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BRIDGING THE HEALTHCARE UTILIZATION GAP: A CASE FOR INSTITUTIONALIZED SOCIAL HEALTH INSURANCE AT KADUNA STATE COLLEGE OF EDUCATION, GIDAN-WAYA, NIGERIA

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ABSTRACT

Despite global commitments to Universal Health Coverage, tertiary students in Nigeria remain inadequately protected from healthcare-related financial risks. This study examined the healthcare utilization gap at Kaduna State College of Education, Gidan-Waya, using a descriptive survey design and a multistage sampling technique to select 357 respondents from a population of 5,335 full-time NCE students. The findings reveal a substantial disconnect between healthcare needs and service utilization: 73% of students reported unmet medical needs, while no institutional free medical outreach programme was implemented during the seven years (2018–2025). Pearson correlation analysis showed a strong positive relationship between parental socio-economic status and healthcare access ($r = 0.75$, $p < 0.001$). The coefficient of determination ($R^2 = 0.56$) indicates that household financial capacity accounts for more than half of the variation in healthcare utilization. The findings further suggest that reliance on out-of-pocket payments poses significant challenges for economically vulnerable students, thereby reinforcing inequities in access to care. The study concludes that existing institutional arrangements are inconsistent with UHC principles and the Okanagan Charter for Health-Promoting Universities and Colleges. It therefore recommends the operationalization of the Tertiary Institutions Social Health Insurance Programme and its integration with the Kaduna State Contributory Health Management Authority to promote equitable and sustainable access to healthcare for students.

Keywords: Financial risk protection; okanagan charter; out-of-pocket expenditure; socio-economic status; socio-spatial theory; universal health coverage

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INTRODUCTION

Student health is globally recognized as a fundamental human right and a critical driver of sustainable development, as reflected in Sustainable Development Goals (SDGs) 3 and 4 (United Nations, 2015). The International Network of Health Promoting Universities and Colleges emphasizes that higher education institutions should embed health within governance structures, campus culture, and service delivery systems (INHPUC, 2015). Consistent with Universal Health Coverage (UHC) principles, tertiary institutions are expected to ensure that students can access essential healthcare services without experiencing financial hardship (World Health Organization [WHO], 2010a; Tangcharoensathien et al., 2015). Despite these commitments, significant gaps persist between healthcare needs and utilization among students in many Nigerian institutions.

In Nigeria, tertiary students constitute a "missing middle" in healthcare financing. Although the Federal Government introduced the Tertiary Institutions Social Health Insurance Programme (TISHIP) to provide financial risk protection, implementation remains fragmented and institutionally inconsistent (Anetoh et al., 2017; National Health Insurance Authority [NHIA], 2022). This coverage–utilization paradox is characterized by low awareness, weak institutional engagement, and limited integration into campus health systems, resulting in poor uptake of available services (Bamtefa et al., 2025; Uguru et al., 2022). At the state level, the Kaduna State Contributory Health Management Authority (KADCHMA) has expanded health insurance coverage; however, the absence of a dedicated subsidized category for tertiary students continues to expose them to out-of-pocket expenditures and household financial vulnerabilities (KADCHMA, 2023).

The Kaduna State College of Education (KSCOE), Gidan-Waya, presents an important context for examining these challenges. Despite national and state-level commitments to UHC, students experience a marked disconnect between policy aspirations and healthcare realities (KSCOE, 2022). While periodic medical outreaches are organized in neighbouring communities (Bulus, 2024; Labaran, 2023; Odumehaje Christian Medical Mission [OCMM], 2023; Okwuchi, 2023), such interventions have not been systematically institutionalized within the college. Consequently, healthcare access depends largely on household financial capacity rather than organized risk-pooling mechanisms.

Evidence from Kaduna State further suggests that both socio-economic and spatial factors influence healthcare utilization. Geospatial studies indicate that transport costs and household economic conditions are stronger determinants of service utilization than physical proximity alone (Averik et al., 2024; Tanser et al., 2006). Consistent with the Social Determinants of Health framework (WHO, 2008), these findings demonstrate that the availability of facilities does not necessarily translate into effective access. In peri-urban settings such as Gidan-Waya, hidden costs, inadequate staffing, and limited institutional support further constrain utilization (Oniyire et al., 2025; Uguru et al., 2024). Although socio-spatial conditions influence healthcare behaviour, financial protection mechanisms remain central to achieving equitable access.

