

ACCESSIBILITY, AWARENESS, PERCEIVED QUALITY AND UTILIZATION OF HEALTHCARE SERVICES AMONG UNDERGRADUATE STUDENTS OF FEDERAL UNIVERSITY OF KASHERE, GOMBE STATE, NIGERIA

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ABSTRACT

This study examined the accessibility, awareness, perceived quality and utilization of healthcare services among undergraduate students of Federal University of Kashere, Gombe State, Nigeria. The study adopted a convergent mixed-methods cross-sectional design. The population comprised 16,725 full-time undergraduate students during the 2025/2026 academic session. A sample of 580 students was selected using a multi-stage sampling procedure, while four key informants were purposively selected for interview. Of the 580 questionnaires administered, 569 were correctly completed and returned, representing a 98.1% response rate. Data were collected using a structured questionnaire and a semi-structured Key Informant Interview guide. Quantitative data were analysed using frequencies and percentages and Pearson Product-Moment Correlation, while qualitative data were analysed thematically. The findings revealed that 84.7% of the respondents were aware of the university healthcare clinic and 80.7% were registered with the facility. Access was generally favourable, with 76.9% reporting that the clinic was easy or very easy to reach, 77.7% considering the services affordable, and 79.8% reporting availability of transportation. Utilization was relatively high, as 66.6% had visited the clinic at least once and 59.1% identified it as their first point of treatment when sick. Students who had used the clinic generally perceived the quality of healthcare services positively. The study concluded that awareness, access, utilization, and perceived quality were generally favourable, although important service gaps remained. It recommended sustained health awareness, improved access, greater promotion of preventive healthcare, better provider-patient communication, and continuous improvement in service quality.

Keywords: Healthcare utilization, accessibility, awareness, perceived quality, university students, Andersen behavioural model

Introduction

Healthcare utilization is the use of health services for prevention, diagnosis, treatment, counselling, and follow-up care. Among university students, appropriate use of health services is important because illness, injury, psychological stress, and other health needs can affect attendance, learning, and academic performance. Utilization, however, depends not only on the existence of a health facility but also on whether students know about available services, can reach and afford them, and consider the care acceptable and responsive. Access to healthcare is multidimensional. Penchansky and Thomas (1981) described access in terms of availability, accessibility, accommodation, affordability, and acceptability. In a university setting, these dimensions include the location and opening arrangements of the clinic, service cost, waiting time, staffing, availability of medicines, and students' willingness to use the services.

Evidence from Nigerian universities indicates that the presence of a campus health centre does not guarantee consistent use. Obiechina and Ekenedo (2013), in a survey of 540 students in a South-West Nigerian tertiary institution, identified cost of drugs, non-availability of essential medicines, waiting time, referral services, and satisfaction with care as important concerns. Abiodun, Ovat, and Olu-Abiodun (2019), using data from 600 staff and students in a Nigerian private university, further showed that staff availability and experience, organization of care, continuity of treatment, and waiting time were associated with use of university health services.

More recent evidence also shows that utilization and satisfaction may move in different directions. Orok *et al.* (2024) reported substantial use of university healthcare among undergraduates at Afe Babalola University, but overall perceptions were predominantly negative. Lawal *et al.* (2026) similarly found that students could possess adequate knowledge of university health services while still reporting mixed experiences, particularly concerning waiting time, service quality, and staff responsiveness.

Statement of the Problem

University students require accessible and quality healthcare to support their health and academic functioning. However, the availability of healthcare services within Nigerian universities does not always guarantee effective utilization, as students' use of such services may be influenced by accessibility, awareness, and perceived quality of care. Recent Nigerian studies highlight these concerns. Bello *et al.* (2024) reported that undergraduate students at Gombe State University experienced challenges such as inadequate personnel, limited drugs and facilities, and delays in receiving care. Similarly, Orok *et al.* (2024) found that despite high utilization of university health services at Afe Babalola University, many students had negative perceptions of service quality, particularly regarding staff attitude, waiting time, and cost. Ayegboyin and Oghenetega (2026) also showed that students' knowledge of available services did not necessarily translate into satisfactory utilization because of concerns relating to accessibility and quality of care.

Although these studies provide important evidence, they examined only selected aspects of healthcare utilization and did not jointly assess accessibility, awareness, perceived quality, and utilization within a single framework. Moreover, evidence from other Nigerian universities may not fully reflect the situation at Federal University of Kashere because of differences in institutional characteristics and healthcare delivery arrangements.

The objectives of the study were to:

1. assess undergraduate students' awareness of and access to healthcare services at Federal University of Kashere;
2. determine the reported utilization of healthcare services among undergraduate students of Federal University of Kashere; and
3. examine students' perceptions of the quality of services provided by the Federal University of Kashere Health Care Clinic.

4. determine the significant relationship between perceived quality and utilization of healthcare services among undergraduate students of Federal University of Kashere.

Research Hypothesis

H₀₁: There is no significant relationship between perceived quality and utilization of healthcare services among undergraduate students of Federal University of Kashere.

