

## A Survey of Patient Satisfaction with Sonographic Services in a Tertiary Hospital in Sokoto

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### Abstract

**Background:** Patient satisfaction is significantly related to the quality of radiological services rendered in a health care institution, therefore there is need to understand the quality and delivery of services, which include knowledge of customer service and satisfaction.

**Objectives:** To identify the level of patient satisfaction and to proffer solutions on approaches to adopt in order to improve patient satisfaction within the study locality.

**Methods:** A prospective cross-sectional survey was conducted among 50 patients who presented for ultrasound services in Radiology department of Usman Danfodio University Teaching Hospital Sokoto, Sokoto State. The questionnaire consists of five sections, this include Socio-demographic characteristics, Staff evaluation, Surrounding, accessibility of appointment and aspect of care. The data was analyzed using SPSS version 22.0 and descriptive statistics such as frequency and percentage were obtained.

**Results:** The overall patient satisfaction was well above average. Satisfaction towards staff evaluation was 77% while it was 55.2% for the surrounding. Seventy percent (70%) of the patients were satisfied with the accessibility of the appointment and 58% were satisfied with the aspect of care. On the other hand, 74% of them were not satisfied with the waiting time before the examination, 46% were not satisfied with the explanation given to them by the doctor and 42% were not satisfied with the waiting time after the examination.

**Conclusion:** Most of the patients were satisfied with the services provided, the staffs behaviour, accessibility of the appointment, the surrounding, cost of the examination and aspect of care. However, the patients were dissatisfied with the lack of explanation of the examination to the patients and the waiting time before and after the examination.

**Keywords:** Patient Satisfaction, Sonography, Radiological services, Radiography

### Introduction

The radiology department in a tertiary health care institution is a part of health care service provider, and as a service provider, one needs to understand quality and delivery of service, which include knowledge of customer service, customer satisfaction and all its related issues [1]. Patient satisfaction survey serves as an avenue to assess communication and information transfer between clinicians and patients and a medium for patients to express their dissatisfaction with the provision of information [2].

Patient satisfaction is the extent to which the patients feel that their needs and expectations are being met by the service provided [3,4,5]. Interest in assessing patient satisfaction in healthcare arose with the consumer movement of the 1960s, over the next 25 years, health service researchers

reported that satisfied patients were more likely to comply with treatment [3]. Patient's satisfaction tended to be regarded as desirable, and critical to radiological sciences [6].

Determinants of patient satisfaction need to be studied from the broader patient experience, the customer perspective and its relationship with the literature on patient expectations [8]. Measuring patient satisfaction levels are based on the patient's experiences that occur before, during, and after a care visit, at various levels of expectations [9], hence patient satisfaction differs from patient experience in that it is a conclusion formed by the patient about the accomplishment of the end goal [10]. The broader concept of "patient experience" is defined by the Beryl Institute as "the sum of all interactions, shaped by an organization's culture, that influence patient perceptions across the

continuum of care”. The interactions include touch points, policies, communication, actions, and environment, while the culture is the vision, values, people, and community, all of which affects the patient's perceptions, or what the patient identifies, comprehends and remembers from the care experience [8]. Patient expectations are the anticipated or believed encounters a patient envisions will occur in a healthcare system and can affect patient satisfaction [11].

Over the last decade, the concept of the patient satisfaction as an outcome measure, has gained importance as healthcare service providers, including primary care clinics, move beyond achievable care quality, patient safety targets and organization of multi-disciplinary models of care. This was driven and rewarded by new key performance indicators, such as patient satisfaction metrics [12]. This study is done out of the need to access patient satisfaction in the sonographic unit of a radiology department, which utilizes sound wave to produce image of internal structures of the body, diagnose heart conditions and aids in biopsies.

