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Evaluation of patients' satisfaction with services accessed under the contributory scheme at a Katsina State, North-West, Nigeria

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Abstract

Background: The evaluation of patient satisfaction provides an indicator of the quality of care and contributes to strategies for the improvement of healthcare delivery.

Objective: To assess patient satisfaction with services accessed under the contributory scheme at Katsina State in North-West, Nigeria.

Methodology: A cross-sectional study with a sample size of 393 Katsina State Contributory Scheme (KTSCS) patients under a formal sector program was done from 1st October to 30th November 2022, at Katsina State, Nigeria. Patients were selected by multistage sampling techniques. Data was collected using a questionnaire adapted from a study by Parasuraman et al., (1988) who designed the SERVQUAL instrument to specifically measure functional service quality using both the gap concept and service quality dimensions. The SERVQUAL instrument, in its original form, contains twenty-two pairs of Likert scale statements structured around five service quality dimensions: These dimensions are:

- Tangible: describes the appearance of physical facilities, personnel, and equipment.
- Reliability: deals with the ability to perform the promised service dependably and accurately.
- Responsiveness: considers the willingness to help customers and provide prompt service.
- Assurance: talks about the knowledge and courtesy of employees and their ability to inspire trust and confidence, and
- Empathy: the ability to provide caring and individualized attention to customers

Results: The overall average satisfaction score was 75.8%. The study found that the positive gap of responsiveness, assurances, and empathy means that patients were satisfied with the quality of the service associated with these three dimensions, however, the negative gaps across the reliability and tangibility indicated that patients' expectations generally were not being met.

Conclusion: This study showed that the overall patients' satisfaction with services accessed was good. However, there is a need for the KTSCS and healthcare providers to continuously improve on the provision of healthcare services and address areas of dissatisfaction.

Keywords: Enrollees'; Satisfaction; Contributory scheme; Healthcare providers

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1. Introduction

The Katsina State Contributory Scheme was officially launched (established) in December 2018 by the Katsina State government of Nigeria with the objective to facilitate fair financing of healthcare cost through a credible and sustainable pooling mechanism and judicious utilization of financial resources to provide sustainable and efficient financial risk protections and cost-burden sharing for people against high cost of healthcare through various prepayment ill (KTSCHEMA OG, 2010).

It kicked off with the formal sector program employees and their dependents. The enrollees are the focal point of the scheme and evaluating their level of satisfaction with the services accessed is of importance and cannot be overemphasized. Oliver (1981) sees satisfaction as clients' emotional feelings concerning a particular consumption experience. By this Oliver means that satisfaction is a consequence mechanisms prior to the falling of a mental assessment and evaluation of what clients' experience and the resulting outcome of the services provided. This therefore implies that perceived service quality is considered as a cognitive construct, at the same time as satisfaction is an affective reaction to a specific service experience as a consequence of an evaluation process.

The Agency received complaints frequently from enrollees via 24hour call Centre. Many enrollees complained about the services accessed under the scheme and such include closure of accredited healthcare providers, staff attitudes, with unavailability of prescribed drugs being one of the main reasons for enrollees calling the Agency. This study evaluated patients' satisfaction with the services accessed under the Contributory Scheme in a healthcare provider in Katsina State North-West, Nigeria. The information and results from this study will contribute to the body of knowledge on the satisfaction of the scheme and also chart a course on areas of the Agency's operations and policies that need to be improved, strengthened or adjusted towards addressing patients' dissatisfaction.

