

# Awareness, Practice, and Predictors of Family Planning by Pregnant Women Attending a Tertiary Hospital in a Semi-rural Community of North-West Nigeria

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## ABSTRACT

**Background:** Nigeria's maternal and perinatal health status is still among the poorest in the world, with a poor contraceptive prevalence rate and a high fertility rate. **Aim:** The aim of this study was to assess the level of awareness of family planning methods among women attending antenatal care, its uptake, and predictors of use. **Subjects and Methods:** This was a descriptive cross-sectional study, carried out at the antenatal clinic of Federal Medical Centre, Birnin Kudu, Jigawa state, Nigeria, using an interviewer administered questionnaire to assess the awareness and practice of family planning methods among 350 pregnant women, whom were selected through a systematic sampling technique from June 19, 2012, to August 26, 2012. Logistic regression analysis was used to assess the relative effect of determinants, adjusting for other predictor variables. **Results:** Of the 350 respondents, 319 (92%) had heard of family planning, of which 29% had ever used a method and the injectables were the most common method used. The use of family planning methods was significantly associated with respondents' ethnicity, occupation, and level of education ( $P \leq 0.05$ ). The odds ratio of not using family planning methods was 2 times higher in women with informal education (adjusted odds ratio = 2.12; 95% confidence interval = 1.1–3.8). **Conclusion:** Awareness of family planning methods was high among the respondents surveyed, but the utilization was poor. Female education and empowerment would help to promote uptake in this setting.

**KEY WORDS:** Awareness, family planning, Nigeria, North-West, practice, predictor

## INTRODUCTION

Nigeria, the most populous country in Africa and the sixth most populous nation in the world,<sup>[1]</sup> is faced with several health challenges: Her maternal and perinatal health status remain among the poorest in the world, and she contributes 9% of world HIV burden<sup>[2]</sup> ranking second after South Africa. She also accounts for 14% of the global burden of maternal death.<sup>[3]</sup> The maternal mortality ratio (MMR) in Nigeria varies across the geopolitical zones, between the rural and urban area and according to socioeconomic groups.<sup>[4]</sup> It was notably higher in the Northern region compared to the South with the North-East (followed closely by North-West) having the highest MMR at 1,549/100,000 live births and higher in the rural areas.<sup>[5]</sup> Equally, the infant mortality

rate (IMR) ranged from 59/1000 births in South-West to a much higher 109/1000 births in the North-East zone.<sup>[5]</sup>

Despite the high level of awareness of methods of contraception in the country,<sup>[6]</sup> an average Nigerian woman would have six children in her life time,<sup>[6]</sup> with a contraceptive prevalence rate of 16% for any method and 11% for modern methods. This may be explained by the

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[www.jbcrs.org](http://www.jbcrs.org)

#### DOI:

10.4103/2278-960X.175734

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**How to cite this article:** Ashimi AO, Amole TG, Ugwa EA, Ohonsi AO. Awareness, practice, and predictors of family planning by pregnant women attending a tertiary hospital in a semi-rural community of North-West Nigeria. *J Basic Clin Reprod Sci* 2016;5:6-11.

fact that the African culture supports a large family size, as children are seen as security at old age. Inadequate access to family planning services, concerns about side effects of family planning methods, opposition from husband, and religious prohibition are all common reasons for nonuse,<sup>[7,8]</sup> and they all account for the 16.9% total unmet need for family planning.<sup>[7,9]</sup> As a result of this, 28% of Nigerian women have had an unwanted pregnancy with equal proportions in the Northern and Southern part of the country, with a higher proportion of these women in the rural areas.<sup>[10]</sup> About half of these unwanted pregnancies do end as induced abortions with its associated complications, and one in every five women in Northern Nigeria that have sought for abortion wanted to space the next birth or did not want more children.<sup>[10]</sup>

Family planning has the potential to reduce maternal deaths and disabilities by delaying motherhood, spacing childbirths, avoiding unplanned pregnancy, and its complications as well as discontinuing childbearing when the desired family size is attained.<sup>[11]</sup> It helps in preventing high-risk pregnancies and improves infant health with a high possibility of reducing IMR<sup>[11]</sup> since an optimal birth interval has a positive effect on the chances of survival.<sup>[6]</sup>

There are numerous studies on family planning in Nigeria, many of which are facility-based and are often in the cities. Few are from rural settings where access to family planning methods may be a challenge compared to the cities. It is crucial to have an insight to the level of awareness and utilization of family planning methods by married women, who reside in a rural community in the light of the poor health indices and the low adult literacy in the North-West zone of the country.<sup>[6,12]</sup>

The objective of this study is to ascertain the level of awareness of family planning methods among women attending antenatal care (ANC), to determine the prevalence of use, the types of contraceptive methods previously used, and reasons for nonutilization. The findings from this study would assist in planning interventions to improve the uptake of family planning methods in the community.

