

Predictors Of Request For Antenatal Sex Determination Among Pregnant Women In Osogbo, Nigeria

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Abstract

Background: Prenatal ultrasonography is a useful diagnostic tool in modern day obstetrics. However, its application in prenatal sex determination would continue to attract reactions and comments. The objective of the study was to identify factors associated with fetal sex determination during ultrasonography.

Methods: A descriptive cross-sectional study was carried out among the pregnant women in South-Western Nigeria, to determine factors associated with willingness to know the sex of their unborn child using structured questionnaires.

Results: A total of 315 responses were obtained. Two hundred and nineteen (69.5%) respondents were interested in knowing the sex of their babies during ultrasonography. Younger mothers (= 29 years), primipara, those who had preference for a particular sex, those who planned to have more children based on desired sex, those who had problems detected in the index pregnancy and women who planned the index pregnancy were more willing to know the sex of their unborn child. Adjusting for other factors, pregnancies that were planned, determination to have more babies and house re-arrangement based on fetal sex of the index pregnancy were found to be significantly associated with desire to have prenatal sex determination.

Conclusion: The study has demonstrated the factors that influence the request for prenatal sex determination among the pregnant women in Southwestern Nigeria and the effects of western influence.

Key Words. Ultrasonography; Pregnant women ; Prenatal sex determination .

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INTRODUCTION

Since the introduction of ultrasonography in obstetrics by Ian Donald, its scope of application has expanded greatly to the extent that the machine has become standard equipment in many modern obstetric units worldwide.¹ The lifelike appearance of current fetal ultrasound images enables even the untrained to visualize the fetus with relative ease. Most pregnant women undergo

prenatal sonography, a procedure that gives parents the first opportunity to visualize their unborn child.² Among the most common issues raised by prospective parents during prenatal ultrasound relates to fetal sex.^{3, 4} In South Asia, fetal sex determination and subsequent abortion of female fetuses is a complicated issue and a practice that the Indian government officially banned in its passage of the 1994 Prohibition of Sex Selection Act (also known as the Pre-Natal Diagnostic Techniques Act). Under this law, it is illegal for medical personnel in India to use pre-natal diagnostic technologies (including ultrasound and amniocentesis) to determine the sex of an unborn child, unless there are compelling medical reasons to do so. Even in routine pre-natal visits, gynecologists are not allowed to inform couples of the sex of their child⁵. However the situation is different in Nigeria, though there is sex preference, induced abortion is illegal as there is overwhelming opposition to induced abortion from the populace irrespective of the sex of a child as result of socio-cultural factors.⁶ Most pregnant women in the Western world have at least one ultrasound examination during their pregnancies.² However in developing countries only few women who live in urban areas have access to this technology as majority of them reside in rural areas. Thus the aim of this study was to determine the factors that may influence the desire of mothers to know the fetal sex of their unborn child, this would assist the attending physician whether to consider the request and eventually form basis for national policy formulation on prenatal sex determination as there is none to best knowledge of the authors.

MATERIALS AND METHOD

Structured questionnaires were administered by interviewers such as nurses and doctors to willing pregnant women attending antenatal clinic and those waiting to have ultrasound done at Ladoke Akintola University Teaching Hospital, Osogbo, Nigeria. Ethical approval was obtained from ethical committee of the institution and verbal consent was also obtained from the participants.

Information on socio-demographics, willingness to know the sex of the unborn child and related factors were included in the questionnaire.

Descriptive statistics was used, mean and standard deviation for continuous variables and frequency for categorical variables. Test of association was carried out using chi-square. Multivariate stepwise logistic regression was performed to identify significant predictors, all at 5% level of significance. Data analyses was done using SPSS version.¹⁰

RESULTS

A total of 315 responses were obtained. The mean age of the respondents was 27.4±6.2years (13 - 46). Two hundred and nineteen (69.5%) respondents stated that they were interested in knowing the sex of their babies during ultrasonography, 136(43.2%) had preference for a particular sex, 156(49.5%) were not and 23(7.3%) were indifferent. Eighty (25.4%) of the respondents indicated that they preferred a male child, 62(19.7%) wanted a female child while majority, 173(54.9%) were indifferent to the sex of the unborn child.

