Original Article

Assessing Determinants of Enrollees' Satisfaction with Quality of Health Services within the State Social Health Insurance Scheme: An Application of Modified SERVQUAL Model

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Abstract

Background: Patient satisfaction is an important indicator to measure the quality of healthcare and provider performance. Understanding enrollees' satisfaction with the quality of health services provided by Anambra State Health Insurance Scheme is crucial for its effectiveness. **Aim:** This study assessed health insurance enrollees' satisfaction with the quality of care and its determinants in Anambra State, Nigeria. **Methods:** This was a cross-sectional study that involved 447 enrollees selected from health facilities using a multistage sampling technique. Data was collected using a 25-item structured close-ended patients' satisfaction questionnaire adapted from the SERVQUAL model. Data analysis was done using SPSS version 25. Logistics regression analysis was done to identify determinants of overall satisfaction. The level of significance was set at a *P* value <0.05. **Results:** The overall level of satisfaction with services rendered was 80.6%. Enrollees were satisfied with tangibility (87.2%), reliability (89.3%), responsiveness (80.3%), assurance (90.2%), empathy (87.5%), and affordability (81.4%). Significant factors associated with the enrollees' satisfaction across the six dimensions of care assessed were facility ownership (AOR = 1.42; CI 0.24–0.74; *P* < 0.00) and geographical location (AOR = 1.33; CI 0.14–0.78; *P* < 0.01). Age (AOR = 2.86; CI 1.55–5.29; *P* < 0.00) was the only demographic characteristic associated with satisfaction with care. **Conclusion:** The quality of care was satisfactory across dimensions of care assessed. However, enrollees' satisfaction was positively influenced by facility-related factors. Managers and healthcare providers should focus on continuous quality improvement efforts in public and rural facilities to improve the quality of services and enrollees' retention within the health insurance scheme.

Keywords: *Health insurance, Nigeria, patient satisfaction, SERVQUAL model, SSHIS*

Introduction

Globally, health insurance has been noted to promote efforts toward achieving universal health coverage (UHC) and sustainable development goal (SDG) 3, which seek to ensure healthy lives and well-being for everyone of all ages.[1,2] This is because it provides opportunities for people to access quality healthcare as the need arises.[3,4] Quality of care is embedded in Nigeria's health insurance system as an essential outcome of healthcare services performance and enrollees' satisfaction with care.[2,5] Evidence shows that satisfaction with the quality of care is associated with an increased likelihood of appropriate

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health-seeking behavior, making better-informed choices about the health care providers, encouraging a continuous quality improvement (CQI) in health facilities, and encouraging un-insured people to enroll in a health insurance scheme.[6] However, limited evidence exists on the quality of health services provided by a sub-national health insurance scheme within the context of the decentralization of health insurance in Nigeria.

According to the World Health Organization (WHO), quality of care is defined as the extent to which healthcare services provided to people improve desired health outcomes.[4] This implies that healthcare services must be safe, effective, timely, efficient, equitable, and people-centered.[4] Patients' satisfaction (or dissatisfaction) is an essential component in measuring quality healthcare as it provides insight into the health providers' interest in patients' desires and expectations.[7] Patient satisfaction is assessed based on both provider and client perspectives. While the provider's perspective deals with the provision of sound healthcare services, the client- perspective focused on the extent to which the patients feel their needs and expectations are being met in the cause of accessing healthcare services.[8,9]

Evidence shows that several factors affect the satisfaction of patients in hospital facilities including accessibility, the interpersonal attitude of providers and other health personnel, communication, payments, and some hospital policies such as admission procedures.[10] Other factors linked with patients' satisfaction are tangibility- physical structure and cleanliness of the hospital,[10,11] short waiting time,[12] confidentiality and privacy, responsiveness, and assurance.[2] Poor patient satisfaction could lead to poor adherence to treatment and possible drop-out from a health insurance scheme. Hence, the necessity to assess the determinants of patients' satisfaction with health services provided and managed by the Anambra State Health Insurance Agency (ASHIA).

The Anambra State Health Insurance Scheme (ASHIS) is a sub-national social health insurance scheme (SSHIS) established by law, under the State Act of 2016 to address the existing health inequities and high out-of-pocket expenditures (OOP) for individuals living in the state toward achieving UHC by the year 2030.[13,14] ASHIS was officially launched and started its operation in September 2018. The scheme covers employees in the formal and informal sectors. ASHIS enrollees are entitled to a benefits package that comprises preventive, promotive, and curative services, provided at both public and private primary, secondary, and tertiary healthcare facilities taking into cognizance the prevailing local disease burden and morbidity in the state.[13,14]

Since the scheme commenced operation, there has not been any study done to evaluate enrollees' satisfaction with the quality of services provided by accredited healthcare providers (HCPs). Efforts have been to increase the number of enrollment and fund generation without much concern for the quality of services provided to the enrollees. Understanding enrollees' views on the quality of health care and its determinants will offer policymakers, health insurance advocates, health administrators, and health facility managers, the opportunity to address prevailing gaps in the service delivery process and enhance CQI on the quality of healthcare services that will ultimately translate into access to quality care. The study aims to assess the level of satisfaction with the quality of services and its determinants among enrollees of the ASHIS in southeast, Nigeria.