## SUBJECTS AND METHODS

This study was carried out at the antenatal clinic of a tertiary hospital in Jigawa state, which is in the North-West geopolitical zone of the country. According to the 2006 population census, Birnin Kudu had a population of 333, 757 inhabitants, and they are predominantly Muslims and Hausa/Fulani by ethnicity.<sup>[13]</sup> Their major occupation is farming. It is about 130 km South-East of Kano city, the commercial nerve center of Northern Nigeria. The hospital

serves the health care needs of the people in the community and also receives referrals from other hospitals in the state and neighboring Northern states such as Kano and Bauchi. The hospital is a 250 bedded facility and the Obstetrics and Gynecology Department provides ANC services which are run by 3 resident consultant obstetricians, 5 medical officers, and 5 midwives. About 10,000 women/annum were seen in the Obstetrics and Gynecology Department with an average monthly attendance of 500 women at the antenatal clinic in 2012.

The study population consisted of 1065 pregnant women attending the antenatal clinic of the institution from June 19, 2012, to August 26, 2012.

### Eligibility criterion

All pregnant women are receiving ANC in the facility.

### Exclusion criteria

- All women that had AIDS, Tuberculosis, and Jaundice in pregnancy. Furthermore, excluded were those that had acute illnesses such as malaria, pyelonephritis, and pneumonia in pregnancy
- All women that did not consent to the study.

### Study design and sampling strategy

The study was descriptive and cross-sectional in design. The sample size was calculated from the expression  $N = z^2pq/d^2$  where  $z$  is the normal standard deviation set at 1.96, confidence level specified at 95%, the tolerable error margin ( $d$ ) at 5%, and based on prevalence of 88.1% on knowledge attitude and practice of family planning in Jos, North-central Nigeria.<sup>[14]</sup> A sample of 162 was obtained. This was adjusted to compensate for a nonresponse rate of 20%, and the final minimum sample size was 203. A systematic sampling technique was used to select women who consented to participate in the study and were not ill. Using the average monthly attendance (500) at the clinic as the sampling frame, the sampling fraction of 0.4 and sampling interval of three were obtained. To obtain the starting point each day, simple random sampling (balloting technique) was used to select a number between 1 and 3. Subsequently, an eligible pregnant woman that registered with the records department was recruited by adding the sampling interval (3) to the preceding pregnant woman's number. This was continued until the sample size was achieved.

### Research instrument

A structured interviewer-administered questionnaire was adapted from a previous study instrument<sup>[14]</sup> to assess the pregnant women's awareness and practice and attitude toward family planning. The questionnaire was pretested on a sample of 30 pregnant women attending a secondary health facility in the town. This was to ascertain

the appropriateness, sensitivity of the questions, and comprehensibility. There was a good internal consistency among the items re-confirming the instrument's reliability and validity. The questionnaire was in English language though another version in Hausa language was made available for natives. It was professionally translated, and the accuracy of the translation was checked by back translation done by a different translator. This was done to identify differences in translation that could alter the meaning of the questions. The administration of the questionnaires was by female students of the school of nursing who had been trained on questionnaire administration technique. The questionnaires were anonymized.

### Ethical consideration

The study proposal was approved by the Ethics and Research Committee of the Federal Medical Centre, Birnin Kudu, and informed consent was obtained from the participants. The participants were assured of confidentiality and that nonparticipation in the study would not in any way affect the care they would receive.

