

# Evaluation of Patients' Satisfaction with Radiological Services at a Federal Tertiary Hospital in Keffi, Nigeria

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## Abstract

**Background:** Radiology Department offers Radio-Sono Imaging Services for Diagnosis, intervention and Therapeutic Purposes; hence Radiology Department is part of the Health facility service provider. As service provider, it is important to understand the quality and delivery of service and this includes the knowledge of customer service, satisfaction and other related issues. The present study aims to Evaluate Patients' Satisfaction with Radiological Services at a Federal Tertiary Hospital in Keffi, Nigeria.

**Results:** Most of the respondents 166(39.5%) were between the Age of 18-30 years, while the least were those of the 51 and above age group having 46(10.7%). Females were 271(64.5%) while Males were 149(35.5%). Majority 320 (76.2%) of the respondents were educated while 100(23.8%) were non-educated. Most of the respondent 222(52.9%) were out patient, while 181(43.1%) were in-patient and 17 (4.0%) were from outside the hospital. 205(48.8%) of the respondents were civil servants while 87(20.7%) were military/paramilitary and 99(23.6%) were self-employed, the others were 29(6.9%) respectively. 166 (39.5%) access X-Ray services and 254 (69.5%) access Ultrasound. Most of the respondents 261(62.1%) have been patients here, while 159(37.9%) were new patients. We observed no significant relation between the satisfaction status and types of Imaging.

**Conclusion:** Results indicates high level of satisfaction with all Radiological satisfaction related variables amongst majority of the respondents, Attitudes of the staff and Experience of the staff were found to be the variables that influences the respondents' decision to refer others to Radiology Department.

**Keywords:** Evaluation; Keffi; Patients' satisfaction; Radiology

## Introduction

Radiology Department offers Radio-Sono Imaging Services for Diagnosis, intervention and Therapeutic Purposes; hence Radiology Department is part of the Health facility service provider.

As service provider, it is important to understand the quality and delivery of service and this includes the knowledge of customer service, satisfaction and other related issues. [1] Department play a major role in influencing patient satisfaction.

Research has it that the most challenging phenomenon faced by the Health policy makers, politicians and Health facility managers is how to improve the quality of Healthcare delivered to our teeming patients. [1,3]

Patient satisfaction is an important component of the quality of care. [2] Satisfaction is a function of the discrepancy between what is expected and what is perceived to be actually occurring.

[3] Therefore, it is an obligatory responsibility for hospital managers and administrators to identify patients' perceptions and expectations of the quality of care, from time to time and to assess the extent to which these ideals are met by their institutions. [3,4] Several lines of Research have concluded that satisfied patients are more likely to continue using the medical care service, to maintain the relationship with a specified provider and to comply with medical regimen. [2,5]

Because quality patient care is considered essential to institutional survival, it is an attribute sought after by hospitals

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**How to cite this article:** Hussain M. Evaluation of Patients' Satisfaction with Radiological Services at a Federal Tertiary Hospital in Keffi, Nigeria. AMHSR. 2021;11:

and emphasized by administrators. A study comparing patient perception of quality care and patient satisfaction with quality care found that failing to meet the expectations of quality was synonymous with poor quality and resulted in patient dissatisfaction. [2,6]

Since the establishment of our study facility, there has been no evaluation of the quality of care delivered by the Radiology department to patients in the hospital. Also, the department's high throughput, diverse mix of patient populations, disease entities, procedure-related discomfort including claustrophobia and the examination types ranging from routine imaging to emergency examination pose unique challenges hence the need of the present study whose aim was to Evaluate Patients' Satisfaction with Radiological Services at a Federal Tertiary Hospital in Keffi, Nigeria. [6]

## Methodology

The study was Facility based cross sectional study [1] conducted at Federal Medical Centre, Keffi, Nasarawa state, Nigeria, [7] between August- October 2020 on various aspects of satisfactions as related to patients that accesses any of the various radiological services in the hospital. The average daily census of patients seen at the Radiology Department is 50. [8] The study population consisted of all patients who access any of the radiological services offered by the department. The criteria for inclusion were that:

- The patient should have been referred to access any of the services rendered by the department
- Adult Patients who are conscious.
- Consent to participate in the study by accepting to answer the questionnaire.

## Sample size determination and sampling technique

The sample size was determined by using single population proportion formula, [7] the level of confidence=95% ( $Z=1.96$ ), degree of precision (marginal error)=5% and by taking estimate of 54.2% being the expected response rate . Based on this assumption, the sample size for the study was 381. We added 39 to account for attrition or non-response, therefore the final sample size was 420. To select the study participants, the total sample size was allocated proportionally based on the number of patients per service accessed. Finally, from each service accessed, Respondents were selected by using simple random sampling method to attain the final individuals. Informed consent was obtained from the Respondents verbally after detailed explanation by the principal Researcher in English and Hausa (Local lingua franca) on the nature of the Research work and its advantages in relation to improve quality of care.