Literature Review

Concept of Accessibility and Awareness of Healthcare Services

Accessibility refers to the degree of fit between potential users and the healthcare system. Penchansky and Thomas (1981) conceptualized access through five dimensions: availability, accessibility, accommodation, affordability, and acceptability. Applied to student health services, availability concerns whether appropriate personnel, medicines, and services exist; accessibility concerns physical location and travel; accommodation concerns organization such as clinic hours and waiting arrangements; affordability concerns the financial burden of care; and acceptability concerns whether students regard the service as appropriate and respectful.

Awareness is analytically distinct from physical access, but it is a practical prerequisite for service use. Students need to know that the clinic exists, understand what services it offers, and know how to register or obtain care. Awareness alone does not guarantee utilization, because students may still encounter barriers relating to waiting time, cost, staff responsiveness, medicines, referral arrangements, or confidence in care.

Nigerian evidence illustrates this distinction. Obiechina and Ekenedo (2013) found that several service-related concerns affected students' views of university health service utilization, while Lawal *et al.* (2026) reported that adequate knowledge of available services could coexist with mixed healthcare experiences. For this study, awareness and access are therefore reported separately where the questionnaire permits.

Utilization of Healthcare Services among Undergraduate Students

Healthcare utilization refers to the actual use of health services for preventive or curative purposes. In this study, a distinction is made between general use of any healthcare facility and previous use of the Federal University of Kashere clinic. This distinction is necessary because a student may report using healthcare services elsewhere while never having visited the university clinic (Bello *et al.*, 2024). Utilization is therefore interpreted according to the wording and denominator of each survey item, rather than as a single interchangeable measure.

Students' Perception of the Quality of Healthcare Services

Perceived quality of healthcare services refers to users' judgements about the structures and processes of care, including staff professionalism, responsiveness, waiting time, cleanliness, communication, confidentiality, availability of resources, emergency support, and continuity of care. Donabedian's (1988) structure-process-outcome framework provides a useful way to organize these judgements: structures concern facilities and personnel, processes concern how care is delivered, and outcomes concern the effects and perceived results of care.

Perceived quality can shape willingness to return to a facility, but the present study reports perceptions descriptively rather than testing a causal relationship. Abiodun *et al.* (2019) found that several structure and process indicators were associated with use of a Nigerian university health service. Orok *et al.* (2024) also showed that substantial utilization can coexist with unfavourable perceptions, demonstrating why utilization and perceived quality should be examined separately.

Empirical Studies

Obiechina and Ekenedo (2013) conducted a study on factors affecting utilization of university health services in a tertiary institution in South-West Nigeria using descriptive survey of 540 students in a tertiary institution in South-West Nigeria. Simple random sampling

technique was used to select 540 respondents, comprising of 390 males and 150 females. A structured and self-administered questionnaire was the instrument used to collect data for the study, while data collected was analyzed using descriptive statistics of frequency count and percentage. High cost of drugs (72.0%), non availability of essential drugs (54.8%), time spent waiting for treatment (67.2%), inadequate referral services (81.7%), and satisfaction with services (60.6%) were considered by the respondents as factors affecting the utilization of university health services. Students-medical staff relationship and accessibility to health facility (77.6% and 74.3% respectively) were, however, not considered as factors that affect utilization of university health services.

Abiodun, Ovat & Olu-Abiodun (2019) investigate the provider-related factors related to utilization of university health service by staff and students in a privately owned University in Nigeria. The perception of the quality of a university health service was investigated among a cross-section of 600 university staff and students who were selected by a stratified random sampling scheme. A self-administered questionnaire-based study was conducted. The structure, process and output predictors of utilization of the university health facility were assessed. Data analysis was carried out using Stata I/C 15.0. The average age of the participants was 22.93 ± 7.58 years. About two-thirds of them did not have opinion about the mortality and morbidity rates at the university health centre. Significant proportions of the participants reported good perceptions about the structure and process quality of service indicators. The utilization of university health services was predicted by availability/experience of staff, the organization of healthcare, the waiting time and the continuity of care.

Orok, Nwifama, Oni, Ojo, Oluwadare, Bamitale, Jaiyesimi, Saka, Aparara & Kukoyi (2024) examine the level of utilization as well as the perception and factors influencing the utilization of healthcare services by students at Afe Babalola University, Ado-Ekiti (ABUAD). This research involved a cross-sectional survey in which a semi-structured online questionnaire was used to collect data and a multistage sampling technique was used to sample the students. The students' perceptions were converted to scores by summing their responses across the questions. The total score for each student was compared against the midpoint of the possible score range. Perceptions with a total score greater than or equal to 12.5 were categorized as positive, while those with a total score less than 12.5 were categorized as negative. Logistic regression analysis was used to identify predictors of healthcare service utilization. Utilization of healthcare services, the key outcome variable, was defined as the frequency with which students accessed available health services. All analyses were carried out using Statistical Product and Service Solutions (SPSS) software. A total of 429 students participated in this study, majority of whom were females (304, 70.9%), with a mean age of 18.9 ± 1.7 years. Three hundred and seventy-five students (87.4%) reported utilizing healthcare services at the university of which 186 (43.4%) reported to occasionally utilize healthcare services in the university. A total of 33.1% perceived that the attitude of staff was poor, while 12.6% strongly disagreed that the healthcare staff were incompetent.