### Data analysis

The data obtained from the questionnaires were entered and analyzed using Statistical Package for Social Sciences (SPSS) version 21 (IBM Corporation, Armonk, NY USA). Categorical variables were summarized using frequencies and percentages. Means and standard deviation were used to summarize quantitative variable. The Chi-square test or Fishers test was used for evaluating the association between categorical variables as appropriate. Statistical significance was said to be achieved when the *P* value was  $< 0.05$ . Logistic regression analysis was used to assess the relative effect of determinants, adjusting for other predictor variables. The dependent variable was the use of family planning method classified as "Yes" or "No" and the covariates included variables that were significantly associated with the use of family planning methods at bivariate level.

## RESULTS

During the study period, 355 respondents were approached to participate in the study and 350 (99%) agreed to participate.

The ages of the respondents ranged from 13 to 42 years with a mean of  $24.2 \pm 5.68$  while the parity ranged from 0 to 12. Three hundred and forty one (97%) were married with about 255 (73%) in a monogamous relationship. Three hundred and twenty five (93%) were Muslims, 278 (79%) of Hausa ethnicity, and 246 (70%) had Quranic form of education only. Two hundred and ninety one (83%) were housewives as shown in Table 1.

**Table 1: Sociodemographic characteristics of respondents' in Birnin Kudu, 2012 (n=350)**

Characteristics	n (%)
Age (years)	
<20	64 (18)
20-29	213 (61)
30-39	67 (19)
40≥	6 (2)
Parity	
0	70 (20)
1	102 (29)
2	66 (19)
3	27 (8)
4	22 (6)
5≥	63 (18)
Ethnicity	
Hausa	278 (79)
Fulani	47 (13)
Yoruba	10 (3)
Others*	15 (5)
Religion	
Islam	325 (93)
Christianity	25 (7)
Type of marriage	
Monogamous	255 (73)
Polygamous	95 (27)
Occupation	
Housewife	291 (83)
Trading	34 (10)
Teaching	17 (5)
Others <sup>†</sup>	8 (2)
Education	
Quranic	246 (70)
Primary	56 (16)
Secondary	47 (13)
Tertiary	1 (1)
Marital status	
Married	341 (97)
Separated	8 (2)
Divorced	1 (1)

\*Others refer to Ibira, Igala, Bateria, Baji, <sup>†</sup>Others includes: Hair dressers (4), food vendors (2), clerical assistants (2)

### Awareness of family planning

Majority of the respondents 319 (92%) had heard of family planning; of which about two-thirds and slightly above a third of the respondents were aware of the injectables and the oral contraceptive pills, respectively, as shown in Table 2.

### Practice of family planning

Of those aware of the methods, about a third ( $n = 91$ ; 29%) had used a method of contraception and the types used varied from the injectables to female condom as highlighted in Table 2.

About 2 out of every 3 respondents ( $n = 202$ ; 64%) planned to use contraception after the index pregnancy, a third ( $n = 104$ ; 33%) did not consider to using any method whereas 3% were unsure. Of the respondents who did not intend to use any contraception ( $n = 104$ ), the desire for a large family size was the most common reason cited ( $n = 54$ ; 52%), while about a quarter of them ( $n = 28$ , 27%) would not because their husbands would disapprove. This is shown in Table 2.

The husband was chosen by one out of three respondents ( $n = 106$ ; 34%) as the person who should decide the method to be used, 81 (26%) were of the opinion that it was the couples decision, 73 (23%) did not know, whereas 30 (10%) felt that the woman should be the one. Twenty-six (8%) respondents felt the health worker should be responsible.

### Benefits of family planning

About two-thirds of the respondents knew that contraceptive methods could be used to space births, prevent maternal death from pregnancy-related complications, whereas 14% were not aware of any benefits. Majority of the respondents 276 (85%) got information about family planning methods from the health workers are shown in Table 2.

### Use of family planning methods and sociodemographic characteristics

The use of family planning methods was significantly associated with having formal education, being employed, and of other (non-Hausa/Fulani) ethnicity ( $P < 0.05$ ) are shown in Table 3.

### Predictors for use of family planning methods

After controlling for confounders, the odds of nonuse of family planning methods was 2 times higher in women with informal education compared with those who had formal education ( $P = 0.01$ , odds ratio = 2.12; 95% confidence interval = 1.17 lower and upper limit 3.84) are shown in Table 4.

