Patients' Assessed Quality of Healthcare and Satisfaction with Health Services in Selected Facilities in Cross River State, Nigeria

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Abstract

In recent years, patients have become more knowledgeable about their healthcare options and are increasingly advocating for improved quality of care and treatment. The extent to which their expectations are met during clinical encounters significantly influences their cooperation with healthcare providers. This, in turn, results in fewer complaints, improved patient retention, increased patronage, and a greater likelihood of referrals. A descriptive cross-sectional study design was employed, and a multistage sampling technique was used to recruit 416 patients admitted across selected primary, secondary, and private healthcare facilities in Cross River State, Nigeria. Data were analysed with SPSS Version 23, employing both descriptive and inferential statistical techniques, with chi-square tests used to examine the study hypotheses. Findings revealed that while 300(72.1%) perceived the overall quality of healthcare delivery to be poor. Additionally, 225(54.1%) assessed the level of patient engagement and communication during healthcare provision as low. In contrast, a large majority 387(93%) expressed high levels of satisfaction with the quality of care received. Perceived quality of care was significantly associated with sociodemographic factors such as sex (p = 0.012), marital status (p = 0.024), religion (p = 0.035), tertiary education (p = 0.008), income level (p = 0.002), and type of healthcare services received (p = 0.001). Targeted Interventions to improve healthcare delivery, patient engagement, and communication are recommended to enhance overall service quality.

Keywords: *Facilities, Healthcare, Patients, Quality, Satisfaction, Services.*

Introduction

The quality of healthcare services is a fundamental aspect of delivering effective care [1, 2]. The World Health Organization (WHO) defines quality of care as the degree to which healthcare services delivered to individuals and populations enhance the desired health outcomes [3]. Also, quality of care refers to care that effectively maintains or enhances health while being person-centred [4]. Healthcare providers typically aim to ensure their patients are content by addressing their medical concerns [5]. In recent decades, there has been a significant transformation in health care practices. The focus has shifted from solely assessing the quality of care based on technical standards to also considering patients' perceptions and evaluations of the services they receive [6].

In recent years, patients have become more informed and aware of their healthcare choices, leading them to increasingly assert their right to receive better quality care and treatment options [5]. With the rapid changes in medical service delivery and growing patient awareness, more efficient strategies for managing healthcare facilities have become essential [1]. Patient-

assessed quality of care represents the patients' viewpoint on how well their needs are met during visits to healthcare facilities, in line with their expectations, as well as their satisfaction with the delivery of healthcare services [7]. The degree to which patients have their expectations met during clinic visits significantly influences their compliance with hospital staff. This leads to fewer patient complaints, increased profitability, higher rates of patient return, and more referrals [5].

Inadequate healthcare quality poses a significant challenge due to factors such as the absence of some physicians and nurses, unwelcoming or aggressive behaviour from some staff towards patients, instances of misdiagnosis, lack of available medications, and insufficient prescribing and treatment practices [8]. When communication between patients and healthcare providers is poor, interactions can become so unsatisfactory that patients may choose to switch hospitals or physicians, even when alternative options are limited [9]. For instance, a study conducted in Pakistan revealed that 48.8% of patients were dissatisfied with communication from their doctors, while 27.6% reported not receiving adequate support from nurses [7]. Also, patients often report dissatisfaction with prolonged waiting times, largely due to a significant imbalance in the patient-to-staff ratio, where the number of patients far exceeds the available healthcare personnel [9, 10]. The estimated time spent using various hospital services among 35.2% and 31.9% of individuals who visited the medical and surgical outpatient departments of the Hawassa University Teaching Hospital in Southern Ethiopia, showed that nearly one-third (32.7%) of patients experienced waiting times exceeding 90 minutes to enter the outpatient departments after completing the registration process [7].

Shortages of human resources and the emigration of skilled professionals from Africa to Europe, the Middle East, and North America further exacerbates healthcare outcomes [11].

More than 25,000 Nigerian doctors are practicing abroad, which impacts healthcare delivery in Nigeria [12]. This situation undoubtedly has a detrimental effect on the quality of care and could potentially lower patient satisfaction among those in Nigeria who cannot afford treatment abroad [13]. For example, approximately 78 billion naira (over 8.5 billion US dollars) is spent annually by Nigerians seeking health care services overseas [14]. Another study indicates that Nigerians spend 1 billion USD annually to seek emergency medical treatment overseas. This expenditure encompasses medical tourism to various countries and regions, including South Africa, Zimbabwe, and several Middle Eastern nations (such as Egypt, Israel, and Turkey), which are perceived to provide superior healthcare services compared to those available in Nigeria [13]. The negative perception of healthcare quality in Nigeria significantly affects public health outcomes and hinders economic development [15, 16].

The quality of care among patients has not been extensively studied, especially in developing countries. Assessing patients' views and experiences regarding care quality provides valuable insights into their real experiences and emphasizes the aspects of quality that are most significant to them [17]. Consistent monitoring of health services is essential, leading to an increased focus on assessing patient perceptions of healthcare quality as a significant component of quality evaluation in recent years [18]. Hence, this study sought to appraise the healthcare services available and the quality of care assessed by patients in selected health facilities in Cross River State, Nigeria.