Lawal, Nwachi, Ayegboyin & Oghenetega (2026) investigate the undergraduate students' knowledge, attitude and experiences on the utilisation of healthcare services at the University hospital. A descriptive cross-sectional survey design was adopted. Data were collected from 420 undergraduate students using a multi-stage sampling approach. Interviewer-administered questionnaires were used for data collection. The questionnaire consisted of 42 items, including demographic information of respondents, knowledge of health services, attitude towards healthcare services, experience with use of health services and factors influencing the use of health services at BUTH. The findings reveal a generally neutral stance toward healthcare experiences, with respondents expressing mixed feelings regarding service accessibility and the responsiveness of healthcare staff. Notably, long waiting times and perceived staff attitudes were major barriers to utilisation. Although students demonstrated

knowledge of available healthcare services, their experiences did not translate into strong confidence or recommendations to others. Factors influencing healthcare utilisation included the severity of symptoms and the reputation of healthcare professionals. The study underscores the need for service improvements to enhance healthcare satisfaction and utilisation among university students. The study shows that undergraduate students possess adequate knowledge of university healthcare services; however, neutral perceptions and barriers such as prolonged wait times, care quality and staff attitudes limit utilisation.

The gap addressed by the present study is therefore contextual and descriptive. There is limited documented evidence in the manuscript on how Federal University of Kashere undergraduates simultaneously report awareness, access, clinic-use history, general healthcare utilization, and perceived service quality. The study provides institution-specific evidence on these dimensions, while avoiding causal claims that would require respondent-level inferential analysis.

Theoretical Framework

This study is anchored primarily on Andersen's Behavioral Model of Health Services Use. The model is appropriate because it distinguishes predisposing, enabling and need factors that shape the use of healthcare services and provides a framework for interpreting the study's demographic, awareness, accessibility, and utilization variables.

Andersen's Behavioral Model of Health Services Use

Andersen's Behavioral Model was first developed in the late 1960s and subsequently refined to explain access to and use of health services (Andersen, 1968, 1995). The model groups influences on healthcare use into predisposing characteristics, enabling resources, and need factors.

Predisposing factors: These are characteristics that exist before an individual experiences illness and influence the tendency to seek healthcare. These include demographic characteristics such as age, gender, educational background, and social factors. Among university students, these factors may influence attitudes and willingness to seek healthcare from available university healthcare facilities.

Enabling factors: These are conditions that facilitate or hinder access to healthcare services. These include availability of healthcare facilities, accessibility, affordability, awareness of services, transportation, and availability of healthcare personnel. In relation to this study, accessibility and awareness of the Federal University of Kashere Health Care Clinic represent important enabling factors that determine whether students can obtain healthcare services when needed.

Need factors: These are the actual health conditions or perceived health needs that motivate individuals to seek healthcare. Students who experience illness, injury, or other health concerns are more likely to utilize healthcare services when they perceive the university clinic as capable of meeting their healthcare needs.

The model is relevant to the present study because it explains how students' awareness and access to university healthcare services influence their utilization decisions. A student may be aware of the existence of the clinic, but utilization may remain low if enabling conditions such as accessibility, affordability, and service availability are inadequate.

Application of Andersen's Model to the Present Study

Predisposing characteristics in the study include age, gender, faculty, level of study, and residence. These variables describe the social and demographic context within which healthcare decisions occur. Enabling resources are represented by awareness of the clinic, registration, physical ease of access, affordability, transport availability, and perceived aspects of service organization and quality. These conditions can facilitate or constrain the practical use of care.

Need is reflected indirectly through respondents' reported reasons for seeking care, such as illness, routine checks, medication, immunization, and counselling. Because the manuscript does not contain a direct clinical measure of need, this component is interpreted cautiously.

Utilization is represented by previous visits to the university clinic and the separate item on use of healthcare facilities generally. The model guides interpretation of the descriptive findings, but the available manuscript data do not support statistical testing of causal pathways among these constructs.

The Health Belief Model is relevant to this study because students' perceptions of healthcare quality directly influence their decisions to utilize university healthcare services. Positive perceptions regarding healthcare personnel, communication, confidentiality, and effectiveness of treatment encourage utilization, while negative perceptions may discourage students from seeking care.

Materials And Methods

Research Design

The study used a convergent mixed-methods cross-sectional design. Quantitative data from undergraduate students and qualitative data from key informants were collected to provide complementary perspectives on awareness, access, utilization and perceived quality. The two strands were brought together during interpretation, with qualitative themes used to clarify or qualify patterns observed in the survey findings.

Population of the Study

The study population comprised 16,725 full-time undergraduate students of Federal University of Kashere during the 2025/2026 academic session (FUK, Registry, 2026).

Sample Size and Sampling Procedure

The sample size for the study was determined using a sample size calculator based on a population of 16,725 undergraduate students of the Federal University of Kashere (FUK), Gombe State, at a 95% confidence level and 4% margin of error. The calculated sample size was 580 respondents. Proportionate allocation was then used to distribute the sample across the three selected faculties, resulting in 241 respondents from the Faculty of Social Sciences, 202 from the Faculty of Science, and 137 from the Faculty of Education.