## DISCUSSION

Although this study was carried out in a rural setting in North-West Nigeria with 70% of respondents having Quranic education with no formal education, a high level of awareness (92%) of family planning methods was noted among the respondents; and the most common method of contraception known to them was the injectables in 63% of the respondents. Interestingly, despite the high level of awareness and knowledge on the benefits of family planning, only 29% have ever used any modern method. This showed disconnection between awareness and utilization of family planning methods in this setting. This finding differs from the work of Igwegbe among ANC attendee in Nnewi, but it is similar to the reports by Utoo *et al.* in Jos<sup>[14]</sup> and Onwuzurike and Uzochukwu in Enugu.<sup>[15]</sup> This may be explained by the fact that occupation and education were significantly associated with the use of family methods. Respondents that were unemployed and those with informal education constituted the majority and had poor uptake. These are among other reasons such as the desire for large family size, nonpursuance of a career, husbands'

**Table 2: Awareness and utilization of family planning in Birnin kudu, 2012**

	n (%)
Have you heard of family planning? (n=350)	
Heard of family planning	319 (92)
Not heard	31 (8)
Methods heard of (n=319)	
Injectables	202 (63)
OCP	115 (32)
IUD	56 (18)
Implants	53 (17)
Female sterilization	34 (11)
Male condom	28 (9)
Female condom	19 (6)
Foaming tablets	6 (2)
Methods used <sup>d</sup> (n=91)	
Injectables	26 (29)
Implants	21 (23)
OCP	18 (20)
Male condom	13 (14)
IUD	8 (9)
Foaming tablets	5 (5)
Female condom	2 (2)
Reasons for not intending to use a method <sup>e</sup> (n=104)	
Desire more children	54 (52)
Husbands refusal	28 (27)
Religious prohibition	10 (10)
Fear of complication	6 (6)
Expensive	5 (5)
Risk of cancer	6 (6)
Lack of knowledge about methods	3 (3)
Benefits of family planning <sup>f</sup> (n=319)	
Spacing of births	202 (63)
Reduces risk of dying from pregnancy-related complications	198 (62)
Limiting family size	185 (58)
Don't know	46 (14)
Sources of information (n=319)	
Health worker	273 (86)
Radio	22 (7)
Friends	15 (5)
Others	9 (3)

<sup>d</sup>Multiple responses possible. IUD=Intrauterine device, OCP=Oral contraceptive pill

**Table 3: Association between the utilization of family planning methods and sociodemographic characteristics in Birnin Kudu, 2012 (n=319)**

Sociodemographic characteristics	Use of family planning methods			Chi-square test	P
	Yes	No	Total		
Age (years)					
<30	52 (21)	200 (79)	252 (100)	2.37	0.11
30≥	20 (30)	47 (70)	67 (100)		
Parity				1.96	0.38
0	10 (16)	52 (84)	62 (100)		
1-4	47 (24)	152 (76)	199 (100)		
5≥	15 (26)	43 (74)	58 (100)		
Ethnicity				4.41	0.04
Hausa/Fulani	64 (21)	236 (79)	300 (100)		
Others <sup>§</sup>	8 (42)	11 (59)	19 (100)		
Type of marriage				0.49	0.48
Monogamous	56 (24)	182 (76)	238 (100)		
Polygamous	16 (20)	65 (80)	81 (100)		
Occupation				4.15	0.04
Employed	16 (34)	31 (66)	47 (100)		
Unemployed	56 (21)	216 (79)	272 (100)		
Education				11.1	0.001
Formal	31 (35)	57 (65)	88 (100)		
Informal	41 (18)	190 (82)	231 (100)		
Religion				1.26	0.26
Islam	66 (22)	235 (78)	301 (100)		
Christianity	6 (33)	12 (67)	18 (100)		

<sup>§</sup><0.05. Others refer to ethnicities such as Ibira, Bateriya, Baju, Yoruba, Igbo, and Igala



**Table 4: Predictors of use of family planning among respondents in Birnin Kudu, 2012**

Predictor	$\chi^2$ (P)	Crude OR	Adjusted OR (95% CI)	P
Education				
Informal	11.1 (0.001)	2.52 (1.45-4.38)	2.12 (1.17-3.84)	0.01
Formal		1		
Ethnicity				
Hausa/Fulani	4.41 (0.04)	2.68 (1.04-6.95)	1.78 (0.65-4.87)	0.26
Others <sup>§</sup>		1		
Occupation				
Unemployed	4.15 (0.04)	1.99 (1.02-3.89)	1.61 (0.80-3.25)	0.18
Employed		1		
Age (years)				
<30	2.37 (0.11)	1.64 (0.89-3.00)	1.44 (0.88-4.05)	0.48
≥30		1		