Materials and Methods

Conceptual framework

The study framework was drawn from the SERVQUAL Model assessing the client's satisfaction with the quality of service developed by Parasuraman *et al*. (1991)[15] which produced significant progress in the knowledge and measurement of assumed quality of service. The SERVQUAL survey questionnaire helps adjudge basic metrics across patient care that aid medical institutions/ HCPs in understanding the level of care provided and pitfalls in service. The model has five dimensions of service quality: 1) tangibility; 2) responsiveness; 3) reliability; 4) assurance and 5) empathy. *Tangibility* is the physical evidence of the service, tools, equipment, and physical facilities used to provide the service. These have a psychological effect on the recovery process of the individual and hence must be kept clean at all times. *Reliability* deals with the ability to perform the promised service accurately. *Responsiveness* is the readiness and willingness of health providers to assist patients by providing prompt timely services. *Assurance* is the knowledge of providers and their ability to have trust and confidence toward their patients while *empathy* is the caring, individualized, and customized attention provided to patients by health workers due to the pains that they are passing through. The model was then modified to include, *affordability* based on the health insurance context which aims to provide financial access to care to assess the cost of services in relation to the quality of services received [Figure 1].

Study design and study area

This was a cross-sectional study comprising of the quantitative data collection method. The study was conducted in twelve (12) secondary health facilities selected from six (6) local government areas (LGAs)

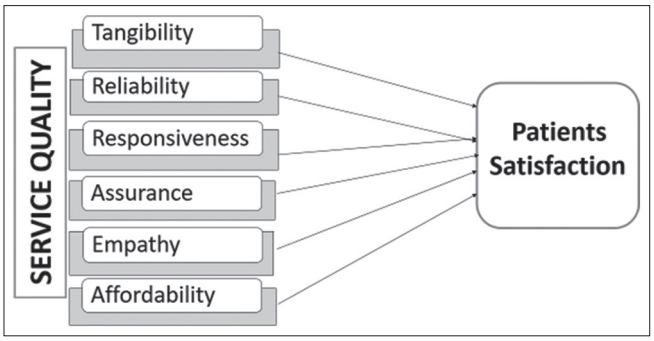

Figure 1: The study conceptual framework adapted from SERVQUAL Model

in Anambra State, located in the southeast region of Nigeria. The LGAs were purposively selected to include the geographic location (rural and urban), geopolitical spread (three senatorial districts in the state), and ownership of health facilities (private and public).

Anambra State is in the southeast part of Nigeria. The state has an estimated annual growth rate of 2.8%, with a projected population of 4.5 million people in 2018.[16] For administrative purposes, the State is also divided into 21 local government areas (LGAs). Structurally, the State health system is organized into three tiers: primary, secondary, and tertiary levels of healthcare. ASHIA manages and coordinates the ASHIS.

Study population, sampling, and sample size

The study population consisted of all enrollees of the ASHIS in the State. The study also excluded eligible enrollees who refused to give consent to participate in the study.

The sampling technique adopted was a multistage sampling method. This includes 1) Stratification of the state into three senatorial districts; 2) Using the simple random sampling method to select six (6) LGAs (two (2) per senatorial district) comprising one urban and one rural LGA to ensure representativeness; 3) Purposively selecting twelve (12) facilities (using a list of ASHIA accredited health care providers) from the six LGAs using a set of criteria including urban-rural location, public and private health facilities, and health facilities with up to 500 enrollees to ensure that a minimum sample size per facility is obtained and to enable subgroup data analysis. In all, a total of 12 health facilities were included in the study; Finally, the respondents were then purposively selected and recruited for the study.

We used the Taro Yamane formula for determining the sample size.[17] The formula is stated thus: $n = N/1 + N\ (e)^2$. Where n is the sample size; N is the total population of enrollees accessing care; e is the allowable error of five percent (0.05), and 1 is the constant. A minimum sample size of 402 was estimated and was further increased by 5% for robustness and to account for incomplete responses and or errors in questionnaires.

Data collection

The tool from the SERVQUAL model was modified to meet the current research objectives. The questionnaire had three parts: Part one included facility detail (public vs. private) and geographical location (urban vs. rural); Part two had information on socio-demographic information; Part three explored 25-close ended questions on the enrollees' satisfaction with different dimensions of services including tangibility, reliability, responsiveness, assurance, empathy, and affordability using a five-point Likert-scale that ranged from strongly dissatisfied (1), dissatisfied (2), neutral (3), satisfied (4) strongly satisfied (5). Respondents ticked according to the response that best applies to them. Twelve research assistants were recruited and trained for 3 days to assist with administering the questionnaire. A room or corner far from where care was delivered was used during data collection to ensure privacy and confidentiality. Electronic copies of the questionnaire uploaded to Android tablets using the KoBoCollect App were used to collect data over eight days.

