

Predictors of Knowledge, Attitude and Practice of Modern Methods of Family Planning among Married Women in Bauchi Local Government Area, Bauchi State-Nigeria

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Abstract

Background: *The use of contraceptives contributes to improvements in maternal and child health as well as national development through direct and indirect means. Nigeria remains one of the populous Nations in the world and one of the countries with high birth rate and maternal mortality rate. This study assessed the knowledge, attitude and practice of modern methods of family planning among married women of Bauchi LGA, Bauchi State.*

Methodology: *A Descriptive cross-sectional study was employed using semi-structured interviewer administered questionnaire to 201 respondents among married women of Bauchi LGA, Bauchi State. The data was analysed using SPSS version 23.0 and the level of significance was set at 0.05.*

Results: *The response rate was 100% and 54.7% of the respondents have good knowledge, 95% positive attitude and 49.3% good practice of modern methods of family planning. It also shows significant association between age, level of education, husbands' occupation and monthly household income with knowledge and practice of modern methods of family planning. Husbands' occupation and monthly household income remains independent predictors of knowledge and practice of modern methods of family planning.*

Conclusion: *This study shown that there is good Knowledge and Attitude of Premarital Screening among the study participants. However, the practice is relatively poor when compared to the other two variables. Formal education, Occupation and age are the factors associated with the Knowledge, attitude and practice of the modern methods of family planning among the respondents.*

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Husbands' occupation and monthly household income were the independent predictors of knowledge and practice of modern methods of family planning. Multipronged approaches are needed to strengthen the practice of modern methods of family planning.

Keywords: Knowledge, attitude, practice, modern methods family planning, Bauchi

INTRODUCTION

According to WHO, family planning allows people to attain their desired number of children, if any, and to determine the spacing of their pregnancies.¹ The use of contraceptives contributes to improvements in maternal and child health as well as national development through direct and indirect means and also assists in national development by reducing population growth; hence, a reduction in the competition for scarce resources. Contraception is the planned prevention of conception through the use of devices, sexual practices, drugs, and surgical procedures.¹

Modern contraceptive methods include oral contraceptive pills, implants, injectable, patches, vaginal rings, intrauterine devices, condoms, male and female sterilization, lactational amenorrhea methods, withdrawal, and fertility awareness-based methods². The most commonly known modern methods among currently married women in Nigeria are injectable (88%) and pills (87%), followed by implants (78%), male condoms (77%), and lactational amenorrhoea (58%).³ The main sources of obtaining modern contraceptive methods in Nigeria are the public sectors (government health centres and hospitals). However, the private sector (private chemists/patient medicine stores) also plays an important role as a source. Each sector's role varies by method type. The public sector serves as the predominant source for female sterilization, IUDs, implants, and injectable. While, the private sector serves as the main source for male condoms, emergency contraception, and pills.⁸

Contraception is an important aspect of reproductive health care for women, their partners, and their families. The potential of contraceptive practice in preventing unwanted pregnancy, achieving the number of children desired with appropriate spacing and timing, preventing high-risk pregnancies, unsafe and unnecessary abortions, maternal and neonatal death, as well as reproductive tract infections, and HIV/AIDS have been reported.³ According to the World Health Organisation, one million conceptions take place every day, and about 50 per cent of them are unwanted. A recent survey in Nigeria estimated that about 610,000 induced abortions are performed under unsafe conditions and in adverse social and illegal climates. Hence, abortion contributes to about 40 per cent of maternal deaths in some communities in Nigeria.⁴

Huge resources have been committed to family planning programs by many stakeholders in reproductive health, however, communities are not usually involved in the planning and pre-implementation phases of programs, which would have encouraged their full participation and helped to unravel the barriers to uptake of services.⁵

Globally, the number of women of reproductive age rose from 1.3 billion in 1990 to 1.9 billion in 2021, an increase of 46 per cent. There was an even larger increase in the number of women of reproductive age who have a need for family planning. Specifically, the number of women with a need for family planning rose from 0.7 billion

in 1990 to 1.1 billion in 2021, an increase of 62 percent. These mean there is increase in demand of family planning services and increase in unmet need of the services. In Nigeria the unmet need for contraception among married couples has also risen from 16% in 2013 to 19% in 2018.⁸ Low use of contraceptives in Nigeria, despite their availability leads to a series of problems such as unwanted pregnancies with its attendant consequences, including physical and psychosocial health problems unsafe abortions, undesirable child spacing, maternal mortality, and morbidity. Unintended and unwanted pregnancies are major problems in Nigeria.⁶ People who do not use any birth control plan may lack access or face barriers to using it. These barriers include lack of awareness, religious beliefs, cultural factors, economic reasons, partner's non-acceptance, and fear of side effects or risks.