<sup>§</sup>Others refer to ethnicities such as Ibira, Bateria, Baju, Yoruba, Igbo, and Igala. OR=Odds ratio, CI=Confidence interval

disapproval, religious prohibitions, and low socioeconomic status that have been identified by several studies as causes of nonutilization of family planning.<sup>[6,14-17]</sup>

Twenty-seven percent of the respondents in this study identified husbands' disapproval as reason for nonutilization of family planning. Most men in rural settings in Northern Nigeria have been noted to disapprove of family planning,<sup>[18]</sup> citing religion, and sociocultural norms as their reasons. These sociocultural and religious biases may also explain why there was a statistically significant association in respondents' ethnicity and family planning use as respondents who were of the non-Hausa/Fulani ethnicity had better uptake. They were probably uninhibited by the sociocultural norms which prevented their counterparts from utilizing any method. It has been noted that Islam does not support family size limitation, but it encourages child spacing.<sup>[19]</sup> Birth spacing helps women bear children in their healthiest years and enables them to have the desired number of children.<sup>[11]</sup> It also improves the fetomaternal outcome in the next pregnancy and reduces the risk of maternal death from pregnancy-related complications.<sup>[11]</sup> About one of four respondents that had used a method utilized the injectables which are the most commonly used modern method of contraception among married women in Nigeria.<sup>[6]</sup>

Formal education remained the only predictor of family planning uptake among the women studied and the odds of nonuse of family planning were twice higher in women with informal education. This is interesting as about half of the respondents that had formal education acquired only primary level and at this stage, arguably little health education is offered to influence the health behavior. Nevertheless, it is established that contraceptive use is positively associated with the level of formal education, and it increases with the level of attainment.<sup>[6]</sup> In spite of this, the pivotal role education continues to play in the health seeking behavior of individuals are decisive. Thus, efforts at educating and empowering women must be continued and

intensified to achieve long-term desired goals in improving maternal and child health.

Though this study was conducted in a semi-rural setting in North-West Nigeria, where little is documented about the awareness and practice of family planning; the design is subject to bias as the participants may have had recall bias in completing the questionnaires. Furthermore, been a facility based survey, it may not be representative of the community because only a third of women in North-West Nigeria utilize ANC.<sup>[6]</sup> Nevertheless, useful information regarding the use of contraception among married women in this rural setting was generated.

The 92% level of awareness of methods of family planning noted in this study is similar to the 94% reported by Obisesan *et al.* in Ibadan South-West,<sup>[20]</sup> but slightly lower than the 96% reported by Igwegbe *et al.* in Nnewi South-East Nigeria.<sup>[21]</sup> However, it is slightly higher than the 88% reported by Utoo *et al.* from Jos, North central.<sup>[14]</sup> The above figure also differs from the observed 75% for Jigawa state according to the Nigeria demographic health survey in 2013.<sup>[6]</sup> Twenty-nine percent of the respondents in this study have ever used a method of family planning which is higher than the 20% reported by Onwuzurike and Uzochukwu in Enugu,<sup>[15]</sup> but lower than the 77% reported from Nnewi.<sup>[21]</sup> Husband's objection to family planning methods was one of the reasons women cited for nonutilization despite their intention and this was noted in 27% of the respondents in this study. This is much lower than the 91% reported from the study in Enugu.<sup>[15]</sup>

Healthcare workers in a predominantly Muslim setting should be aware of the religious bias and emphasis should be on birth spacing, when introducing family planning methods to this community in order not to send a wrong signal to the biased women. Efforts should be made to educate the public, especially the men and religious leaders on the benefits of child spacing and family size limitation. Policy makers concerned with family planning services should consider involving religious leaders as advocates of the program.

Based on the above, it would be worthwhile to further explore the factors influencing birth spacing and the effect of polygamous marriage on the utilization of family planning methods in Northern Nigeria since slightly over a quarter of the respondents were in polygamous relationships. This future study should be community-based.

## CONCLUSION

The level of awareness of family planning methods was high among the respondents surveyed, but utilization was

poor. Female education and empowerment would help to promote uptake in this setting.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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