Data analysis

The analysis draws from the conceptual framework described above. Descriptive analysis was performed using SPSS version 25 software. Satisfaction with the quality of services was disaggregated by the variables of interest: i) socio-demographic characteristics such as age, gender, educational level, marital status, and occupation ii) facility characteristics- location of the facility, ownership of the facility; and iii) satisfaction with the quality of services. An enrollee's satisfaction with the quality of services was determined by finding the average score for the individual items under each dimension of care. An average score of ≥4 was interpreted as "satisfied", while average scores of <4 were interpreted as unsatisfied. The general satisfaction with care was computed by finding the mean score of the six assessed dimensions of care satisfaction whereas, a mean score of ≥4 (80% and above) was regarded as satisfied. Descriptive analyses done were frequencies, percentages, and mean. The association between the independent (socio-demographics and facility characteristics) and dependent variable (satisfaction with the quality of services) was determined using Chi-square (Pearson) and logistic regression analysis. The P value was set at <0.05 and the results were presented in Tables and Figures.

Ethics approval and consent to participate

Ethical approval was obtained from the Health Research and Ethics Committee of the State Ministry of Health, Awka, Anambra State (Ref. no. MH/AWK/M/321/408) in 26th July, 2022. All participants provided both written and verbal informed consent. Participants were informed of the purpose of the research, rights of participants and measures that will be taken to protect them and their data. Hence, participation was voluntary, and confidentiality was assured. Verbal permission to audio-record interviews was also obtained from respondents.

Result

Socio-demographic and facility characteristics

The mean average age of 42 years. Concerning the location of the health facility, urban respondents constitute 76% of them while rural constitute 23.9%. Most respondents (68%) were recruited from private health facilities while the rest (32%) were from public facilities. Most (62%) of them were public servants and had tertiary education (62.9%). Other details of the respondents are detailed in Table 1.

Enrollees' satisfaction with the quality of services

The analysis of enrollee satisfaction across the 6 dimensions of quality of services among the surveyed respondents is shown in Table 2. The overall enrollees' satisfaction with all health facilities was 80.6%. Enrollees' satisfaction with six dimensions of care were tangibility (87.2%), reliability (89.3%), responsiveness (80.3%), assurance (90.2%), empathy (87.5%), and affordability (81.4%) [Figure 2].

Determinants of enrollee's satisfaction

Table 3 shows the association between respondents' sociodemographic characteristics and their satisfaction with the quality of services received at their respective health facilities. Satisfaction with quality of care was statistically significant with younger age (less than or equal to 42) compared with the older enrollees across the six dimensions of services ($p < 0.01$). There was no significant association between satisfaction and other socio-demographic factors assessed. Higher education was a determinant of satisfaction with the quality of care for the reliability dimension of the model was determined by enrollees' level of education ($P \leq 0.04$) while younger age (less than or equal to 42) was associated with empathy ($P = 0.02$).

Table 4 highlights the results of a bivariate analysis of health facility factors associated with enrollees' satisfaction with the quality of care. Overall, accessing services at urban facilities was associated with satisfaction with the quality than in the rural facilities ($p < 0.01$). Similarly, enrollees accessing services at private facilities were more satisfied than those who use public facilities ($P \leq 0.02$).

Significant factors associated with enrollees' satisfaction

The binary logistic regression of the association between socio-demographic and facility characteristics and satisfaction with the quality of care across the dimensions of care is shown in Table 5. Overall, the likelihood of being satisfied with the age (less than or equal to 42) of the enrollees was approximately three times more than for those greater than or equal to 43 years (AOR = 2.86; CI 1.55–5.29; $P < 0.01$) across the six dimensions assessed. Other socio-demographic characteristics were not factors associated with satisfaction levels among the enrollees.

Table 1: Socio-demographic characteristics of the survey respondents (*n*=447)

Variables	*n* (%)
Age	
20-30	88 (19.6)
31-40	140 (31.3)
41-50	96 (21.6)
51-60	85 (19.0)
61-70	30 (6.6)
71 & above	8 (1.6)
Sex	
Male	127 (28.4)
Female	320 (71.6)
Marital status	
Married	358 (80.1)
Widow/Widowed	17 (3.8)
Single	72 (16.1)
Highest educational level	
Primary	19 (4.3)
Secondary	121 (27.1)
Tertiary and above	281 (62.9)
Postgraduate	19 (4.3)
Other (Catering school, OND)	6 (1.3)
Occupation	
Unemployed	52 (11.6)
Petty Trader	22 (4.9)
Subsistence Farmer	6 (1.3)
Artisan	16 (3.6)
Government Worker	281 (62.9)
Businessman	31 (6.9)
Employed in private sector	33 (7.4)
Others (retired, pensioner)	6 (1.3)

n=total number of survey respondents; *n*=total number of observed frequencies for each outcome)

Similarly, the overall probabilities of being satisfied across the six dimensions of care for respondents from private health facilities were 1.4 times more than for those who attended public health facilities (AOR = 1.42; CI 0.24–0.74; $P < 0.00$). The probabilities of being satisfied among those attending urban health facilities were approximately 1.3 times more than for those who attend facilities in rural areas (AOR = 1.33; CI 0.14–0.78; $P < 0.01$) across the six dimensions measured.

