health support tools were more likely to develop positive perceptions toward such technologies. Therefore, increased awareness and understanding of AI technologies significantly influence students' attitudes and acceptance of AI-driven mental health support systems.

Recommendations

Based on the findings of this study, the following recommendations were made for improvement.

University management should organize seminars, workshops, and awareness programmes to improve students' knowledge and understanding of AI-driven mental health support tools.

Educational institutions should integrate digital literacy and artificial intelligence education into students' orientation and academic programmes to enhance awareness and responsible utilization of AI technologies.

Counselors, mental health professionals, and lecturers should encourage students to utilize reliable AI-driven mental health support tools as complementary sources of emotional and psychological support.

Universities should collaborate with mental health professionals and technology experts to provide accessible and student-friendly AI-driven mental health support platforms within the institution.

Developers of AI-driven mental health applications should improve the privacy, confidentiality, and reliability features of such tools in order to strengthen students' trust and positive perception toward their usage.

Government and educational stakeholders should support policies and initiatives that promote safe, ethical, and effective use of artificial intelligence technologies for mental health support among students.

Students should be educated on the limitations and ethical concerns associated with AI-driven mental health tools to ensure responsible and balanced usage without overdependence on technology.

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EFFECT OF MENTAL IMAGERY TRAINING ON SELECTED SKILLS PERFORMANCE OF AMATEUR AND ELITE MALE FOOTBALL PLAYERS

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Abstract

The study determined the effect of mental imagery training on selected skills (shot on goal and heading) performance of amateur and elite male football players in Osun State. Pretest-posttest control experimental research design was adopted for this study. The population were all male football players at the amateur and elite levels in Osun State, Nigeria. The multi stage sampling procedure was adopted to select 160 participants (80 experimental and 80 control). A senatorial district was randomly selected from the three senatorial districts in Osun State and from the selected senatorial district, eight football clubs were randomly selected (four clubs for elite and amateur experimental group and four clubs for elite and amateur control group respectively). From each of the levels of football players in each club, 10 participants were selected using random sampling technique. Three research instruments were used to collect data for the study: a structured Mental Imagery Training Programme (MITP), Sport Imagery Ability Measure (SIAM), and Football Performance Checklist (FPC), to elicit information from participants on the effect of structured mental imagery training programme on football skills performance of participants. Data collected were analysed using percentage and paired t-test at 0.05 alpha level of significance. The result showed that mental imagery training had significant effect on specific football skills (shot on goal and heading) performance of amateur and elite participants in Osun State ($t = 2.86$, $df = 78$, $p < 0.05$, $d \approx 0.64$).

Keywords: Mental Imagery, Amateur Athlete, Elite Athlete, Skills Performance.

Introduction

Sports have successfully weaved itself into the heart and minds of passionate players and devoted fans alike. This shared interest has made it pertinent for athletes to seek legitimate means to deliver at the peak in order to sustain the interest of sport consumers. For an athlete to effectively carry out any physical activity, the mind usually will prompt the process that allows an athlete demonstrate proficiency in a sport. The accuracy of skill delivery is determined by various physiological, psychological, sociological and climatic factors however, if an individual has not moved from being a beginner to the elite level, accuracy of skill delivery becomes difficult. Several professional athletes like Usain Bolt (athletics), Serena Williams (Tennis), Michael Phelps (Swimming) and Lionel Messi (Football) have talked about how they use mental imagery.

However, Pearson (2019) reported Jack Nicklaus, one of the finest golfers that ever graced the course and how he described the vividness of every shot he took and stated: I never hit a shot at any time without having a sharp in-focus picture of it in my head. It is so clear. First, I see the ball where I want it to finish, nice and white and sitting up high on the bright green grass. Then the scene quickly changes, and I see the ball going there: its path, trajectory, shape, even its behaviour on landing. Then there's a sort of fade-out, and the next scene reveals making the kind of swing that will turn the previous images into reality at the end of the short. These home videos are essential to my focus and my optimistic attitude toward each shot.

Sports performance was conceptualized by Aderonmu (2017) as a product of aptitude (natural ability or endowment) and the strength of an acquired skill. This reemphasizes that, an individual's level of sport performance is influenced by the combination of his/her innate ability and what has been gained through learning and training. Not all athletes can vocally express how they employ imagery for sports performance, however, it has been observed that some can.

Apparently, mental imagery has been useful for great athletes and when an athlete is competing against another athlete of equal skill and ability, the appropriate use of mental imagery will place an edge over the opponent. Amateur athletes have always desired to move from amateur league to professional league and apparently, the use of mental imagery will be a great influence into moving through the cadre.

Amateur and elite athletes can benefit from imaging since it gives them a chance to cognitively experience behaviours in ways that have not been seen yet in actual performance (Thanikkal, 2022). This implies that, imaging is a mental process that trains the mind and the body to react in the best possible ways for effective sports performance.

Statement of Problem

The need for improved performance and skill in sports in order to attain competitive edge has been a recurrent phenomenon. Every team and individual player seek legitimate means to attain competitive edge and stay on top of their game throughout the year even when injury stands as an obstacle. The use of mental imagery has been an effective tool to improve sports performance, however, it appears that there are paucity in research on the comparative effect of use of mental imagery on some selected skills (shot on goal and heading) in football, hence this study.

Objective of Study

The specific objective of the study is to compare the effect of mental imagery training on selected skills (shot on goal and heading) performance of amateur and elite male football players.

Research Hypothesis

- i. **There is no significant** effect of mental imagery training on selected skills (shot on goal and heading) performance of amateur and elite male football players.

Significance of the Study

The findings of this study will help provide information on the effect of a structured mental imagery training on performance among football players and the findings will further broaden the knowledge of athletes and coaches on the use of mental imagery and its relevance to the requirement and demands of athletes' respective sport.

Literature Review

Concept of Mental Imagery

Researchers, sport psychologists, coaches, and athletes have all referred to an effective mental training technique using words like imagery, visualization, mental practice, and mental rehearsal (Taylor, 2014). "Mental imagery," as widely used by majority of practitioners is used to elucidate mental practice procedures that enhances or replicate an athletic performance. According to Thanikkal (2019), mental imagery is the capacity of the mind to stimulate imagery processes that are not yet seen by the sense organs.

It may be challenging to articulate the content and specifics of some artists' and athletes' imagery because it is frequently unstructured for them and seems to serve no discernible purpose (Thanikkal, 2019). But, mental imagery goes beyond people's impromptu performance fantasies. The benefit comes from including imagery in a systematic program to include written or audio scripts that are tailored towards spheres which athletes hope to improve (Taylor, 2014). Nowadays, imagery training programmes typically use imagery scripts, and the instructions and the manner in which they are provided may have an impact on the content of the imagery. Athletes are given scripts with elaborate situations that highlight the physical location before beginning imaging sessions in the context of the competition, particular performances, and other important areas that should be highlighted. For instance, guided visualization scripts were found to be beneficial in reducing and putting yips in three seasoned, successful golfers in research by Arcangeli (2020). It is worthy of note by practitioners that each person's experiences and results may be unique. In order to better understand how the brain

works when imaging, findings have shown a vivid participation in imagery and how the brain interprets these images as being exactly like the prompt condition. As a result, people experience visuals internally by mentally reconstructing experiences that are preserved in their memories.

By using visualization, practitioners can assist patients to control their pain and anxiety. For example, in order to understand ways and why stress influence performances, athletes may recreate the thoughts and feelings they had while competing. Those participating in sport should feel the emotion connected to such occurrences, such as exhilaration, happiness, pride, and self-esteem, when using imagery to recreate previously notable successes.

Where, why, what kind, and when (the "Four Ws") athletes should employ imagery were clarified by Filgueiras, Quintas, and Hall, (2017). The authors' six-stage approach, which detailed how sportspeople could use imagery in their environment, was based on a qualitative approach. Where makes a distinction between the contexts of training and competition, whereas When refers to the employment of pictures during athletic competition as against physical practice of before, during, and after a competitive event. Why describes how the imagery is used (such as for cognitive or motivating purposes). The athlete should visualize the following: length and frequency, nature, surrounds, efficacy, and controllability. The second and third stages of the model also contain a number of additional crucial part, like the type of imagery (such as auditory, kinesthetic, or olfactory imagery), in the internal and external sense of visual imagery which maybe positive and negative images. This approach may very well serve as a roadmap for the creation of efficient visual therapies in the context of competitive sporting events (Guillot & Collet, 2012). The model's qualitative nature, which enabled the authors' proposed surveys to uncover a number of critical facets of how people utilize pictures, was its greatest strength. The list of elements is short, though, and does not take into account how each element connects to the projected results of the athletes. Additionally, the model did not take into consideration how imagery affected the healing process after an injury.

Athletes can perform better when they mentally practice broad plans and strategies, specific talents and plays, and when they utilize positive self-talk, according to Gregg, and Hall, (2017). The development and practice of certain skills, the acquisition and practice of strategy, the management of pain and injury, the creation of feelings of a successful performance, the resolution and correction of problems relating to athletic performances, and the support of efficient reactions to competitive stress and emotions can all be accomplished by using mental imagery (Moritz, Hall, Martin, & Vadocz, 2016).

Mental imagery and the Imaginative Processes

Imagination is different from mental imagery. Involuntary mental imagery is both possible and highly common. It is not imagination in any meaning of the word when we experience painful memories; rather, it is mental imagery (Arcangeli, 2020). It is unconscious mental imagining. Earworms are similarly irritating songs that play in our heads without our permission. Once more, this is auditory mental imaging rather than auditory imagination.

Despite these distinctions, people have referred to what we now refer to as mental imagery as "imagination" throughout the history of philosophy. It was at the end of the 19th century that the term "mental imagery" became a consistent terminology. For instance, a researcher spoke of "retaining an image of the seen thing," which is remarkably comparable to a subunit of mental imagery use that is currently being produced in psychology and neuroscience, but he referred to this mental phenomenon as imagination (Arcangeli, 2020). More generally, the term "imagination" was used, at least infrequently, by both German idealists and British empiricists in the sense that mental imagery now encompasses.

The relationship between mental imaging and imagination is essential since it has become clear that humans can experience mental imagery in the absence of imagination. How about turning around? Is imagining possible without having mental images? Or, to put it another way, does imagination require the use of mental

images? This concept has been made more difficult by the traditional distinction between propositional and sensory imagination roughly, between imagining seeing x and thinking that x is F and the role imagery plays in these two forms of imagination. They differ in that the former is inevitably accompanied by (or is comprised of) mental picture, whilst the latter is not. Noting this, Dijkstra et al. (2019) point out that, a lot of arguments on either side rely on introspection rather than taking a position or exploring reviews on the difference in sensory and propositional imagination.