At KSCOE, a substantial healthcare utilization gap exists: 73% of students report unmet healthcare needs, whereas only 9% utilize the campus sick bay (Averik et al., 2026). This disparity is reinforced by low health insurance awareness and participation within Kaduna State (Ekpo et al., 2024). The Health Belief Model (Rosenstock, 1974) provides a useful explanatory lens, suggesting that when perceived financial and logistical barriers outweigh the perceived benefits of institutional healthcare, students are more likely to adopt alternative coping mechanisms, including self-medication. Indeed, approximately 17% of students rely on self-

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treatment practices, with implications for both health outcomes and academic performance (Basch, 2011; Umeano-Enemuoh et al., 2014).

Against this backdrop, the present study examines the healthcare utilization gap among students at Kaduna State College of Education (KSCOE), Gidan-Waya, with particular emphasis on the roles of parental socio-economic status, institutional support systems, and financial risk protection mechanisms. Anchored in the principles of Universal Health Coverage (UHC), the Okanagan Charter for Health-Promoting Universities and Colleges, and the Health Belief Model, the study investigates how household economic conditions shape healthcare-seeking behaviour in the absence of institutionalized social health insurance. The findings provide empirical support for operationalizing the Tertiary Institutions Social Health Insurance Programme (TISHIP) and integrating it with the Kaduna State Contributory Health Management Authority (KADCHMA) as a sustainable pathway to promote equitable, financially protective access to healthcare within tertiary institutions in Kaduna State, Nigeria.

MATERIALS AND METHODS

Study Area

The study is centered on the Kaduna State College of Education (KSCOE), Gidan-Waya, situated within the Jema'a Local Government Area of Kaduna State. Geographically, the Gidan-Waya area is positioned between latitudes 9°28′00″N and 9°28′25″N, and longitudes 8°23′47″E and 8°24′21″E (Dogo et al., 2023; see Figure 1).

The region features a Tropical Savanna climate (Aw), characterized by a distinct wet season from May to October (Ayoade, 1983). Precipitation peaks in August, with relative humidity levels reaching 86% (Abaje et al., 2015; Ishaya & Abaje, 2008). These hydro-climatic conditions create ideal breeding grounds for Anopheles mosquitoes, establishing malaria as the leading cause of student morbidity in the area (Oladipo, 1993; KSCOE, 2022). Furthermore, interactions between local ferruginous tropical soils (Hill, 1975) and subsistence agricultural practices influence the ecological availability of micronutrients, which may affect the nutritional status of the student population (Ogbozige et al., 2018).

