

Awareness of Pre-Natal Ultrasound Scan Among Antenatal Patients in A Northern Nigerian Population

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ABSTRACT

Ultrasound is a very important imaging modality in the management of antenatal cases. Its utilization by expectant mothers is largely dependent on how necessary they think it is. This study aims at determining the level of awareness of the need for ultrasound scan amongst antenatal patients. A structured questionnaire on maternal biometrics and level of awareness was used as instrument for data collection and the results analyzed using descriptive statistics. Out of the 218 respondents, 96.3% (n = 201) knew about ultrasound. 69% (n = 152) received the information from the antenatal clinic. The major reason for undergoing an ultrasound scan was to check for fetal well-being and rule out complications in pregnancy. Parity significantly influenced women's choices as they were more likely to go for and not turn down an ultrasound referral if they had more children. Ante-natal patients in our centre showed a commendable degree of knowledge on the need for antenatal ultrasound scan, a pointer towards the positive impact maternal health awareness is having among the pregnant population. This will help in neutralizing cultural and religious barrier in assessing ultrasound scan.

Keywords: *Antenatal, Northern Nigeria, Parity, Ultrasound*

1. INTRODUCTION

The utilization of maternal health services is associated with improved health outcome for both the mother and the child. Antenatal ultrasound, which is a routine package for antenatal care, is one of the cheapest and widely accessible imaging modality, with technological improvements improving its availability, accuracy, and ease of operation. Some authors have advocated the wide use of prenatal ultrasound scanning as studies have shown improved patient management. A government health agency had to rescind an earlier decision to make ultrasound screening a necessary examination for expectant mothers after seeing its importance¹. Studies have shown a 30 – 86% improvement in patient management when useful ultrasound diagnosis and reports are employed^{2,3}. Despite the importance and need on the one hand to utilize ultrasound in patient management especially as it has to do with antenatal care, the awareness of this easily accessible and cheap imaging modality⁴ among patients and expectant mothers in some health centers remains to be ascertained. Discrepancies exist from previous studies as to the level of awareness and importance of maternal ultrasound among pregnant women, ranging from full knowledge down to complete lack of awareness^{1,5}. The level of awareness is known to be influenced by factors like educational and economic status, parity, and use of antenatal services. Religious and traditional beliefs are also not ruled out as studies have shown significant and non-significant relationships⁶⁻⁸. Clinical grounds for routine prenatal ultrasound in the first 24 weeks of pregnancy are typically determination of gestational age, identification of multiple

pregnancy and diagnosis of fetal defects⁹⁻¹³. It tallies with why most pregnant women want to undergo a scan, although the list extends to sex determination and just to see the child for reassurance¹. This study is aimed at investigating the level of awareness of antenatal patients in Northern Nigeria, find out their reasons for undergoing the scan, and correlate the findings with patient's age, educational qualification, and parity.

2. MATERIALS AND METHODS

This was a prospective, cross sectional study. Subjects were recruited during ultrasound scan within a 3-month period in the Radiology department of a university teaching hospital. Excluded from the study were outpatients who were not registered for antenatal care at the hospital. A semi-structured questionnaire vetted and approved by a statistician was administered to the patients followed by interviews. The questionnaire was divided into three sections. The first section contained five questions on demographic data. The second was on general awareness on ultrasound while the third dealt on utilization of ultrasound and the reasons why the subjects wanted the scan. Ethical approval was obtained from the hospital ethical committee and all prospective participants were informed about the study and their consent obtained. The resultant data was analyzed using SPSS v 17.0.

3. RESULTS

A total of 218 women agreed to participate in the study. The socio-demographic characteristics are shown in Table 1. Majority of the respondents had primary and

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secondary education. Most of them were married and a greater number had between 1 and 3 children.

Table 1: Patient demographics

Characteristics		Frequency	Percentage
Age group	14 - 20	32	14.7
	21 - 27	97	44.5
	28 - 34	69	31.7
	>34	20	9.2
Marital status	Married	193	88.5
	Single	16	7.3
	Divorced	6	2.8
	Widowed	3	1.4
Occupation	House wife	88	40
	Civil servant	65	29.8
	Student	46	21.1
	Business woman	17	7.8
	Others	2	9
Qualification	Primary	27	12.4
	Secondary	86	39.4
	Tertiary	82	37.6
	Arabic school	23	10.6
	Total	218	100.0
Parity	1 - 3	113	51.8
	4 - 7	42	19.3
	8 - 9	11	5.0
	> 9	3	1.4
	Nil	49	22.5
Total		218	100.0

Table 2 shows the percentage of the respondents that were aware of ultrasound. 96.3% (n = 210) were aware of ultrasound and more than half of the respondents 69% (n = 152) received this information upon their visit to the antenatal clinic. The rest obtained their information about ultrasound through their family and friends, school and peers. Many of them (83.5%; n = 182) knew ultrasound scan to be necessary during pregnancy and should be part of antenatal care.

Table 2: Respondent's attitude towards ultrasound services

Category		Freq	Percentage
Awareness	Yes	210	96.3

of Prenatal Ultrasound	No	8	3.7
	Total	218	100
Source of information	Antenatal clinic	152	69.7
	Friends	28	12.8
	School	20	9
	Peers	10	4.6
	No response	8	3.7
	Total	218	100

Majority of the women were interested in complications in pregnancy, with the least number interested in the sex of the baby, as is shown in Figure 1 below.