Discussion

This study assessed the determinants of satisfaction with the quality of services received by enrollees under the state health insurance scheme in implementing health facilities in Anambra State, Nigeria. In this study, we found that there was satisfaction with the quality of services across the six dimensions of care assessed. This implies that the degree to which enrollees are satisfied with the care received is strongly linked to the quality of services provided by the health care providers. Our finding is in line with previous studies that found satisfaction with the quality of care across the SERVQUAL model.[18-20] However, it is in contrast with a study that reported a low level of satisfaction with the quality of service[21] The disparity in satisfaction with the quality of care between the two studies may be attributed to the presence of insurance coverage in our study, which provided access to specialized care and services, higher standards and accreditation, streamlined

Table 2: Descriptive analysis of enrollees' satisfaction with quality of services

Statements	SD *n* (%)	D *n* (%)	N *n* (%)	A *n* (%)	SA *n* (%)
Tangibility					
The hospital has modern-looking equipment	9 (2.0)	9 (4.7)	59 (13.2)	225 (50.3)	133 (29.8)
The physical facilities at the hospital are visually appealing	3 (0.7)	19 (4.3)	33 (7.4)	287 (64.2)	105 (23.5)
Personnel in the hospital are neat in appearance	2 (0.4)	8 (1.8)	14 (3.1)	264 (59.1)	159 (35.6)
Mean (%)	5 (1.0)	16 (3.6)	35 (7.9)	259 (57.6)	132 (29.6)
Reliability					
Materials associated with service (such as pamphlets or statements) are visually appealing at the hospital	9 (2.0)	14 (3.1)	37 (8.3)	278 (62.2)	109 (24.4)
When the hospital promises to do something by a certain time it does so	5 (1.1)	36 (8.1)	43 (9.6)	247 (55.3)	116 ((26.0)
When a patient has a problem, the hospital shows a sincere interest in solving it	5 (1.1)	21 (4.7)	17 (3.8)	276 (61.7)	128 (28.6)
The hospital gets things right the first time	7 (1.6)	10 (2.2)	11 (2.5)	275 (61.5)	144 (32.2)
The hospital provides their services at the time they promise to do so	6 (1.3)	29 (6.5)	47 (10.5)	259 (57.9)	106 (23.7)
The hospital maintains error-free records	3 (.07)	9 (2.0)	10 (2.2)	223 (49.9)	202 (45.2)
Mean (%)	6 (1.3)	20 (4.4)	28 (6.2)	260 (59.0)	134 (30.3)
Responsiveness					
The hospital tells patients exactly when services will be performed	8 (1.8)	28 (6.3)	31 (6.9)	303 (67.8)	77 (17.2)
The hospital gives prompt service to patients	12 (2.7)	56 (12.5)	41 (9.2)	231 (51.7)	107 (23.9)
The hospital staff are always willing to help patients	8 (1.8)	21 (4.7)	20 (4.5)	272 (60.9)	126 (28.2)
The hospital staff are never too busy to respond to patients' requests	4 (0.9)	17 (3.8)	62 (13.9)	238 (52.0)	126 (28.2)
Mean (%)	8 (1.8)	31 (6.8)	39 (8.6)	261 (56.0)	109 (24.3)
Assurance					
The behavior of staff/personnel instilled confidence in patients	7 (1.6)	11 (2.5)	29 (6.5)	234 (52.3)	166 (37.1)
Other patients feel safe in their dealings with the hospital	3 (0.7)	6 (1.3)	40 (8.9)	275 (61.0)	23 (27.5)
Hospital staff are consistently courteous with the patients	1 (0.2)	9 (2.0)	43 (7.6)	292 (65.2)	111 (24.8)
Hospital staff have the knowledge to answer patients' questions	1 (0.2)	5 (1.1)	19 (4.3)	300 (67.1)	122 (27.3)
Mean (%)	12 (2.7)	8 (1.7)	31 (6.8)	275 (61.0)	131 (29.2)
Empathy					
The hospital gives patients individual attention	6 (1.3)	30 (6.7)	29 (6.5)	285 (63.8)	97 (21.7)
The hospital has operating hours convenient to all their patients	5 (1.1)	17 (3.8)	18 (4.0)	262 (58.6)	145 (31.4)
The hospital has staff who give patients personal attention	3 (0.7)	26 (5.8)	55 (12.3)	265 (59.3)	98 (21.9)
The hospital has the patient's best interests at heart	4 (0.9)	7 (1.6)	24 (5.4)	278 (62.2)	34 (30.0)
The hospital understands the specific needs of their patients	3 (0.7)	9 (2.0)	20 (4.5)	301 (67.3)	114 (25.5)
Mean (%)	4 (0.9)	18 (4.0)	29 (6.5)	278 (62.2)	118 (25.3)
Affordability					
I received quality service with respect to what I paid for	16 (3.6)	43 (9.6)	38 (8.5)	204 (45.8)	146 (32.7)
The services I received was more than what I paid	22 (4.9)	61 (13.6)	67 (15.0)	139 (32.1)	158 (35.3)
The method of payment was easy and transparent	6 (1.3)	11 (2.5)	22 (4.9)	225 (50.7)	183 (40.9)
Mean (%)	15 (3.3)	38 (8.6)	42 (9.5)	189 (44.4)	162 (37.0)