Football in Osun State

In the bustling and bubbling heart land of Osun state, Nigeria, the game of football has successfully weaved itself into the heart and minds of passionate players and devoted fans alike. Sports has become an integral part of individual's growth and identity, ranging from the passion and sense of fulfilment derived from participation by players to the recognition and socialization achieved within a society. From the crowded neighbourhood streets to the lush green fields within the local community, football reigns supreme, serving as a unifying force. Football was introduced to Osun State during the colonial era when Nigeria was under British rule. The sport was initially played by colonial officers, missionaries, and expatriates but over time, it began to gain popularity among the local population, and clubs started to emerge. Football clubs began to form in various towns and communities within Osun State and these clubs served as the foundation for grassroots football development. Some of the prominent clubs that emerged during the early period include; Osogbo United, Ife Stars, Ejigbo Giants, Ilesa Shooting Stars, and Ikire United. As the number of football clubs grew, local competitions and leagues were organized to provide a platform for teams to compete against each other which has allowed players to showcase their skills and it has attracted a growing number of spectators. The popularity of these competitions has helped in further promoting football at the grassroots level.

Skill Execution in Football

Shooting: To shoot is to make a goal-scoring attempt. To shoot, strike the ball with the top of your foot. Keep your foot pointing downward as you swing your entire leg, using your hips and core to generate power for the kick. Think of your kick as passing through the ball, and bring your foot across your body to complete the motion.

Use shooting drills to hone this talent, aiming each shot at a different area of the target. Increase the intensity by asking a friend to play defence and attempt to block you.

To shoot accurately and with power:

- **Approach:** As you approach the ball, take a few quick steps to generate momentum and plant your non-kicking foot beside the ball. Your body should be balanced and leaning slightly forward.
- **Technique:** To make contact with the lower portion of the ball, use the laces or the instep of your striking foot. As you strike the ball, keep your head down and your eyes fixed on it. Use your shooting leg to follow through in the direction of your target while aiming towards the goal's corners.
- **Power:** Generate power by transferring your body weight onto your striking foot and engaging your core muscles. Timing and accuracy are crucial for a successful shot.

Shot On Goal: To shoot a goal, slant your hips in that way. When you see the goalkeeper up there, you'll know where to aim. For a low shot, plant your supporting foot just in front of the ball. In order to land on your kicking foot, push through the ball. You can hone your shooting skills by doing the following drills: Shooting at an empty goal will help you improve your aim, shooting at a goal with a goalkeeper will help you perfect your shot selection, and shooting at a goal with a defender and a goalkeeper will help you enhance your timing and shooting agility.

Heading: Heading is the act of playing the ball in the air using your forehead. Here are some key points for heading the ball effectively:

Positioning: Approach the ball with your body facing the direction you want the ball to go. Keep your eyes on the ball and maintain a solid stance.

Technique: As the ball approaches, jump slightly and use your neck muscles to propel your forehead towards the ball. Make contact with the forehead's centre, aiming to direct the ball with accuracy and control.

Timing: Anticipate the ball's trajectory and position yourself accordingly. Timing is crucial for an effective header.

Methodology

Research Design

This study adopted the pretest-posttest experimental control research design. Selected instruments for both the psychological and practical aspect of the study were administered to participants for the study before (pre-test) and after (post-test) treatment for the study. Participants were divided into experimental and control groups. The experimental group received the mental imagery training programme for a period of eight (8) weeks; twice a week for an hour duration for each session.

Sample and Sampling Technique

One hundred and sixty (160) participants who were amateur and elite male football players in Osun state constituted the sample size for the study. The multi-stage sampling procedure was adopted for the study:

Stage One: A senatorial district was purposively selected from the three senatorial districts in Osun State based on the multi-representation of intended football clubs necessary for the research.

Stage Two: From the selected senatorial district, eight football clubs (four clubs which comprised 40 elite and 40 amateur experimental group and four clubs which comprised 40 elite and 40 amateur control group respectively) were selected using random sampling technique.

Stage Three: 10 participants used for this research were selected from each of the amateur and elite levels of football players in each club using random sampling technique.

Research Instrument

Three research instruments were used for the study; A structured Mental Imagery Training Programme (MITP) to measure effects of mental imagery programme on performance. The Sport Imagery Ability Measure, (SIAM) adopted from Watt and Morris (2001) was used to ascertain the level at which the experimental group followed the mental imagery training procedure and a Football Performance Checklist (FPC) adopted from Nathan Turner (2019) was used to elicit information from participants on the effect of structured mental imagery training programme on football skills performance.

Results

Table 1

Descriptive statistics showing pre and post treatment of mental imagery training on shot on goal and heading performance of participants

Skills	Groups	Experi mental		Control		Pre-Treatment		Post-Treatment	
		Pre score %	Post score %	Pre- score %	Post score %	$\bar{X}$	SD	$\bar{X}$	SD
Shot on Goal	Amateur	40	60	49.2	50.8	92.59	6.91092	95.2917	1.62799
	Elite	34.3	65.7	50	50	93.8889	12.08787	94.6250	2.41868
Heading	Amateur	42.4	57.6	49.1	50.9	93.7174	6.48644	93.9739	4.25339
	Elite	45.2	54.8	49	51	94.0294	4.46186	95.9294	3.37984

The result of Table 1 shows the descriptive statistics showing average percentage score and the means of pre and post-treatment for the experimental and control group of mental imagery training on the two selected skills performance (shot on goal and heading) of both amateur and elite group. A t-test was carried out to determine the

interaction between pre and post-test performance of the selected skills and the cohen's d was further used to determine the significant effect size of mental imagery training on skills performance of participants. This was represented in table 2.

Table 2: The paired t-test table showing the effect of mental imagery training on shot on goal and heading performance of amateur and elite male football players in Osun State.

	Mean	Sd	T	Sig.	Df	Cohen's d
Shot on goal						
Elite	2.40	1.30	2.59	0.11	78	0.60
Amateur	1.70	1.11				
Heading						
Elite	1.80	0.88	0.00	1.00	78	0.50
Amateur	1.80	0.61				
Overall effect on Performance						
Elite	7.60	3.54	2.86	0.005	78	0.64
Amateur	5.80	1.80				

The Table 2 shows that, there is significant effect of mental imagery training on specific football skills (shot on goal and heading) performance of amateur and elite football players in Osun State. The result showed a statistically significant difference, $t(78) = 2.86, p < .05$. Therefore, the null hypothesis, which stated that mental imagery training would have no significant effect on the performance of shot on goal and heading among the football players, was rejected.

In addition to statistical significance, the magnitude of the observed effect was examined using Cohen's *d*. The overall effect size was approximately $d = 0.64$, indicating a medium effect according to Cohen's conventional criteria. This suggests that the observed improvement associated with mental imagery training was not only statistically significant but also of meaningful practical magnitude. Cohen's *d* provides a standardized estimate of the magnitude of differences between groups or conditions and allows the magnitude of effects to be compared across studies. When the two

specific football skills were considered separately, mental imagery training produced a medium effect on shot-on-goal performance, with Cohen's $d \approx 0.60$, and a medium effect on heading performance, with Cohen's $d \approx 0.50$. These results indicate that the influence of mental imagery was evident across both technical skills, although the magnitude of the effect was slightly greater for shot-on-goal performance than for heading performance. Thus, the findings suggest that mental imagery training may be particularly useful when incorporated into the systematic development of football skills requiring precise motor execution, perceptual preparation and coordinated movement.

The findings are consistent with previous empirical evidence. Slimani et al., (2016), in a systematic review involving 18 studies and 584 soccer players, concluded that cognitive strategies, particularly imagery, can enhance soccer performance. Their review also indicated that the effectiveness of cognitive training may vary according to the standard of the players, the nature of the skill and the context in which the training is applied. Similarly, Seif-Barghi et al. (2012) found that an eight-week video-aided cognitive imagery programme significantly improved successful passing among elite soccer players, providing evidence that imagery can contribute to the development of sport-specific performance.

The present result therefore contributes additional evidence for Nigerian football, particularly Osun State, where empirical research on imagery-based interventions involving both amateur and elite players remain comparatively limited

Conclusion

The conclusion is based on the statistical significance and practical significance of the findings sport performance. The analysis revealed that, mental imagery programme had a significant impact on sport performance indicators, which are shot on goal and heading. The experimental group demonstrated a statistically significant improvements compared to the control group and this suggests that, mental imagery training can enhance football performance.

Recommendations

Based on the findings and conclusions drawn from the analysis of results, the following recommendations were suggested:

1. **Incorporate Mental Imagery Training:** Football coaches, trainers, sports psychologist and practitioners should consider integrating mental imagery training into the regular training programmes for both amateur and elite players. This can help enhance sports performance and promote positive self-esteem among football players.
2. **Tailor Mental Imagery Programmes:** Mental imagery programmes should be tailored to address the specific needs and challenges of football players at different skill levels. Customization based on position-specific skills, game scenarios, and individual player characteristics can maximize the effectiveness of mental imagery training.
3. **Monitor and Evaluate Progress:** It is crucial to monitor and evaluate the progress of players who undergo mental imagery training. Regular assessments of sport performance indicators and self-esteem can provide valuable feedback and help identify areas for improvement.

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PATTERNS AND DEMOGRAPHIC DETERMINANTS OF WEIGHT CONTROLLING PRACTICE AMONG UNDERGRADUATES IN ONDO STATE, NIGERIA: A SCHOOL-BASED SURVEY

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ABSTRACT

Knowledge about the patterns and demographic determinants of weight control practices will help in controlling the global weight problems. This study investigated the patterns and the influence of demographic factors on weight controlling practices among university students in Ondo State, Nigeria. The study adopted descriptive survey research design. The population for the study consisted of all the university undergraduates in Ondo State, where 700 students were selected using multi-stage sampling technique from three selected universities. Questionnaire which was validated through face and content validity was used for data collection. The reliability of the instrument was ascertained using split-half method where 0.66 reliability coefficient was obtained. The null hypotheses using ANOVA for analysis at 0.05 level of significance were tested and all were accepted. The findings of the study revealed that: 194 (27.9%) respondents skipped meals, 67(9.6%) take diet pill, powder or liquid, and 24(3.4%) vomit or take laxative as weight controlling practices. 274(39.4%) of the respondents engaged in exercises, 241(34.6%) eat less food, or food low in calories in fats and 234 (33.6%) eat fruits and vegetable as means of controlling weight. Moreso, healthy weight control practices $F(1, 682) = .051, p = .822$

> 0.05 and unhealthy weight control practices $F(1, 682) = 2.862, p = .091 > 0.05$ were not significantly influenced by marital status, gender and age without any interaction effect. From the findings of the study, it was concluded that undergraduate engage more in healthy weight control practices and demographic factors do not influence both healthy and unhealthy weight control practices among undergraduates. It was therefore recommended that, issues relating to weight control practices as a means of solving weight problem should be addressed to all.