Methodology

Study Area

The study was conducted in Cross River State, located in the South–South geopolitical zone of Nigeria within the sub-Saharan region of West Africa. The state lies between latitudes

4°27′ and 5°32′ North and longitudes 7°50′ and 2°20′ East. Cross River State shares boundaries with Benue State to the north, the Republic of Cameroon to the east, Ebonyi and Abia States to the west, Akwa Ibom State to the southwest, and the Atlantic Ocean to the south. Covering approximately 23,074.43 km², it is one of the largest states in the Niger Delta region, with Calabar as its capital. Administratively, the state is organised into three senatorial districts and 18 Local Government Areas (LGAs), namely: Abi, Akamkpa, Akpabuyo, Bakassi, Bekwarra, Biase, Boki, Calabar Municipality, Calabar South, Etung, Ikom, Obanliku, Obubra, Obudu, Odukpani, Ogoja, Yala, and Yakurr. The population comprises predominantly Bantu ethnic groups with historical origins linked to Central Africa. The southern district is mainly occupied by the Efik, Efut, Qua, Ejagham, and Ekoi groups, while the central district hosts the Bahumono, Yakurr, Agbo, Boki, Mbembe, Nkim, Olulumo, Ofutop, Abanajum, and Nselle communities. The northern district is largely inhabited by the Yala, Bekwarra, Bette, Utugwang, Mbube, Ekajuk, and Uhelle peoples. Despite linguistic diversity, the population shares strong cultural similarities, particularly in dress, music, drumming, and dance, reflecting shared ancestral heritage. The economy is largely driven by agriculture, fishing, and trade, supported by abundant natural resources including forests and water bodies. The state also sustains a mixed labour market comprising public sector employees across federal, state and local government levels, as well as private sector workers and self-employed individuals.

Study Design

This study employed an analytical cross-sectional survey design, considered suitable for evaluating patients' perceptions of healthcare services at a specific point in time. Data were collected using a semi-structured questionnaire administered to study participants. Respondents were drawn from both rural and urban settings in Cross River State, Nigeria, through a probability-based approach, specifically a multistage sampling technique.

Study Population

The study population comprised all patients who were receiving care in the selected health facilities including primary, secondary, and private institutions within the period of data collection.

Sample Size Determination

The sample size for this study was calculated using the standard formula for cross-sectional studies, as referenced by Nji, Oko [19]. The calculation was based on a 95% confidence level, a 5% margin of error, an estimated patient satisfaction prevalence of 58.2% from prior research, and an additional 10% to account for potential non-response, resulting in a minimum required sample size of 416 participants.

$$n = \frac{z^2 pq}{d^2}$$

Where;
n = Desired sample size
Z = Confidence level
p = Prevalence rate
q = Proportion of non-occurrence (1-p)
d = margin of error
Therefore:
Z = 95% (1.96)
p = 58.2% = 0.582. The value of p represented the estimated prevalence of patient satisfaction with healthcare delivery, adopted from a previous study conducted by Etim, Nja [7].

Sampling Procedure

A multistage sampling approach was applied to select senatorial districts, local government areas (LGAs), health facilities, hospital departments, and participants.

Stage I: Selection of Senatorial District: Southern Senatorial District was purposively selected from the three senatorial districts in Cross River State (Northern, Central, and

Southern) due to limited evidence of similar studies within the district.

Stage II: Selection of Local Government Areas: The selection of LGAs; a sampling frame was created from the six LGAs in the district (Calabar South, Calabar Municipality, Bakassi, Akpabuyo, Odukpani, and Biase), of which three were randomly selected through a balloting process using a randomisation technique.

Stage III: Selection of healthcare facilities: Healthcare facilities in the selected LGAs were stratified into private, public secondary, and public primary facilities, as no tertiary facility existed in the study area. Using sampling frames for each stratum, facilities were selected by simple random sampling, resulting in the inclusion of three private, one secondary, and three primary facilities per LGA. This yielded a total of 21 facilities comprising nine private, three secondary, and nine primary health facilities.

Stage IV: Selection of departments: Five core clinical departments Nursing, Pharmacy, Medical, Laboratory, and Radiology were purposively selected in each facility, based on their functionality and consistent presence across both public and private health institutions in the state.

Stage V: Selection of in-patients: This involved the selection of 416 inpatients using a purposive sampling technique, targeting participants who were clinically stable, conscious, and willing to take part in the study. To facilitate selection, patients in each ward were assigned identification numbers. A total of 139 patients were recruited from each selected LGA, with 46 participants drawn from private, secondary, and primary facilities, respectively.

Instrument for Data Collection

A semi-structured questionnaire was prepared based on the research objectives formulated for inpatients. The questionnaire for inpatients consisted of four (4) sections (A, B, C, and D). Section A contained questions designed to elicit information on the socio-demographic characteristics of patients; Section included questions assessing the quality of care as perceived by patients; Section C covered patient engagement and communication during healthcare provision. Section D contained questions on patients' satisfaction with the quality of healthcare.

Instrument Validation and Reliability of Data Collection Instruments

Data were collected using a semi-structured, interviewer-administered questionnaire, which captured information on socio-demographic characteristics, patient-assessed quality of care, patient engagement and communication during service delivery, and overall satisfaction with care. Face and content validity of the instrument were confirmed through expert review by the Department of Public Health, Texila American University.