Keys: SD=strongly disagree; D=disagree; N=neutral; A=agree; SA=strongly agree

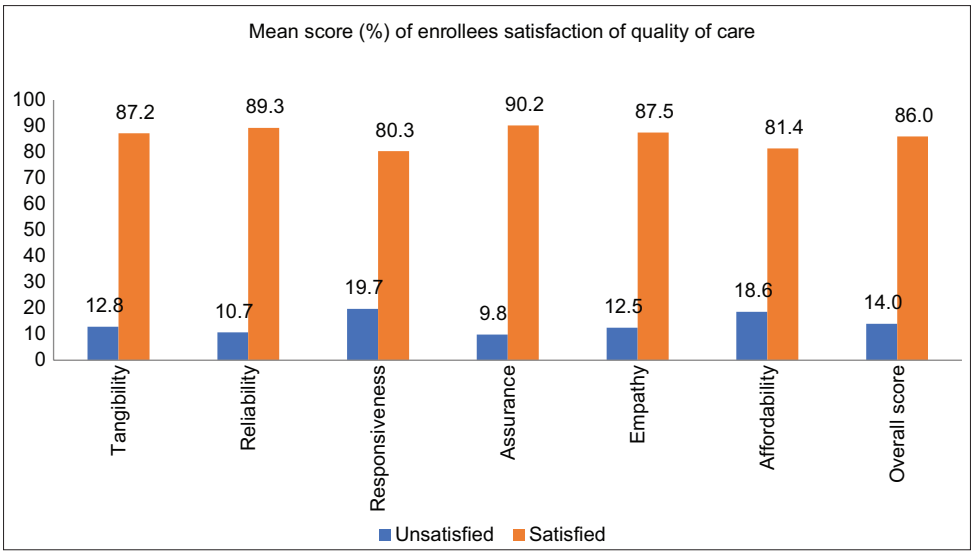

Figure 2: Overall satisfaction of SHIS enrollees with quality of services received based on modified SERVQUAL Model

referral processes, inbuilt accountability mechanisms, and shared patient responsibility. Whereas, the previous study's uninsured respondents lacked these benefits, leading to differing satisfaction levels.

Certain factors including age, and facility characteristics (private facilities and those located in the urban areas) were found to be significant determinants and predictors of satisfaction with the quality of care. The higher overall satisfaction level with the quality of care among enrollees using private health facilities compared to those using public health facilities reveals the gap in the quality of services provided at public facilities. This is worrisome because the expectation is that private health facilities would fill the gaps where public health facilities' services will be inadequate under the context of social health insurance schemes. Hence, it is essential to address this, as dissatisfaction could negatively influence enrollees´ health-seeking behavior, discourages health service utilization, and result in poor retention or annual premium renewal rates which will ultimately have adverse effects on the attainment of the ASHIA and UHC goals and objectives. Our study collaborates with a finding that reported that enrollees of private facilities are more satisfied than those of public facilities.[22] It is also consistent with a previous study that reported that health insurance patients who sought care at private facilities were highly satisfied when compared to those who attended public health facilities.[23] The study contrasts a previous one that found clients using public facilities to be more satisfied.[24] Contrary to common assumption, patients of public health facilities may be more satisfied with the quality of services than the private due to more experienced health providers often with specialized training.

The significant association between enrollee satisfaction and age shows that younger enrollees (less than 42 years old) were more satisfied with the quality of services received under ASSHIS compared with other older age groups. A probable reason for this finding may be attributable to the fact that older clients are more critical about health care services rendered to them and the Nigerian belief is usually insatiable with any services rendered to them due to aging effect on their health and well-being. Our findings agree with the previous study, which reported that age is a determinant of satisfaction with quality of care.[19] However, the finding disagrees with previous studies that reported older clients to be more satisfied with the quality of service than younger clients.[25,26] Similarly, this study discovered that satisfaction with quality of services was reported among the urban respondents than rural counterparts. The finding could be a result of the low density of health personnel in rural facilities, most times resulting in longer waiting times.

The satisfaction with the tangibility dimension of quality of service which focuses on physical and infrastructural facilities implies that the health care providers are maintaining a certain standard. This assertion could probably be a result of the accreditation and embedded continuous quality improvement exercises done at the facilities by ASHIA. Our finding is inconsistent with other studies that found tangibility to have a significant correlation with patient satisfaction levels.[23,27,28] However, our finding disagrees with a study that reported dissatisfaction with patients for the tangibility dimension.[29] The disparity in the findings could be attributed to relatively adequate medical equipment/ supplies and neat appearance of the facilities occasioned

Table 3: Association between demographic characteristics and respondents' satisfaction with domains of quality of services