**Materials and Methods**

A total of 51 questionnaires were printed and distributed, only 50 were returned, among which 43 were completed while 7 were partially filled. This study is a prospective and descriptive cross-sectional survey of patient satisfaction with

sonographic services at the radiology department of Usmanu Danfodiyo University Teaching Hospital Sokoto, North-western Nigeria. These surveys were conducted between the month of May to August 2018. The patients were surveyed immediately after their Ultrasound examination to ascertain their satisfaction with the services they have received from the Sonographer/Doctor, while waiting for the results. Convenient sampling method was utilized for the study and ethical approval was obtained from Usmanu Danfodiyo University Teaching Hospital (UDUTH) ethical committee Sokoto before the commencement of this study and consent of the recruited patients were sought after as it is a voluntary research. A self-administered semi structural questionnaire was used for the data collection. The questionnaire consists of five (5) sections, which includes Socio-demographic characteristics, staff evaluation, surrounding, and accessibility of appointment and aspect of care.

**Results**

From table 1 the result showed that more than half of the respondents were indigenes of Sokoto and 26% of them were male while 74% were female. Their age range was between the ages of 25 and 34 years, most were married. More than 50% acquired tertiary education and were having an ultrasound scan for the first time in UDUTH.

**Table 1: Socio demographic characteristics of the Respondents.**

|                           | Male      |             | Female    |             |
|---------------------------|-----------|-------------|-----------|-------------|
|                           | Frequency | Percent (%) | Frequency | Percent (%) |
| <b>Age group</b>          |           |             |           |             |
| 15-24                     | 5         | 38.5        | 14        | 37.8        |
| 25-34                     | 6         | 46.2        | 16        | 43.2        |
| 35-44                     | 0         | 0           | 5         | 13.5        |
| 45-55                     | 1         | 7.7         | 1         | 2.7         |
| Above 55                  | 1         | 7.7         | 1         | 2.7         |
| Total                     | 13        | 100         | 37        | 100         |
| <b>Level of Education</b> |           |             |           |             |
| None                      | 1         | 7.7         | 2         | 5.4         |
| Primary                   | 1         | 7.7         | 1         | 2.7         |
| Secondary                 | 4         | 30.8        | 7         | 18.9        |
| Tertiary                  | 7         | 53.8        | 27        | 73          |
| Total                     | 13        | 100         | 37        | 100         |
| <b>Marital status</b>     |           |             |           |             |
| Single                    | 9         | 69.2        | 7         | 18.9        |

|  |    |      |    |      |
|--|----|------|----|------|
| Married  | 4  | 30.8 | 29 | 78.4 |
| Divorced   | 0  | 0    | 0  | 0    |
| Widow  | 0  | 0    | 1  | 2.7  |
| Total  | 13 | 100  | 37 | 100  |
| <b>Occupation</b>  |    |      |    |      |
| Student  | 8  | 61.5 | 16 | 43.2 |
| Civil Servant  | 3  | 23.1 | 8  | 21.6 |
| Private Employee   | 0  | 0    | 1  | 2.7  |
| Entrepreneur   | 2  | 15.4 | 3  | 8.1  |
| Unemployed   | 0  | 0    | 9  | 24.3 |
| Total  | 13 | 100  | 37 | 100  |
| <b>State of Origin</b>   |    |      |    |      |
| Sokoto   | 8  | 61.5 | 18 | 48.6 |
| Other states   | 5  | 38.5 | 19 | 51.4 |
| Total  | 13 | 100  | 37 | 100  |
| <b>Number of times the patient had an ultrasound scan in UDUTH</b> |    |      |    |      |
| Once   | 10 | 77   | 12 | 32.4 |
| Twice  | 2  | 15.4 | 10 | 27   |
| 3 times  | 1  | 7.7  | 8  | 21.6 |
| 4 times  | 0  | 0    | 4  | 10.8 |
| 5 times and above  | 0  | 0    | 3  | 8.1  |
| Total  | 13 | 100  | 37 | 100  |

The results from figure 1 were grouped into several criteria's for assessing the level of satisfaction, the criteria were excellent, very good, good, fair, poor and not answered. Patient's ratings in all aspects of staff evaluation were well above 50%.