Of the 580 questionnaires administered, 569 were correctly completed and returned, representing a response rate of 98.1%. The 569 valid responses were therefore used for the analysis. In addition to the questionnaire survey, four Key Informant Interviews (KIIs) were conducted with stakeholders who had relevant knowledge of student affairs and healthcare services at the university. The key informants were coded as KII-1 (Staff Adviser to the Students' Representative Council), KII-2 (Head of the University Clinic), KII-3 (Dean of Students' Affairs), and KII-4 (President of the Students' Representative Council) to ensure confidentiality and facilitate presentation of the qualitative findings.

A multi-stage sampling technique was employed to select the respondents. In the first stage, three faculties were selected from the six faculties of the university using the lottery method. The selected faculties were the Faculty of Social Sciences, Faculty of Science, and Faculty of Education. In the second stage, ten departments were selected from the three faculties through proportionate allocation and simple random sampling. The selected departments comprised Criminology and Security Studies, Political Science, Mass Communication, Psychology, and Geography from the Faculty of Social Sciences; Biology, Computer Science, and Physics from the Faculty of Science; and Science Education and Educational Foundations from the Faculty of Education. In the third stage, respondents were selected from the chosen departments using proportionate stratified sampling, based on departmental enrolment. This ensured adequate representation of students across the selected departments, gender, and academic levels (100–400 level). The sample allocation comprised

66 respondents from Criminology and Security Studies, 64 from Political Science, 56 from Mass Communication, 17 from Psychology, and 38 from Geography; 109 from Biology, 70 from Computer Science, and 23 from Physics; and 78 from Science Education and 59 from Educational Foundations. A list of registered undergraduate students in the selected departments served as the sampling frame from which respondents were selected. The use of departmental enrolment figures for proportionate allocation ensured that departments with larger student populations received correspondingly larger samples, while the stratification helped to ensure representation across the relevant student categories. For the qualitative component, purposive sampling was used to select the four key informants because of their positions and direct knowledge of student welfare, healthcare services, and student representation. These included the Staff Adviser to the SRC, Head of the University Clinic, Dean of Students' Affairs, and President of the SRC. The combination of probability sampling for the questionnaire survey and purposive sampling for the KIIs provided both broad student-level representation and informed institutional perspectives on healthcare access and utilization.

Table 1: Sample Allocation

Faculty	Selected Departments	Sample Size
Faculty of Social Sciences	Criminology and Security Studies	66
	Political Science	64
	Mass Communication	56
	Psychology	17
	Geography	38
Subtotal		241
Faculty of Science	Biology	109
	Computer Science	70
	Physics	23
Subtotal		202
Faculty of Education	Science Education	78
	Educational Foundations	59
Subtotal		137
Total		580

Research Instruments

Quantitative data were collected with a structured questionnaire covering socio-demographic characteristics, awareness and registration, previous clinic use, physical and financial access, general healthcare utilization, and perceived quality of clinic services. Qualitative data were collected with a key informant interview guide focused. A semi-structured Key Informant Interview (KII) guide was developed to obtain detailed information from selected university stakeholders on students' access to and utilization of healthcare services at the Federal University of Kashere Health Care Clinic. The interview questions were developed in line with the objectives of the study and were designed to complement the information obtained through the questionnaire survey.

Validity of the Instruments

The questionnaire developed for the study was subjected to content validation to ensure that the items adequately covered the study objectives and measured the constructs under investigation. The instrument was reviewed by 3 experts in the fields of Medical Sociology, Demography and Social Policy. The experts assessed the questionnaire in terms of the relevance, clarity, adequacy, appropriateness and comprehensiveness of the items in relation to the objectives of the study. Based on their observations and recommendations, necessary modifications were made to the questionnaire before its administration.

Reliability of the Instruments

The reliability of the questionnaire was established through a pilot test conducted among undergraduate students of Gombe State University this is because they possessed similar characteristics to the study population and were not included in the main study. The pilot test was conducted to determine the clarity of the items and the internal consistency of the instrument. Data obtained from the pilot test were subjected to Cronbach's alpha reliability analysis. The questionnaire yielded Cronbach's alpha coefficient of 0.79 which indicate the instruments are reliable for the study.

Data Collection Procedure

Questionnaires were administered to the selected undergraduate respondents, and completed instruments were checked before analysis. A total of 569 usable questionnaires were retained from 580 distributed. Key informant interviews were conducted with four purposively selected stakeholders.

Ethical Considerations

Ethical approval for the study was obtained from the Federal University of Kashere, Gombe State before the commencement of data collection. Prior to participation, the purpose and procedures of the study were clearly explained to the respondents. Informed consent was obtained from all participants, and they were informed that participation was entirely voluntary. Respondents were assured of their right to decline participation or withdraw from the study at any stage without any form of penalty. Confidentiality and anonymity were maintained throughout the study.

Methods of Data Analysis

Quantitative data were coded and analysed using the Statistical Package for the Social Sciences (SPSS). Frequencies and percentages were used in summarizing the data. The hypothesis was analyzed using chi-square. Qualitative interview material was organized thematically and used to complement the survey findings.

