

# PATIENT'S SATISFACTION AND PERCEPTION OF CARE DURING OBSTETRICS ULTRASOUND SCAN

Joseph Dlama Zira

Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH), Bauchi, Nigeria.

PJR July - September 2017; 27(3): 195-199

## ABSTRACT

**BACKGROUND:** In the past decade, obstetrics ultrasound has gained grounds as a major part of ante-natal care in the African population, with physicians regularly referring pregnant clients for routine ultrasound scans.

**OBJECTIVE:** The objective of this study was to assess pregnant women's perception of care and satisfaction during and after obstetrics ultrasound scan in Bauchi State, Nigeria. **METHODOLOGY:** A cross-sectional descriptive study was conducted in the Radiology department of a major hospital in Nigeria from June 2016 to August 2016. Pregnant women who came to Radiology department of the hospital for obstetrics scan were enrolled in the survey. Questionnaires were distributed to the patients to fill after ultrasound scanning. The questionnaire has four parts. Part A captures patient's demographics; while Parts B, C, and D focuses on patients perception of care and satisfaction comprising of a total of fourteen well-structured questions. A total of 70 out of 80 questionnaires were completely filled and returned. The data was analyzed using SPSS software version 22.0. Kendall's test correlations was used to compare the relationship between patients demographics and their level of satisfaction at  $p < 0.05$  statistical significance. **RESULT:** The age group of respondents were between 15 to 44 years. The result showed that majority of the patients (97.2%,  $n=68$ ) were satisfied with the services of the department. Kendall's tau-b correlation showed that there was no significant relationship between the patient's socio-demographics and their levels of satisfaction. **CONCLUSION:** Majority of the respondents were satisfied by the quality of care provided.

**Keywords:** Patients, satisfaction, obstetric, ultrasound

## Introduction

Ultrasound is the name given to high frequency sound waves, above 20,000 cycles per second (20 kHz). These waves, inaudible to humans, can be transmitted in beams and are used to scan the tissue of the body.<sup>1</sup> Ultrasound was first used in obstetrics by Ian Donald in 1959.<sup>2</sup> Obstetric ultrasonography is the use of medical ultrasonography in pregnancy, in which sound waves are used to create real-time visual images of the developing embryo or fetus in its mother's uterus (womb). The procedure is a standard

part of prenatal care in many countries, as it can provide a variety of information about the health of the mother, the timing and progress of the pregnancy, and the health and development of the embryo or fetus.<sup>3</sup>

The International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) recommends that pregnant women have routine obstetric ultrasounds between 18 weeks and 22 weeks gestational age in order to confirm pregnancy timing, to measure the fetus so that growth abnormalities can be recognized quickly later in pregnancy, and to assess for congenital mal-

**Correspondence :** Joseph Dlama Zira  
Department of Radiology,  
Abubakar Tafawa Balewa University  
Teaching Hospital (ATBUTH), Bauchi, Nigeria.  
Email: josephdlama@gmail.com

Submitted 28 February 2017, Accepted 4 April 2017

formations and multiple gestations (i.e. twins).<sup>3</sup> Additionally, the ISUOG recommends that pregnant women have obstetric ultrasound between 11 weeks and 13 weeks gestational age in countries with resources to perform them. Performing an ultrasound at this early stage of pregnancy can more accurately confirm the timing of the pregnancy and can also assess for multiple fetuses and major congenital abnormalities at an earlier stage.<sup>3</sup> Research shows that routine obstetric ultrasound before 24 weeks gestational age can significantly reduce the risk of failing to recognize multiple gestations and can improve pregnancy dating to reduce the risk of labor induction for post-dates pregnancy.<sup>3</sup>

Patient satisfaction is the extent to which the patients feel that their needs and expectations are met by the service(s) provided by the hospital.<sup>4</sup> It is defined as the degree to which the patient's desired expectations, goals, and/or preferences are met by the health care provider and/or service.<sup>5</sup> Satisfaction and dissatisfaction indicate patient's judgment about the strengths and weaknesses, respectively of the service, and women perception with care often determines client's willingness to comply and continue with the service.<sup>5</sup> During pregnancy, health care practitioners usually request for routine ultrasound or specifically when there are special indications. Routine obstetric ultrasound has been considered one of the factors that improved antenatal care and outcome of pregnancy worldwide.<sup>6</sup> It has become part of standard antenatal care in the developed world, and equally suits the developing countries as well, by virtue of its versatility, relatively low cost, and safety.<sup>6</sup> The main constituents of patient satisfaction include but are not limited to waiting time, cleanliness of the unit, attitude of the medical practitioners, communication and professional skills of the medical practitioners, access to care services, provision of information by the medical practitioner, and privacy.<sup>7</sup>

Patient satisfaction have been found to play an increasingly important role in monitoring quality of health care service.<sup>8</sup> Satisfied patients are more compliant and cooperative to the treatment procedures.<sup>9</sup> They continue using medical care services and not continuously seek to change physician and/or hospital.<sup>8</sup>

The lack of opportunity to ask questions during the ultrasound procedure has been reported from Uganda

where women's questions were either not responded to or were responded to rudely. This lack of communication led to most of the women being dissatisfied with the person doing the ultrasound.<sup>13</sup> In Bauchi, there is dearth of empirical evidence regarding women's perception and satisfaction during and after the ultrasound scanning procedures and hence the need for this research.