Key words: Healthy and Unhealthy Weight Control Practices, Age, Gender, Marital Status, Undergraduate, Physical Exercises and Diet

Introduction

Weight control practices appeared to be more common and widespread especially among the youth due to increase in awareness on the health implications of body weight (overweight and obese) and also the efforts of beauty industries convincing individuals through bombardment of messages and images of so-called beauty from the media that they need to look thinner. However, for effectiveness and positive results of weight control practices on weight problems, there must be an adequate understanding of weight control practices and how they are been influenced by factors like marital status, gender and age.

Weight control practices are viewed as activities involved for weight loss and weight loss maintenance. **Bhurtun and Jeewon (2013)** referred to weight control practices as any current change or changes made during the past three months to eating habits, physical activity, or any other behaviour in an attempt to lose or gain weight. Weight controlling practices are not about weight loss only; on the contrary, it covers all aspects of attaining and maintaining optimum weight (ideal body weight) for a healthy lifestyle (Olaoye & Oyetunde, 2012). This can be achieved by losing weight in the case of overweight or obesity, and gaining weight in the case of underweight.

Weight control practices vary from healthy weight controlling practices to unhealthy weight controlling practices (Ferraro, Patterson & Chaput, 2015; Varkevisser et al., 2018). Even though, the concerns of overweight and obesity among youth had shown to promote the use of healthy weight control practices such as decreasing fat intake, increasing fruit and vegetable consumption, and increasing physical activity (Haynes, et al., 2017). But, in the meantime, the Unhealthy Weight Control Practices (UWCP), such as fasting, taking diet pills or laxatives, or inducing vomiting remained very common among the youth population (Centers for Disease Control and Prevention (CDC), 2010). While healthy weight controlling practices have been proved to be safe and effective in controlling weight problems, significant mental and physical consequences may occur with unhealthy weight controlling practices (National Eating Disorders Collaboration, 2015).

Studies have proved that, healthy weight control practices such as increased fruit and vegetable intake, a lowered fat intake, calories intake reduction with moderate dieting and increased physical activity and exercises can be beneficiary in maintaining ideal weight, reducing the risk of becoming obese, as well as improving fitness (Adam, Westenhofer, Rudolphi & Kraaibeek, 2009; Montesi, El Ghoch, Brodosi, Calugi, Marchesini & Dalle-Grave, 2016). Therefore, for body weight intervention and prevention of overweight and obesity, behavioural strategies, diet and exercise were suggested (Hart et al., 2010; Burke & Wang, 2011; Stubbs et al., 2011).

Olaoye and Oyetunde (2012), and Larose, Gorin, Clarke and Wing (2011) in attempt to prove gender differences in weight controlling practices among tertiary students have revealed that, females involved more in weight management than the male students as females were more interested in slim body shape than the male students which made them desperately engaged in unhealthy weight control practices such as drugs and non-prescriptions products or herbal products than males in managing their weight. A UWCP study examined CDC's 1999 national Youth Risk Behaviour Survey (YRBS) data has indicated that, among youth trying to lose weight or

stay the same weight, 62% of females and 41% of males combined 17 exercises with a reduced fat and calorie diet, while 32% of females and 17% of males also practiced UWCP (Varkevisser et al., 2018). Eaton et al. (2010) also reported from the closer look at the YRBS results concerning the UWCP among youth that 10.6% of youth fasted, that is did not eat for 24 or more hours to lose weight or to keep from gaining weight during the 30 days before the survey. The prevalence of fasting was higher among females (14.5%) than males (6.9%). More so, the number of students taken diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight has drastically increased with females higher than males (Eaton et al., 2010). Also, females have been reported to engaged more frequently in both healthy and unhealthy weight control practices (Fonseca, Matos, Guerra & Pedro, 2009), but engaged in more bulimic symptoms than males; particularly among overweight females (Boutelle, Neumark-Sztainer, Story, & Resnick, 2002; McCabe & Ricciardelli, 2009).

Bersamin et al. (2009) found age and gender to be significant predictors of weight loss practices. However, Seward (2012) using data from the National Health and Nutritional Examination Survey (NHANES) 2009-2010 to examine if specific weight loss strategies differ by SES among those who have tried to lose weight has reported that, age was not significantly associated with engaging in weight loss. This supported the idea that, body concerns likely remain as people age (Bedford & Johnson, 2006). Boo (2013) after examining the relationships among socio-demographic variables of age, marital status, education and poverty level and the dependent variable of weight loss efforts, the result showed that weight loss efforts were negatively related with age, marital status, education and poverty level. While, Jones (2015) also claimed that, social demographic factors of age and marital status have no significant relationship with weight control practices. Contrarily, Bove and Sobal (2011) and Shilling (2003) have claimed differences in weight control practices based on marital status as their findings revealed that, unmarried individuals engaged in weight loss more than married in order to find a mate.

Despite the good impact of healthy weight control practices, studies are still needed to investigate the patterns of weight control practices and the influences of marital status, gender and age among university students. This study therefore investigated the influence of marital status, gender and age on weight control practices among university students

Statement of the Problem

The global concerns on overweight and obesity have shown to increase attentions on weight control practices, both the healthy and unhealthy practices. The healthy weight control practices such as decreasing fat intake, increasing fruit and vegetable consumption, and increasing physical activity have been observed to effectively control and manage weight problems. But, the Unhealthy Weight Control Practices (UWCP), such as fasting or meal skipping, taking diet pills or laxatives, or inducing vomiting which are proven to be more common than noticed among high school students.

Unhealthy weight controlling practices which are the major suspected factors in developing eating disorders are noticed to be influenced by marital status, gender and age differences. The singles, females and young adults are noticed to be more conscious of their weights due to the significant physical changes in their bodies during transition to adulthood as these changes may amplify body concerns as appearance becomes a primary focus. For males, characteristics such as height, speed, broadness, and strength become admired. Whereas for females, adulthood brings increase in body fat percentage (breasts and hips enlarge). These changes in the body shapes may lead to body image dissatisfactions and consequently resulted into unhealthy weight controlling practices. Meanwhile, if the cases of unhealthy weight practices can be detected earlier, some control measures like public awareness may still arrest the menace before it will excavate and complicate.

In the light of the foregoing observations, this study investigated the influence of marital status, gender and age on weight controlling practices among university students in Ondo State, Nigeria.

Objectives of the Study

The purpose of this study was to determine the:

1. Patterns of weight controlling practices of undergraduates in Ondo State, Nigeria
2. Influence of marital status, gender and age on healthy weight control practices among undergraduates in Ondo State, Nigeria.
3. Influence of marital status, gender and age on unhealthy weight control practices among undergraduates in Ondo State, Nigeria

Research Question

The following question was answered:

1. What is the patterns of weight control practices among undergraduates in Ondo State, Nigeria?

Research Hypotheses

The following hypotheses were tested:

1. Healthy weight control practices will not be significantly influence by marital status, gender and age among undergraduates in Ondo State, Nigeria.
2. Unhealthy weight control practices will not be significantly influence by marital status, gender and age among undergraduates in Ondo State, Nigeria

Methodology

Descriptive survey research design was used for this study. The population of this study comprised of all students from all the universities in Ondo State. A multi stage sampling was employed whereby stratified sampling technique was used to selected three (3) universities out of the seven (7) universities in Ondo State. The universities in Ondo State are stratified based on ownership as stipulated by National University Commission (NUC) as Federal Universities, State Universities and Private Universities. Federal University of Technology, Akure (FUTA) was selected as federal university, Adekunle Ajasin University, Akungba Akoko (AAUA) was selected as state universities, while Elizade University, Ilara-

Mokin was selected as private university through simple random of fish bowl method. Proportionate sampling technique was also used to select 700 students which represent 2.1 percent of the 34, 200 which form the population of students in the three selected universities. Convenient sampling technique was used to select in the accurate proportion of 309, 330 and 62 from FUTA, AAUA and Elizade respectively. The instrument was validated by experts for face and content validity. Split-half reliability method was use as the instrument was administered to 30 students from Obafemi Awolowo University, Ile Ife, Osun State, Nigeria and data collected was analyzed using Cronbach's Alpha statistic and reliability coefficient of 0.68 was obtained. The instrument was administered to the respondents by the researcher with the help of three research assistants and the completed forms were retrieved back. Frequency count and percentage were used to answer the research question while inferential statistics of ANOVA was used to analyze the hypotheses at 0.05 alpha level.

Results

Research Question: What are the weight controlling practices of Undergraduates in Ondo State, Nigeria?

Answer to research question is graphically reported in figures 1a and 1b.

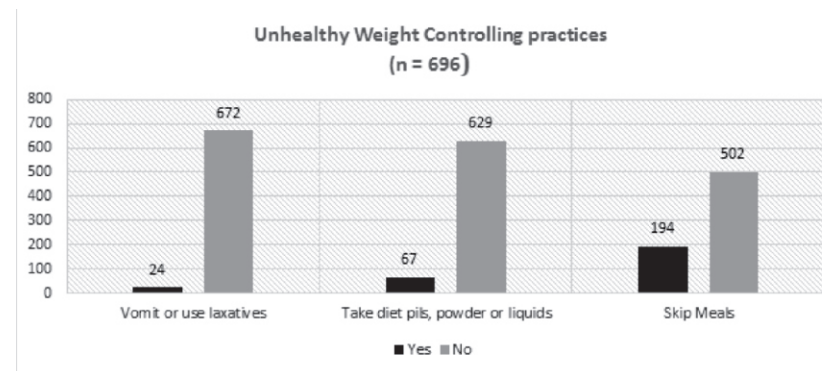


Figure 1a: Unhealthy weight controlling practices among university undergraduates in Ondo State, Nigeria

Figure 1a reveals that, only few of the respondents engaged in unhealthy weight controlling practices. The result shows that, 194 (27.9%) respondents skipped meals in attempt to manage weight while 502 (72.1%) respondents doesn't skip meal. More so, 629 (90.4%) of the respondents reported not to take diet pills, powders or liquids to loss weight or keep from gaining weight but 67 (9.6%) of the respondents reported to take. In the same way, 672 (96.6%) which has the majority of the respondents have also reported not to vomit or take laxatives to loss weight or to avoid gaining weights but only few part of the respondents, 24 (3.4) reported to vomit or take laxatives in order to loss weight or avoid gaining weight.