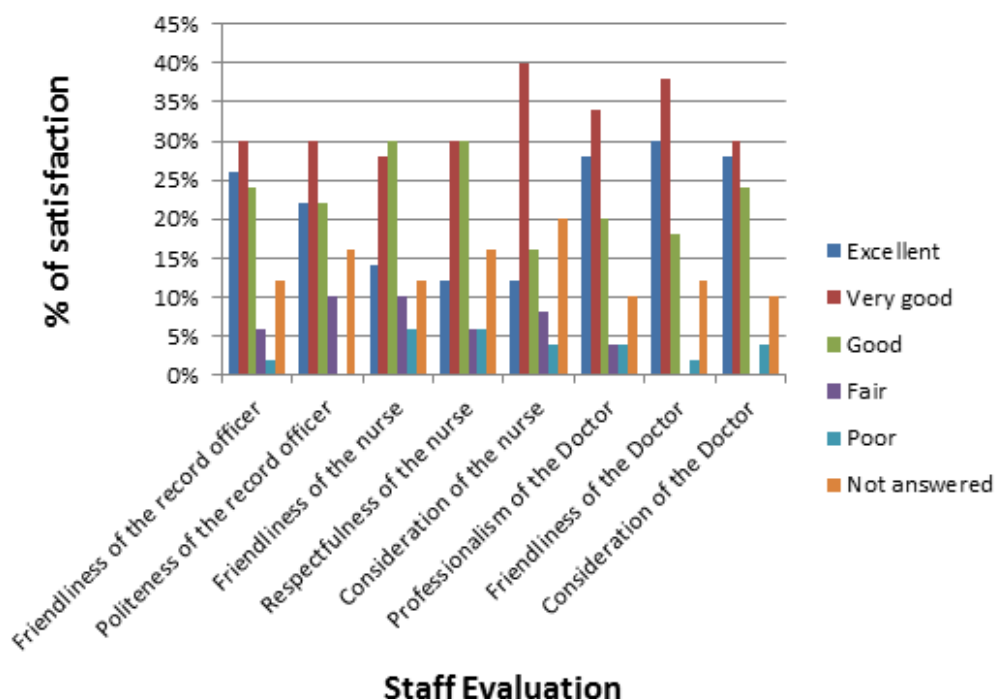


Figure 1: A bar chat representation of Staff Evaluation

Figure 2: patient satisfaction with the surroundings or environment of the ultrasound room and reception. Several criteria's for assessing the level of satisfaction were used, the criteria include; excellent, very good, good, fair, poor and not answered. Patient's ratings in all aspect of the surrounding (ultrasound room and reception) was above 50%.

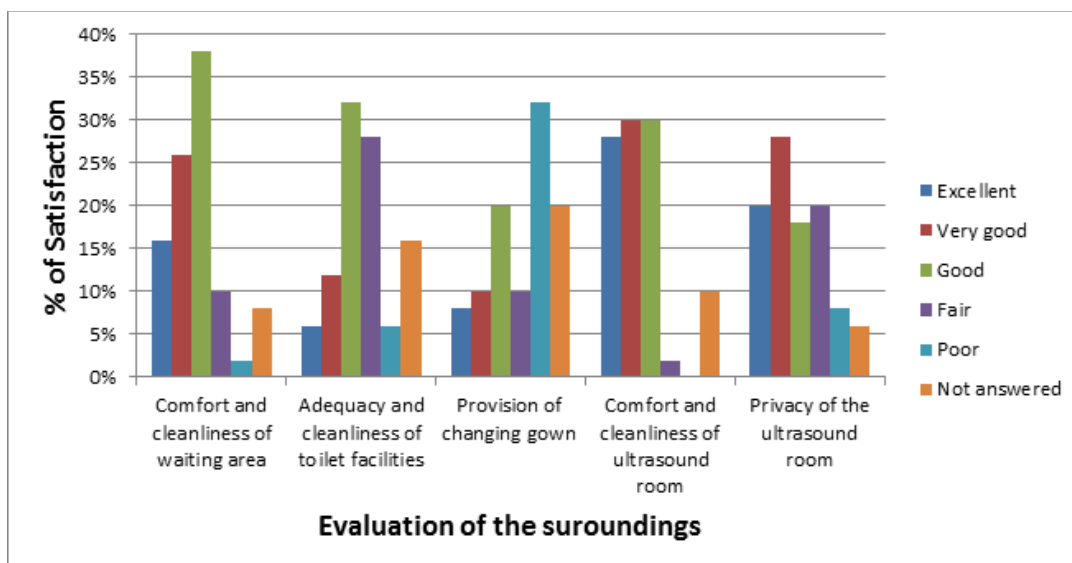


Figure 2: A bar chart representation of the Surroundings

Table 2 shows the results of patient satisfaction to accessibility of appointment. Several criteria's for assessing the level of satisfaction were used, the criteria include; excellent, very good, good, fair, poor and not answered.