Variables	Tangibility				Reliability				Responsiveness			
	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*
Sex												
Male	107 (23.9)	20 (4.5)	127 (28.4)	0.23	110 (24.6)	17 (3.8)	127 (28.4)	0.26	102 (22.8)	25 (5.6)	127 (28.4)	1.00
Female	283 (63.3)	37 (8.3)	320 (71.6)		289 (64.7)	31 (6.9)	320 (71.6)		257 (57.5)	63 (14.1)	127 (28.4)	
Age group												
≤42	227 (50.8)	27 (6.0)	254 (56.8)	0.12	233 (52.1)	21 (4.7)	254 (56.8)	0.05	208 (46.5)	46 (10.3)	254 (56.8)	0.33
≥43	163 (36.5)	30 (6.7)	193 (43.2)		166 (37.1)	27 (6.0)	193 (43.2)		151 (33.8)	42 (9.4)	193 (43.2)	
Marital status												
Married	325 (72.7)	50 (11.2)	375 (83.9)	0.40	332 (74.3)	43 (9.6)	375 (83.9)	0.25	304 (68.0)	71 (15.9)	375 (83.9)	0.36
Single	65 (14.5)	7 (1.6)	72 (16.1)		67 (15.0)	5 (1.1)	72 (16.1)		55 (12.3)	17 (3.8)	72 (16.1)	
Education level												
Basic	122 (27.3)	19 (4.3)	141 (31.5)	0.76	132 (29.5)	9 (2.0)	141 (31.5)	0.04*	112 (25.1)	29 (6.5)	141 (31.5)	0.75
Higher	268 (60.0)	38 (8.5)	306 (68.5)		267 (59.7)	39 (8.7)	306 (68.5)		247 (68.8)	59 (13.2)	306 (68.5)	
Employment status												
Employed	343 (76.7)	54 (12.1)	397 (88.8)	0.13	351 (78.5)	46 (10.3)	397 (88.8)	0.10	320 (71.6)	77 (17.2)	397 (88.8)	0.66
Unemployed	47 (10.5)	3 (0.7)	50 (11.2)		48 (10.7)	2 (0.4)	50 (11.2)		39 (8.7)	11 (2.5)	50 (11.2)	
Total	390 (87.2)	57 (12.8)	447 (100)		399 (89.3)	48 (10.7)	447 (100)		359 (80.3)	88 (19.7)	447 (100)	

Variables	Assurance				Empathy				Affordability				Overall			
	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*
Sex																
Male	117 (26.2)	10 (2.2)	127 (28.4)	0.38	108 (24.2)	19 (4.3)	127 (28.4)	0.33	107 (23.9)	20 (4.5)	127 (28.4)	0.33	110 (24.6)	17 (13.4)	127 (28.4)	0.99
Female	286 (64.0)	34 (7.6)	320 (71.6)		283 (63.3)	37 (8.3)	447 (100)		257 (57.5)	63 (14.1)	320 (71.6)		277 (62.0)	43 (9.6)	320 (71.6)	
Age group																
≤42	230 (51.5)	24 (5.4)	254 (56.8)	0.75	233 (52.1)	21 (4.7)	254 (56.8)	0.02*	213 (47.7)	41 (9.2)	254 (56.8)	0.13	233 (52.1)	21 (4.7)	254 (56.8)	0.00*
≥43	173 (38.7)	20 (4.5)	193 (43.2)		158 (35.3)	34 (7.8)	193 (43.2)		151 (33.8)	42 (9.4)	193 (43.2)		154 (34.5)	39 (8.7)	193 (43.2)	
Marital status																
Married	337 (75.4)	38 (8.5)	375 (83.9)	0.64	326 (72.9)	49 (11.0)	375 (83.9)	0.43	307 (68.7)	68 (15.2)	375 (83.9)	0.59	321 (71.8)	54 (12.1)	375 (83.9)	0.17
Single	66(14.8)	6 (1.3)	72 (16.1)		65 (14.5)	7 (1.6)	72 (16.1)		57 (12.8)	15 (3.4)	72 (16.1)		66 (14.8)	6 (1.3)	72 (16.1)	
Education level																
Basic	128 (28.6)	13 (2.9)	141 (31.5)	0.76	129 (28.9)	12 (2.7)	141 (31.5)	0.08	119 (26.6)	22 (4.9)	141 (31.5)	0.27	27 (28.4)	14 (3.1)	141 (31.5)	0.14
Higher	275 (61.5)	31 (6.9)	306 (68.5)		262 (58.6)	44 (9.8)	306 (68.5)		245 (54.8)	61 (13.6)	306 (68.5)		260 (58.20	46 (10.3)	306 (68.5)	
Employment status																
Employed	359 (80.3)	38 (8.5)	397 (88.8)	0.59	345 (77.2)	52 (11.6)	397 (88.8)	0.31	322 (72.0)	75 (16.8)	397 (88.8)	0.62	341 (76.3)	56 (12.5)	397 (88.8	0.23
Unemployed	44 (9.8)	6 (1.3)	50 (11.2)		46 (10.3)	4 (0.9)	50 (11.2)		42 (9.4)	8 (1.8)	50 (11.2)		46 (10.3)	4 (0.9)	50 (11.2)	
Total	403 (90.2)	44 (9.8)	447 (100)		391 (87.5)	56 (12.5)	447 (100)		364 (81.4)	83 (18.6)	447 (100)		387 (86.6)	60 (13.4)	447 (100)	