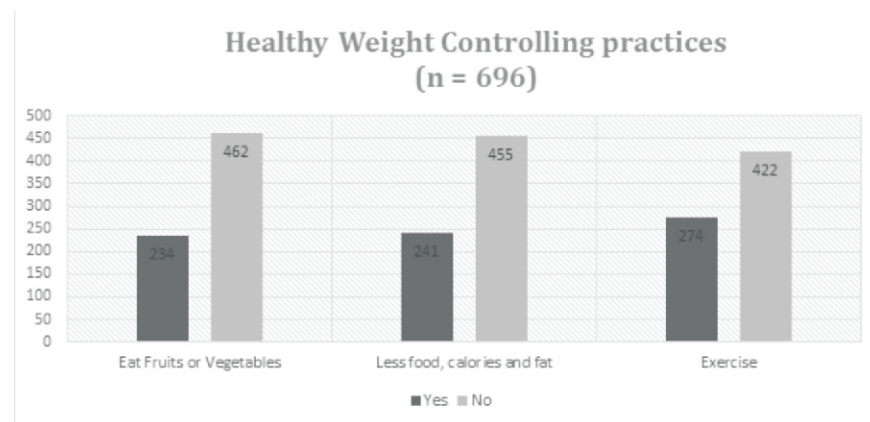


Figure 1b: Healthy weight controlling practices among university undergraduates in Ondo State, Nigeria

Figure 1b reveals that, high number of respondents engaged in healthy weight controlling practices. The result showed that, 274 (39.4%) of the respondents do engage in exercises to lose weight or to avoid gaining weight. Though, 422 (60.6) of the respondents reported no to engaging in exercise in order to lose weight or avoid gaining weight. 241 (34.6%) of the respondents have also reported to eat less food, or food low in calories and fats but 455 (65.4%) of the respondents reported negative to the item. The result has further

revealed that, 234 (33.6%) of the respondents do eat fruits and vegetable for the purpose of weight control while 462 (66.4%) of the respondents do not.

Hypotheses Testing

Hypothesis One: Healthy weight control practices will not be significantly influence by marital status, gender and age among undergraduates in Ondo State, Nigeria

Table 1: Two-way ANOVA of Influence of age, gender and marital status on healthy weight control practices

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Age	1.799	3	.600	.511	.675	.002
Gender	.177	1	.177	.151	.698	.000
Marital Status	.835	1	.835	.711	.399	.001
Age and Gender	3.609	3	1.203	1.025	.381	.004
Age and Marital Status	.391	3	.130	.111	.954	.000
Gender and Marital Status	.059	1	.059	.051	.822	.000
Age, Gender & Marital Status	.921	1	.921	.785	.376	.001
Error	800.525	682	1.174			
Total	17699.000	696				
Corrected Total	824.964	695				

$p \leq 0.05$

Table 1 shows factorial analysis of the influence of age, gender and marital status on healthy weight practices of undergraduates ($n = 696$) in Ondo State, Nigeria. There was no significant main influence of: age $F(3, 682) = .511, p = .675 > 0.05$; gender $F(1, 682) = .151, p = .698 > 0.05$; and marital status $F(1, 682) = .711, p = .399 > 0.05$ on healthy weight control practices. The result also indicated no significant interaction influences of: age and gender $F(3, 682) = 1.025, p = .381 > 0.05$; age and marital status $F(3, 682) = .111, p = .954 > 0.05$ and gender and marital status $F(1, 682) = .051, p = .822 >$

0.05 on healthy weight control practices. Furthermore, age, gender and marital status $F(1, 682) = .051, p = .822 > 0.05$ has no significant influence on healthy weight control practices among undergraduates in Ondo State, Nigeria. This implies that age, gender and marital status has no significant influence on healthy weight control practices among undergraduates in Ondo State, Nigeria. Hence, the stated null hypothesis was accepted.

Hypothesis Two: Unhealthy weight control practices will not be significantly influence by marital status, gender and age among university students in Ondo State, Nigeria

Table 2: Two-way ANOVA of influence of age, gender and marital status on unhealthy weight control behaviours

Source	Type III Sum Squares	of Df	Mean Square	F	Sig.	Partial Eta Squared
Age	1.551	3	.517	1.168	.321	.005
Gender	1.326	1	1.326	2.998	.084	.004
Marital status	.098	1	.098	.223	.637	.000
Age and gender	1.502	3	.501	1.132	.335	.005
age and marital status	.406	3	.135	.306	.821	.001
gender and marital status	1.644	1	1.644	3.716	.054	.005
Age, gender & marital status	1.266	1	1.266	2.862	.091	.004
Error	301.728	682	.442			
Total	22073.000	696				
Corrected Total	320.297	695				

$p \leq 0.05$

Table 2 shows factorial analysis of the influence of age, gender and marital status on unhealthy weight control practices of university undergraduates ($n = 696$) in Ondo State, Nigeria. There was no significant main influence of: age $F(3, 682) = 1.168, p = .321 > 0.05$; gender $F(1, 682) = 2.998, p = .084 > 0.05$; and marital status $F(1, 682) = .223, p = .637 > 0.05$ on unhealthy weight control practices.

The result also indicated no significant interaction influences of: age and gender $F(3, 682) = 1.132, p = .335 > 0.05$; age and marital status $F(3, 682) = .306, p = .821 > 0.05$ and gender and marital status $F(1, 682) = 3.716, p = .054 > 0.05$ on unhealthy weight control practices. Furthermore, age, gender and marital status $F(1, 682) = 2.862, p = .091 > 0.05$ has no significant influence on unhealthy weight control practices among undergraduates in Ondo State, Nigeria. This implies that age, gender and marital status has no significant influence on unhealthy weight control practices among undergraduates in Ondo State, Nigeria. Hence, the stated null hypothesis was accepted.

Discussion

From the findings of this study, it was revealed that, majority of the university students in Ondo State engaged in healthy weight control practices particularly exercises and healthy foods consumption while only few of them engaged in unhealthy weight control practices. This study strongly disagrees with the submissions of Centers for Disease Control and Prevention (CDC), (2010) which claimed that in meantime, Unhealthy Weight Control Practices (UWCP), such as fasting, taking diet pills or laxatives, or inducing vomiting remained very common among the youth population. The claims of Mahassani (2020) and Eaton et al. (2010) that the number of university students taken laxatives pills, powders, or liquids and other self-medications to lose weight has drastically increased does not align with the findings of this study.

Hypothesis one stated that, healthy weight control practices will not be significantly influence by marital status, gender and age among university students in Ondo State, Nigeria. This implies that, marital status, gender and age does not significantly influence healthy weight practices. This study supported the study of Jones (2015) who claimed that, social demographic factors of age and marital status has no significant relationship with both healthy and unhealthy weight control practices. However, the study contradicted the study of Bersamin et al (2009) which found that age and gender

were the significant predictors of weight loss practices especially the healthy types and some other studies which claimed age influenced the adoption of healthy weight controlling practices such as diet and exercise (Yost, et al., 2010). The study also disagreed with Seward (2012) after examining specific weight loss differ by SES reported that, only age is significantly related with exercise as healthy weight control practice.

Hypothesis two reveal that, unhealthy weight control practices will not significantly influence by marital status, gender and age. This study negated the previous studies of Fonseca, et al., (2009), and Alsehli and Aljadani (2020) which reported that, females engaged more frequent unhealthy weight control practices than male. Boutelle, et al., (2002), and McCabe and Ricciardelli (2009) also submitted contradictory to this study that, females engaged in UWCP like fasting and vomiting than males. The study also disagreed with the findings of Olaoye and Oyetunde (2012) which shown gender differences in weight controlling practices among tertiary students and the result further revealed that, female students engaged in unhealthy weight control practices such as drugs and non-prescriptions products or herbal products than male students in manage their weight.

Conclusion

Based on the findings of this study, it was concluded that:

1. University students in Ondo State, Nigeria engage more in healthy weight controlling practices than unhealthy weight control practices
2. Marital status, gender and age has no influence on healthy weight control practices among university students in Ondo State, Nigeria.
3. Marital status, gender and age has no influence on unhealthy weight control practices among university students in Ondo State, Nigeria

Recommendations

From the conclusion of this study, the following recommendation were made:

1. Since age, marital status, and gender does not influence weight controlling practices, education and sensitization on weight controlling practices that will encourage the practices of healthy weight controlling practices should be given to both sexes without marital discrimination across all ages in order to curb the menace of weight problems.
2. Enlightenment on the health risk of unhealthy weight control practices should be given to all undergraduates without marital status, age and gender discrimination since age, marital status and gender has no significant influence on weight control practices.

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FACTORS RESPONSIBLE FOR THE INCREASING INVOLVEMENT OF NIGERIAN YOUTHS IN THE ABUSE OF DRUGS

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ABSTRACT

Drug and substance abuse remains a critical global public health concern. Adolescents and young adults are particularly vulnerable during this their developmental phase, as their brains, especially the prefrontal cortex are still maturing, making them lightly susceptible to addiction and impulsive decision making. This study aims to identify the prevalence and the indexes responsible for increasing involvement of Nigerian youths in the abuse of drugs and psychoactive substances. This study is a position paper that employs a review approach to delve into the factors responsible for drug abuse amongst Nigerian youths via findings of researches and review of current literature. The study highlighted about fifteen factors, discussed them, made reasonable conclusion and proffer some recommendation for the improvement of the state of drugs abuse in Nigeria.

Keywords: *Factors, Increasing, Youths, Drug Abuse*

Introduction

Drug use and abuse among youths has become a major public health and social concern in Nigeria. In recent years, the rate at which young people consume illicit drugs and misuse prescription substances has increased significantly (United Nations Office on Drugs and Crime (UNODC 2022), reports indicate that millions of Nigerians between the ages of 15 and 64 engage in non-medical drug use, representing a prevalence rate of over 14%, which

is significantly higher than the global average of about 5% (National Drug Law Enforcement Agency (NDLEA& UNODC, 2019). This growing trend has raised serious concerns among health professionals, educators, and policy makers because of the negative effects of drug abuse on individual's health, social stability, and national development.

Youth is a period characterized by curiosity, experimentation, and the desire for independence. These characteristics can encourage creativity and Motivation, they may also expose young people to risky behaviors such as drug abuse. Scholars have identified several factors that contribute to this growing problem, including peer influence, unemployment, family problems, and psychological pressures. According to Okon (2025), many young people abuse drugs to relieve stress, boost self-confidence, or satisfy curiosity about the effects of substances.