Nigeria being the most populous country in Africa has the total fertility rate of 5.3 children per woman as of 2018, with gradual decline from 6.0 in 1990.⁹ This means an average woman will bear approximately 6 children in her life time. Rapid population growth rate as against scarce resources is one of the major problems in Nigeria. In many studies, family planning use among participant is found to be low despite adequate knowledge.^{9,10} The knowledge of modern methods of contraceptives is found to be significantly higher among females than males.¹¹ Low level of knowledge among males will not only affect the use among the men but also the women, because men are the major initiators of discussions and decision makers regarding family size and contraception.¹² The common reasons for not using and discontinuation of contraceptive include; the desire to become pregnant, side effects or health concerns, infrequent sex or husband being away, younger age, level of education, religion and size of family.¹⁰

Globally, 99% of maternal deaths occur in the developing countries⁶. Sub-Saharan Africa alone accounted for approximately 70%, Nigeria had the highest number of maternal deaths, and accounted for more than a quarter (28.5%) of all estimated global maternal deaths.¹³ Child spacing, is one of the benefits of using family planning services and is found to be a means of decreasing maternal mortality.⁷

Low-income countries have the highest unintended pregnancy rate and low prevalence of modern contraceptive use.^{8,14} This may result in high incidence of abortion. Abortion is illegal in Nigeria which means most of the procedure is carried out under unsafe environments. Unintended and unwanted pregnancies have increased risk of being aborted, thus resulting in illegal and unsafe abortions and their associated consequences, including psychosocial problems, maternal morbidity and death.¹⁵

Family planning has been recognized as a panacea for healthy motherhood with a vast favourable socioeconomic impact on the family, society, the nation and the world at large. It allows couple, especially woman, to have control over her fertility without the need of adjustment in her social or sexual life. Family planning is concerned with the mother's reproductive health, adequate birth spacing, avoiding unwanted pregnancies and abortions, preventing sexually transmitted diseases, and increasing the mother's quality of life, as well as the children's and families in general.¹⁶

Unintended pregnancies, maternal and child mortality, and induced abortions are all reduced when people practice family planning. Contraception has also been shown to increase woman's sense of autonomy and ability to make decisions in other areas of her life.¹⁷ According to many studies, high contraceptive awareness but low

contraceptive use makes the condition of family planning services a severe concern.¹⁸ It is critical to ensure that all pregnancies are wanted or intended on a global and national basis. In most studies conducted, a majority of the participants were aware of family planning methods. However, many of these have a poor attitude toward contraceptives as some believe it to cause infertility and affect daily activities. In most studies conducted, less than one-third of the participants ever used contraceptive methods. In other words, a significant percentage of couple, though aware of the contraceptive methods, have never used any. In a study conducted in India, for example, out of the 98% of participants who responded to have had knowledge about family planning, 83% never ever practiced it.¹⁹ In Nigeria, for instance, a recent national demographic health survey revealed that 85% of women are aware of contraception, but only 15% of currently married women use a method of contraception.²⁰

Nigeria is currently undergoing a demographic transition with a growth rate of 2.8% and a rapid transition.²¹ This high birth rate is particularly seen in the northern part of the country where individuals hold a pronatalist attitudes and the age-old African custom that the number of children to be borne by couples should be left to God to determine. The consequences of these attitude is reflected by a high number of maternal and childhood mortality; unwanted pregnancies and unsafe abortion. However, Family planning methods are currently available at all levels of governmental and private healthcare facilities across the nations.

Now taking into cognizance of all the above benefits and problems, and considering the fact that the family planning methods are available across the country and Bauchi State in particular, this study is therefore designed to assess the knowledge, attitude and practice of modern method of contraception use among married couples and to proffer appropriate recommendations that may help to improve the situation. This study determined the knowledge, Attitude, and practices of family planning among married couples in Dawaki ward of Bauchi LGA Bauchi State that would serve as a scientific evidenced base for policy makers and NGOs to know the magnitude of the problem and to strengthened their efforts and foster remedies to unwanted pregnancies and maternal mortality.

METHODS

Study Area

Bauchi State is a state in the North-Eastern geopolitical zone of Nigeria 10°30'N 10°00'E, it is bounded by 7 states, Kano and Jigawa to the north, Taraba and Plateau to the south, Gombe and Yobe to the east, Kaduna to the west. It was created on 3rd February 1976; it originally included the area of the now Gombe State which became a separate state in 1996. It is the 5th largest state in Nigeria with an area of 45,893 km² and a population estimated at 6,537,314 (2016 population).⁵⁹ Bauchi State consists of twenty Local Government Areas. Religions in Bauchi State are Islam about 85% of the population, Christianity 6%, and Traditionalist 9%. It is populated by 55 distinct ethnic groups, it comprises the Hausa, Fulani, Gerawa, Sayawa, Jarawa, Bolewa, Karekare, Kanuri, Fa'awa, Butawa, Warjawa, Zulawa, and Badawa as the main tribes. There are cultural similarities in the people's language, occupations, and economic existence.⁵⁹ Dawaki Community is an administrative centres of Bauchi Local

Government Area, the traditional Bauchi Emirate and headquarter of Bauchi State. The Local Government Area covers an area of 3,687 km² and had a population of 493,810 in 2006.⁶⁰ The average annual temperature ranges from 57 to 100°C, with occasional exceptions when it falls below 51 or rises over 104.⁶⁰

Study Design

A community based descriptive cross-sectional study design was employed.