The objective of the study was to assess pregnant women perception of care and satisfaction during and after obstetric ultrasound scan in Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH), Bauchi.

## Research Methodology

The research is a cross-sectional descriptive study which was conducted at Radiology department ATBUTH Bauchi. A total of 80 questionnaires were distributed using simple random sampling, 70 of the questionnaires were returned and properly filled. The questionnaire is divided into four parts; Part A is the Patient's Demographics; Part B covers Medical Care; Part C is General Services; and Part D is Special Feature which summarizes how the patient feels about the department she visited.

Those eligible for the research are pregnant women who visited the Radiology department ATBUTH, Bauchi for obstetrics scan. Ethical clearance was obtained from the hospital, and patient's consent was sought. The questionnaires were distributed to patients who wish to participate. After successfully filling the questionnaire, it was collected back from them. Analysis was carried out using computer software SPSS version 22.0. The relationship between patient's age, education level and level of satisfaction was carried out using Kendall's tau-b correlation at  $p < 0.05$ .

## Results

(Tab. 1) shows that 42.9% of the respondents were between 25 and 34 years, and 40% of them were between 15 and 24 years. Almost all of them were married (97.1%). More than half (51.4%) acquired the basic secondary school knowledge, while only 1.4% had no access to formal education. Only 4.3%

	Characteristic Frequency	Percent
<b>Age Group</b>		
15-24	28	40.0
25-34	30	42.9
35-44	12	17.1
<b>Marital status</b>		
Single	2	2.9
Married	68	97.1
<b>Education</b>		
None	1	1.4
Primary school	5	7.1
Secondary school	36	51.4
College of education	19	27.1
Monotechnic/Polytechnic	5	7.1
University degree	3	4.3
MSc, MA, MBA	1	1.4
<b>State of origin</b>		
Bauchi	55	78.6
Others	15	21.4
<b>Nationality</b>		
Nigerian	70	100.0

**Table 1:** Socio-demographic characteristics of the Respondents (n=80)

of the respondents had university degree, and just 1.4% had Master's Degree. Most of the respondents (78.6%) were indigenes of Bauchi. All the correspondents were Nigerians.

(Tab. 1) shows the socio-demographic details of the patients. A total of 80 questionnaires were distributed, with 70 returned properly filled. The age of the respondents ranges from 15 to 44 years. Only 2 of the respondents were single, the rest (68) were married. More than half (36 comprising 51.4% of the whole sample) were secondary school leavers, 1 person had no formal education, 5 persons were primary school leavers, while 28 attended a tertiary institution. Greater percentages (78.6%) of the respondents were indigenes of Bauchi, 21.4% were not indigenes. All the respondents were Nigerians.

(Tab. 2) shows the patient's ratings of the different aspects of care. Patient's ratings in all the aspects of care were well above 50%. The respondents were highly impressed with the ease of access to the Radiology complex and the easiness of parking. All the respondents were either satisfied or very satisfied. This shows that the Radiology department is well-located with spacious entrance for parking. However, there were strong dissatisfactions registered with the

Aspect of care	Very dissatisfied Frequency (%)	Dissatisfied Frequency (%)	Undetermined Frequency (%)	Satisfied Frequency (%)	Very satisfied Frequency (%)	Total Frequency (%)
By the time that the sonographer devoted to me I am...	1 (1.4)	0 (0)	1 (1.4)	49 (70.0)	19 (27.1)	70 (100.0)
By the instructions given by the sonographer I am...	0 (0)	0 (0)	0 (0)	56 (80.0)	14 (20.0)	70 (100.0)
By my participation to the scanning procedures I am...	0 (0)	1 (1.4)	0 (0)	52 (74.3)	17 (24.3)	70 (100.0)
By the friendly behaviour of the sonographer I am...	0 (0)	0 (0)	1 (1.4)	53 (75.7)	16 (22.9)	70 (100.0)
By the scientific knowledge of the sonographer I am...	0 (0)	0 (0)	0 (0)	54 (77.1)	16 (22.9)	70 (100.0)
By the willingness of the sonographer I am...	0 (0)	0 (0)	1 (1.4)	43 (61.4)	26 (37.1)	70 (100.0)
By the level of communication by the secretary staff I am...	1 (1.4)	0 (0)	0 (0)	39 (55.7)	30 (42.9)	70 (100.0)
By the easiness of parking I am...	0 (0)	0 (0)	0 (0)	51 (72.9)	19 (27.1)	70 (100.0)
By the way of dealing with escorts or relatives by the secretarial staff I am...	0 (0)	0 (0)	4 (5.7)	52 (74.3)	14 (20.0)	70 (100.0)
By the ease of access to the premises I am...	0 (0)	0 (0)	0 (0)	43 (61.4)	27 (38.6)	70 (100.0)
By the throughput of procedures by the secretary staff I am...	1 (1.4)	0 (0)	0 (0)	49 (70.0)	20 (28.6)	70 (100.0)
By the mechanism of contact and cooperation with regard to handling my needs I am...	1 (1.4)	0 (0)	0 (0)	54 (77.1)	15 (21.4)	70 (100.0)
By the respect shown by the staff I am...	1 (1.4)	0 (0)	1 (1.4)	43 (61.4)	25 (35.7)	70 (100.0)
By the clinic I visited I am...	0 (0)	1 (1.4)	1 (1.4)	37 (52.9)	31 (44.3)	70 (100.0)