In Nigeria, commonly abused substances include cannabis, tramadol, codeine syrup, alcohol, and other synthetic drugs (National Drug Law Enforcement Agency (NDLEA, 2022); United Nations Office on Drugs and Crime (UNODC, 2022). These substances are often easily accessible and relatively affordable, which increases their consumption among young people. Studies also indicate that drug abuse among Nigerian youths is associated with criminal behavior, mental health disorders, and declining academic performance (Uwais, Adebayo & Oyeniyi, 2025). Therefore, understanding the factors that encourage drug use and abuse among Nigerian youths is essential for developing effective prevention strategies. This paper and discusses major factors that prompts Nigerian youths to be more prone to drug use and abuse than ever before. These factors are; peer group influence, unemployment and economic hardship, curiosity and desire for experimentation, family problems and broken homes, academic pressure and poor academic performance, easy availability of drugs, influence of media and popular culture, stress, anxiety, and mental health challenges, influence of social media, boredom and lack of recreational opportunities, trauma and emotional distress, weak law enforcement

and drug control, lack of drug education and awareness, urbanization and nightlife culture and drug trafficking networks and organized crime. This paper is out to do a review of these factors, make conclusions and offer recommendations for solutions.

Peer Group Influence

Peer pressure is widely recognized as one of the strongest factors influencing drug use among young people. Adolescents and young adults often seek acceptance and recognition within their social groups. As a result, they may adopt behaviors practiced by their friends in order to fit in. Research has shown that many youths begin using drugs because their friends encourage or persuade them to experiment with substances (Abdulkarim, 2021). A study conducted by Lawal and Aliyu (2020) found that peer pressure was one of the most significant factors contributing to substance abuse among young people in Nigeria. When young individuals observe their peers using drugs without immediate negative consequences, they may perceive such behavior as acceptable.

Furthermore, social gatherings such as parties, clubs, and campus events sometimes create environments where drug use becomes normalized. In such situations, youths who refuse to participate may feel isolated or ridiculed. Consequently, they may eventually succumb to peer pressure and begin experimenting with drugs. Peer influence can also occur through online interactions. Social media platforms sometimes promote drug culture through music, videos, and celebrity lifestyles (Okafor & Nwankwo 2022). When youths see influential figures using Substances openly, they may imitate such behaviors. Therefore, peer pressure remains a powerful factor that increases the vulnerability of Nigerian youths to drug abuse.

Joblessness and Economic Marginization

Another major reason why Nigerian youths engage in drug abuse is unemployment and economic hardship. Nigeria has experienced high levels of youth unemployment, which creates frustration and

feelings of hopelessness among young people. Unemployed youths may turn to drugs as away of coping with the stress and disappointment associated with joblessness. According to (Uwais, Adebayo, & Oyeniyi, 2025), economic hardship and unemployment significantly contribute to substance abuse among young people because drugs provide temporary escape from financial and emotional worries.

In addition, poverty may push some youths into drug trafficking or distribution as a means of survival. Once they become involved in the drug trade, they are more likely to consume the substances themselves. This situation further worsens the problem of drug abuse within society. Economic hardship also affects families, making it difficult for parents to provide adequate supervision and support for their children. As a result, many youths spend time on the streets where they may encounter drug dealers and other negative influences. Therefore, unemployment and economic instability play a significant role in increasing drug abuse among Nigerian youths.

Inquisitiveness and Desire for Experimentation

Curiosity is another important fact that contributes to drug abuse among Nigerian youths. Young people often possess a strong desire to explore new experiences and experiment with unfamiliar activities (Eze & Ibrahim, 2023). This natural curiosity may lead them to try drugs simply to discover how they feel. Studies show that many youths initially experiment with drugs out of curiosity rather than addiction. Okon (2025) notes that curiosity and the desire to experience pleasure are among the major reasons why adolescents try psychoactive substances. In some cases, youths may hear stories from friends or media sources describing the pleasurable effects of drugs. Such descriptions may create excitement and motivate them to experiment with these substances. Unfortunately, what begins as harmless experimentation can quickly develop into addiction. Some drugs create strong psychological dependence, making it difficult for users to stop once they begin. Therefore, curiosity and experimentation remain important factors contributing to drug use among Nigerian youths.

Family and Home Background

Family instability is another factor that contributes significantly to drug abuse among youths. Young people who grow up in homes where there is conflict, neglect, or lack of parental care are more likely to engage in risky behaviors (Adegoke & Oladipo, 2021). Some parents are too occupied with work or personal issues to monitor the activities of their children effectively. Consequently, many youths spend long hours outside the home without guidance or supervision. (Ojo, 2022). Onifade & Adebayo (2021) agreed that lack of parental attention and care can increase the likelihood of drug abuse among adolescents. Broken homes, parental separation, and domestic violence can also create emotional distress among young people. (UNODC, 2022). In such situations, drugs may appear to provide temporary solution from psychological pains.

Furthermore, children who grow up in families where the father and or mother abuse substance may develop similar habits. They may view drug use as normal behavior and eventually adopt the same lifestyle. Thus, Home problems and inadequate parental care significantly and positively influence the risk of drug abuse among Nigerian youths.

Academic Pressure Leading to Poor Performance

Academic stress is another factor contributing to drug abuse among students. Many young people experience intense pressure to perform well in school and meet the expectations of parents and teachers. This pressure emanate from poor sources of financial support, teachers enforcing academic materials on students and fear of insecurity. When students struggle academically, they may feel frustrated or discouraged. Some may turn to drugs as a coping mechanism to escape from academic stress. In certain cases, students misuse stimulant drugs in the belief that these substances will help them stay awake and concentrate while studying.

In many cases, such practices often result to negative consequences, including reduced concentration, mental and emotional health problems, and retrogressive academic

performance. According to Onifade& Adebayo, (2021), educational researchers, drug abuse among students is strongly associated with poor academic achievement and increased dropout rates. Furthermore, academic failure can damage students' self-esteem and motivation. As a result, they may become more susceptible to peer influence and further abuse of substances. Studies have also shown that persistent academic stress and poor performance increase the likelihood of substance use among adolescents (UNODC, 2022). Therefore, academic pressure and poor school performance contribute significantly to drug abuse among Nigerian youths.

Availability of Drugs

The easy availability of drugs is another major index contributing to drug abuse among Nigerian youths. In many localities, illicit substances such as cannabis, colorado, and amphetamines syrup are readily available through illegal markets and unlicensed pharmaceutical stores. When drugs are easily accessible, young men and women easy access and experiment with them (National Drug Law Enforcement Agency (NDLEA,2022). Studies have shown that increased availability and proximity of psychoactive substances significantly raise the likelihood of substance use among adolescents (United Nations Office on Drugs and Crime (UNODC,2022).

Furthermore, poor enforcement of drug control laws may allow drug traffickers and illegal vendors to operate freely in certain areas. This scenerio enhances the circulation of illegal substances and open more youths to drug use and abuse. In Nigeria, researches have highlighted that there are gaps in regulatory monitoring and pharmaceutical control as contributing factors to rising substance abuse cases (NDLEA,2022). Therefore, monitoring the supply and distribution of drugs through stronger enforcement and community surveillance is essential for reducing drug abuse among young people.

Emotional and Mental Health Challenges

Mental health problems such as stress, anxiety, and depression also contribute significantly to drug abuse among youths. Many young people experience emotional challenges related to academic pressure, financial difficulties, family issues, and social expectations. In some cases, these psychological burdens push adolescents to adopt maladaptive coping strategies, including substance use. According to Ibigbami (2023), mental health-related problems often predispose adolescents to alcohol and psychoactive substance use as a form of emotional coping strategy. Similarly, (UNODC,2022) findings from mental health studies in Nigeria indicate that anxiety and depressive symptoms are strongly associated with increased likelihood of substance use among adolescents. Some youths use drugs as a way of coping with emotional pain or psychological distress, as substances may temporarily create feelings of relaxation, pleasure, or escape from reality. However, this relief is usually short-lived and often leads to repeated use. Prolonged drug use can worsen existing mental health conditions and may contribute to addiction, depression, cognitive impairment, and other serious psychological disorders. Therefore, addressing mental health challenges among youths is essential for reducing the prevalence of drug abuse, particularly through counseling services, school-based interventions, and improved access to mental health support.

Traumatic experiences and emotional distress can also push many youths toward drug abuse. Experiences such as child abuse, neglect, violence, or the loss of loved ones can create deep psychological pain. Some youths use drugs as a way of coping with these difficult emotions. Psychologists note that individuals who experience unresolved trauma often seek ways to escape emotional pain, and substance abuse may become a temporary coping mechanism. Research has shown that traumatic experiences such as abuse, neglect, violence, and loss are strongly associated with increased risk of substance use among adolescents (Ibigbami,

Oginni, Bradley, Lusher, Sam-Agudu, & Folayan, 2023). In Nigeria, mental health support systems are still developing, and access to professional psychological services remains limited in many communities, meaning that many youths do not receive adequate help when dealing with emotional and psychological challenges.

Health experts further warn that trauma and unresolved emotional stress contribute significantly to substance abuse among young people. Studies indicate that adolescents exposed to persistent psychological distress are more likely to engage in drug use as a form of emotional regulation or escape (United Nations Office on Drugs and Crime (UNODC, 2022). Drugs may temporarily reduce emotional pain, but prolonged use often worsens mental health conditions such as depression, anxiety disorders, and psychosis. Therefore, improving access to mental health services, school counseling programs, and community-based psychological support is essential in addressing drug abuse among Nigerian youths.

Influence of Social Media

Social media has become one of the most powerful influences on youth behavior in contemporary society. Platforms such as Instagram, TikTok, and Facebook expose young people to different lifestyles, trends, and online subcultures, including aspects of drug culture. Studies have shown that repeated exposure to risky and substance-related content on digital platforms can shape adolescents' perceptions and increase the likelihood of experimentation (Ogunleye 2021). Many youths observe influencers, musicians, and celebrities openly displaying drug use in videos and music content, which may encourage imitation and normalization of such behaviour.

Research further indicates that exposure to drug-related content on social media increases the likelihood of substance experimentation among adolescents, especially when such content glamorizes drug use as a symbol of wealth, fame, pleasure, or social acceptance (United Nations Office on Drugs and Crime (UNODC,

2022). When drugs are portrayed in this positive light, youths may develop favorable attitudes toward their use. According to recent observations by health experts, social media has contributed significantly to the normalization of drug use among young people in Nigeria due to weak content regulation and high exposure rates (NDLEA, 2022).

Furthermore, social media platforms sometimes serve as indirect channels through which drug dealers communicate with potential buyers using coded language, private messaging, and anonymous accounts. This digital access reduces the barriers that previously limited the distribution and acquisition of illicit substances. Studies have noted that online drug markets and digital communication channels are emerging as new facilitators of substance availability among youths (UNODC, 2022). Consequently, the widespread use of social media has created new pathways through which Nigerian youths are exposed to drug culture and encouraged to experiment with substances.