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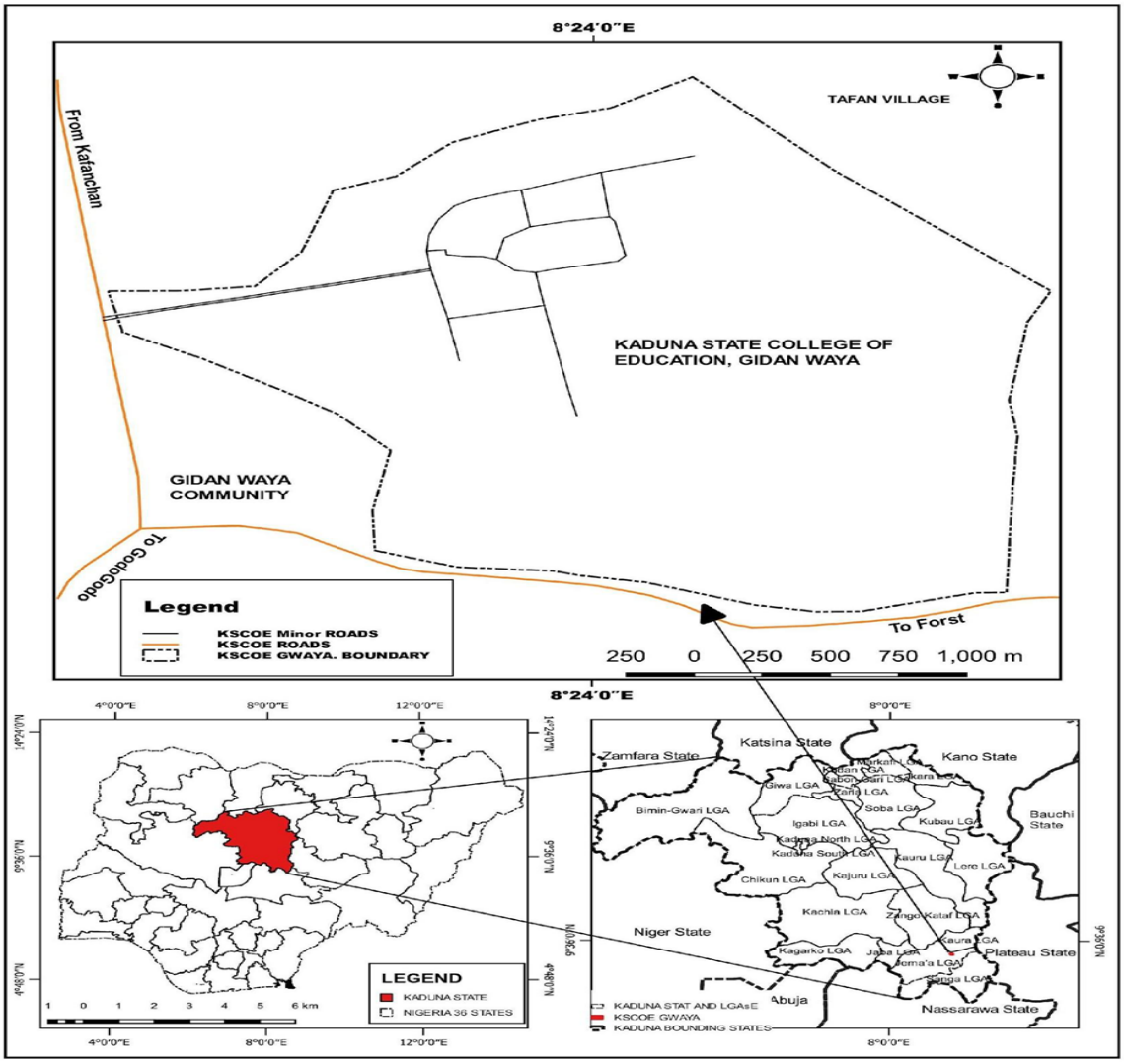

Figure 1: Maps of Nigeria and Kaduna State Showing the Study Area (KSCOE, Gidan-Waya).
Source: Adapted from Map of Nigeria (2025).

As a semi-urban educational hub, KSCOE supports over 6,000 students across regular, part-time, sandwich, and degree programmes (KSCOE Registry, 2024), including 5,335 full-time NCE students who constituted the study population. Gidan-Waya has experienced sustained peri-urban expansion in recent years, increasing pressure on the limited healthcare infrastructure serving the community. The area is served by a single public Primary Healthcare Centre (PHC), located approximately one kilometre from KSCOE, which provides basic preventive and curative services to the wider Gidan-Waya Ward. In addition, the Arthur and Esther Bradley Memorial Anglican Hospital, situated immediately behind the college perimeter fence, offers primary- and secondary-level healthcare services, including diagnostic, outpatient, and referral care (Kateri Clinic, 2023). Despite their geographical proximity, service capacity, financial costs, and increasing demand may constrain effective access, particularly for students residing off campus. Furthermore, the nearest major secondary healthcare facility in Kafanchan is approximately 18 km away, creating additional challenges during medical emergencies (Binniyat, 2015). These spatial and institutional realities underscore the need for strengthened, school-linked healthcare systems and sustainable health financing mechanisms to improve healthcare accessibility and utilization among KSCOE students.