**Table 2: Accessibility of appointment**

|   | Excellent                 | Very good              | Good                    | Fair                    | Poor                            | Not answered |
|---|---------------------------|------------------------|-------------------------|-------------------------|---------------------------------|--------------|
| Convenience of the appointment                        | 9(18%)                    | 13(26%)                | 19(38%)                 | 5(10%)                  | 1(2%)                           | 3(6%)        |
| Convenience of the registration process               | 11(22%)                   | 14(28%)                | 16(32%)                 | 4(8%)                   | 2(4%)                           | 3(6%)        |
| Booking an appointment                                | 14(22%)                   | 7(14%)                 | 15(30%)                 | 5(10%)                  | 5(10%)                          | 4(8%)        |
| Locating the radiology department, ultrasound section | <b>Very easy</b>          | <b>Easy</b>            | <b>Fair</b>             | <b>Difficult</b>        | <b>Very difficult</b>           | 4(8%)        |
|   | 19(38%)                   | 20(40%)                | 5(10%)                  | 1(2%)                   | 1(2%)                           |              |
| Waiting time before the examination                   | <b>Very short (5 min)</b> | <b>Short (5-10min)</b> | <b>Okay (10-15 min)</b> | <b>Long (15-30 min)</b> | <b>Very long (above 30 min)</b> | 6(12%)       |
|   | 2(4%)                     | 1(2%)                  | 4(8%)                   | 11(22%)                 | 26(52%)                         |              |
| Cost of the examination                               | <b>Very cheap</b>         | <b>Cheap</b>           | <b>Okay</b>             | <b>Expensive</b>        | <b>Very expensive</b>           | 5(10%)       |
|   | 7(14%)                    | 7(14%)                 | 29(58%)                 | 2(4%)                   | 0                               |              |

Patient's rating in most aspects of accessibility of appointment was above 50% except for waiting time before the examination which was very long (above 30 minutes) having 52%.

**Table 3: Aspect of care**

The results from table 3 were also grouped into several criteria's for assessing the level of satisfaction in the aspect of care; the criteria were Yes, No and not answered.

| Questions  | Yes                          | No                         | Not answered               |                            |                                    |                     |
|--|------------------------------|----------------------------|----------------------------|----------------------------|------------------------------------|---------------------|
| Are you comfortable with a Doctor of the opposite gender scanning you? | 28(56%)                      | 19(38%)                    | 3(6%)                      |                            |                                    |                     |
| Was the examination well explained?                                    | 23(46%)                      | 21(42%)                    | 6(12%)                     |                            |                                    |                     |
| Was adequate attention given to you?                                   | 39(78%)                      | 7(4%)                      | 4(8%)                      |                            |                                    |                     |
| Waiting time for collection of results                                 | <b>Very short</b><br>(5 min) | <b>Short</b><br>(5-10 min) | <b>Okay</b><br>(10-15 min) | <b>Long</b><br>(15-30 min) | <b>Very long</b><br>(above 30 min) | <b>Not answered</b> |
|  | 6(12%)                       | 10(20%)                    | 10(20%)                    | 8(16%)                     | 13(26%)                            |                     |

Patient's ratings in most aspects of care was above 50% except for explanation of the examination to the patient which had 46%. While waiting time for collection of the results was considered very long (above 30 minutes) having 26%.

Figure 3 shows that out of 50 respondents, only 22 gave suggestions on how to improve the quality of services rendered. Most of the suggestions were strong emphasis that patients should be attended to on time. 22.7% suggested that more ultrasound machines should be provided in order to reduce the patient waiting time. Secondly, 18% suggested that more sonographers should be employed within the hospital. More so, 13.6% suggested that first come, first serve should be adopted in order to avoid making some patient feel less important. However, 4.5% of the participant suggested that female sonographers should only scan female patients and interruptions from sonographers and other staffs should be avoided.