Boredom and Lack of Recreational Opportunities

It is very unfortunate that there is dearth of recreational opportunities in Nigerian societies. This also contribute significantly to drug abuse among Nigerian youths. The Devil finds work for idle hands. Many young people lack access to sports facilities, youth centres, vocational training opportunities, and productive leisure activities that could occupy their time constructively. In communities where recreational resources are limited, youths often spend their free time engaging in unproductive or risky behaviours. Akindele & Olatunji (2022) affirms that environmental boredom and lack of structured activities significantly increase the likelihood of substance use among adolescents (Akindele & Olatunji, 2022).

In such situations, some individuals takes resort in drugs as a means of entertainment, stimulation, or temporary escape from boredom. Experts have identified boredom as a major psychological trigger for sensation-seeking behaviours, including substance abuse, especially among adolescents with limited supervision and

engagement opportunities (UNODC,2022). The absence of youth-friendly recreational infrastructure in many Nigerian communities further worsens the situation, making drug use appear as an accessible alternative for excitement and social interaction. Furthermore, urban areas with limited recreational infrastructure often experience higher rates of youth delinquency, including drug abuse. Without structured programs that encourage creativity and skill development, young people may become vulnerable to negative influences. Therefore, improving youth engagement through sports, vocational training, and community programs could significantly reduce the prevalence of drug abuse.

Weak Law Enforcement and Drug Control

Another factor contributing to the rising rate of drug abuse among Nigerian youths is weak enforcement of drug control laws. Although agencies such as the National Drug Law Enforcement Agency (NDLEA) work to combat drug trafficking and distribution, illegal drugs are still widely available in many communities. Weak law enforcement allows drug traffickers to operate with relatively low risk in certain areas. When illegal substances are easily accessible, young people may find it difficult to resist experimenting with them. According to UNDOC, (2022) easy access to drugs significantly increases the prevalence of substance abuse among adolescents. When psychoactive substances are readily available in communities, schools, and informal markets, young people are more likely to experiment with them due to reduced barriers to acquisition. In Nigeria, the widespread availability of substances such as cannabis, tramadol, and codeine has been linked to rising cases of youth drug use, particularly where regulation is weak and enforcement is inconsistent (National Drug Law Enforcement Agency (NDLEA, 2022).

In addition, corruption and porous borders sometimes facilitate the illegal importation and distribution of drugs into the country. Weak border control systems and inadequate monitoring of trafficking routes allow illicit substances to enter and circulate

within local markets. Reports have revealed that transnational drug trafficking networks exploit these weaknesses to sustain supply chains in West Africa (UNODC, 2022).

Civilization Cum Nightlife Culture

Rapid urbanization in Nigeria has significantly influenced the lifestyle and social life of many youths, and one of its negative fallout is the ever increasing exposure of young men and women to drug use and abuse. Urbanization refers to the movement of people from rural areas to cities in search of better employment opportunities, education, and improved living conditions (National Population Commission NPC, 2023). As cities grow and become more populated, they also develop diverse entertainment and recreational avenues and events that shape the lifestyle of urban residents.

Major Nigerian cities such as Lagos, Abuja, and Port Harcourt are well known for their active nightlife activities, including clubs, concerts, parties, lounges, and entertainment events that operate late into the night. These nightlife environments often serve as places where young people gather to socialize, celebrate, and escape from daily stress. However, they may also become environments where drug consumption occurs openly or discreetly. Substances such as alcohol, cannabis, tramadol, codeine mixtures, and other synthetic drugs are sometimes used within these settings. Research has shown that urban nightlife environments can increase exposure to substance use due to peer influence, stress relief motivations, and social normalization of risky behaviour (United Nations Office on Drugs and Crime (UNODC, 2022).

For some youths, drug use becomes associated with enjoyment, excitement, and relaxation. The influence of music, peer groups, and celebrity lifestyles further encourages experimentation with drugs in these social environments. Studies have also revealed that entertainment culture and peer-driven urban social networks significantly shape youth attitudes toward substance use in Nigerian cities (Okafor & Chukwu, 2021). Another important factor is the

increased availability of drugs in urban areas. Cities attract diverse populations, including individuals involved in the illegal drug trade. Because of the concentration of people and economic activities, urban areas often provide profitable markets for drug dealers. Reports indicate that drug distribution networks are more concentrated in urban centres, making illicit substances more accessible to young people than in rural communities (NDLEA, 2022). Easy access increases the likelihood that curious or vulnerable youths may experiment with these substances.

Furthermore, the anonymity of city life can contribute to the spread of drug abuse. In large urban environments, social control is often weaker compared to smaller rural communities where families and neighbors closely monitor behavior (United Nations Office on Drugs and Crime (UNODC, 2022). Urban youths may experience less supervision from parents, guardians, or community leaders, creating greater opportunities for involvement in risky behaviors such as substance abuse. In addition, some young people migrate to cities for education or employment and may live away from parental guidance, increasing their vulnerability to negative peer influence and substance-related environments.

Researchers have found that young people who frequently participate in nightlife activities are more likely to encounter drugs due to their proximity to entertainment industries and social gatherings where substances are present (Afolabi & Nwosu, 2021). In some cases, nightlife establishments may indirectly encourage substance use through aggressive alcohol promotion, peer normalization, or weak enforcement of regulations against drug use. Studies have also highlighted that urban entertainment settings can function as high-risk environments for substance exposure among adolescents and young adults (NDLEA, 2022). Consequently, urbanization and nightlife culture have significantly contributed to the growing exposure of Nigerian youths to drugs and other psychoactive substances.

Lack of Drug Education and Ignorance

Another major factor contributing to the increasing rate of drug abuse among Nigerian youths is the lack of adequate drug education and ignorance. Many young people do not possess sufficient knowledge about the harmful effects of substance abuse on their physical health, mental well-being, academic performance, and social relationships. Without accurate and consistent information, youths may underrate the dangers inherent in drug consumption and maybe more willing to experiment with different substances (United Nations Office on Drugs and Crime (UNODC, 2022). Studies have found that inadequate drug education in schools and communities significantly increases vulnerability to substance use among adolescents, as misinformation and peer influence often fill the knowledge gap.

Although some schools include drug education as part of health education or social studies curricula, the information provided may not always be detailed, practical, or engaging enough to influence students behavior. In many cases, drug education programmes are limited to brief classroom discussions that fail to address the complex social and psychological factors that influence drug use. As a result, students may view drug abuse as a minor issue rather than a serious public health concern.

Another problem is that some young people rely on unreliable sources of information such as peers, social media, and entertainment content for knowledge about drugs and substance use. These sources may sometimes portray drug use as fashionable, exciting, or harmless. When young people repeatedly encounter such misleading messages, they may develop positive or distorted attitudes toward drug use (Ogunleye, (2021). Without proper drug education to correct these misconceptions, youths may become more vulnerable to experimentation and gradual involvement in substance abuse. Research has shown that exposure to inaccurate or glamorized information about drugs significantly increases the likelihood of substance use among adolescents (United Nations Office on Drugs

and Crime (UNODC, 2022). Studies have shown that individuals who possess limited knowledge about the risks associated with drugs are more likely to engage in substance abuse. Lack of awareness about addiction, withdrawal symptoms, and long-term health consequences can make drug use appear less dangerous than it actually is. However, drugs can cause serious health problems including mental disorders, organ damage, and dependence. In severe cases, prolonged drug abuse can lead to death.

Drug Trafficking Networks and Organized Crime

The presence of drug trafficking networks and organized criminal activities in Nigeria has dangerously increased and has also contributed significantly to the rising problem of youth drug abuse. Drug trafficking involves the illegal production, transportation, distribution, and sale of controlled substances. Organized criminal groups often operate sophisticated transnational and local networks that transport drugs across different regions and make them available within communities (United Nations Office on Drugs and Crime (UNODC, 2022). These criminal networks are often motivated by the high financial profits associated with the illegal drug market. Because drugs generate substantial income, traffickers continuously seek new customers, including young people. In some cases, drug dealers deliberately target youths because they are more likely to experiment with new experiences, are influenced by peers, and may lack strong decision-making skills. Research has shown that increased drug market penetration within communities significantly raises the risk of youth exposure and substance use (National Drug Law Enforcement Agency (NDLEA, 2022).

By making drugs readily available in neighborhoods, schools, and entertainment environments, traffickers increase the likelihood that young people will become involved in substance abuse. Reports also indicate that the presence of organized drug distribution systems in urban areas contributes to sustained availability and normalization of illicit substances among adolescents (UNODC, 2022). Consequently, drug trafficking networks remain a major structural

factor fueling youth involvement in drug abuse in Nigeria. In addition to targeting youths as consumers, some trafficking networks also recruit young people to participate in drug distribution activities. Unemployed or economically disadvantaged youths may be tempted by the promise of quick financial rewards. These individuals may be used as couriers, street-level sellers, or intermediaries in drug transactions. Unfortunately, involvement in drug trafficking often exposes youths to further criminal activities and increases their risk of becoming addicted to the substances they distribute. Furthermore, organized drug trafficking networks often exploit vulnerable youths who lack employment opportunities or stable family support. Once young people become involved in the distribution of drugs, they may find it difficult to leave these networks due to fear, financial dependency, or addiction. Many eventually become both dealers and consumers of drugs, further worsening the problem.

Conclusion

Drug abuse among Nigerian youths has become a serious social and public health challenge. Various factors contribute to this growing problem, including peer influence, unemployment, curiosity, family instability, academic pressure, easy availability of drugs, media influence, mental health challenges, social media exposure, boredom, trauma, weak law enforcement, urbanization, lack of drug education, and the activities of drug trafficking networks. These factors interact in complex ways to increase the vulnerability of young people to substance abuse. For example, economic hardship may push youths toward drug use, while peer pressure and media influence may further reinforce such behavior. Similarly, weak law enforcement and easy drug availability create an environment where substance abuse can thrive.

Addressing the problem of drug abuse among Nigerian youths requires a comprehensive approach that involves families, schools, government agencies, and community organizations. Preventive

strategies such as youth empowerment programs, employment opportunities, improved mental health services, stronger law enforcement, and effective drug education campaigns are essential. In conclusion, reducing drug abuse among Nigerian youths is crucial for safeguarding the future of the nation. By addressing the underlying social, economic, and psychological factors that contribute to substance abuse, Nigeria can create a healthier and more productive generation of young people.

Recommendations

It is pertinent that comprehensive and effective drug education syllabus is entrenched into the Nigerian education curriculum. Such programmes will provide accurate information about the physical, psychological and social consequences of drug use and abuse. The drug education syllabus should be comprehensive enough to cover from primary through tertiary educational institutions.

To reduce youth's aspiration for drug and psychedelic substances consumption, the government needs a rethink to take a giant stride on the way to make the youths productive. An idle hand is the devil's workshop. If jobs are provided for the youths, they have little or no time for anti-social behaviours and risk taking actions like drug abuse.