A closed ended multi section questionnaire was used to collect information from patients included 7 questions relating to Respondents' Sociodemographic and 11 pertaining to satisfaction regarding Radiological services. These questions were compiled from several researches on patients' perception of quality of care. [1,2,4,5,7]

The construct validity of the questionnaire was tested using the method describe by Hassan A et al. [6] while the reliability was tested using the SPSS version 22 software and was found to be 0.8 (normal range 0.7-0.9).

The study was reviewed and approved by the Federal Medical Centre, Keffi Health Research Ethics Committee.

## Results

Table 1: Sociodemographic characteristics of the respondents

S/N	Characteristics	Frequency (%)
1.	AGE:	166 (39.5%)
	18yrs-30yrs	133 (31.7%)
	31yrs-40yrs	76 (18.1%)
	41yrs-50yrs	46 (10.7%)
	51 years above	
2.	GENDER:	271 (64.5%)
	Female	149 (35.5%)
	Male	
3.	EDUCATION:	320 (76.2 %)
	Educated	100 (23.8%)
4.	Non - Educated	
	PATIENT TYPE:	222 (52.9%)
	Out-Patient	181 (43.1%)
	In- Patient	17 (4.0 %)
5.	From Outside	
	Hospital	
	OCCUPATION:	205 (48.8 %)

	Civil servant	87 (20.7 %)
	Military/Paramilitary	99 (23.6 %)
	Self Employed	29 (6.9 %)
	Other	
6.	TYPE OF IMAGING:	166(39.5 %)
	X-Ray	254 (60.5 %)
	Ultrasound	
7.	HAVE YOU BEEN A PATIENT HERE BEFORE:	261 (62.1%)
	Yes	159 (37.9 %)
	No	

From the table above, most of the respondents 166(39.5%) were between the Age of 18yrs-30yrs, followed by the age group of 31-40 133(31.7%) then 41yrs-50yrs which has 76(18.1%) while the least were those of the 51 and above age group having 46(10.7%). On the Gender, females were 271(64.5%) while males were 149(35.5%). Majority 320(76.2%) of the respondents were educated while the non-educated respondents were 100(23.8%). Most of the

respondent 222(52.9%) were out patient, while 181(43.1%) were in-patient and 17(4.0%) were from outside the hospital. 205(48.8%) of the respondents were civil servants while 87(20.7%) were military/paramilitary and 99(23.6%) were self-employed; the others were 29(6.9%) respectively. 166(39.5%) access X-Ray services and 254 (69.5%) access Ultrasound. Most of the respondents 261(62.1%) have been patients here, while 159(37.9%) are new patients.

Table 2.1: Correlations Table

		Types of imaging	Patient type	I will certainly recommend this department to others	In my opinion the staff are experience	Staff attitude is satisfactory
Types of imaging	Pearson Correlation	1	-0.017	0.095	0.078	-0.007
	Sig. (2-tailed)		0.832	0.229	0.325	0.925
	N	420	420	420	420	420
Patient type	Pearson Correlation	-0.017	1	-0.052	-0.098	-0.112
	Sig. (2-tailed)	0.832		0.515	0.217	0.157
	N	420	420	420	420	420
I will certainly recommend this department to others	Pearson Correlation	0.095	-0.052	1	0.558**	0.362**
	Sig. (2-tailed)	0.229	0.515		0	0
	N	420	420	420	420	420
In my opinion the staff are experience	Pearson Correlation	0.078	-0.098	0.558**	1	0.250**
	Sig. (2-tailed)	0.325	0.217	0		0.001
	N	420	420	420	420	420
Staff attitude is satisfactory	Pearson Correlation	-0.007	-0.112	0.362**	0.250**	1
	Sig. (2-tailed)	0.925	0.157	0	0.001	
	N	420	420	420	420	420

\*\* . Correlation is significant at the

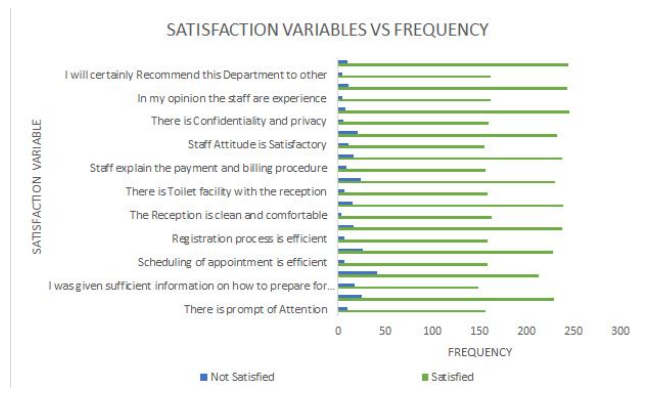
0.01 level (2-tailed).

Table 2.1 above describes the correlations that exist between some two of the Sociodemographic variables and three satisfaction related variables. This study found positive correlation between the three non Sociodemographic

variables (I will certainly recommend this department to others, in my opinion the staff are experience and staff attitude is satisfactory). With p-value hovering between 0.000 and 0.001.