Most, 256(81.3%) and 159(50.5%) of the respondents were of Yoruba ethnic group and were predominantly Muslims, 125(39.7%) were Christians while remaining were Traditional religionists. A high proportion, 290(92%) were married, 21(6.7%) single and 4(1.3%) were either separated or divorced. Most, 117(37.1%) had tertiary education, 111(35.7%) secondary education, 59(18.7%) primary and 28(8.9%) had no formal education. Most, 143(45.4%) were self-employed, 67(21.3%) employed by the government, 44(14.0%) by private firms, 37(11.7%) students and 24(7.6%) were unemployed. Two hundred and one (63.8%) were multiparous while 114(36.2%) were nulliparous. The greatest proportion, 184(58.4%) were in third trimester, 111(35.2%) in the second trimester while 20(6.3%) were in the first trimester (table I).

TABLE 1. SOCIO-DEMOGRAPHIC CHARACTERISTICS.

Variables	Number	Percent
Age Group(years)		
= 19	29	9.2
20-24	63	20.0
25-29	112	35.6
= 30	111	35.2
Marital Status		
Married	290	92.0

Single	21	6.7
Separated/Divorced	4	1.3
Education		
None	28	8.0
Primary	59	18.7
Secondary	111	35.2
Tertiary	117	37.1
Parity		
Nullipara	114	36.2
Multipara	201	63.8
Gestational age		
1st Trimester	20	6.3
2nd Trimester	111	35.2
3rd Trimester	184	58.4

TABLE 2 DESIRE TO KNOW FETAL SEX AS RELATED TO SOCIO-DEMOGRAPHIC CHARACTERISTICS.

Variables	Not interested No(%)	Interested No(%)	χ^2	df	P value
Employment Status					
Government	24(35.8)	43(68.8)			
Private	9(20.5)	35(79.5)			
Self-employed	33(23.1)	110(76.9)			
Students	22(59.5)	15(40.5)			
Unemployed	8(33.3)	16(66.7)	21.45	4	0.000
Parity					
Nullipara	46(40.4)	68(59.6)			
Multipara	50(24.9)	151(75.1)	8.05	1	0.000
Pregnancy Status					
Planned	58(23.8)	186(76.2)			
Not planned	35(54.7)	29(45.3)	23.0	1	0.000
Problems detected in index pregnancy					
Yes	6(12.0)	44(88.0)			
No	82(34.9)	53(65.0)	10.12	1	0.001
Previous Childrens sex determined by Ultrasound					
Yes	21(18.6)	92(81.4)			
No	68(38.9)	07(61.1)	13.22	1	0.000
Wanting to do USS just to know fetal sex					
Yes	6(7.0)	80(93.0)			
No	89(41.2)	7(58.8)	33.42	1	0.000
Having more babies depend on the sex of present fetus					
Yes	17(15.7)	91(84.3)			
No	73(38.6)	16(61.4)	17.04	1	0.000
Change of Apartment depends on the sex of the present fetus					
Yes	21(21.2)	78(78.8)			
No	75(36.6)	30(63.4)	7.30	1	0.007
Preference for a sex					
Yes	21(15.4)	15(84.6)			
No	71(45.5)	85(54.5)	30.0	1	0.000

Table 2 shows desire for fetal sex determination and associated socio-demographic factors of women.

At bivariate analysis, there were significant association between interest in knowing the fetal sex and some

variables; multiparous women were more interested than the nulliparous, (75.1% Vs 59.6%, $p < 0.01$), those who planned their pregnancies were also more interested than those who did not, (76.2% Vs 45.3%, $p < 0.001$), those who had problems in the index pregnancy were more interested than those who had no problems, (88.0% Vs 65.0%, $p < 0.001$). Those whose fetal sex will determine limitation of families were more interested than those who were not, (84.3% Vs 61.4%, $p < 0.001$); those women who had a preference for a particular sex were more interested in the sex of their unborn child than those with no preference, (84.6% Vs 54.5%, $p < 0.001$).