**Table 2:** Patient's rating of different aspects of care during ultrasound scan

secretary staff, though the percentage is very low (1.4%). This is the major area that needs improvement. Finally, the general perception of the patients about the department was far above average. A total of 37 persons (52.9%) were satisfied, and 31 persons (44.3%) were very satisfied. That means a total of 68 persons (97.2%) have a good impression about the department. 1.4% (1 person) was undetermined, and another 1.4% (1 person) was not satisfied.

(Tab. 3) Kendall's tau-b correlation was used to determine the relationship between age and patient satisfaction at  $p < 0.05$ . The last section in the questionnaire which is like a summary of the patient's per-

Age by the clinic		I visited, I am.....		
Kendall's tau_b	Age	Correlation Coefficient	1.000	-.066
		Sig. (2-tailed)	.	.566
	N		70	70
	By the clinic I visited, I am...	Correlation Coefficient	-.066	1.000
Sig. (2-tailed)		.566	.	
N		70	70	

**Table 3:** Comparing age and patient's satisfaction using Kendall's test correlations.

ception of the department was used to run this test. There is no statistically significant relationship between the age groups and the patient's satisfaction ( $T_b = -0.066$ ,  $p = 0.566$ ), that is, the age of the patients was independent of patient satisfaction.

(Tab. 4) Kendall's tau-b correlation was used to determine the relationship between patient's educational level and their satisfaction at  $p=0.05$ . It was observed that the patient's educational level was independent of their satisfaction with obstetric ultrasound services ( $T_b = -0.125$ ,  $p = 0.265$ ).

Education		By the clinic I visited, I am...		
Kendall's tau_b	Education	Correlation Coefficient	1.000	-.125
		Sig. (2-tailed)	.	.265
	N		70	70
	By the clinic I visited, I am...	Correlation Coefficient	-.125	1.000
Sig. (2-tailed)		.265	.	
N		70	70	

**Table 4:** Comparing level of education and patient's satisfaction using Kendall's test correlation.

## Discussion

Ultrasound is a major part of prenatal care in many countries. It has been reported that psychological factors have a very powerful influence on physiological well-being.<sup>10</sup> This means that the way patients are attended to has impact on their well-being. Good or bad attention to patients is rated by their satisfaction. Patients who are satisfied have an increased compliance with discharge instructions.<sup>11</sup> Therefore, there is need to ascertain the satisfaction of patients after ultrasound scans.

In this study, the ease of access to, and the easiness of parking in the Radiology unit recorded a full mark of 100%. This means all the patients were satisfied.

This is likely to be due to the straight-forward route to the Radiology department from the hospital gate. The big layout map mounted at the hospital entrance (showing a map of the hospital and its departments) may have played a role as well. On seeing the map, the visitor may not need to make much enquiries (if any) to locate the department. Furthermore, the complex is well-planned, and has a spacious frontage for parking. This result is quite higher than what was obtained in Kano (84%)<sup>4</sup> and in Egypt (72%).<sup>5</sup>

The respondents were highly satisfied with the sonographers. 97.1% were satisfied with the time devoted to them, 98.6 were satisfied by their friendly behavior, while 100% were satisfied by their instructions. It was observed that the sonographers in the department spend pretty good time with their clients. They do not hurry with the procedures. In the department, there is a maximum number of patients they book per day, plus the ward patients. In addition to that, different ultrasound examinations have its days. There are days for obstetrics scan, and days for special scans like trans vaginal scan and other small parts. Such a structure makes it easy for them to relax while attending to patients. They have been able to use this structure to manage the high rate of patient referrals they get. These factors are thought to have contributed to the high satisfaction of patients. It has been found that bad communication with the patient and/or unsympathetic behavior dissatisfies patients.<sup>4</sup>

The overall satisfaction of patients with the department is 97.2%. This result is higher than the one done by Montasseret al in Egypt.<sup>5</sup> This is thought to be due to their high satisfaction with the sonographers and access to the premises. The manner in which the secretary attends to the patient's needs may have added to their satisfaction. It is the secretary's duty to book patients, to give out their results and to take records. Patient's are often sensitive to the way they are addressed.