To ensure clarity, relevance, and suitability, the questionnaire was pre-tested among 42 patients aged 18 years and above in Yakurr Local Government Area, selected due to its proximity and contextual similarities to the study sites. The pre-test assessed the appropriateness and clarity of the questions, the alignment of items with study objectives, and the average time required for completion. Feedback from the pre-test facilitated refinement of ambiguous items and improved overall instrument clarity. Internal consistency and reliability were evaluated using Cronbach's alpha, with values of 0.79 and above considered indicative of high reliability.

Method of Data Collection

Three field assistants were recruited and trained by the researcher to support data collection and collation. The two-day training covered questionnaire administration, interpretation of non-verbal cues, an overview of the study objectives, and strategies for effective communication. The assistants were

selected based on previous experience in community fieldwork and data collection.

Data collection was conducted using an interviewer-administered approach through Open Data Kit (ODK) Collect, an open-source mobile platform compatible with KoboToolbox for electronic survey design and deployment. A total of 416 questionnaires were administered by the research team. Prior to data collection, the field assistants introduced themselves to participants, explained the purpose of the study, and obtained both written and verbal informed consent before proceeding with questionnaire administration.

Method of Data Analysis

After the completion of all questionnaires, responses were meticulously reviewed to ensure accuracy. The data were subsequently entered and cleaned before conducting an initial analysis using Microsoft Excel. Thereafter, the dataset was exported to SPSS Version 23 for more in-depth statistical analysis. Results were presented in tables using frequencies and percentages, while numerical data were summarized as means. Hypothesis testing was conducted using the Chi-square test at a 95% confidence level. To evaluate patient-assessed quality of care, a five-item questionnaire was used. Each correct answer was scored as 1, and each incorrect response as 0. The total score ranged from 0 to 5. Scores between 0 and 2 were considered indicative of poor quality of care, while scores from 3 to 5 reflected good quality of care. Patient engagement and communication during healthcare provision were assessed using a ten-item questionnaire.

Each correct answer received a score of 1, and each incorrect response a score of 0. The total score ranged from 0 to 10. Scores between 0 and 4 indicated low patient engagement and communication, while scores between 5 and 10 reflected high engagement and communication levels. Finally, patient satisfaction with the quality of healthcare was measured using a twenty-item questionnaire based on a five-point Likert scale, ranging from 'Strongly Disagree' (1) to 'Strongly Agree' (5). The total possible score ranged from 20 to 100. Scores from 0 to 49 indicated low patient satisfaction, whereas scores from 50 to 100 represented high patient satisfaction.

Results

Socio-Demographic Characteristics of Patients

Table 1 presents the sociodemographic profile of the study participants. The majority were female, accounting for 273 (65.6%) of respondents. The mean age of participants was 29.99 ± 9.53 years, with 324 (77.9%) aged between 18 and 35 years. Nearly half were single, 204 (49.0%), and the predominant religion was Christianity, reported by 358 (86.1%). A substantial proportion had attained tertiary-level education, 205 (49.3%). Regarding monthly income, 120 (28.8%) earned less than ₦18,000, while the largest occupational group consisted of traders, 167 (40.1%). With respect to healthcare utilisation, 198 (47.6%) received general healthcare services, and 260 (62.5%) reported visiting health facilities occasionally.

Table 1. Socio Demographic Characteristics of Respondents

Variables	Frequency (n=416)	Percent (%)
Sex		
Male	143	34.4
Female	273	65.6
Age (in years)	**Mean = 29.99, SD = 9.530**	
18-35 (Younger adults)	324	77.9
36-55 (Middle-age adults)	86	20.7
>55 (Older adults)	6	1.4

Marital status		
Single	204	49.0
Married	163	39.2
Divorced	27	6.5
Separated	12	2.9
Widowed	10	2.4
Religion		
Christian	358	86.1
Islam	27	6.5
Traditional religion	31	7.5
Highest level of education		
No formal education	32	7.7
Primary	44	10.6
Secondary	135	32.5
Tertiary	205	49.3
Income level		
Less than 18,000	120	28.8
18,000 – 39,000	88	21.2
40,000 – 59,000	68	16.3
60,000 – 79,000	71	17.1
80,000 and above	69	16.6
Occupation		
Trading	167	40.1
Artisan	70	16.8
Farming	83	20.0
Civil servant	96	23.1
Type of Healthcare Service Received		
General	198	47.6
Emergency services	35	8.4
Specialized treatment	94	22.6
Preventive care	83	20.0
Other (please specify)	6	1.4
Frequency of visit to this facility		
First visit	82	19.7
Occasionally	260	62.5
Regularly	74	17.8

Type of healthcare service received (others specify = Ante-natal care services)

Patients' Assessed Quality of Care

Table 2 below presents the results on patients' assessed quality of care among the study respondents. More than half of the respondents 248(59.6%) rated the overall cleanliness of the facility to be good. Majority of the respondents 176(42.3%) reported that they had to wait for up to 15-30 minutes before being attended to by a healthcare provider. A significant majority of the respondents 210(50.5%) were able to get all the necessary medical tests and treatments during of their visit. Most of the respondents 173(41.6%) reported that the facilities were not equipped with adequate resources (e.g., equipment,

medications) however, 183(44.0%) of the respondents reported that emergency services were quick and responsive.