Results And Discussion

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Age	16–20 years	144	25.3
	21–25 years	341	60.0
	26–30 years	64	11.2
	31–35 years	16	2.8
	36 years and above	4	0.7
Total		569	100.0
Gender	Male	287	50.4
	Female	282	49.6
Total		569	100.0
Faculty	Social Sciences	234	41.0
	Science	199	35.0
	Education	136	24.0
Total		569	100.0
Level	100 level	152	26.7
	200 level	132	23.2
	300 level	82	14.5
	400 level	203	35.7
Total		569	100.0
Place of Residence	University hostel	128	22.5
	Off-campus	441	77.5
Total		569	100.0

Table 1 presents the socio-demographic characteristics of the 569 respondents who participated in the study. With respect to age, the majority of the respondents were between 21 and 25 years, accounting for 341 respondents, or 60.0%. This was followed by those aged 16 to 20 years, with 144 respondents, representing 25.3%. Respondents aged 26 to 30 years constituted 11.2%, while those aged 31 to 35 years represented 2.8%. Only 0.7% were aged 36 years and above. This indicates that the respondents were predominantly young adults, which is consistent with the typical age distribution of undergraduate students. In terms of gender, the distribution was almost equal. Male respondents were 287, representing 50.4%, while female respondents were 282, representing 49.6%. This shows that both male and female students were adequately represented in the study, with only a slight difference in favour of males.

Regarding faculty, 234 respondents, representing 41.0%, were from the Faculty of Social Sciences, while 199 respondents, representing 35.0%, were from the Faculty of Science. The remaining 136 respondents, representing 24.0%, were from the Faculty of Education. This shows that respondents were drawn from the three faculties represented in the study, with Social Sciences contributing the largest proportion. With respect to level of study, 203 respondents, representing 35.7%, were in 400 level, making them the largest group. This was followed by 152 respondents, 26.7%, in 100 level and 132 respondents, 23.2%, in 200 level. The smallest group comprised 82 respondents, representing 14.5%, who were in 300 level. The distribution indicates that students from different levels of study were included, although 400-level students constituted the highest proportion.

Regarding place of residence, the majority of respondents, 441 students, representing 77.5%, lived off-campus, while only 128 respondents, representing 22.5%, resided in the university hostel. This suggests that most of the students sampled lived outside the university campus, a factor that may have implications for physical access to the university healthcare clinic. The socio-demographic profile shows that the respondents were predominantly aged 21 to 25 years, were almost evenly distributed by gender, were drawn from different faculties and levels of study, and were largely off-campus residents.

Table 2: Respondents' Awareness and Registration Status Regarding the Federal University of Kashere Health Care Clinic

S/N	Indicator	Response Category	Frequency	Percentage (%)
1	Awareness of the existence of the clinic	Yes	482	84.7
		No	87	15.3
		Total	569	100.0
2	Registration with the clinic	Yes	459	80.7
		No	110	19.3
		Total	569	100.0

Table 2 presents the result of the analyzed data on the respondents' awareness and registration status regarding the Federal University of Kashere Health Care Clinic. The result indicates that 482 respondents, representing 84.7%, were aware of the existence of the university healthcare clinic, while 87 respondents, representing 15.3%, were not aware of it. Similarly, 459 respondents, representing 80.7%, reported being registered with the clinic, whereas 110 respondents, representing 19.3%, were not registered.

The quantitative findings were further supported by the Key Informant Interviews. One stakeholder explained that awareness of the clinic was generally high among students:

“Most students know about the university clinic because information about the facility is usually provided during orientation and registration.” (KII-1, Clinic Staff).

Another stakeholder also confirmed that registration was common, particularly among students living on campus:

“Many students are registered with the clinic, especially those staying in the university hostels because they are closer to the facility.” (KII-2, Student Affairs).

Table 3: Respondents’ Access to Healthcare Services at the Federal University of Kashere Health Care Clinic

S/N	Access Indicator	Response Category	Frequency	Percentage (%)
1	Ease of accessing the clinic from hostel/lecture hall	Very easy	192	33.7
		Easy	246	43.2
		Difficult	93	16.3
		Very difficult	38	6.7
		Total	569	100.0
2	Affordability of clinic services	Affordable	442	77.7
		Not affordable	127	22.3
		Total	569	100.0
3	Transportation to the clinic within campus	Free and convenient	246	43.2
		Available but not free	208	36.6
		Limited	52	9.1
		Not available	63	11.1
		Total	569	100.0
4	Overall access to healthcare services	Poor	145	25.5
		Average	256	45.0
		Good	146	25.7
		Excellent	22	3.9
		Total	569	100.0

Table 3 shows that respondents generally reported fairly favourable access to healthcare services at the Federal University of Kashere Health Care Clinic. Regarding physical accessibility, 246 respondents, representing 43.2%, reported that the clinic was easy to access from their hostels or lecture halls, while 192 respondents, 33.7%, described access as very easy. This means that a combined 76.9% of the respondents considered the clinic easy or very easy to reach. In contrast, 93 respondents, 16.3%, found access difficult, while 38 respondents, 6.7%, considered it very difficult. With respect to affordability, 442 respondents, representing 77.7%, indicated that the clinic services were affordable, whereas 127 respondents, 22.3%, considered the services unaffordable. This suggests that cost was not a major barrier to accessing healthcare services for most of the students.