Key: *P* value from Pearson Chi-square test; S=satisfied Us=unsatisfied; T=Total; *n*=frequency; Unemployed includes unemployed enrollees and students; Basic education=primary and secondary

Table 4: Association between facility characteristics and respondents' satisfaction with domains of quality of services

Variables	Tangibility				Reliability				Responsiveness			
	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*
Facility ownership												
Private	290 (64.9)	13 (2.9)	303 (67.8)	0.00*	279 (62.4)	24 (5.4)	303 (67.8)	0.00*	253 (56.6)	50 (11.2)	303 (67.8)	0.01*
Public	100 (22.4)	44 (9.8)	144 (32.2)		120 (26.8)	24 (5.4)	144 (32.2)		106 (23.7)	38 (8.5)	144 (32.2)	
Facility geographical location												
Rural	92 (20.6)	15 (3.4)	107 (23.9)	0.62	100 (22.4)	7 (1.6)	107 (23.9)	0.11	95 (21.3)	12 (2.7)	107 (23.9)	0.01*
Urban	298 (66.7)	42 (9.4)	340 (76.1)		299 (66.9)	41 (9.2)	340 (76.1)		264 (59.1)	76 (17.0)	340 (76.1)	
Total	390 (87.2)	57 (12.8)	447 (100)		399 (89.3)	48 (10.7)	447 (100)		359 (80.3)	88 (19.7)	447 (100)	

Variables	Assurance				Empathy				Affordability				Overall			
	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*	S *n* (%)	US *n* (%)	T *n* (%)	*P*
Facility ownership																
Private	275 (61.5)	28 (6.3)	303 (67.8)	0.54	273 (61.1)	30 (6.7)	303 (67.8)	0.02*	252 (56.4)	51 (11.4)	303 (67.8)		274 (61.3)	29 (6.5)	303 (67.8)	0.00*
Public	128 (28.6)	16 (3.6)	144 (32.2)		118 (26.4)	26 (5.8)	144 (32.2)		112 (25.1)	32 (7.2)	144 (32.2)	0.17	113 (25.3)	31 (6.9)	144 (32.2)	
Facility geographical location																0.02*
Rural	106 (23.7)	1 (0.2)	107 (23.9)	0.00*	98 (21.9)	9 (2.0)	107 (23.9)	0.14	79 (17.7)	28 (6.3)	107 (23.9)		100 (22.4)	7 (1.6)	107 (23.9)	
Urban	297 (66.4)	43 (9.60)	340 (76.1)		293 (65.5)	47 (10.5)	340 (76.1)		285 (63.8)	55 (12.3)	340 (76.1)	0.02*	287 (64.2)	53 (11.9)	340 (76.1)	
Total	403 (90.2)	44 (9.8)	447 (100)		391 (87.5)	56 (12.5)	447 (100)		364 (81.4)	83 (18.6)	447 (100)		387 (86.6)	60 (13.4)	447 (100)	

Key: *P* value from Pearson Chi-square test; S=satisfied Us=unsatisfied; T=Total; *n*=frequency; Unemployed includes unemployed enrollees and students; Basic education=primary and secondary

Table 5: Predictors of respondents' satisfaction with domains of quality of services

Variable	Tangibility		Reliability		Responsiveness		Assurance		Empathy		Affordability		Over-all	
	OR (95% CI)	*P*	OR (95% CI)	*P*	OR (95% CI)	*P*	OR (95% CI)	*P*	OR (95% CI)	*P*	OR (95% CI)	*P*	OR (95% CI)	*P*
Sex														
Male	1		1		1		1		1		1		1	0.52
Female	0.65 (0.34-2.38)	0.19	0.76 (0.39-1.46)	0.4	1.12 (0.66-1.93)	0.67	1.63 (0.76-3.48)	0.21	0.86 (0.46-1.59)	0.62	1.32 (0.75-2.33)	0.34	1.23 (0.65-2.32)	
Age group														
≤42	1		1		1		1		1		1		1	
≥43	1.20 (0.64-2.27)	0.57	1.57 (0.83-2.99)	0.12	1.46 (0.87-2.44)	0.15	1.30 (0.67-2.56)	0.44	2.41 (1.29-4.50)	0.01*	1.49 (0.89-2.53)	0.13	2.86 (1.55-5.29)	0.00*
Marital status														
Married	1		1		1		1		1		1		1	
Single	0.85 (0.31-2.38)	0.76	0.88 (0.29-2.62)	0.82	0.59 (0.27-1.27)	0.18	1.16 (0.37-3.64)	0.79	0.72 (0.27-1.92)	0.51	0.63 (0.29-1.37)	0.24	0.90 (0.32-2.53)	0.84
Education level														
Basic	1		1		1		1		1		1		1	
Higher	1.26 (0.63-2.49)	0.51	0.50 (0.22-1.13)	0.5	0.94 (0.53-1.67)	0.94	0.84 (0.38-1.83	0.84	0.55 (0.26-1.17)	0.12	0.70 (0.38-1.29)	0.25	0.65 (0.33-1.32)	0.23
Employment status														
Employed	1		1		1		1		1		1		1	
Unemployed	1.53 (0.36-6.58)	0.57	1.54 (0.29-8.00)	0.61	0.76 (0.30-1.90)	0.55	0.56 (0.16-1.87)	0.34	0.89 (0.25-3.25)	0.86	0.99 (0.37-2.64)	0.99	0.88 (0.24-3.18)	0.84
Facility ownership														
Public	1		1		1		1		1		1		1	
Private	0.15 (0.05-0.20)	0.00*	0.55 (0.24-0.85)	0.01*	0.55 (0.33-0.89)	0.02*	0.86 (0.44-1.69)	0.04*	0.52 (0.29-0.94)	0.03*	0.68 (0.41-1.15)	0.04*	1.42 (0.24-0.74)	0.00*
Facility geographical location														
Rural	1		1		1		1		1		1		1	
Urban	1.49 (0.74-3.06)	0.27	0.51 (0.22-1.19)	0.51	0.41 (0.21-0.80)	0.00*	0.06 (0.01-0.45)	0.00*	0.54 (0.25-1.16)	0.12	1.74 (1.02-297)	0.04*	1.33 (0.14-0.78)	0.01*