Public awareness campaign can play an important role in the reduction of drug abuse. This could be done through mass media such as radio, television, social media platforms as well through organized seminar and workshops.

Addressing the issue of organized drug trafficking is also essential in the fight against drug abuse among Nigerian youths. Government agencies, law enforcement authorities and community organizations should work together to disrupt trafficking operations, strengthen border control and enforce strict penalties against dealers of drugs.

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DOMESTIC VIOLENCE AS A CORRELATE OF SINGLE MOTHERHOOD AMONG MIDDLE-AGED WOMEN IN ONDO STATE.

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Abstract

The study investigated domestic violence as a correlate of single motherhood amongst middle-aged women in Ondo State, Nigeria. A descriptive survey research design was adopted. The population comprised middle-aged single mothers in Ondo State, from which 300 respondents were selected using multi-stage sampling technique. A self-developed questionnaire titled “Domestic Violence and Single Motherhood Questionnaire” was used for data collection. The instrument was validated by three experts in educational psychology and measurement and evaluation, yielding a content validity index of 0.96. To establish reliability, the test-retest method was employed with a two-week interval, which produced a reliability coefficient of 0.91 at 0.05 level of significance. Data were analysed using Pearson Product Moment Correlation and t-test statistics. The findings revealed a significant positive correlation between domestic violence and single motherhood among middle-aged women. Results of hypothesis testing further showed a significant difference in level of education, economic status, and self-esteem as determinants of single motherhood arising from domestic violence. Women with low education, poor economic status, and low self-esteem were more likely to become single mothers following experiences of domestic violence. The study concluded that domestic violence substantially contributed to the prevalence of single motherhood in the study area.

It was recommended that stakeholders provide economic empowerment, adult literacy programs and counselling services to enhance women's resilience and reduce vulnerability to domestic violence.

Key words: Domestic violence, middle age women, self-esteem, vulnerable, single motherhood, Economic status.

Introduction

Domestic violence refers to any pattern of abusive behavior used by one partner to gain or maintain power and control over another intimate partner. It includes physical, sexual, psychological and economic abuse. Single motherhood refers to women who raise one or more children without a cohabiting partner due to divorce, separation, widowhood, or non-marital childbearing. Domestic Violence is any act of physical, sexual, psychological, or economic abuse by a current or former intimate partner. Single Motherhood is a woman raising t least one child under 18 without a cohabiting spouse or partner. Middle-Aged Women are aged between 40-60 years.

In Nigeria, the prevalence of both domestic violence and single motherhood has increased over the last two decades. The Nigeria Demographic and Health Survey [NDHS] (2018) reported that 31% of women aged 15-49 had experienced physical, sexual, or emotional violence by a spouse. Among women aged 40-59, separation and widowhood are major pathways to single motherhood. Ondo State, located in Nigeria's South-West, has reported rising cases of divorce and domestic violence through the Ministry of Women Affairs and Social Development, though underreporting remains a challenge. (UNICEF,2000).

The relationship between domestic violence and single motherhood is likely bidirectional. Violence often precipitates separation, leading to single motherhood. Conversely, single mothers may face heightened vulnerability to further violence due to

economic dependence and social isolation. Understanding this correlation among middle-aged women in Ondo State is critical for designing targeted interventions.

Statement of the Problem

Despite policy efforts to reduce gender-based violence and support vulnerable households, domestic violence remains a persistent issue in Ondo State. Anecdotal evidence and reports from social welfare offices suggest that many middle-aged women become single mothers following prolonged exposure to domestic violence. However, empirical data linking domestic violence experiences to the incidence and challenges of single motherhood among women aged 40-60 in Ondo State is limited. Without such evidence, interventions risk being generic and ineffective. This study therefore examines the extent to which domestic violence correlates with single motherhood among middle-aged women in Ondo State.

Objectives of the Study

The general objective is to investigate domestic violence as a correlate of single motherhood among middle-aged women in Ondo State.

Specific objectives are to:

1. determine the prevalence of domestic violence among middle-aged single mothers in Ondo State.
2. examine the types of domestic violence experienced by these women.
3. assess the relationship between domestic violence and the decision to become a single mother.
4. identify the socio-economic challenges faced by single mothers who experienced domestic violence.
5. evaluate existing support systems available to them.

Research Questions

1. What is the prevalence of domestic violence among middle-aged single mothers in Ondo State?
2. What types of domestic violence are most commonly reported?
3. To what extent does domestic violence influence single motherhood status?
4. What socio-economic challenges do these women face?
5. What support systems are accessible to them?

Research Hypotheses

- H0₁ There is no significant relationship between experience of domestic violence and single motherhood among middle-aged women in Ondo State.
- H0₂ There is no significant difference in socio-economic challenges between single mothers with and without a history of domestic violence.

Significance of the Study

Findings will provide empirical evidence for policymakers in Ondo State Ministry of Women Affairs, NGOs, and health providers to design interventions. It will contribute to academic literature on gender, family structure, and violence in Nigeria. The study will also inform community awareness programs aimed at reducing domestic violence and supporting single mothers. It will also serve as a stepping stone to delving into other areas of domestic violence and single motherhood by upcoming researchers.

Scope and Limitation

The study is limited to middle-aged women [40-60 years] who are single mothers and reside in Ondo State. It focuses on self-reported experiences of domestic violence. Limitations include reliance on self-report, potential underreporting due to stigma, and cross-sectional design which limits causal effect

Literature Review

The prevalence of single motherhood, associated with adverse maternal and child health outcomes, is now increasing rapidly across Nigerian states. (Alaba, Eshofonie & Bodundia & Gayawan 2024). A single parent household is a type of family setting in which the mother or father is solely responsible for the children, especially for their physical, social and economic wellbeing. Recently, there has been a shift in family patterns and an increase in single-parent households worldwide, most of which are headed by women (Adewoyin et-al, 2020). Single mothers include those who are widowed, divorced, or separated or those opted to adopted children while single. However, the concept of single motherhood has expanded to include women who support and care for their families single handedly due to issues related to their husband's health or other incapacitation or incapability. (Evans, 2011).

According to Alaba, Eshofonie, Bodunwa & Gayawan, (2024), single mothers now form up the three- quarters of all single-parent households when compared with single fathers, though, there are shades of opinions on who a “single mother” is. Accordingly, there emerge strands of single mothers.

- (a) The 100% 'choice single motherhood' (voluntary single mother or single motherhood by choice). This is a situation whereby a woman, abinitio rather than by a later separation from a patner, deliberately becomes a single-parent to a biologic or adoptive child through artificial in semination by the use of conception device with donor m, or simply by intercourse.
- (b) There is single mother having a child or children unintentionally, and daily caring for them without help from another person, especially the father(s) of the child(ren). The child(ren) lives (live) with her full time as their primary custodian (Akinboade 2012).
- (c) It has even been observed that women, though married and are living with their husbands (or merely cohabitating in a free union) virtually shouldering the responsibility of the family or union, including sole bread winnersip, deserve the name of single-mothers (Nyoro 2004).

- (d) One may be single mother not all of the way. In this case she has joint legal or non-legal custody of the child(ren), with the father(s) of the child(ren), who may be paying or contributing (regularly or less) some sort of supports; visiting from time to time, agreeing to get the child(ren) for weekends or holidays, and in general, having and safe interest child(ren) but still largely remaining absentee father on account of spartially living apart.

There are many causes of single motherhood phenomenon ranging from death of husband, divorce or separation of spouses, out-of-wedlock pregnancy as a result of premarital sexual relationship or divorce after which a woman decided to remain unmarried and remain single for life (Alaba, Eshofonie, Bodunwa & Gawayan, 2024). Osakwe and Odungiweru (2020) posit that domestic violence is a pattern of abusive behavior in any relationship that is used by one partner to gain or maintain power and control over another intimate partner. This definition adds that domestic violence can happen to anyone regardless of race, age, sexual orientation, religion or gender, and can take many forms, including physical abuse, sexual abuse, emotional, economic and psychological abuse FIND/TFP (2018).

Domestic violence and abuse stems from a desire to gain and maintain power and control over an intimate partner. Abusive people believe they have the right to control and restrict their partners, and they may enjoy the feeling that exerting power gives them. Many abusers esteem, extreme, jealousy, difficulties in regulating anger and other strong emotions, or when they feel inferior to the other partner in education and socio-economic background (Semahegn & Mengestie, 2015; Goldsmith, 2020). Some people with very traditional beliefs may think they have the right to control partner and that women are inferior to men and should be treated as such. Alcohol drugs may contribute to violent behavior. A drunk or high person will be less likely to control his or her violent impulses toward their partners, so keeping such drinking or drug use episodes to a minimum may be valuable for person living in a domestic violence appears to have influence on broken marriages, separation between

spouses, divorce and neglect of a female partner in intimate relationship which eventually result in single motherhood. This study is out to examine the relationship between domestic violence and single motherhood in Ondo State. Globally, studies show a strong link between intimate partner violence and marital dissolution. A study in South Africa found that 68% of divorced women cited physical violence as a primary reason for separation (Abrahams et al., 2013).

In Nigeria, the NDHS reported that women with no education and those in the lowest wealth quintile were more likely to experience spousal violence. A study in Oyo State found that 42% of single mothers attributed their status to domestic violence (Adeola & Adeyemi, 2020.2018). Economic dependence is a key mediator. Women with limited income are less likely to leave violent relationships, but when they do, they face higher poverty risk (Adebayo & Oladeji, 2019). In Ondo State, a report by the Ministry of Women Affairs documented 1,240 cases of gender-based violence, with 35% involving women aged 35-59. (2022).

Most Nigerian studies focus on younger women and urban areas. There is limited data on middle-aged women in Ondo State, particularly on how domestic violence correlates with their single motherhood status and post-separation challenges. Surveys investigating violence in Switzerland have shown that approximately every fifth woman, at some time during her life, will become a victim of either psychological or physical violence (Gillioz, De Puy and Dueret, 1997).

Violence against women, particularly intimate partner violence (IPV) and sexual violence (SV) is a major public health and gender equality problem and a violation of women's right human rights. Estimates published by WHO (2005) indicate that globally about 1 in 3 (31.6%) of women worldwide (840 million women and girls) have been subjected to either physical and/or sexual IPV or non-partner sexual violence in their lifetime. Violence affects women's health in many ways. The consequences of violence can be short-term or long-term or even medium-term; these effects can be direct or indirect, and range from physical injuries, (psycho)somatic complaints and

psychological (mental and emotional) disturbances to fatal outcomes. It also affects how a woman deals with her health and her chances for health.