In this study, there was no significant difference in the levels of satisfaction of the patients with respect to their age. This disagrees with the research by Al Qahtaniet al., 2012 in Saudi Arabia.<sup>7</sup> Their result showed that the levels of satisfaction for primary school leavers, was higher than the satisfaction of graduates. This was thought to be due to the higher level of exposure of the graduates. But it was not so

here, despite the fact that more than half of our respondents at most attended secondary school. Furthermore, we recorded no significant difference on patients' satisfaction in relation to their ages. This also concurs with the research by Al-Qahtaniet al., 2012.

## Conclusion

Majority of the respondents were satisfied by the quality of care provided.

**Acknowledgment:** Our gratitude goes to all our respondents who made themselves available for this research. We are also grateful to the management of ATBUTH Bauchi and the Health Research ethics committee for permitting us to carry out this study.

**Conflict of interest:** Nil

## References

1. Palmer P E S. Manual of Diagnostic Ultrasound. Geneva : World Health Organisation. 1995.
2. Ohagwu CC, Abu PO, Odo MC, and Chiegwu HU. Maternal Perception of Barriers to Utilisation of Prenatal Ultrasound in Prenatal Care in the Northern Part of Nigeria. *Clinics in Mother and Child Health*, 2009; **17(1)**: 1195-99
3. Obstetric Ultrasound. [http://en.m.wikipedia.org/wiki/Obstetric\\_ultrasonography](http://en.m.wikipedia.org/wiki/Obstetric_ultrasonography).
4. Iliyasu Z, Abubakar IS, Abubakar S, Lawan UM, Gajida AU. Patients' Satisfaction with Services Obtained from Aminu Kano Teaching Hospital, Kano, Northern Nigeria. *Nigerian Journal of Clinical Practice*, 2010; **13(4)**: 371-78
5. Montasser NE, Helal RM, Megahed WM, Amin SK, Saad AM, Ibrahim TR, and AbdElmoneem HM. Egyptian Women's Satisfaction and Perception of Antenatal Care. *International Journal of Tropical Disease and Health*, 2012; **2(2)**: 145-56.
6. Oche OM, Umar AS, Raji MO, Kaoje AU, Godwin G, Ango JT, Adamu H. Knowledge of the Use and Indications for Obstetric Ultrasound Scan among Women Attending A Main Referral Hospital, Sokoto, Nigeria. *Research in Obstetrics Gynaecology*, 2013; **2(5)**: 55-62
7. Al-Qahtani MF, Al-Dohailan SK, Al-Sharani HT, Al-Medaires MA, Khuridah EN, Al-Dossary NM. The Impact of the Status of Hospital Accreditation on Patient Satisfaction with the Obstetric and Gynaecological Clinics in the Eastern Province, Saudi Arabia. *Journal of Medicine and Medical Sciences*, 2012; **3(10)**: 665-73.
8. AlNemer KA, Al-Homood IA, AlNemer AA, Alshaikh OM, Alsaidan MA, Alzahrani AT. A Multicenter Study of Factors Affecting Patient's Satisfaction Visiting Primary Health Care Clinics in Riyadh, Saudi Arabia. *Family Medicine and Medical Science Research* 2015; **4**: 169.
9. Bleich SN, Ozaltin E, Murray CJL. How does Satisfaction with the Health-care System Relate to Patient Experience? *Bulletin of the World Health Organisation* 2009; **87**: 271-78.
10. Ugwu AC, Shem SL, Erundu F. Patients Perception of Care during Special Radiological Examinations. *African Journal of Primary Health Care and Family Medicine* 2009; **1(1)**: 100-02
11. Howard ZD, Noble VE, Marill KA, Sajed D, Rodrigues M, Bertuzzi B, Liteplo AS. Bedside Ultrasound Maximizes Patient Satisfaction. *The Journal of Emergency Medicine* 2014; **46(1)**: 46-53.
12. Al Qatari G, Haran D. Determinants of User's Satisfaction with Primary Health Care Settings and Services in Saudi Arabia. *International Journal for Quality in Health Care* 1999; **11(6)**: 523-31.
13. Mubooke AG, Kiguli-Malwadde E, Byanyima R, Businge F. Current Knowledge, Attitudes and Practices of Expectant Women toward Routine Sonography in Pregnancy at Naguru Health Centre, Uganda. *Pan Africa Medical Journal* 2009; **3**: 18-21.