AOR=Adjusted odds ratio; CI=Confidence Interval

by accreditation and re-accredited done in our study facilities. We found that satisfaction with the quality of service was statistically significant with younger enrollees when compared with the older ones with respect to tangibility.

This study found that, for reliability, enrollees were satisfied with the quality of service. However, education was a determinant of satisfaction. Findings reveal that enrollees with a higher degree in the educational category had increased satisfaction levels when compared with those having a lower degree in the educational class. This could probably be because those enrollees having lower educational status will have lower expectations of receiving services compared with patients having a higher educational status since they are not further open to the elements of advanced knowledge or technology, unlike more educated enrollees. The assertion means that lower education could result in more difficulty in understanding certain procedures and, hence, may cause an increase in the gaps between expectations and services received. Our finding collaborates with the previous study regarding patient satisfaction[30] and disagrees with studies that reported that lower education is associated with satisfaction.[31,32]

The findings of this study showed that enrollees were very satisfied with all the indicators of responsiveness. Negative responsiveness could lead to low satisfaction with the quality of services and may result in a drop-out from the health insurance scheme. Responsiveness has been known to be a very crucial component of a healthcare setting which when not will lead to distrust in the health system or a program.[33] Our finding agrees with the previous study that found responsiveness to be a strong determinant of client satisfaction with the quality of care.[34] In contrast, previous studies found that responsiveness is insignificant to client satisfaction.[28,35] The difference in findings may be attributed to the diverse healthcare setting in our study, encompassing both private and public facilities, whereas the previous studies were limited to public facilities with potentially lower responsiveness. Enrollees were found to be satisfied with the assurance dimension of the quality of care probably because of the confidence the providers instilled in the enrollees as well as the positive attitude of health workers. Similar to our findings, previous studies also reported a high level of satisfaction with services within the indices of assurance.[18] In contrast, some studies reported patients' dissatisfaction with assurance.[35,36] probably because the present study focuses on insured individuals, who potentially receive better care and attention from healthcare providers compared to the uninsured group.

Empathy has to do with individual attention and care provided to the enrollees by the health care provider. This study found that empathy was very significant concerning the quality of services. Our finding agrees with other studies that found tangibility to have a significant relationship with patient satisfaction[37,38] and disagrees with other findings that report empathy is associated with dissatisfaction.[39] The findings of the present study are evident that affordability as the sixth dimension is playing a significant role in enhancing enrollees' satisfaction with ASHIS. Certainly, enrollees' satisfaction with the quality of service is highly dependent on the cost of services received, otherwise, he/she would be dissatisfied. Our result is in line with the findings of[27,35] who also reported that affordability is a significant determinant of client satisfaction with the quality of care. However, it disagrees with a study that found a weak association between cost and satisfaction.[35]

The major strength of this study is the sampling method which allowed for diverse responses from two types/ownership of health facilities (private and public accredited health care providers), urban-rural geographical location, in and out-patience, and a combination of respondents who are employed and unemployed which largely contributed to representative and robustness of the findings. Our study has some limitations. First, the results of our sample may not be generalizable to other states in Nigeria, since our data collection was done in one state out of 36 states that are implementing state-based social health insurance. However, the values highlighted in this study may be transferable to similar contexts. Secondly, the use of only quantitative data collection methods cannot provide an in-depth insight into the 'why' and 'how' of the enrollee's satisfaction with the quality of care, unlike the qualitative study. Thus, an area for further research. Lastly, respondents might have withheld information about their negative experiences and instead expressed satisfaction, because it was a facility-based interview, however, this was minimized the interviews were conducted with a high level of confidentiality, and their privacy was well maintained.

Conclusion

The study has established that the enrollees of the ASHIS were satisfied with the quality of services across six elements of SERVQUAL explored. However, it strongly highlights that satisfaction was positively influenced by facility-related factors than enrollee socio-demographic factors. Hence, the ASHIS manager and healthcare providers should focus on continuous

quality improvement efforts in public and rural facilities to improve the quality of services and retention of enrollees within the health insurance scheme.

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Conflicts of interest

There are no conflicts of interest.

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