Those pregnant women who believed that a particular sex of baby would determine whether to rearrange the house or move to a better apartment were more interested in knowing the sex of the unborn child than those who did not share such belief, (78.8% Vs 63.4%, $p < 0.01$). Married women were more interested than the singles, separated and divorced combined but not statistically significant, (72.8% Vs 32.0, $p > 0.05$).

In table 3 a multivariate analysis of factors affecting request for sex determination shows that only those who planned their pregnancies compared to unplanned pregnancies, (OR = 3.98, CI = 3.99 7.49), whose fetal sex determines whether to have more babies or not compared to those that have completed their families, (OR = 3.68, CI = 1.91 7.05), and those who needed to change apartment or re-arrangement based on sex compared to those who did not share such belief, (OR = 1.96, CI = 1.02 3.75) were more interested in knowing the sex of their unborn child.

Table 3: TABLE 3 .LOGISTIC REGRESSION ON FACTORS AFFECTING FETAL SEX DETERMINATION.

Variables	Crude OR(95% CI)	Adjusted OR(95% CI)
Pregnancy not planned	1	
Pregnancy planned	3.87(2.18 6.87)***	3.98(3.99 7.49)***
Fetal determines whether to have more babies		
No	1	
Yes	3.37(1.86 6.11)***	3.68(3.67 7.08)***
Fetal sex determines change of apartment or rearrangement.		
No	1	
Yes	2.14(1.23 3.75)**	1.96(1.02 3.75)*

* $p < 0.05$
 ** $p < 0.01$
 *** $p < 0.001$

DISCUSSION

Antenatal sex identification with ultrasonography would continue to generate varying comments and reactions

from sonologists, medical regulating bodies and the population at large.⁷ Visualizing the fetus on ultrasound monitor leads expectant parents to experience a variety of emotions.^{8,9}

This study conducted in South-Western Nigeria reports 69.5% of the pregnant women who are predominantly of Yoruba ethnic group, as willing to know the sex of their unborn child. This result is comparable with that of similar study conducted among the Ibo ethnic group in the Eastern part of the country for which various reasons were given such as knowing the type and colour of dress to buy, curiosity, and having preference for a particular sex. Some want to have their mind prepared and be rest assured and also to help in deciding family size⁷ In America similar study revealed that 95% of pregnant women desired to know the sex of their unborn child in order to be in control of situations.¹⁰ Younger mothers(= 29 years) in this study were more willing than the older ones(= 30 years) to know the sex their fetuses, which agreed with other studies in Eastern part of the country as younger women were more likely to be anxious in knowing the sex of their unborn child.⁷ The desire to know fetal sex was found to decrease with increased parity which is at variance with report from the Eastern part of the country^{7, 10} this may be due to socio-cultural differences and the fact that when a woman has both sexes in this environment, there is less anxiety on the sex of the subsequent pregnancies.

Interestingly, planning to move to another apartment or house re-arrangement was reflected in this study as also reported among the whites,¹⁰ but this is at variance with African traditional way of communal living, this could be due to western influence as in the educational levels of most of the patients who request to know the sex of their unborn fetuses.

Other factors that were significantly associated with desire to have prenatal sex determination in this study include if problems were detected in the index pregnancy and planned pregnancy. These were in agreement with other studies^{9, 10} as there are some cultural beliefs that a particular sex especially males give more problems and if pregnancy is planned the desire to the sex of the fetus is exaggerated.

In contrast to studies in developed countries, marital status and maternal education which were found to have influence on desire to know the sex of unborn child had no significant association in this study. This could be due to support rendered by the extended family members.¹⁰

After adjusting for other factors, pregnancies that were planned, determination to have more babies especially if the other existing children were of the same sex and house re-arrangement based on fetal sex of the index pregnancy were found to be significantly associated with desire to have prenatal sex determination.

In conclusion; planned pregnancies, family size determination and change of apartment after delivery had been found to be major factors that determine the desire for prenatal sex determination by the pregnant women in our study. Further qualitative study would be necessary to explore other factors; however, attending physician should not hesitate to disclose the sex of the unborn child to any pregnant woman who desires to know the sex of her fetus.

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