Figure 1 below is a graphical illustration of the respondents' assessed quality of care. The results showed 300(72.1%) assessed the quality of healthcare delivery to be poor while 116(27.9%) assessed the quality of care to be good enough.

Table 2. Patients' Assessed Quality of Care

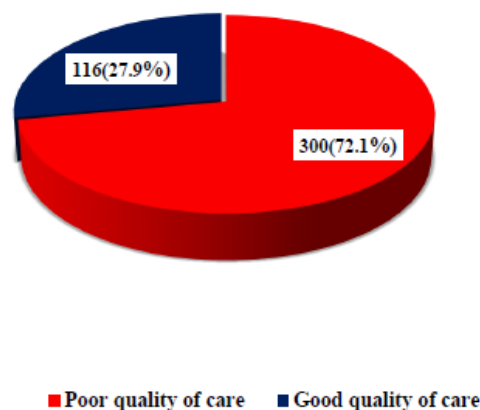| Variables	Frequency (n=416)	Percent (%)
How you rate the overall cleanliness of the facility		
Excellent	63	15.1
Good	248	59.6
Fair	86	20.7
Poor	19	4.6
How long you wait before being attended to by a healthcare provider		
Less than 15 minutes	80	19.2
15–30 minutes	176	42.3
30 minutes–1 hour	120	28.8
More than 1 hour	40	9.6
You were able to get all the necessary medical tests and treatments during your visit		
Yes	210	50.5
Partially	62	14.9
No	144	34.6
The facility is equipped with adequate resources (e.g., equipment, medications)		
Yes	165	39.7
Don't know	78	18.8
No	173	41.6
Emergency services are quick and responsive in this facility		
Yes	183	44.0
Don't know	75	18.0
No	158	38.0

Figure 1. Patients' Assessed Quality of Care

Patient's Engagement and Communication During Health Care Provision

Table 3 below presents the results on patient's engagement and communication during health care provision. More than half of the respondents 211{50.7%) had never experienced language barriers when communicating with their healthcare providers. Most of the respondents 200(48.1%) reported that they felt very involved in making decisions about their healthcare and 162(38.9%) were very comfortable asking questions about their health condition and treatment. Most of the respondents were comfortable sharing personal or sensitive information with their healthcare providers. Almost half of the respondents 191(45.9%) reported that they were given the opportunity to express their concerns about treatment options or procedures and 208(50.0%) completely agreed that healthcare providers explained their diagnosis or condition

in a way that they could easily understand. Majority of the respondents 198(47.6%) sometimes felt confused or unclear about the instructions given for their care or medication. Most of the respondents 183(44.0%) agreed that their healthcare provider always encouraged them to ask questions if they needed further clarification and 206(49.5%) rarely ever felt dismissed or not taken seriously by their healthcare provider. More than half of the respondents 222(53.4%) rated the communication skills of their healthcare providers (e.g., listening, explaining, showing empathy) to be good.

Figure 2 below is a graphical illustration of patients assessed engagement and communication during health care provision. Findings from this study show that 225(54.1%) of the respondents assessed the engagement and communication during healthcare provision to be low and only 191(45.9%) of the respondents assessed it to be high.

Table 3. Patient's Engagement and Communication during Healthcare Provision

Variables	Frequency (n=416)	Percent (%)
How often you experience language barriers when communicating with your healthcare provider		
Never	211	50.7
Sometimes	141	33.9
Often	51	12.3
Always	13	3.1
How involved you feel in making decisions about your healthcare		
Very involved	200	48.1
Somewhat involved	102	24.5
Not very involved	93	22.4
Not at all involved	21	5.0
How comfortable you feel asking questions about your health condition and treatment		
Very comfortable	162	38.9
Comfortable	160	38.5
Neutral	81	19.5
Uncomfortable	13	3.1
You feel comfortable sharing personal or sensitive information with your healthcare provider		
Very comfortable	115	27.6

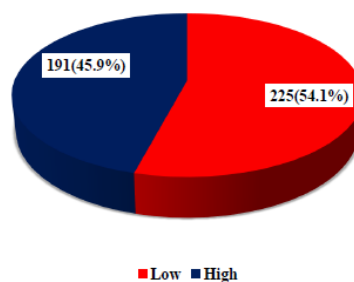|		
Comfortable	147	35.3
Neutral	131	31.5
Uncomfortable	23	5.5
You were given the opportunity to express your concerns about treatment options or procedures		
Yes	191	45.9
Partially	84	20.2
No	141	33.9
The healthcare provider explained your diagnosis or condition in a way that you could easily understand		
Yes completely	208	50.0
Partially	176	42.3
No, not at all	32	7.7
How often you feel confused or unclear about the instructions given for your care or medication		
Never	126	30.3
Sometimes	198	47.6
Often	73	17.5
Always	19	4.6
The healthcare provider encourages you to ask questions if you needed further clarification		
Yes, always	183	44.0
Sometimes	124	29.8
Rarely	96	23.1
Never	13	3.1
Ever felt dismissed or not taken seriously by your healthcare provider		
Yes, often	76	18.3
Occasionally	134	32.2
Rarely	206	49.5
How you rate the communication skills of your healthcare provider (e.g., listening, explaining, showing empathy)		
Excellent	104	25.0
Good	222	53.4
Fair	84	20.2
Poor	6	1.4