2. Literature

2.1. Patients' Satisfaction

Sixam et al. (1998) explained satisfaction as the state of pleasure or contentment with an action, event or service and it is determined considerably by the expectations of customers and their experiences. Oliver (1981) sees satisfaction as clients' emotional feelings concerning a particular consumption experience. By this Oliver means that satisfaction is a consequence of a mental assessment and evaluation of what clients' experience and the resulting outcome of the services provided. This therefore implies that perceived service quality is considered as a cognitive construct, at the same time as satisfaction is an affective reaction to a specific service experience as a consequence of an evaluation process. Kotler (2003) advances a discussion that explains Satisfaction as a person's feelings of happiness or displeasure as a result of comparing a product's outcome in relation to his or her expectations. Stemming from this review, customer satisfaction is described as the result of a cognitive and affective evaluation, where some comparison standards are determined and compared to the actually perceived performance. If it happens that the expected performance exceeds perceived performance then, customers become dissatisfied. On the other hand, if the expectation is more than perceived performance, customers turn to be happy and satisfied. Otherwise, when the perceived performance equals to expectations, customers are neither satisfied nor dissatisfied creating what he termed as indifferent or neutral stage. A number of studies report that Patient's satisfaction is influenced by a number of factors and according to Peprah (2014), the following factors play a critical role in the satisfaction of patients; the attitudes of nurses toward patients, the capacity to deliver prompt service without wasting time, ability to disseminate information to patients and the availability of up-to-date equipment. Others include the hospital's ability to render 24-hour service, the patience of the doctor to clearly explain what was wrong with patients before giving treatment, providing patients with detail information about their medication, attractiveness and cleanliness of the hospital. Parasuraman et al., (1985) explained satisfaction in relation to service quality. They argued that service quality is defined as the gap between predicted or expected service (customer expectations) and perceived service (customer perceptions). If customers' expectation is greater than performance, then perceived quality is regarded less than satisfactory and a service quality gap arises. This in effect does not necessarily mean that the service is of low quality but rather customer expectations have not been met and therefore customer dissatisfaction occurs and this present opportunities for improving service to meet customer expectations.

2.2. SERVQUAL: A Tool for Measuring Service Quality

To identify and prioritize performance improvements that are required or to ensure that patients' needs and expectations are being met, both perceptions and expectations of service are needed to be measured (Accounts Commission for Scotland 1999a; Parasuraman et al., 1985, 1988). Hart (1996), upholds that the use of service quality

dimensions provides both a structure for designing a service quality measurement instrument and a framework for prioritizing results and findings. Parasuraman et al., (1988) designed the SERVQUAL instrument to specifically measure functional service quality using both the gap concept and service quality dimensions.

Table 1 The SERVQUAL tool for assessing patients' satisfaction with quality of care

S/NO	Dimensions of quality of care	items	Likert scale
1.	Reliability	Act according to promises	
		Sincere interest in solving problems	
		Services are performed right the first time	
		Provide services at the time promised	
		Insist on error free record	
2.	Responsiveness	Inform exactly when services will be provided	
		Provide prompt services	
		Always willing to help	
		Never too busy to respond to service requests	
3.	Assurances	Employee behavior instils confidence	
		Customers feel secure in their transactions	
		Employees are consistently courteous	
		Employee have the knowledge to answer questions	
4.	Empathy	Provides individual attention	
		Has convenient operating hours	
		Employees provide personal attention	
		Has the best interest of the customers at heart	
		Employees understand the needs of their customers	
5.	Tangibility	Modern looking equipment	
		Visually appealing physical facilities	
		Professional appearance of employees	
		Visually appealing materials	

The SERVQUAL instrument, in its original form, contains twenty-two pairs of Likert scale statements structured around five service quality dimensions: These dimensions are:

- Tangible: describes the appearance of physical facilities, personnel and equipment.
- Reliability: deals with the ability to perform the promised service dependably and accurately.
- Responsiveness: considers the willingness to help customers and provide prompt service.
- Assurance: talks about the knowledge and courtesy of employees and their ability to inspire trust and confidence, and
- Empathy: ability to provide caring and individualized attention to customers. Each statement appears twice. One measures customer expectations and the other measures the perceived level of service provided by an individual organization in that industry. The twenty-two pairs of statements are designed to fit into the five dimensions of service quality. The scale for measuring was made up of a seven-point scale starting from "strongly agree" (7) to "strongly disagree" (1) accompanies each statement. The "strongly agree" end of the scale is designed to correlate with high expectations and high perceptions (Parasuraman et al., 1985, 1988). Service quality occurs when expectations are met (or exceeded) and a service gap materializes if expectations

are not fulfilled. The gap score for each statement is computed as the perception score minus the expectation score. The presence of a positive gap score means that expectations have been met or exceeded and a negative score also implies that expectations are not being met. Gap scores for each individual statement can be analysed and aggregated to give an overall gap score for each dimension. Potentially, this allows an organisation to assess where key gaps in performance, from the perspective of the customer, are occurring. According to the Accounts Commission for Scotland (1999a), SERVQUAL results can be used in a variety of ways:

- Understanding current service quality;
- Comparing performance across different customer groups;
- Comparing performance across different parts of the service;
- Understanding the internal customers;
- Comparing performance across services; and
- Assessing the impact of improvement initiatives. The SERVQUAL scales has been used in a wide array of studies in healthcare to assess customers' perceptions of service quality in a number of service categories for example: patient satisfaction (Bowers et al., 1994), acute care hospital (Carman, 1990); independent dental offices (McAlexander et al., 1994); at AIDS service agencies (Fusilier and Simpson, 1995); at public university health service (Anderson, 1995) with physicians (Brown and Swartz, 1989), and hospitals (Taner and Antony, 2006). Buttle (1994) outlines the following as advantages of SERVQUAL.
- It is accepted as a standard for accessing different dimension of service quality;
- It has been shown to be valid for a number of service situations;
- It has been known to be reliable;
- The instrument is parsimonious because it has a limited number of items. This imply that customers can fill it out easily and swiftly; and
- It has a standardized analysis procedure to aid interpretation and results. According to Newman (2001), despite the controversies regarding the validity and reliability of SERVQUAL, its application can be found in healthcare.

3. Methodology

Study Area: The study was conducted in Katsina state North-western, Nigeria. Katsina is located on latitude 12° 59' N and longitude 7° 36' E. The city of Katsina is the administrative capital of Katsina state, Nigeria. The main town is situated about 400 kilometres east of Sokoto 160 kilometres northwest of Kano, 300 kilometres north of Kaduna, 460 kilometres north of Abuja Federal capital, and about 90 kilometres southeast of Maradi in Niger Republic. It covers an area of about 24,192sqkm (9341 sq. miles). The scheme has 170 accredited healthcare providers, of which 20 are public secondary providers, 29 private and 121 public primary health centres, an enrolment of 278,254 (87%) of the expected target during this survey. The coordination of the entire system rests on the Katsina State Contributory Healthcare Management Agency

3.1. Study Design and Population

A cross-sectional study was conducted among the enrollees of the scheme from 1st October to 30th November, 2022. The population for this study was all beneficiaries of the formal sector program that was registered with the Agency. The total population of the registered enrollees was 280,370 based on data obtained from the Agency Dashboard (Formal Sector Programme, Patient Eligibility Register September 2022). Only enrollees in formal sector program registered by the Agency and who have received healthcare for at least one visit were considered eligible. We excluded Informal Sector program

3.2. Sample Size Estimation and Sampling Technique

The sample size was estimated at 393 enrollees' this is in line with the formula according to Ibrahim, (2009) for cross section descriptive study as;

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

Were

n = Minimum Sample size
 z = Standard normal deviate at 95% confidence interval= 1.96
 p = Study by Nwanaji et al, 2022 on patient satisfaction with the Nigerian National Health Insurance Scheme two decades since establishment from (2011 to 2020) found that moderate overall satisfaction with the NHIS (64%) from respondents.

$$q = q = 1 - P (1 - 0.64) = 0.36$$

d = Precision expected at 95% confidence limit (0.05) precision of tolerable alpha Error.

$$n = (1.96)^2 \times (0.64) \times (0.36) / (0.05)^2$$

$$0.885 / 0.0025$$

Therefore **n= 354**

Allowing for 10% non-respondent rate the Optimum sample size will be **n/RR** (Ibrahim, 2009) where n=353, RR=90% (0.9) this gives **354/0.9= 393**

3.3. Sample and Sampling Technique

The sample of the study was 393 enrollees' this is in line with the formula according to Ibrahim, (2009) for cross section descriptive study and to select 393 study participants from the 46,650 enrollees that have access care the following sampling techniques were deployed

- **Step 1;** Selection of utilization register from July 2021 to September, 2022 using simple random sampling techniques and September 2022 register was selected comprised of 46,650 (17%, utilization rate) enrollee that have access care in the reporting month.
- **Step 2;** Selection of number of respondents from each healthcare providers using proportional allocation first as sample frame, examples; to select 16 from the 1944 enrollees that have access care in CHC Bakori, proportional allocation was used to select the study respondents (sample unit) from the sample frame as follows;

$$\frac{\text{Number of enrollees' that have access services in the facility}}{\text{Total number of enrollees' that have access services in all the facility}} \times \text{sample size}$$

For example: using CHC Bakori where 1944 enrollees' access services

$$\frac{1944}{46,650} \times 393$$

$$16$$

This means 16 enrollees were enrolled from the CHC Bakori

This was repeated for all the healthcare providers to give the number of study respondents to be interviewed from each healthcare providers,

- **Step 3:** Systematic sampling was used to select the study subject, using procedure of systematic random sampling