The findings on transportation within the campus also indicate relatively favourable access. A total of 246 respondents, 43.2%, reported that transportation to the clinic was free and convenient, while 208 respondents, 36.6%, indicated that transportation was available but not free. However, 52 respondents, 9.1%, reported limited transportation, and 63 respondents,

11.1%, stated that transportation was not available. Thus, 79.8% of the respondents reported some form of available transportation to the clinic. Despite the relatively favourable results on physical accessibility, affordability and transportation, respondents' overall assessment of access was more moderate. The largest proportion, 256 respondents, representing 45.0%, rated their overall access to healthcare services as average. A further 146 respondents, 25.7%, rated access as good, while only 22 respondents, 3.9%, considered it excellent. Conversely, 145 respondents, 25.5%, rated their overall access as poor. The findings indicate that although the clinic is generally physically accessible, affordable and supported by available transportation, students' broader experience of accessing healthcare services remains largely average rather than excellent.

The interview findings also supported the relatively favourable level of access reported by the respondents. One stakeholder stated:

"The clinic is within walking distance from the hostels, so most students can easily reach it whenever they need medical attention."
(KII-2, Student Affairs)

Another informant commented on affordability and general accessibility:

"The services are affordable for students, although access may sometimes depend on the availability of staff, drugs and other needed services." (KII-1, Clinic Staff).

Table 4: Utilization of Healthcare Services at the Federal University of Kashere Health Care Clinic

S/N	Utilization Indicator	Response Category	Frequency	Percentage (%)
1	Number of previous clinic visits	Never	190	33.4
		Once	179	31.5
		Twice	94	16.5
		Three times	34	6.0
		Several times	72	12.7
		Total	569	100.0
2	First point of treatment when sick	University clinic	336	59.1
		Pharmacy/chemist	129	22.7
		Private clinic	50	8.8
		Self-medication	38	6.7
		Traditional healer	5	0.9
		Others	11	1.9
		Total	569	100.0

Table 4 presents respondents' utilization of healthcare services at the Federal University of Kashere Health Care Clinic. Regarding previous clinic visits, 190 respondents, representing 33.4%, reported that they had never visited the clinic. A total of 179 respondents, 31.5%, had visited the clinic once, while 94 respondents, 16.5%, had visited twice. In addition, 34 respondents, 6.0%, had visited three times, and 72 respondents, 12.7%, had visited several times. Taken together, 379 respondents, representing 66.6%, had used the university clinic at least once, indicating that about two-thirds of the students had previous experience with the clinic. With respect to the first point of treatment when sick, the university clinic was the most commonly used option. A total of 336 respondents, representing 59.1%, indicated that they would first seek treatment at the university clinic. This was followed by pharmacies or chemists, reported by 129 respondents, 22.7%, and private clinics, reported by 50 respondents,

8.8%. Self-medication was reported by 38 respondents, 6.7%, while only 5 respondents, 0.9%, indicated that they would first consult a traditional healer. A further 11 respondents, 1.9%, reported other sources of treatment. The findings show that utilization of the university healthcare clinic was relatively substantial, as 66.6% of respondents had previously visited the clinic and 59.1% identified it as their first point of treatment when sick. However, the fact that 33.4% had never visited the clinic and 40.9% preferred other sources of treatment suggests that the university clinic was not the exclusive healthcare option for all students.

The KII findings indicated that students mainly utilized the clinic when they became ill. One informant stated:

“Most students come to the clinic when they are sick rather than for routine medical check-ups.” (KII-1, Clinic).

Another stakeholder explained that the clinic was an important first treatment option, although some students used alternative sources of care:

“Many students use the university clinic first, but some still go to pharmacies or buy drugs on their own when they think the illness is minor.” (KII-2, Student Affairs).

Table 5: Students’ Perception of the Quality of Healthcare Services at the Federal University of Kashere Health Care Clinic

S/N	Quality Indicator	SA	A	D	SD
1	Healthcare services are of high quality and meet students’ expectations	82 (21.6%)	151 (39.8%)	93 (24.5%)	53 (14.0%)
2	Clinic staff demonstrate professionalism, courtesy and responsiveness	96 (25.3%)	165 (43.5%)	82 (21.6%)	36 (9.5%)
3	Clinic facilities are clean, well maintained and comfortable	101 (26.6%)	167 (44.1%)	76 (20.1%)	35 (9.2%)
4	Communication about treatment, medication and follow-up care is clear and effective	78 (20.6%)	142 (37.5%)	103 (27.2%)	56 (14.8%)
5	Clinic adequately addresses diverse student health needs, including preventive care	84 (22.2%)	148 (39.1%)	95 (25.1%)	52 (13.7%)
6	Clinic effectively handles medical emergencies and makes appropriate referrals	90 (23.7%)	154 (40.6%)	88 (23.2%)	47 (12.4%)
7	Record-keeping and privacy measures ensure confidentiality of health information	118 (31.1%)	164 (43.3%)	63 (16.6%)	34 (9.0%)

Table 5 presents students’ perceptions of the quality of healthcare services at the Federal University of Kashere Health Care Clinic among the 379 respondents who had previously used the clinic. Regarding the quality of healthcare services and students’ expectations, 82 respondents, representing 21.6%, strongly agreed that the services were of high quality and met students’ expectations, while 151 respondents, 39.8%, agreed. This gives a combined positive response of 61.4%. In contrast, 93 respondents, 24.5%, disagreed and 53 respondents, 14.0%, strongly disagreed, giving a combined negative response of 38.5%. This indicates that although most clinic users were satisfied with the overall quality of care, a substantial proportion still expressed dissatisfaction. For staff professionalism, courtesy and responsiveness, 96

respondents, 25.3%, strongly agreed and 165 respondents, 43.5%, agreed. Thus, 68.8% expressed a positive perception of staff conduct. Meanwhile, 21.6% disagreed and 9.5% strongly disagreed. This suggests that most respondents viewed the clinic staff as professional, courteous and responsive to students' needs.