Figure 2. Patient's Engagement and Communication during Healthcare Provision

Patients' Satisfaction with the Quality of Healthcare

Table 4 below illustrates the results of patients' satisfaction with the quality of healthcare. Most of the respondents 128(30.8%) were neutral on if the healthcare facility was clean and well-maintained. Most of the respondents 173(41.6%) were also neutral on if the healthcare facility had modern and up-to-date equipment. A significant proportion of the respondents 149(35.8%) agreed that staff members appear well-groomed and professionally dressed. Most of the respondents 141(33.9%) were neutral on how comfortable and organised the waiting areas and consultation rooms were. About 144(34.6%) of the respondents agreed that healthcare providers were consistent in the quality of care provided and 130(31.3%) agreed that they felt confident in the accuracy of the diagnosis and treatment provided. Most of the respondents 118(28.4%) of the respondents were neutral on if test results and reports were provided in a timely manner. Most of the respondents 128(30.8%) agreed that healthcare providers demonstrated thoroughness and attention to detail and 154(37.0%) agreed that healthcare

providers were available when needed. Majority of the respondents 124(29.8%) agreed that they were able to get an appointment within a reasonable timeframe and 157(37.7%) of the respondents agreed that their healthcare providers spend sufficient time addressing their concerns. However, 128(30.8%) of the respondents were neutral on if staff members responded promptly to their inquiries and requests and 137(32.9%) of the respondents were also neutral on if emergency services were quick and responsive. Most of the respondents 152(36.5%) agreed that staff members were courteous and respectful. Also, 143(34.4%) of the respondents agreed that their healthcare provider inspires confidence in their treatment and care. About 116(27.9%) of the respondents were neutral on if they felt treated as an individual rather than just a patient and finally, 137(32.9%) of the respondents were neutral on if healthcare providers were compassionate and empathetic in their care.

Figure 3 below is an illustration of respondents' level of satisfaction with the quality of care they received. Majority of the respondents 387(93%) had high satisfaction with the quality of care received and while 29(7%) of the respondents had low satisfaction.

Table 4. Patients' Satisfaction with the Quality of Healthcare

STATEMENTS	SD	D	N	A	SA
The healthcare facility is clean and well-maintained	43(10.3%)	68(16.3%)	128(30.8%)	119(28.6%)	58(13.9%)
The healthcare facility has modern and up-to-date equipment.	44(10.6%)	63(15.1%)	173(41.6%)	113(27.2%)	23(5.5%)
Staff members appear well-groomed and professionally dressed.	25(6.0%)	31(7.5%)	155(37.3%)	149(35.8%)	56(13.5%)
The waiting areas and consultation rooms are comfortable and organized	15(3.6%)	69(16.6%)	141(33.9%)	120(28.8%)	71(17.1%)
Healthcare providers are consistent in the quality of care provided.	19(4.6%)	54(13.0%)	127(30.5%)	144(34.6%)	72(17.3%)
I feel confident in the accuracy of the diagnosis and treatment provided.	12(2.9%)	54(13.0%)	123(29.6%)	130(31.3%)	97(23.3%)
Test results and reports are provided in a timely manner.	46(11.1%)	62(14.9%)	118(28.4%)	110(26.4%)	80(19.2%)

Healthcare providers demonstrate thoroughness and attention to detail	36(8.7%)	56(13.5%)	109(26.2%)	128(30.8%)	87(20.9%)
Healthcare providers are available when I need them.	38(9.1%)	54(13.0%)	104(25.0%)	154(37.0%)	66(15.9%)
I am able to get an appointment within a reasonable timeframe.	34(8.2%)	54(13.0%)	115(27.6%)	124(29.8%)	89(21.4%)
My healthcare provider spends sufficient time addressing my concerns	33(7.9%)	40(9.6%)	110(26.4%)	157(37.7%)	76(18.3%)
Staff members respond promptly to my inquiries and requests.	40(9.6%)	52(12.5%)	128(30.8%)	127(30.5%)	69(16.6%)
Emergency services are quick and responsive in this facility.	22(5.3%)	53(12.7%)	137(32.9%)	128(30.8%)	76(18.3%)
Healthcare providers demonstrate a high level of expertise and knowledge.	31(7.5%)	45(10.8%)	113(27.2%)	145(34.9%)	82(19.7%)
Healthcare providers explain medical conditions and treatments clearly.	17(4.1%)	51(12.3%)	105(25.2%)	157(37.7%)	86(20.7%)
I feel safe and secure while receiving treatment in this facility	36(8.7%)	64(15.4%)	104(25.0%)	142(34.1%)	70(16.8%)
Staff members are courteous and respectful.	27(6.5%)	59(14.2%)	96(23.1%)	152(36.5%)	82(19.7%)
My healthcare provider inspires confidence in my treatment and care.	35(8.4%)	54(13.0%)	88(21.2%)	143(34.4%)	96(23.1%)
I feel that I am treated as an individual rather than just a patient.	43(10.3%)	59(14.2%)	149(35.8%)	116(27.9%)	49(11.8%)
Healthcare providers are compassionate and empathetic in their care.	17(4.1%)	59(14.2%)	137(32.9%)	120(28.8%)	83(20.0%)