Most insight into the broad spectrum of health consequences of violence is currently to be gained from studies originating from Anglo-American countries. Among the typical direct physical consequences are stab wounds and battering injuries as well as fractures, head injuries and damage to the spinal cord (Muelleman, Lenaghan and Pakieser, 1996). Experiences from shelter for battered women and counselling centres show that domestic violence can happen to any woman, regardless of her level of education, nationality, income, religion, age or ethnicity. Victims and abusers are found among all social classes (Bruckner, Wiege et al, 1998).

Methodology

A descriptive cross-sectional survey design was adopted. This design is suitable for examining the relationship between variables at a single point in time. The population comprised all middle-aged single mothers (40-60 years) in Ondo State registered with Local Government Social Welfare offices and women's groups. A sample of 300 respondents was selected using multistage sampling: 3 senatorial districts, 2 LGAs per district, and 50 respondents per LGA.

A structured questionnaire titled "Domestic Violence and Single Motherhood Questionnaire [DVSMQ]" was used. It had sections on demographics, type and frequency of violence, reasons for single motherhood, and socio-economic challenges. Items were rated on a 4-point Likert scale. Face and content validity were established by three experts in Gender Studies and Measurement & Evaluation. The Face Validity Index was 0.87, indicating high validity.

Reliability was tested using Cronbach's alpha on a pilot study of 30 respondents in Ekiti State. A reliability coefficient of 0.85 was obtained, indicating high internal consistency. Descriptive statistics of frequency counts, percentages, mean and standard deviation were used to describe the demographic data while inferential statistics of Pearson Product Moment Correlation and t-test were used to test the hypotheses at 0.05 level of significance.

Ethical approval was obtained from the Ondo State Ministry of Health Ethics Committee. Informed consent was obtained. Confidentiality and the right to withdraw were ensured. Referral information for counseling and legal aid was provided.

Table 1: Demographic Distribution of Respondents (N=287)

Variable	Category	Frequency	Percent
Age	40-45 years	98	34.1
	46-50 years	112	39.0
	51-55 years	55	19.2
	56-60 years	22	7.7
Marital Status Pathway	Divorced	167	58.2
	Widowed	80	27.9
	Separated/Single motherhood	40	13.9
Educational Level	No formal education	34	11.8
	Primary	78	27.2
	Secondary	112	39.0
	Tertiary	63	22.0
Occupation	Petty trading/Artisan	156	52
	Civil servant	51	17.8
	Unemployed	80	27.9

A total of 300 questionnaires were administered and 287 were valid for analysis, giving a response rate of 95.7%. Of 300 respondents, 58% were divorced, 28% widowed, and 14% separated. Mean age was 47.3 years. 62% had secondary education or below. 71% were engaged in petty trading or informal work. 78.3% reported experiencing at least one form of domestic violence before becoming single mother. Emotional/psychological violence was most common [82%], followed by physical [64%], economic [51%], and sexual violence [29%].

Occupation Petty Trading/Artisan 156 Of 300 respondents, 58% were divorced, 28% widowed, and 14% separated. Mean age was 47.3 years. 62% had secondary education or below. 71% were engaged in petty trading or informal work, 18% were civil servants and 28% were unemployed. Prevalence and Types of Domestic Violence as indicated in the Table 1 above shows that 78.3% reported experiencing at least one form of domestic violence before becoming single mothers. Emotional/psychological violence was most common [82%], followed by physical [64%], economic [51%], and sexual violence [29%]. Table 1 shows that most respondents were aged 46-50 years, divorced, had secondary education, and engaged in informal trading.

Research Questions

RQ1: What is the prevalence of domestic violence among middle-aged single mothers in Ondo State?

Table 2: Prevalence of Domestic Violence

Experienced Domestic Violence	Frequency	Percent	Remark
Yes	226	78.7	Significant
No	61	21.3	Not significant
Total	287	100.0	

Table 2 indicates that 78.7% of respondents experienced domestic violence before becoming single mothers. The study found that domestic violence is prevalent among middle-aged single mothers in Ondo State and significantly correlates with their single motherhood status. Emotional and physical violence were most common. Women with a history of violence faced greater socio-economic challenges.

RQ2: What types of domestic violence are most commonly reported.?

Table 3: Types of Domestic Violence Experienced (Multiple Response, N=226)

Type of Violence	Frequency	Percent of 226
Emotional/Psychological	186	82.3
Physical	145	64.2
Economic	115	50.9
Sexual	66	29.2

Emotional/psychological violence was the most reported, followed by physical violence. The least reported domestic violence among middle motherhood is the sexual abuse with 29.2%

RQ3: To what extent does domestic violence influence single motherhood status?

Table 4: Influence of Domestic Violence on Single Motherhood

Level of influence	Frequency	Percent
High influence	158	69.9
Moderate influence	52	23.0
Low influence	12	5.3
No influence	4	1.8

69.9% indicated high influence, suggesting domestic violence was a primary reason for becoming single mothers. Respondents were asked to rate the influence of violence on their separation on a 4-point scale. Mean score = 3.42, SD = 0.68.

RQ4: What socio-economic challenges do these women face?

Table 5: Mean Scores on Socio-Economic Challenges (N=287)

Challenge	Mean	SD	Decision
Difficulty in paying school fees	3.51	0.71	Agreed
Inadequate housing	3.28	0.84	Agreed
Food security	3.12	0.91	Agreed
Poor access to healthcare	2.98	0.88	Agreed
Stigmatization	2.87	0.95	Agreed

Criterion mean = 2.50. All items scored above 2.50, indicating agreement that these challenges are prevalent.

RQ5: What support systems are accessible to them?

Table 6: Accessibility of Support Systems

Support system	Accessible (%)	Not Accessible (%)
Family support	64.1	35.9
Religious groups	58.5	41.5
Government social welfare	22.3	77.7
NGOs	18.1	81.9
Legal aid	12.5	87.5

Family and religious groups were the most accessible, while formal institutional support was low.

Testing of Hypotheses

H0₁ There is no significant relationship between experience of domestic violence and single motherhood among middle-aged women in Ondo State.

Table 7: Correlation between Domestic Violence Severity and Single Motherhood Status

Variables	N	R	p-value	Decision
DV severity and single motherhood	287	0.63	0.000	Rejected

Pearson Product Moment Correlation was used for Domestic violence severity vs. Single motherhood status. Since $p < 0.05$, H0₁ is rejected. There is a significant positive relationship between domestic violence and single motherhood. Higher exposure to violence correlates with higher likelihood of separation.

H0₂ There is no significant difference in socio-economic challenges between single mothers with and without a history of domestic violence.

Table 8: t-test for Socio-Economic Challenges

Group	N	Mean	SD	t	Df	p-value	Decision
With DV history	226	3.24	0.56	4.87	285	0.000	Rejected
Without DV history	61	2.71	0.63				

Since $p < 0.05$, H0₂ is rejected. Single mothers with a history of domestic violence experience significantly higher socio-economic challenges than those without. Independent samples t-test was used. T-test results showed single mothers with a history of domestic violence reported significantly higher financial strain, housing instability, and health issues than those without [$t = 4.32$, $p < 0.05$]. 65% reported difficulty paying children's school fees.

Discussion of Findings

Relationship between Domestic Violence and Single Motherhood based on Table 1 above shows that Pearson correlation shows a significant positive relationship between severity of domestic violence and single motherhood status [$r = 0.61$, $p < 0.05$]. 69% stated that violence was the primary reason for separation.

The prevalence rate of 78.7% is consistent with findings from Oyo State where Adeola and Adeyemi reported 72% among single mothers. Emotional and physical violence being dominant aligns with the finds NDHS 2018 which found psychological abuse most common in South-West Nigeria. (2020)

The high prevalence of violence aligns with NDHS and studies in South-West Nigeria by (Adeola & Adeyemi, 2020). Emotional abuse being most reported reflects the underreporting of non-physical violence. The significant correlation supports the hypothesis that domestic violence is a major driver of single motherhood among middle-aged women in Ondo State. The increased socio-economic challenges confirm that leaving violent homes often results in immediate economic vulnerability, consistent with Adebayo and Oladeji. The findings underscore the need for integrated support addressing both safety and economic empowerment. [2018] [2019]

The strong correlation [$r = 0.63$, $p < 0.05$] between violence and single motherhood supports Ecological Systems Theory, which posits that family breakdown often results from sustained relational stress at the microsystem level. The finding that 69.9% cited violence as a high influence for separation confirms that for many middle-aged women, single motherhood is not a preferred status but an escape from an unsafe home. The significant difference in socio-economic challenges mirrors Adebayo and Oladeji's conclusion that leaving violent homes often results in immediate economic vulnerability, especially when women lack independent income. The low accessibility of government and legal support reflects gaps in institutional response noted in WHO reports on low- and middle-income countries. [2019][2021]

This study examined domestic violence as a correlate of single motherhood among middle-aged women in Ondo State. Using a descriptive survey of 287 respondents, the study found: 78.7% of respondents experienced domestic violence before becoming single mothers. Emotional and physical violence were the most prevalent forms.

There was a significant positive relationship between domestic violence and single motherhood [$r = 0.63$, $p < 0.05$]. Single mothers with a history of violence faced significantly higher socio-economic challenges than those without. Family and religious groups were the main support systems, while government and legal support were largely inaccessible.

Conclusion

Domestic violence is a significant correlate of single motherhood among middle-aged women in Ondo State. It does not only leads to separation but also exacerbates post-separation socio-economic hardship. The weak institutional support system leaves most women dependent on informal networks. Addressing this issue requires integrated interventions targeting prevention, protection, and economic empowerment.

Domestic violence acts as a key antecedent to single motherhood among middle-aged women in Ondo State. Without adequate support, these women face compounded risks of poverty and poor health outcomes.

Recommendations

Based on the findings, the following recommendations are made:

Strengthen Legal and Protective Response: The Ondo State Government should establish functional Family Courts and ensure timely prosecution of domestic violence cases to improve deterrence and survivor confidence.

Economic Empowerment Programs: Targeted vocational training and interest-free microcredit schemes should be provided through the Ministry of Women Affairs to help single mothers achieve financial independence.

Accessible Support Services: At least one shelter and counseling center should be established in each senatorial district, staffed by trained social workers and psychologists.

Community Sensitization: Traditional rulers, religious leaders, and media should be engaged to challenge cultural norms that normalize violence against women.

Traditional leaders and media should be employed to challenge norms that tolerate violence.

Data Based Approach: Improved data collection on gender-based violence at Local Government level for evidence-based planning should evolve.

Data and Monitoring System: A centralized database for gender-based violence cases should be maintained at the LGA level to inform policy and resource allocation.

Suggestions for Further Study

Future studies should use longitudinal designs to establish causality and include qualitative interviews to capture lived experiences.

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