3.4. Data Collection Instrument and Analysis

The instrument of data collection was a semi structured interviewer administered questionnaire, the instrument was partially modified from questions obtained from previous similar studies Parasuraman et al., (1988) designed the SERVQUAL instrument to specifically measure functional service quality using both the gap concept and service quality dimensions. The SERVQUAL instrument, in its original form, contains twenty-two pairs of Likert scale statements structured around five service quality dimensions: These dimensions are: (i) Tangible: describes the appearance of

physical facilities, personnel and equipment. (ii) Reliability: deals with the ability to perform the promised service dependably and accurately. (iii) Responsiveness: considers the willingness to help customers and provide prompt service. (iv) Assurance: talks about the knowledge and courtesy of employees and their ability to inspire trust and confidence, and (v) Empathy: ability to provide caring and individualized attention to customers. Each statement appears twice. One measures customer expectations and the other measures the perceived level of service provided by an individual organization in that industry. The questionnaire consists of eight (3) sections; section A sought information on socio-demographic characteristics of respondents; section B Level of satisfaction, section C reasons for dissatisfaction. The SERVQUAL tool uses 5 dimensions to assess the quality of services: reliability, responsiveness, assurance, empathy and tangibility. The aim of using this tool on a periodic basis is to assess the level of patient satisfaction with the services by tracking these dimensions of service quality.

3.5. Validation of the Instrument:

The research instrument was validated by two jurors of experts in public health who validated the face and content validity of the instrument all observations, suggestions, corrections, and comments of the expert was incorporated in the final draft of the questionnaire to the satisfaction of the research team before pilot study

3.6. Data Collection Procedure

The research proposal was presented to the Ethical Research Committee of Katsina State Ministry of Health for ethical approval with reference number MOH/ADM/SUB/1152/1/655; then to the Organized Labor Union, SPHCA, and HSMB for approval to conduct the study in their facility. Then to the healthcare providers for noting of using their facility enrollees, 20 research assistants were recruited to assist in administering the research instrument.

3.7. Data Analysis

The quality of data was ensured through field editing by the interviewers and a random audit of 5% of forms by the study coordinator. A structured questionnaire was used by the author, consisting of 22 questions each, adjusted to the 5 service dimensions of the services evaluated as indicated in the SERVQUAL model. Before filling in the questionnaire, the respondents were briefed in detail about the two sets of questionnaires, which they required to fill in either physically or via phone. The first set of questions was used to measure the enrollees' expectations of the services offered, and the second set was used to measure the perception regarding the actual services delivered by the KTSCHMA. All responses were attributed on a Likert scale of 7 degrees of intensity, varying from strongly disagree at 1 to strongly agree at 7. The average score of 364 responses was calculated for both sets of 22 questions. Then, average expectation scores and the average perception scores for 5 dimensions of tangibles, reliability, responsiveness, assurance and empathy were obtained. For each question, the gap in the performance (P) and the expectation (E) was reached by using the formula (P)-(E). The average dimension weight was taken from the individual weight assigned by 200 respondents to each of the 5 dimensions from a total dimension weight of 100 points for all 5 dimensions. The average unweighted gap score for each dimension was then calculated by dividing the (P)-(E) for each question with the number of questions used to assess that dimension. Similarly, the weighted gap score for that dimension was obtained by multiplying the average unweighted gap score for that dimension with the average dimension weight of that dimension. The gap score which indicates patients' satisfaction was determined by the service quality gap model. According to this model, the service quality is a function of perception and expectations and can be modeled as:

$$SQ = \sum_{i=1}^K (P_{ij} - E_{ij})$$

Where:

SQ = overall service quality; k number of attributes.

Pij= Performance perception of stimulus i with respect to attribute j.

Eij= Service quality expectation for attribute j that is the relevant norm for stimulus i.

3.8. Ethical Consideration

Ethical clearance was obtained from the Research Ethics Committee of Katsina State Ministry of Health, Katsina, Nigeria with reference number MOH/ADM/SUB/1152/1/655. Permission to conduct the study was obtained from the General Manager Hospital Service Management Board and Executive Secretary State Primary Healthcare Agency. Informed

consent was obtained from all individual participants included in the study and assured of strict confidentiality of their responses and were also informed that their participation was voluntary and would incur no penalty if they refuse to participate in the study.