**Table 2.2: Comparison of degree of satisfaction between imaging types.**

Satisfaction Variable	Type of Imaging	Degree of Satisfaction		P Value Chi Square test
		Satisfied	Not Satisfied	
There is prompt of Attention	X-ray	156(37.14 %)	10 (2.38 %)	0.511
	Ultrasound	229 (54.52%)	25 (5.95 %)	
I was given sufficient information on how to prepare for Examination	X-ray	149 (35.47 %)	17 (4.05 %)	0.227
	Ultrasound	213(50.71 %)	41 (9.76%)	
Scheduling of appointment is efficient	X-ray	159 (37.86 %)	7 (1.67 %)	0.140
	Ultrasound	228(54.28 %)	26 (6.19 %)	
Registration process is efficient	X-ray	159 (37.85 %)	7 (1.67 %)	0.467
	Ultrasound	238(56.67 %)	16 (3.80%)	
The Reception is clean and comfortable	X-ray	163(38.80%)	3 (0.71%)	0.114
	Ultrasound	239(56.90 %)	15(3.57 %)	
There is Toilet facility with the reception	X-ray	159 (37.86 %)	7(1.67 %)	0.297
	Ultrasound	230(54.76 %)	24 (5.71%)	
Staff explain the payment and billing procedure	X-ray	157 (37.38 %)	9 (2.14 %)	0.528
	Ultrasound	238(56.67 %)	16(3.81 %)	
Staff Attitude is Satisfactory	X-ray	155(36.90%)	11(2.62 %)	0.955
	Ultrasound	233(55.48%)	21(5.00 %)	
There is Confidentiality and privacy	X-ray	160(38.09 %)	6(1.43 %)	0.509
	Ultrasound	246 (58.57 %)	8(1.90 %)	
In my opinion the staff are experience	X-ray	162(38.57 %)	4 (0.95 %)	0.305
	Ultrasound	243(57.85 %)	11(2.62 %)	
I will certainly Recommend this Department to other	X-ray	162(38.57 %)	4(0.95 %)	0.425
	Ultrasound	244(58.09 %)	10 (2.38 %)	



The Table 2.2 and Figure 1: above shows satisfaction status in relation with types of Imaging. We observed no significant relation between the satisfaction status and types of Imaging as indicated by p-value. (Stated in the Table above).

### Discussion

This study evaluates patients’ satisfaction with Radiological services accessed at federal medical centre, keffi. Patients satisfaction is subjective concept as asserted by many schoolers whose aim is to relate with the grade at which Health care responds to the expectation of the patients or the community. [5]

The Results of this study revealed a high level of satisfaction status with the average of 92.0 % that was measured against 11 satisfaction related variables. Our findings were much higher than similar work conducted in Nigeria 73.4 %, [4] and in Ethiopia 71.6%. [10].

Our study further revealed that outpatient was more generally satisfied than Inpatient; this finding is in agreement with a study carried out in Oman. [7] We recommend that our findings be further investigated as our respondents composed of fee paying and Insurance paid categories.

Majority of the respondents expressed their satisfaction with all the [11] variables; however, privacy and confidentiality have 96.0% while other has levels hovering between 91%-93%. This is strange here as other similar studies. [7] Reveals much lower level, this strange finding may not be unconnected with the resolute of the management of the study facility to be supervising on constant and continued basis all services rendered in Clinical Departments of the Hospital and attending promptly to issues related service failure by a special unit called SERVICOM and Reform.

Satisfactory staff attitudes and the experience of the staff are found to be significant parameters that influence the willingness of the Respondents to certainly recommend the Department to others. This finding is in agreement with other studies in the UK [11], Oman [7] and even in Nigeria. [4,12] This we feel is another good score by the department.

The findings that majority of the Respondents were satisfied with all the satisfaction related variables is no doubt an excellent achievement by the department as it shows that the services rendered are adequate which indirectly point to the fact that the services are qualitative to warrant recommending the Department to others. Our study has found to be in agreement with several studies in Egypt, Ghana, Nigeria, Oman, U.K. [1,3,4,5,7].

## Conclusion

Findings from this work shows high level of satisfaction with all the radiological services satisfaction related variables which indicates that Respondents' expectation were fulfilled by the Radiology Department. Since measurement of satisfaction is an indirect measure of quality of services delivered.

Hospital facilities Administrators and policy makers are called upon to pay more attention to supervision, training and

retraining of frontline workers as this will ensure better staff attitude and delivery of quality services.

Finally, the major constraint to this study is that to the best of our knowledge, this is the first time ever that such work has been carried out in our study facility. Hence, we cannot compare the finding of this present work with any previously done work in this study facility.

The Research Authors thanks the management and staff of Federal Medical Centre, Keffi for their cooperation and approval for the study. We equally acknowledge with thanks the support of our Respondents for agreeing to participate in the Research work.

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