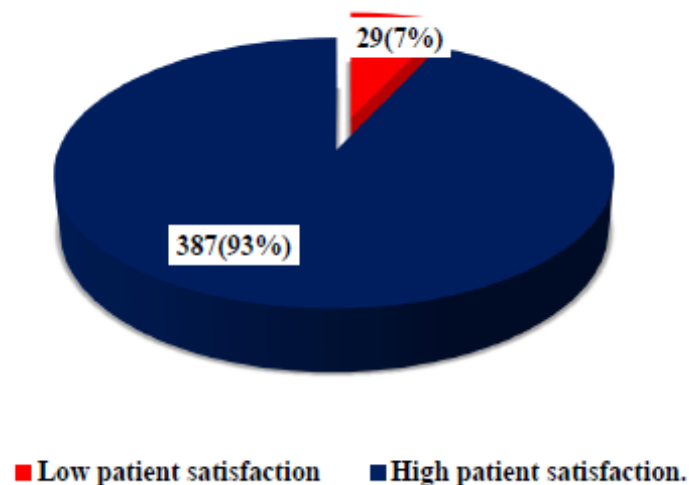*SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SD = Strongly Agree*

Figure 3. Patients' Satisfaction with the Quality of Healthcare

The Statistically Significant Association between the Sociodemographic Characteristics of Respondents and Perception of Quality of Care

Table 5 below presents a Chi-square analysis showing the association between the conceptual framework moderating factors and perception of quality of care in selected healthcare facilities in Cross River State. There was a statistically significant association between the sex of respondents and assessed quality of care ($\chi2$= 6.267, df= 1, P=0.012). Being female was statistically significantly associated with good patient assessed quality of care. Phi statistic indicates an effect size of 0.123 (P = 0.012), implying that there is a small effect of respondents' sex on their assessed quality of care. Also, there was a statistically significant association between marital status and patient assessed quality of care ($\chi2$= 11.265, df= 4, P=0.024). Being single was statistically significantly associated with good patient assessed quality of care. Cramer's V statistic indicates an effect size of 0.165 (P = 0.024), implying that there is a small effect of respondents' marital status on their assessed quality of care. Additionally, there was a statistically significant association between religion and patient assessed quality of care ($\chi2$= 6.681, df= 2, P=0.035). Being a Christian was statistically significantly associated with

good patient assessed quality of care. Cramer's V statistic indicates an effect size of 0.127 (P = 0.035), implying that there is a small effect of respondents' religion on their assessed quality of care. Also, tertiary educational attainment was statistically significantly associated with good patient assessed quality of care ($\chi2$= 11.841, df= 3, P=0.008). Cramer's V statistic indicates an effect size of 0.169 (P = 0.008), implying that there is a small effect of respondents' educational attainment on their assessed quality of care. Also, there was a statistically significant association between income level and patient assessed quality of care ($\chi2$= 16.573, df= 4, P=0.002). Earning less than ₦18,000 was statistically significantly associated with good patient assessed quality of care. Cramer's V statistic indicates an effect size of 0.200 (P = 0.002), implying that there is a small effect of respondents' income level on their assessed quality of care. Lastly, there was a statistically significant association between type of healthcare services received and patient assessed quality of care ($\chi2$= 18.251, df= 4, P=0.001). Receiving general healthcare services was statistically significantly associated with good patient assessed quality of care. Cramer's V statistic indicates an effect size of 0.209 (P = 0.002), implying that there is a small effect of type of healthcare services received by respondents on their assessed quality of care.

Table 5. Association Between the Sociodemographic Characteristics of Respondents and Perception of Quality of Care

Variables	Patient assessed quality of care				
	Poor n (%)	Good n (%)	P-value	χ2	df
Sex					
Male	114(79.7%)	29(20.3%)			
Female	186(68.1%)	87(31.9%)	0.012*	6.267	1
Age in years					
18-35 (Younger adults)	227(70.1%)	97(29.9%)	0.210	3.123	2
36-55 (Middle-age adults)	68(79.1%)	18(20.9%)			
>55 (Older adults)	5(83.3%)	1(16.7%)			
Marital status					

Single	134(65.7%)	70(34.3%)	0.024*	11.265	4
Married	123(75.5%)	40(24.5%)			
Divorced	23(85.2%)	4(14.8%)			
Separated	11(91.7%)	1(8.3%)			
Widowed	9(90.0%)	1(10.0%)			
Religion					
Christian	250(69.8%)	108(30.2%)	0.035*	6.681	2
Islam	23(85.2%)	4(14.8%)			
Traditional religion	27(67.1%)	4(12.9%)			
Level of education					
No formal education	28(87.5%)	4(12.5%)			
Primary	34(77.3%)	10(22.7%)			
Secondary	105(77.8%)	30(22.2%)			
Tertiary	133(64.9%)	72(35.1%)	0.008*	11.841	3
Income level					
Less than 18,000	79(65.8%)	41(34.2%)	0.002*	16.573	4
18,000 – 39,000	73(83.0%)	15(17.0%)			
40,000 – 59,000	56(82.4%)	12(17.6%)			
60,000 – 79,000	51(71.8%)	20(28.2%)			
80,000 and above	41(59.4%)	28(40.6%)			
Occupation					
Trading	123(73.7%)	44(26.3%)	0.656	1.616	3
Artisan	53(67.5%)	27(32.5%)			
Farming	56(67.5%)	27(32.5%)			
Civil servant	68(70.8%)	28(29.2%)			
Type of healthcare services received					
General	124(62.6%)	74(37.4%)	0.001*	18.251	4
Emergency services	27(77.1%)	8(22.9%)			
Specialized treatment	76(80.9%)	18(19.1%)			
Preventive care	67(80.7%)	16(19.3%)			
Other (please specify)	6(100%)	0(0%)			
Frequency of visit to this facility					
First visit	62(75.6%)	20(24.4%)			
Occasionally	192(73.5%)	68(26.2%)	0.104	4.531	2
Regularly	46(62.2%)	28(37.8%)			