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Methods

This study employed a descriptive survey design to examine the healthcare utilization gap and the influence of parental socio-economic status (SES) on healthcare access among full-time Nigeria Certificate in Education (NCE) students of Kaduna State College of Education (KSCOE), Gidan-Waya. From a finite population of 5,335 NCE students, the Krejcie and Morgan (1970) formula was used to determine a statistically representative sample size of 357 respondents at a 95% confidence level. Although the dataset was derived from a broader institutional survey, previous analyses focused primarily on spatial dimensions of access. The present study constitutes a distinct thematic inquiry that emphasizes healthcare utilization, financial risk protection, and institutional support mechanisms within the college.

To minimize selection bias and ensure adequate representation, a multistage sampling technique was adopted. In the first stage, the population was stratified by academic level (NCE I, II, and III) to account for differences in campus experience and healthcare needs. In the second stage, proportional allocation was used to distribute the sample across the strata in proportion to their population sizes. In the final stage, respondents were selected systematically from departmental attendance registers using a sampling interval ($k = N/n$). Starting from a random point, students were selected at regular intervals to ensure equal probabilities of participation and broad representation of both on-campus and off-campus residents.

Data were collected using a structured questionnaire based on a five-point Likert scale to assess healthcare accessibility, utilization, and accommodation. Indicators of healthcare access and financial protection were adapted from the World Health Organization's health systems monitoring framework (WHO, 2010b), thereby ensuring consistency with internationally recognized standards. Exposure to institutional free medical outreach programmes was assessed over seven years (2018–2025), corresponding to the years preceding the 2025 survey and encompassing successive student cohorts.

The instrument's face and content validity were established through expert review involving specialists in public health, educational administration, and research methodology. A table of specifications ensured alignment between the research objectives and key study variables, including healthcare needs, parental socio-economic status (SES), and perceptions of institutional health support. A pilot study conducted at Kaduna State University (KASU), Kafanchan Campus, produced a Cronbach's alpha coefficient of 0.86, exceeding the recommended threshold of 0.70 (Nunnally & Bernstein, 1994) and confirming satisfactory internal consistency. The study adhered to established ethical principles governing social and educational research involving human participants. Approval to conduct the research was obtained from the management of Kaduna State College of Education (KSCOE), Gidan-Waya. Participation was voluntary, informed consent was obtained from all respondents, and no personally identifiable information was collected. Participant anonymity and data confidentiality were strictly maintained throughout the study.

Data were analysed using the Statistical Package for the Social Sciences (SPSS) through descriptive and inferential techniques. Frequencies and percentages were employed to describe respondents' socio-demographic characteristics, healthcare needs, and patterns of service utilization. The Pearson Product-Moment Correlation coefficient (r) was used to examine the relationship between parental socio-economic status and healthcare access. Statistical significance was determined at $p < 0.05$. The analytical framework provides empirical evidence on the role of financial capacity and institutional support in shaping healthcare utilization, thereby informing policy recommendations to effectively operationalize the Tertiary Institutions Social Health

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Insurance Programme (TISHIP) and integrate it with the Kaduna State Contributory Health Management Authority (KADCHMA).

RESULTS AND DISCUSSION

Results

The empirical findings reveal a substantial disconnect between student health needs and institutional support. Notably, all respondents (100%; n = 357) reported that no institutional free medical outreach programme had been conducted during the seven years (2018–2025).

This finding points to an institutional gap in preventive and outreach healthcare services rather than formal exclusion from healthcare access. In the absence of organized health interventions and social health insurance mechanisms, students largely depend on their households' financial capacity to meet their healthcare needs. This arrangement may constrain service utilization among financially vulnerable students and is inconsistent with the financial risk protection principles underpinning Universal Health Coverage (UHC).

Aggregated Socio-Economic Determinants of Healthcare Utilization

Table 1 presents the socio-economic characteristics associated with students' healthcare utilization patterns and their capacity to access formal healthcare services.