4. Results

Out of the three hundred ninety-three (393) questionnaires administered only three hundred sixty-four (364) questionnaires were adequately completed and found suitable for analysis, giving a response rate of 93%

4.1. Demographic Profile of Respondents

Table 2 Socio-demographic profile of the respondents (n=364)

Demographic profile	Frequency	Percentage
Gender		
Male	164	45.1
Female	200	54.9
Level of Education		
Primary	48	13.2
Secondary	60	16.5
Tertiary	256	70.3

Source: Survey, 2022

Table 1: Show that 54.9% of the respondents are female and 45.1% of the respondents are male. 70.3% of the respondents are having tertiary education (Bachelor's or Master's Degree), 16.5% have a secondary qualification, and 13.2 primary qualifications, which means about 70% of respondents have higher education, which means the majority of the respondents have access cares have a higher educational level. The ultimate effect is that our research has a certain level of very accurate responses as this part of the respondents understood the survey question clearly and responded accurately.

4.2. Patients' Satisfaction

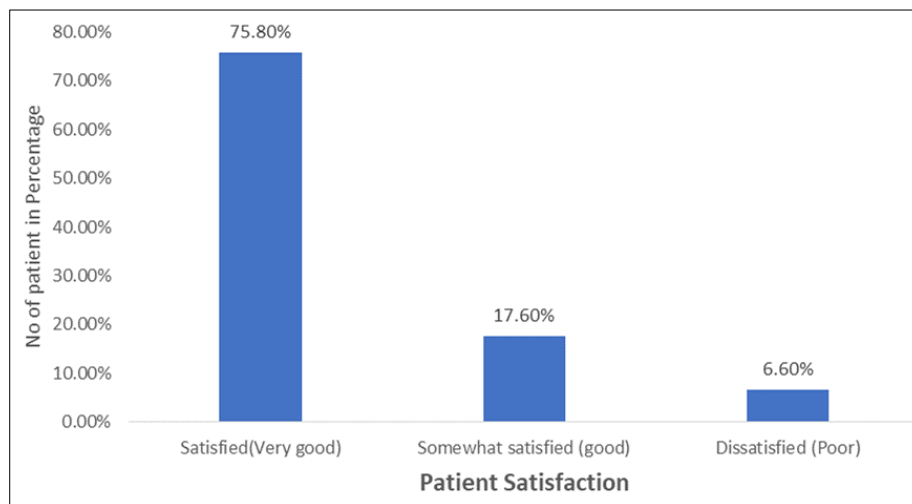


Figure 1 Overall rating of the hospital

Patients' satisfaction at the hospital was assessed by using the service quality gap model developed by Parasuraman et al., (1985). According to this model, service quality is a function of perception and expectations. The results indicated that the overall satisfaction of patients concerning the service quality of the hospital was good (satisfied). A total of two hundred and seventy-six (75.8%) patients responded to this question with all rating the hospital's service as very good

(satisfied). Sixty-four (17.6 %) of the patients also rated the service of the hospital as somewhat-satisfied (good). On the other hand, a few thus, twenty-four (6.6%) were not happy (dissatisfied) about the general service quality of the hospital and therefore rated it as poor as shown in figure 1

The service quality dimension gap score (see table 3) above, shows the discrepancy between patient’s expectations and perception of the dimensions of service quality revealing that negative gaps occurred in two of the dimensions out of five dimensions employed in the study. The dimensions with the negative gaps were reliability and tangibility. The positive gap of responsiveness, assurances, and empathy means that patients were satisfied with the service quality associated with these three dimensions. However, the negative gaps across the two dimensions indicated that patients’ expectations generally were not being met with the largest gap being for Reliability (gap score -0.95) followed by tangibility (gap score -0.81), in that order as indicated in table 3. This suggests that, even though patients’ overall satisfaction was good or satisfied, there is more room for the hospital to improve service quality in the dimension with the negative gaps.

Table 3 Service quality dimension gap score

SERVQUAL dimensions	Expectation score	Perception score	Gap score
Reliability	21.73	20.78	-0.95
Responsiveness	20.38	20.46	0.08
Assurances	20.46	21.50	1.04
Empathy	22.06	22.57	0.51
Tangibility	21.85	21.04	-0.81

Source: Survey, 2022

4.3. Respondents’ reasons for dissatisfaction with services accessed

Figure 2 shows majority 66.7% of the respondents reported that most drugs are not available during the visit to healthcare providers, 25% attitude of healthcare workers and 8,3% reported monthly payment of premiums from their salary as the reasons for dissatisfaction with the scheme.