*χ2= Chi Square statistics; P-value= Probability value; *= statistical significance based on P<0.05, **=Statistical significance based on P<0.001*

Discussion

The results from the present study, where 72.1% of respondents assessed the quality of healthcare delivery as poor, underscore significant dissatisfaction with healthcare service delivery in the selected healthcare facilities in Cross River State. This outcome aligns with a growing body of literature across sub-Saharan Africa indicating suboptimal quality of healthcare services, particularly in maternal and antenatal care. The findings of Fagbamigbe and Idemudia [20] reinforce the observation of poor healthcare quality. In their nationwide analysis using NDHS data, only 4.6% of women received high-quality antenatal

care (ANC) services, while approximately 11.3% attained the minimum acceptable standard. This low level of quality correlates with the 27.9% who reported receiving good care in the present study, suggesting a consistent trend of substandard service delivery, especially in resource-limited settings. Similar factors may be responsible, including late initiation of ANC, low frequency of visits, and a lack of skilled providers, issues that often plague healthcare systems in many regions of Nigeria, including Cross River State. Also, Fagbamigbe and Idemudia [20] only reported better quality when care was received from skilled professionals in formal health settings, a view that helps explain why many of the participants in the current study might have rated healthcare as poor if services were mostly provided by unskilled or poorly supported staff in resource-constrained environments. Similarly, Kruk, Leslie [21] reported poor quality of maternal care in lower-level facilities across five African countries, particularly in primary care settings without caesarean capabilities. Their findings that primary care centres scored significantly lower on quality indices (0.38 vs 0.77 for secondary care) mirror the likely reality in Cross River State, where many healthcare facilities at the primary level lack sufficient infrastructure, skilled personnel, and emergency preparedness. This resonates with the 72.1% of respondents in the current study who rated healthcare delivery as poor, suggesting that facility type and care complexity directly influence patient perceptions. In a study by Kanyangarara et al. (2017), even though facility readiness for common ANC interventions such as IPTp, iron supplementation, and tetanus toxoid vaccinations was relatively high (median values above 80%), the overall delivery of quality care was uneven. Their findings highlight a crucial distinction between facility readiness and actual service delivery, a gap that may also explain the poor ratings observed in the current study. Facilities may be well-equipped on paper but

fail to deliver quality services in practice due to weak health systems, poor staff attitudes, or inefficient processes [22]. The consistent pattern across studies highlights an urgent need for policy interventions targeted at improving the quality not just quantity of healthcare services, especially at the grassroots level where the majority of the population seeks care. Without this, national and global efforts toward Universal Health Coverage and improved health outcomes will remain unmet.

Based on the findings of this study, a substantial proportion of respondents 225(54.1%) assessed the level of engagement and communication during healthcare provision as low, while only 191(45.9%) rated it as high. This outcome reflects a divided perception among patients concerning how effectively healthcare providers engage and communicate during service delivery in the selected healthcare facilities in Cross River State. The present study's finding of low engagement and communication aligns closely with Ukonu, Nwachukwu [23], who reported low patient satisfaction with doctor-patient communication in Enugu and Ebonyi States. In both studies, the dissatisfaction stemmed largely from an authoritarian or paternalistic communication style often adopted by healthcare professionals. This suggests that in some regions, particularly in public health institutions, there is a prevalent communication dynamic where doctors dominate interactions without adequately involving patients in the decision-making process. Additionally, Ukonu et al. highlighted cultural, religious, and linguistic factors that inhibit open communication, which may also be relevant in the Cross River State context particularly in its multicultural setting with multiple ethnic groups and languages.

Conversely, the findings of Onyechi and Babalola [24] contradict the present study, as their respondents in Ibadan positively assessed doctors' communication skills, noting that communication during consultations enhanced

understanding and compliance. Onyechi and Babalola employed the Patient Enablement and Satisfaction Model (PESM), which emphasises shared decision-making and communication that empowers the patient. The positive findings in their study could reflect the success of such models in their study area, whereas such frameworks may not be actively implemented or practiced in Cross River facilities. It is also possible that differences in facility types (e.g., teaching hospitals vs. primary care centres), staff workloads, and patient expectations influenced the perception of communication. Patients in tertiary hospitals may expect and experience more detailed consultations compared to those in general or rural health facilities. The study by Ogaji, Giles [25] presents a nuanced view. While a significant proportion of their respondents were satisfied with their interactions with healthcare staff (84%), other aspects of service delivery such as infrastructure (e.g., waiting area space) received less favourable ratings. This partial alignment suggests that while communication may be effective in some PHC facilities across Nigeria, such positive experiences are not uniformly distributed. Regional disparities, variations in staff-patient ratios, and institutional support systems could influence these outcomes. Several factors may contribute to the low ratings of engagement and communication found in this study Firstly, staff shortages and high patient loads may limit the time healthcare providers can spend on meaningful patient interaction [26]. Also, many healthcare professionals in Nigeria receive limited training in patient-centred communication, especially in non-urban settings [27]. There is also a cultural norm that places doctors as authoritative figures may discourage patients from asking questions or participating in their care plans. Lastly, some patients may lack the knowledge or confidence to assert their communication needs or actively engage during consultations [28].