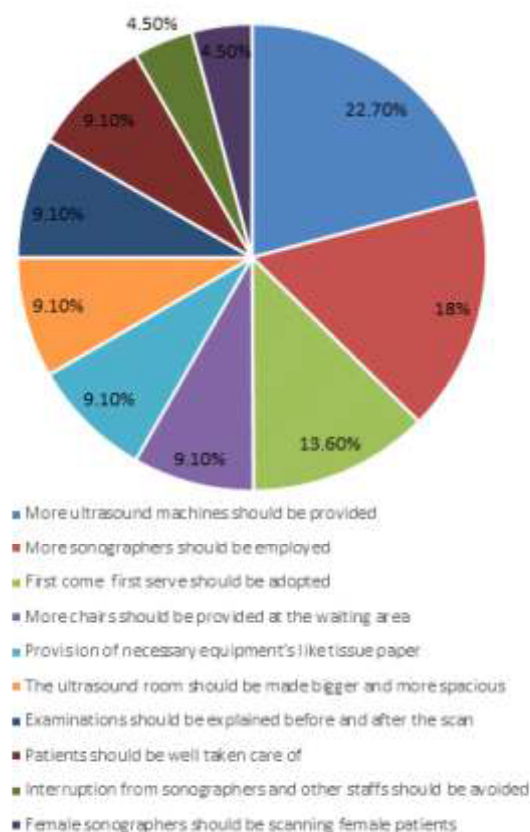


Figure 3: A pie chart representing the patient's suggestions

## **Discussion**

Satisfaction and dissatisfaction indicate the patient's judgement about the strength and weakness of the service and their perception of care, which often determines the patient's willingness to obey and continue with the service [15]. The main determinants of patient satisfaction include waiting time, cleanliness of the unit, behavior of the medical practitioners, communication and professional skills of the medical practitioners, access to care services, provision of information by the medical-physician and privacy [16]

Based on staff evaluation, the respondents were satisfied with the behavior of the record officers, the nurses and the sonographers. Specifically, 80% of the patients were satisfied with the friendliness of the record officers, 74% were satisfied with politeness of the record officers, 72% were satisfied with the friendliness of the nurses, 72% were also satisfied with the respectfulness of the nurse, 68% were satisfied with the consideration of the nurses, 82% were satisfied with the professionalism of the sonographers, 86% with the friendliness and 86% with the consideration of the sonographers as shown in figure 1. This is similar to a research [4], where 50% of the respondents were satisfied with the attitude and behavior of the registration clerk, 66% with the sonographers and 45% were satisfied with the nurses.

The results from figure 2 was based on their satisfaction with the surrounding, 80% of them were satisfied with the cleanliness and comfort of the waiting area. This result is similar to that obtained in another study [3], which stated that 87% were satisfied with the cleanliness of the hospital environment. Furthermore, based on accessibility of the appointment, the results from table 2 shows that most of the patients were satisfied. However, the patients were not satisfied with the waiting time. Twenty two 22% said that the waiting time before the examination was long, ranging from 15 to 30 minutes, 52% of the patients said the waiting time is above 30 minutes. This result can be related to that result obtained in another study elsewhere [4] who reported that most of the patients had to wait for 15-20 minutes and 24.4% complained of prolonged waiting time, and in a similar study [5], most of the patients (59.7%) complained of the

waiting time. More so, 86% of the participant in our study were satisfied with the cost of the examination which is not in agreement with that reported by Qadri *et al.*, (2012), where 36.1% complained of the cost [4].

## **Conclusion**

From the results of this study, patients were satisfied with the services provided. The patients were satisfied with the staff's behavior, accessibility of the appointment, the surrounding, cost of the examination and aspect of care. The patient's major area of dissatisfaction was the lack of explanation of the examination to the patients and the waiting time before and after the examination.

## **Recommendations**

Base on the evidence provided by this study, we strongly recommend that the tertiary institution should provide more ultrasound machines and employ more sonographers to handle the scanning of patients in order to reduce patient waiting time. More so, the employed sonographers should endeavour to explain the procedure and nature of the examinations to patient at all time.

## **Conflict Of Interest**

The authors declare that there is no conflict of interests regarding the publication of this paper.

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