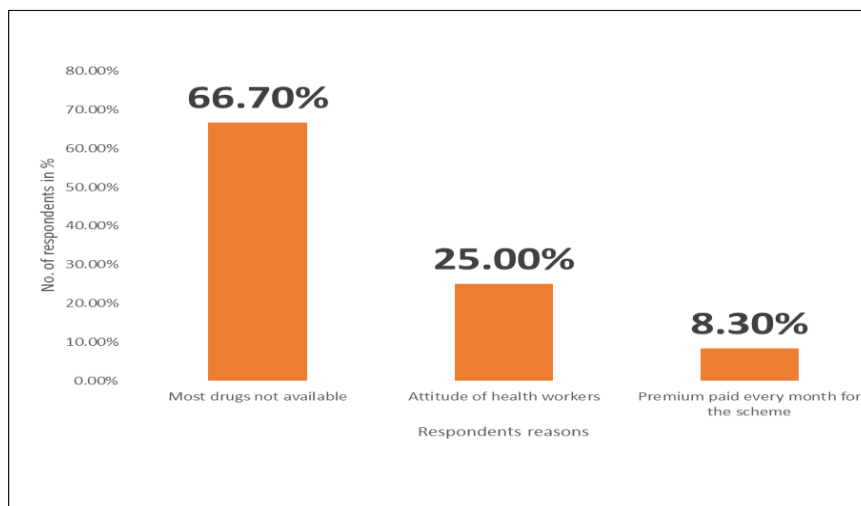


Figure 2 Respondents Reasons for dissatisfaction with services accessed

5. Discussion

5.1. Reliability and Patient Satisfaction

The reliability Service Quality Dimension refers to how the healthcare providers is performing and completing their promised service, quality and accuracy within the given set requirements between the provider and the enrolees. Reliability is just as important as a good first-hand impression, because every enrolee wants to know if their providers

is reliable and fulfill the set requirements with satisfaction. This means the ability to perform the promised service dependably and accurately. The factors that are covered under reliability are: Act according to promises, Sincere interest in solving problems, Services are performed right the first time, provide services at the time promised and Insist on error free record. This study found a negative dimension across these services and this indicated that that the patient expectation was not being met even the overall satisfaction is good there is more room for the healthcare providers to improve service quality in the dimension of the reliability.

5.2. Responsiveness and Patient Satisfaction

Responsiveness means the willingness to help patients and provide prompt service. It can also be stated as speed and timeliness of service delivery. The factors that are covered under responsiveness are: Inform exactly when services will be provided, provide prompt services, always willing to help and never too busy to respond to service requests. This survey found that responsiveness to patient satisfaction is highly significant at the positive gap of 0.08. This means that healthcare providers have a very strong positive performance for patient satisfaction by providing prompt and timely services to the patients.

5.3. Assurance to Patient Satisfaction

Whichever the hospital is, the prime task of the hospital will be to ensure satisfaction of the patient or the patients' family by providing enough quality services. This is the prime concern of assurance. The factors that are covered under this part are: healthcare providers behaviour instils confidence, healthcare providers feel secure in their services, healthcare providers are consistently courteous, and healthcare providers have the knowledge to answer questions. This survey found that assurances to patient satisfaction is positive at gap of 1.04. This means that healthcare providers have a very strong positive courteous performance for patient satisfaction.

5.4. Empathy to Patient Satisfaction

The factors that are considered by any patient to have a positive impression on any hospital, empathy is one of them. The factors that are covered under this part are: Provides individual attention, has convenient operating hours, Employees provide personal attention, Has the best interest of the customers at heart, Employees understand the needs of their customers. This study found that empathy to patient satisfaction is highly significant at the 0.51 positive gap. This means that healthcare providers provide patient attention.

5.5. Tangibility and Patient Satisfaction

Tangibility focuses on infrastructural facilities. The factors that are covered under tangibility are: Modern looking equipment, visually appealing physical facilities, professional appearance of employees and visually appealing materials. This study found that tangibility to patient satisfaction is negative with the gap dimension of -0.81. This means that healthcare providers need to improve to this dimension.

6. Conclusion and Recommendations

The aim of this study was to assess service quality dimensions to determine patient satisfaction with healthcare providers of Katsina State Contributory Scheme. In this study, five important factors were identified through factor analysis for patient satisfaction of healthcare providers. Here, three of them (responsiveness, assurance, and empathy) were found positive to patient satisfaction and the other two (reliability and tangibility) was found negative. This indicates that patient was satisfied with the services quality associated with these three dimensions, however, the negative gaps across the two dimension indicates that patients' expectations generally were not being met with the largest gap being for Reliability (gap score -0.95) followed by tangibility (gap score -0.81). This suggests that, even though patients' overall satisfaction was good or satisfied, there is more room for the hospital to improve service quality in the dimension with the negative gaps.

Compliance with ethical standards

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Disclosure of conflict of interest

No competing interests.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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