Table 1: Socio-Economic Characteristics of Parents/Guardians (N=357)

Socio-Economic Variable	Dominant Category	Percentage (%)
Educational Attainment	No formal / Primary education	55
Occupational Status	Farming, artisan, petty trade (Informal)	70.5
Monthly Income Level	Income not disclosed / Informal economy	56

The results in Table 1 indicate a high degree of economic informality, with 70.5% of parents or guardians engaged in subsistence farming, petty trading, and other informal-sector activities. Additionally, 56% of respondents were unable to specify a stable household income, suggesting irregular earnings and limited financial predictability.

However, participation in the informal economy does not inherently restrict students' access to formal healthcare services. Rather, healthcare utilization depends on household financial capacity and the availability of institutional support mechanisms such as the Tertiary Institutions Social Health Insurance Programme (TISHIP). In the absence of effective social health insurance and subsidized interventions, students rely largely on out-of-pocket payments, placing greater strain on financially vulnerable households and undermining the financial risk protection goals of Universal Health Coverage (UHC).

Epidemiological Burden and Institutional Utilization Gaps

The study identified a substantial disease burden alongside low utilization of institutional health services, suggesting a disconnect between students' healthcare needs and available campus support.

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Table 2: Prevalence of Unmet Health Needs and Healthcare Utilization Patterns

Health Category	Prevalence /Rate (%)	Specific Conditions/Observations
Surgical & Gastrointestinal	52	Appendicitis, hernias, and peptic ulcers
Infectious Diseases	29	Endemic malaria, Hepatitis (19%), and STIs (18%)
Specialized Health	25	Visual impairments (suspected glaucoma/cataracts)
Behavioral Health	17	Self-medication and substance use (coping mechanisms)
Clinical Utilization	9	Total utilization rate of the College Sick Bay

The findings in Table 2 reveal a 64-percentage-point disparity between reported healthcare needs (73%) and utilization of the campus sick bay (9%), indicating a significant gap in healthcare utilization. This suggests that existing institutional health services may not adequately respond to the range and magnitude of students' health needs.

Respondents reported a variety of health conditions, including gastrointestinal ailments, hepatitis, and visual impairments, some of which require specialized diagnosis, treatment, or referral beyond the capacity of basic primary healthcare facilities. The prevalence of hepatitis (19%) and visual impairments (25%) underscores the need for strengthened preventive screening, early detection, and referral mechanisms within the institution.

The findings further indicate that a proportion of students rely on self-medication (17%) to address their health needs. However, this behaviour cannot be attributed solely to specific medical conditions; rather, it may reflect a combination of perceived service limitations, financial constraints, convenience, and limited institutional support. Such patterns underscore the importance of expanding financial risk protection and strengthening campus health systems in line with the principles of Universal Health Coverage (UHC).

Institutional Access to Free Medical Outreach Programmes

Table 3 presents students' exposure to organized free medical outreach programmes at Kaduna State College of Education (KSCOE), Gidan-Waya, over seven years (2018–2025).

Table 3: Access to Free Medical Outreach Programmes in KSCOE (2018–2025)

Medical Outreach Variable	NCE I (%)	NCE II (%)	NCE III (%)
None	100	100	100
Once	0	0	0
More than once	0	0	0

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The results in Table 3 indicate that none of the respondents (100%) had participated in or benefited from institutional free medical outreach programmes during the seven years under review. This uniform response suggests a prolonged absence of organized campus-based health interventions and limited collaboration with external health providers.

Within the framework of Universal Health Coverage (UHC), medical outreaches complement routine facility-based services by promoting preventive care, health education, and early screening for common conditions. The absence of such initiatives may reduce opportunities for early detection, timely referrals, and health awareness among students, thereby increasing reliance on out-of-pocket healthcare and self-initiated treatment practices.

Student Perceptions and Receptivity to Medical Interventions

Despite limited exposure to institutional health programmes, students at KSCOE demonstrated strong receptivity to preventive and curative services, including routine medical check-ups, immunization, malaria and typhoid screening, and HIV counselling. These findings suggest considerable demand for organized health interventions within the institution.