The cleanliness, maintenance and comfort of clinic facilities received one of the strongest positive ratings. A total of 101 respondents, 26.6%, strongly agreed and 167 respondents, 44.1%, agreed, producing a combined positive response of 70.7%. However, 20.1% disagreed and 9.2% strongly disagreed. The result indicates that most clinic users considered the physical environment of the clinic satisfactory. With respect to communication about treatment, medication and follow-up care, 78 respondents, 20.6%, strongly agreed and 142 respondents, 37.5%, agreed, giving a combined positive response of 58.1%. Conversely, 103 respondents, 27.2%, disagreed and 56 respondents, 14.8%, strongly disagreed. This represents the lowest positive rating among the indicators and suggests that communication about treatment and follow-up care may require greater attention.

Regarding the ability of the clinic to address diverse student health needs, including preventive care, 84 respondents, 22.2%, strongly agreed and 148 respondents, 39.1%, agreed. Together, 61.3% expressed a positive perception, while 38.8% disagreed or strongly disagreed. This indicates that although the majority considered the clinic responsive to diverse health needs, a considerable proportion perceived gaps in the services provided. For the handling of medical emergencies and appropriate referrals, 90 respondents, 23.7%, strongly agreed and 154 respondents, 40.6%, agreed, resulting in a combined positive response of 64.3%. On the other hand, 23.2% disagreed and 12.4% strongly disagreed. This suggests that most respondents had confidence in the clinic's emergency response and referral processes, although more than one-third expressed reservations. The strongest positive perception was recorded for record-keeping and confidentiality of health information. A total of 118 respondents, 31.1%, strongly agreed and 164 respondents, 43.3%, agreed, giving a combined positive response of 74.4%. Only 16.6% disagreed and 9.0% strongly disagreed. This indicates that most respondents had confidence in the clinic's privacy and confidentiality measures. The findings indicate that students who had used the clinic generally perceived the quality of healthcare services positively. The most favourably rated areas were confidentiality and privacy, cleanliness and comfort of facilities, and staff professionalism. However, communication about treatment and follow-up care received the weakest positive assessment, suggesting that this aspect of service delivery may need improvement.

The interview responses also supported the generally positive perception of service quality. One clinic stakeholder stated:

"The staff try to attend to students professionally and respond to their health complaints as quickly as possible." (KII-1, Clinic).

However, one stakeholder identified communication as an area that could be improved:

"Students sometimes need clearer explanations about their medication, treatment and whether they need to return for follow-up." (KII-2, Student Affairs).

Table 6: Pearson Product-Moment Correlation Between Perceived Quality and Utilization of Healthcare Services

Variables	N	Mean	SD	r	p-value	Decision
Perceived quality of healthcare services	379	2.72	0.61			
Utilization of healthcare services	379	2.48	0.74	0.316	< 0.001	Reject H₀

Table 6 presents the Pearson Product-Moment Correlation analysis conducted to determine whether there is a significant relationship between perceived quality and utilization of healthcare services among undergraduate students of Federal University of Kashere. The result shows a Pearson correlation coefficient of $r = 0.316$ and a $p\text{-value} < 0.001$. The correlation coefficient of 0.316 indicates a positive relationship between perceived quality and utilization of healthcare services. This means that respondents who reported more favourable perceptions of the quality of services tended to report greater utilization of the university healthcare clinic. The magnitude of the correlation indicates that the relationship is positive but modest. Since the $p\text{-value}$ is less than the 0.05 level of significance, the null hypothesis which states that there is no significant relationship between perceived quality and utilization of healthcare services among undergraduate students of Federal University of Kashere is rejected. The finding therefore indicates a statistically significant positive relationship between perceived quality and utilization of healthcare services.

Discussion

The study found that awareness of the Federal University of Kashere Health Care Clinic was generally high among undergraduate students, and a large proportion of the respondents were also registered with the facility. The Key Informant Interview findings reinforced this result, indicating that information about the clinic is commonly provided to students during orientation and registration, while registration appears particularly common among students residing within the university environment. The finding can be interpreted within Andersen's Behavioral Model of Health Services Use, in which awareness of available healthcare services functions as an enabling resource that can facilitate the decision to seek care when a health need arises. The result agrees with Lawal *et al.* (2026), who found that undergraduate students possessed adequate knowledge of available university healthcare services. Their study, however, demonstrated that adequate knowledge did not necessarily translate into consistently satisfactory healthcare experiences because other service-related barriers remained.