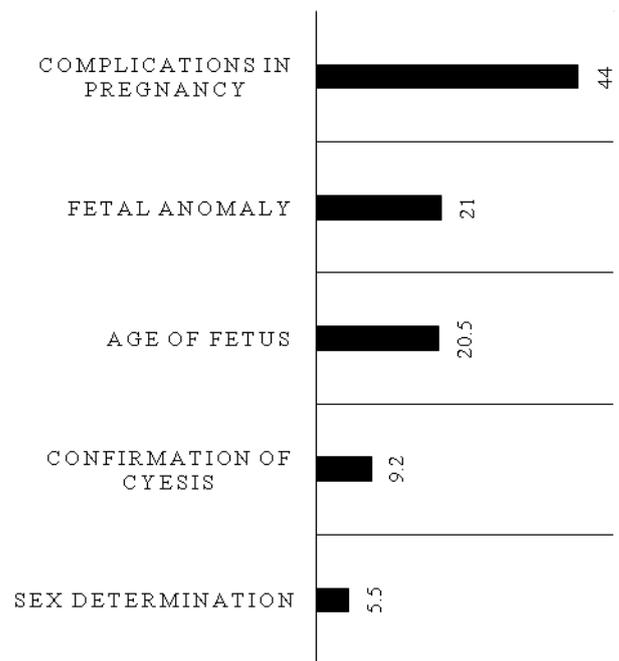


Fig 1: Why women wanted to perform an ultrasound scan

Quite a good number wanted to know whether there was a fetal anomaly. Even though 89.9% (n = 194) of the respondents had had prenatal ultrasound, many respondents in this group saw the necessity. 61 women were likely to seek obstetric sonography on self-referral without the clinician's consent, whereas 157 (72.0%) would not go for it unless referred by their clinicians. This is shown in Figure 2.

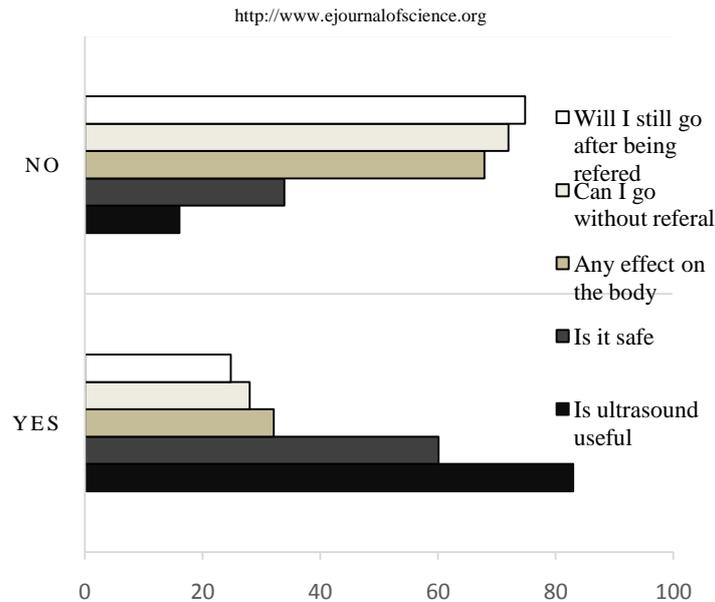


Fig 2: Responses to usefulness, safety and necessity of ultrasound

4. DISCUSSION

From our results, most of the women (96%) that were recruited for the study knew about ultrasound and its use for antenatal care, which is in keeping with a similar study by Ugwu⁵. The figure recorded was higher than that in previous works, an indication that efforts to increase maternal awareness of ultrasound is highly effective¹⁴. Most of the respondents who had awareness on prenatal ultrasound had at least a secondary school education, with awareness reducing with lower levels of education. This is supported by Chan¹⁵ who found out that attending tertiary educational level has significant association with higher knowledge level and acceptance of prenatal ultrasound scan. Most of the women wanted the scan performed so that complications in pregnancy (89%) and fetal anomalies (21%) are ruled out. This is in keeping with the findings of Gudex in a study on Danish women¹ and Ugwu in a similar study with Northern Nigerian women⁵. In contrast, other studies reported non-medical reasons as the major reason for performance of ultrasound¹⁶, some of which include wanting to see the baby, discover the sex, and have more experience of the pregnancy^{17,18}; in order to increase mother to child bonding⁵. We discovered that parity had a direct relationship with use of ultrasound. Our studies show that the more children women had, the more they found ultrasound scan useful and the more readily they requested for a scan. Women with fewer children are less likely to request for a scan when gravid. Antenatal visits also played a very important role in creating awareness of maternal ultrasound as it accounted for 69% of the respondent's knowledge of ultrasound. Kohut however found that the preponderance of knowledge of ultrasound did not come from care givers¹⁶. Most of the women were confident going for ultrasound as they felt it was safe and had no biological effects on their babies. Despite the fact that 32% thought ultrasound to be unsafe, 38% did not turn down the examination, a pointer

to the encouraging level of confidence these expectant women had on their healthcare provider as opposed to heavy reliance of unorthodox antenatal services as reported by several studies in Northern Nigeria. Nevertheless, a considerable number ($n = 22$) turned down the offer of a scan, citing false positive results and poor service delivery in their previous experiences. Ohagwu¹⁹ added to the list negative attitude of patients towards accessing medical services, long distance to service providers and heavy financial costs as other barriers to prenatal ultrasound in North central Nigeria. Ejemi in his study noted that cultural unacceptability of hospital practices considerably affected women's choices in the use of antenatal services package²⁰. One limitation of our study is that being a questionnaire based study, a certain level of bias among the respondents will be expected, but it is also logical to think that such bias will be low in a pregnancy related issue when compared with other conditions like serious illness, drug misuse, or sexual problems. In conclusion, the attitude of northern Nigerian women towards prenatal diagnostic ultrasound and antenatal maternal healthcare in general is quite encouraging. The trend towards use of modern healthcare services is increasing as the years go by and efforts currently should be sustained by when compared to what other studies have shown²⁰.

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AUTHOR PROFILES

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