Table 4: Student Perceptions of Institutional Healthcare Services and Medical Outreach Programmes

S/N	Perception Statement	Agree (%)	Disagree (%)
1	Regular access to free medical care is necessary for students	65	35
2	Access to healthcare significantly affects academic performance	87	13
3	Students are willing to participate in future medical outreach	86	14
4	Cultural or religious beliefs constitute a barrier to access	12	88

Table 4 indicates a strong perceived relationship between health and academic performance, with 87% of respondents affirming that access to healthcare contributes to academic success. Furthermore, 88% reported that cultural or religious beliefs do not constitute barriers to seeking medical care.

A high willingness to participate in formal health programmes (86%) further suggests positive attitudes toward institutional healthcare interventions. Consequently, the low utilization of campus health services is unlikely to reflect student apathy or cultural resistance. Rather, it may be associated with factors such as limited service availability, financial constraints, and inadequate institutional support. These findings underscore the potential to expand campus-based health programmes and strengthen financial protection mechanisms in line with the principles of Universal Health Coverage (UHC).

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Parental Socio-Economic Status and Healthcare Access

The Pearson Correlation analysis provides empirical evidence that healthcare access at KSCOE is dictated by wealth rather than clinical need.

Table 5: Pearson Correlation Analysis of Parental SES and Healthcare Access.

Variable	*df*	N	*r*	R^2	*p*-value
Relationship					
Parental SES and Healthcare Access	355	357	0.75	0.56	< 0.001

The Pearson correlation analysis presented in Table 5 indicates a strong positive relationship between parental socio-economic status and healthcare access among students at KSCOE (r = 0.75, $p < 0.001$). The coefficient of determination ($R^2 = 0.56$) indicates that approximately 56% of the variation in healthcare utilization is explained by differences in household socio-economic conditions.

These findings underscore the important role of household financial capacity in shaping students' healthcare-seeking behaviour. In the absence of comprehensive institutional financial protection mechanisms, students from economically disadvantaged households may experience greater challenges in accessing timely healthcare services. The results therefore highlight the potential value of strengthening social health insurance initiatives, such as the Tertiary Institutions Social Health Insurance Programme (TISHIP), to reduce financial barriers and promote equitable healthcare utilization, in line with the principles of Universal Health Coverage (UHC).

Health Deficit among Students

Finally, the study further examined whether perceptions of unmet healthcare needs differed across academic levels (NCE I–III) among students at KSCOE.

Table 6: Chi-square Test for Difference in Unmet Healthcare Needs by Academic Level

Variable	*Df*	N	*α*	X^2	*p*-value	Decision
Academic Level	8	357	0.05	0.51	0.10	Fail to Reject H_0

The Chi-square analysis presented in Table 6 yielded a non-significant result ($p = 0.10 > 0.05$), indicating that perceptions of unmet healthcare needs did not differ significantly across academic levels. The null hypothesis was therefore not rejected. This finding suggests that healthcare challenges are experienced broadly across the student population, irrespective of academic standing, and consequently require institution-wide rather than level-specific interventions.

Discussion

The findings indicate important gaps in service availability, preventive interventions, and institutional health support at Kaduna State College of Education (KSCOE), Gidan-Waya. Consistent with the WHO (2010b) health systems framework, effective access to healthcare

depends not only on the existence of facilities but also on their readiness, accessibility, and responsiveness to users' needs.

The analysis further demonstrates that parental socio-economic status (SES) is significantly associated with healthcare utilization among students (R^2 = 0.56). Students from economically disadvantaged households may have greater difficulty covering healthcare costs, particularly in the absence of comprehensive institutional financial protection mechanisms. These findings are consistent with previous studies showing that household financial capacity influences healthcare-seeking behaviour in settings with limited social health insurance coverage (Uguru et al., 2022; Bamtefa et al., 2025).

A substantial 64-percentage-point gap between reported healthcare needs (73%) and campus clinic utilization (9%) suggests that existing services may not adequately address the range of health conditions students experience. The prevalence of gastrointestinal ailments (52%), hepatitis (19%), and other health concerns underscores the need to strengthen preventive services, diagnostic support, and referral pathways within the institutional healthcare system. Although 17% of respondents reported self-medication practices, this behaviour may reflect a combination of financial constraints, convenience, perceived service limitations, and limited institutional support, rather than specific disease conditions alone.