The findings of this study indicate that the majority of respondents (93%) expressed high satisfaction with the quality of care received, while only a small proportion (7%) reported low satisfaction. This high level of satisfaction highlights the complexity and contextual nature of patient satisfaction as an outcome. For instance, Manulik, Karniej [29] found a nuanced perception of healthcare quality in both public and private settings, where patients' expectations often exceeded their actual experiences. Although their study did not find a clear influence of socio-demographic factors on satisfaction, the distinction between expectations and perceptions is crucial. It suggests that satisfaction is influenced not only by the objective quality of care but also by patients' preconceived expectations, which vary across settings. The current study's high satisfaction rate might reflect either genuinely high-quality services or relatively modest patient expectations in the selected healthcare facilities, particularly if services met or surpassed what patients anticipated. Conversely, the findings by Asamrew, Endris [30] in a specialized hospital in Ethiopia showed a notably lower satisfaction rate of 46.2%. This stark difference could be attributed to various factors, including differences in healthcare infrastructure, resource availability, staff training, and cultural perceptions of care quality. It is also possible that patients in specialized hospitals have more complex health needs and thus higher expectations, leading to relatively lower satisfaction. Similarly, the study by Shagaya [31] among Nigerian university students reported moderate overall satisfaction of 57.1%, with variation across different service domains such as waiting times and staff attitudes. The low satisfaction with waiting times highlights a common challenge in healthcare delivery that can heavily influence overall satisfaction, even when other aspects are rated positively. The research by Umoke, Prince [5] in Ebonyi State, Nigeria, further complements these findings by providing a

detailed breakdown of satisfaction across SERVQUAL dimensions, with higher satisfaction in responsiveness, assurance, and empathy, but comparatively lower scores in tangibility and reliability. Their reported satisfaction levels are generally lower than those in the current study but show consistent trends that human factors such as staff attitudes and communication play a critical role in shaping patient satisfaction. These softer elements of care may have been particularly well managed in the facilities surveyed in our study, explaining the higher overall satisfaction observed. Gishu, Weldetsadik [17] offer an important perspective by focusing on nursing care quality in a tertiary centre in Ethiopia. Their results, indicating only 36% satisfaction with nursing care and highlighting gaps in patient education and home care preparation, underscore the multidimensional nature of quality and satisfaction. Their findings suggest that satisfaction is not merely a reflection of care delivery but also involves how well patients are prepared and supported to manage their health beyond the healthcare setting. The relatively lower satisfaction rates in Gishu et al.'s study might reflect challenges in nursing care education and support that were either less prominent or better addressed in our study settings.

Conclusion

This study reveals a marked disconnect between patients perceived quality of healthcare services and their self-reported satisfaction levels in selected health facilities in Cross River State, Nigeria. Although the majority expressed satisfaction with the care received, most respondents rated overall healthcare quality and patient–provider engagement as poor, highlighting gaps in communication and service delivery. Key determinants of satisfaction included transparency in treatment costs, respectful provider attitudes, effective care, clear communication, feelings of safety, and the availability of modern and functional medical equipment. Furthermore, perceived quality of care showed significant associations with socio-demographic factors such as sex, marital status, religion, educational attainment, income level, and type of healthcare service received.

To enhance healthcare experiences and outcomes, it is recommended that at the personal level, patients be empowered through health literacy initiatives to foster active participation in care decisions and improve health-seeking behaviour. At the community level, local leaders and organisations should promote structured feedback channels and health awareness programmes that strengthen accountability and responsiveness of health facilities. At the national level, policymakers should prioritise investments in healthcare infrastructure, ensure consistent availability of essential medical equipment, institutionalise patient-centred care practices, and support continuous training of healthcare providers to improve communication, professionalism, and overall service quality.

Conflict of Interests

The authors declare that they have no competing interests.

Ethics and Guidelines

All ethical considerations were judiciously adhered to in the cause of this work. Ethical approval was obtained from the Cross River State Research Ethics Committee, Ministry of Health, Calabar with REC NO: CRSMOH/PR/REC/2024/104.

Consent to Participate

Informed consent was collected from participants, who were informed about the study's objectives, significance, and benefits. Participation was voluntary, and respondents were allowed to withdraw at any point without facing any penalties. A confidentiality agreement was established between the researcher and participants to ensure their privacy and protection throughout the research

process. Additionally, the researcher upheld integrity by properly citing all relevant literature.

Consent for Publication

All authors agree to the publication of the manuscript

Availability of Data and Materials

The datasets generated and/or analyzed during the current study are not publicly available due participants' privacy but are available from the corresponding author on reasonable request.

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Authors' Contributions

Ekpenyong, David Janet and Bernadine Nsa Ekpenyong conceptualized this study and also drafted the manuscript while Peter Enyievi clean, analyzed and interpreted the patient data. All authors were involved in literature review, data collection, proof reading and approved the final manuscript.

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