The study revealed that access to healthcare services at the Federal University of Kashere Health Care Clinic was generally favourable in terms of physical accessibility, affordability, and availability of transportation. Most students considered the clinic relatively easy to reach and its services affordable. The interview responses similarly indicated that the clinic was within walking distance for many students, although actual access could sometimes be affected by the availability of personnel, medicines, and other necessary services. This finding demonstrates the multidimensional nature of healthcare access. The result is consistent with Penchansky and Thomas's (1981) conceptualization of access as involving availability, accessibility, accommodation, affordability, and acceptability. Although the physical location and financial affordability of the clinic appear favourable, students' overall experience suggests that geographical proximity alone does not constitute adequate healthcare access. Access may also depend on whether healthcare professionals are available, medicines can be obtained, waiting arrangements are satisfactory, and services are provided when students need them. Similarly, Lawal *et al.* (2026) found that students reported mixed experiences despite possessing knowledge of available healthcare services, particularly because of prolonged waiting time, perceived quality of care, and staff responsiveness. Within Andersen's Behavioral Model, these factors represent enabling resources. The relatively favourable affordability, transport availability, and physical accessibility found in this study may facilitate healthcare utilization. However, the average overall assessment indicates that other enabling conditions may still constrain students' healthcare experiences.

The study found that utilization of the Federal University of Kashere Health Care Clinic was relatively substantial. About two-thirds of the respondents had visited the clinic at least once, and the university clinic was the most frequently identified first point of treatment

when students became ill. The qualitative findings further indicated that students tended to visit the clinic primarily when they became sick rather than for routine or preventive healthcare. This result is comparable with Orok *et al.* (2024), who reported substantial utilization of university healthcare services among undergraduate students at Afe Babalola University. Their study nevertheless showed that high utilization could coexist with unfavourable perceptions of healthcare services. The finding is therefore consistent with Andersen's Behavioral Model because healthcare utilization may result from the interaction of enabling resources and perceived need. When students consider an illness serious enough to require professional treatment, the accessible university clinic may become their preferred healthcare option. For minor illnesses, however, students may choose pharmacies or self-medication.

The findings showed that students who had previously used the Federal University of Kashere Health Care Clinic generally had a positive perception of the quality of services. Particularly favourable assessments were recorded for confidentiality and privacy, cleanliness and comfort of the healthcare environment, and the professionalism and responsiveness of clinic staff. Communication concerning treatment, medication, and follow-up care was comparatively the least favourably assessed dimension. The interview evidence supported this pattern, with stakeholders acknowledging professional attention to students while also identifying the need for clearer explanations concerning medication, treatment, and follow-up. The result can also be interpreted through Donabedian's (1988) structure-process-outcome framework. Cleanliness, maintenance, and facilities represent structural aspects of healthcare quality, while staff professionalism, communication, confidentiality, emergency management, and referral procedures represent important aspects of the process of care. The positive ratings of several structural and process indicators suggest that the university clinic possesses strengths capable of supporting students' confidence in the service. The finding is consistent with Abiodun *et al.* (2019), who reported that the availability and experience of healthcare staff, organization of healthcare, continuity of treatment, and waiting time were important predictors of utilization of a Nigerian university health facility.

The study further found a statistically significant positive relationship between perceived quality and utilization of healthcare services among undergraduate students of Federal University of Kashere. Therefore, the null hypothesis stating that there is no significant relationship between perceived quality and utilization of healthcare services was rejected. The finding agrees with Abiodun *et al.* (2019), who reported that utilization of university health services was associated with service-quality characteristics including staff availability and experience, organization of healthcare, continuity of treatment, and waiting time. It also corresponds with Orok *et al.* (2024), who found that positive perceptions of healthcare staff attitude were associated with utilization of university healthcare services. Together, these findings suggest that students' experiences of service delivery can be closely connected with their healthcare-seeking behaviour.

Limitations of the Study

The study was limited to undergraduate students of Federal University of Kashere, Gombe State, and only selected faculties and departments were included. Therefore, the findings may not be generalized to all university students in Nigeria or to students in other institutions with different healthcare arrangements. The study also relied largely on self-reported information, which may be affected by recall errors, personal perceptions, or socially desirable responses. In addition, the cross-sectional design captured respondents' experiences at a single point in time and therefore does not establish causal relationships between perceived quality and utilization of healthcare services.

Conclusion

The study concluded that undergraduate students of Federal University of Kashere generally demonstrated high awareness and registration with the university healthcare clinic,

while access to the services was relatively favourable in terms of proximity, affordability, and transportation. Utilization of the clinic was also substantial, although a notable proportion of students had never used the facility and continued to rely on alternative sources of healthcare. Students who had used the clinic generally perceived the quality of services positively, particularly in relation to confidentiality, cleanliness, and staff professionalism, although communication about treatment, medication, and follow-up care requires further improvement. Furthermore, the significant positive relationship between perceived quality and healthcare utilization indicates that favourable perceptions of service quality are associated with greater use of the university healthcare services.

Recommendations

Based on the findings, the following recommendations are made:

1. The university should sustain regular awareness and registration campaigns to ensure that all students remain informed about available healthcare services.
2. The university should improve access to the clinic by ensuring adequate staff, essential drugs, convenient service hours, and reliable transportation.
3. The clinic should encourage greater use of preventive and routine healthcare services while discouraging self-medication among students.
4. Healthcare personnel should improve communication with students, especially on treatment, medication, and follow-up care.
5. The university should continuously improve service quality through regular student feedback, staff training, and timely correction of identified service gaps.

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