The absence of institutional free medical outreach programmes during the 2018–2025 period further highlights the limited provision of preventive and community-based health interventions. Nevertheless, the high willingness of students (87%) to participate in preventive programmes indicates substantial unmet demand for organized health promotion, screening, and educational activities. Similar findings in Nigerian tertiary institutions suggest that improved institutional support can enhance healthcare utilization and reduce avoidable health risks (Oriolowo et al., 2022; Uguru et al., 2022).

The non-significant variation in unmet healthcare needs across academic levels (p = 0.10) suggests that these challenges are broadly shared among students irrespective of their year of study. Consequently, institution-wide interventions may be more appropriate than level-specific strategies.

The Health Belief Model provides an appropriate explanatory framework for these findings. Perceived barriers, particularly healthcare costs and concerns about service quality, may outweigh the perceived benefits of using institutional healthcare (Rosenstock, 1974; Obiechina & Ekenedo, 2013). The findings also resonate with the principles of the Okanagan Charter, which advocate integrating health promotion into institutional governance, learning environments, and campus culture (INHPUC, 2015).

Policy Implications

The empirical findings suggest several policy directions for strengthening student healthcare systems at KSCOE:

i. Strengthening Health Insurance Integration: KSCOE should explore formal integration between the Tertiary Institutions Social Health Insurance Programme (TISHIP) and the Kaduna State Contributory Health Management Authority (KADCHMA) to enhance financial risk protection and reduce dependence on out-of-pocket expenditure.

ii. Expanding Preventive Health Services: The institution should complement its sick bay services with regular medical screening, vaccination campaigns, health education programmes, and routine wellness checks in line with Health-Promoting University principles.

iii. Improving Access for Off-Campus Students: Given the predominance of off-campus residency, partnerships with accredited community clinics and primary healthcare facilities within Gidan-Waya could improve accessibility and continuity of care for students.

iv. Strengthening Referral and Surveillance Systems: Formal referral arrangements and periodic screening programmes for prevalent conditions such as hepatitis, sexually transmitted infections, and malaria would support early detection, treatment, and effective disease management.

CONCLUSION AND RECOMMENDATIONS

This study demonstrates that considerable gaps exist between healthcare needs and healthcare utilization among students at Kaduna State College of Education (KSCOE), Gidan-Waya. The findings indicate that household socio-economic conditions significantly influence healthcare utilization, particularly in the absence of comprehensive institutional financial protection mechanisms. Although healthcare facilities are physically available, financial constraints and limited preventive interventions may restrict effective access for some students.

The strong association between parental socio-economic status and healthcare utilization (r = 0.75; R^2 = 0.56) underscores the importance of reducing out-of-pocket expenditure through sustainable institutional support systems. The absence of organized medical outreach programmes during the 2018–2025 period further highlights the need to strengthen preventive healthcare services and health promotion activities within the college.

Based on these findings, the following recommendations are proposed:

i. Integration of TISHIP and KADCHMA: The Kaduna State Government and KSCOE management should strengthen collaboration between the Tertiary Institutions Social Health Insurance Programme (TISHIP) and KADCHMA to improve financial risk protection and reduce students' dependence on direct healthcare payments.

ii. Improving Healthcare Access for Off-Campus Students: Partnerships with accredited private clinics and primary healthcare centres within the Gidan-Waya community should be explored to improve service accessibility and continuity of care for students residing outside the campus.

iii. Institutionalization of Regular Medical Outreach Programmes: KSCOE should establish periodic medical outreach initiatives, including screening for hepatitis, sexually transmitted infections, malaria, and other common conditions, alongside health education and preventive services.

iv. Formal Referral Partnerships: The college should develop formal referral arrangements with higher-level healthcare providers, including the Arthur and Esther Bradley Memorial Anglican Hospital, to facilitate timely management of cases beyond the capacity of the campus sick bay.

v. Targeted Support for Economically Vulnerable Students: An institutional student wellness support mechanism should be considered to provide additional assistance for students facing

significant financial barriers to healthcare access, thereby complementing existing insurance arrangements and promoting equitable utilization of healthcare services.

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