Study Population

The study population includes married women within reproductive age group (15-49 years) who are residents of Dawaki Community of Bauchi Local Government Area, Bauchi State for at least six months and those that were not around during the study were excluded.

Sample Size Determination

The required sample size was obtained using an appropriate statistical formula for estimating minimum sample size in descriptive health studies; i.e. $n = Z^2pq/d^2$ Where; n = sample size, $Z = 1.96$, critical value corresponding to a given confidence level at 95% CI, d = precision or accuracy of sample = 5% = 0.05 and P = prevalence from the previous study = 88%.³⁰

Taking 10% for expected non response the minimum sample size was 180.

Sampling Technique

A multi-stage sampling technique was used with five stages for this study.

Stage one: Selection of LGA

One LGA was randomly selected from the LGAs in the state using simple random sampling by balloting i.e Bauchi LGA.

Stage two: Selection of ward from the selected LGA

One ward was selected from the list of Ten (10) wards in Bauchi Local Government Area i.e Dawaki ward using simple random sampling by balloting.

Stage three: Selection of settlements

Settlements were selected using simple random sampling by balloting from the list of all settlements in the selected ward.

Stage four: Selection of houses

Systematic sampling method was used to determine the sampling interval by dividing the number of houses by the sample size allocated proportionately to each settlement.

After calculating the sampling interval, the first house (starting point) was identified by selecting a random number between one and the sampling interval (by balloting method). Subsequent houses were then identified by adding the sampling interval to the serial number of the first sampled house. When more than one household was found in a house, one was selected by balloting and when a compound or storey building was found only one household was randomly selected by balloting. In the sampled houses with no eligible respondent, the next house was selected.

Stage five: Selection of the respondents

In the household a married woman within reproductive age group (15-49 years) was approached to ascertain eligibility, when the eligibility criteria was satisfied an informed consent was obtained and interviewed.

Study Instrument

An interviewer-administered semi-structured questionnaire was used after pretested at Dan'iya ward. The questionnaire consists of different sections; Socio-demographic characteristics of the respondents, Knowledge of modern methods of family planning, Attitude of participants toward modern methods of family planning and Practices of modern methods of family planning.

Data Management

Measurements of Variables

Dependent variables are: Knowledge, Attitude and Practice while Independent variables are: Age, sex, parity, number of living children, occupation of the respondent, husbands' occupation, marital status, income, level of education and religion.

Scoring and Grading of Knowledge and Practice

Both knowledge and practice were measured using a 2-point scale. Each correct response was scored one mark while zero was awarded for wrong answer or no response.

The respondents' knowledge and practice were graded as either good or poor. Percentage score of 50 and above was considered as good knowledge and practice. Percentage score of less than 50 was considered as poor knowledge and practice.

Scoring and Grading of Attitude

The attitude was measured using 5-point Likert scale (strongly agree, agree, neutral, disagree and strongly disagree). The respondents' attitude was graded as either good or poor. Percentage score of 50 and above was considered good while percentage score of less than 50 was considered poor.

Data Analysis

Data obtained was appropriately sorted, coded and then it was put into excel sheet for data cleaning and was validated to ensure accuracy and consistency. The data was transferred into Statistical Product and Service Solutions software (SPSS version 23.0) for analysis.

Univariate Analysis: This includes the use of percentages, proportions, and charts for qualitative variables such as sex, marital status, occupation and level of education. A quantitative variable such as age was summarised using mean and standard deviation (S.D).

Bivariate Analysis: Pearson's Chi-square test or fisher's exact test was used to test for association of independent and dependent variables such as age, level of education,

marital status, and parity with knowledge, attitude and practices of modern methods of family planning with 5% significance level at 95% confidence interval.

Multivariate Analysis: Binary logistic regression analysis was used to determine the predictors of knowledge, attitude and practice of modern methods of family planning by recruiting the variables that were significant at bivariate level with p-value <0.05 considered as statistically significant.

Ethical Considerations

Ethical clearance was obtained from the Health Research Ethics Committee (HREC) of the state ministry of health Bauchi. Permission to carry out the study was obtained from Bauchi Local Government Authority and the Helsinki declaration was respected throughout the study.

RESULTS

Table 1: Socio-demographic characteristics of the respondents

Variables	Frequency n=201	Percentage (%)
Age		
15-24	37	18.4
25-34	87	43.3
35-44	68	33.8
≥45	9	4.5
Mean ± standard deviation	31.92 ± 7.24	
Religion		
Muslims	201	100
Christians	0	0
Others	0	0
Parity		
0	5	2.5
1	17	8.5
2	22	10.9
3	35	17.4
4	37	18.4
≥5	85	42.3
Number of living children		
0	6	3
1	16	8
2	27	13.4
3	44	21.9
4	31	15.4
≥5	77	38.3
Occupation of the respondents		
Housewives	89	44.3
Traders or Businesswomen	88	43.8
Civil servants	8	8
Others	4	4
Monthly income		
≤N50,000	135	67.2
N50,001-N100,000	43	21.4
N100,001-N250,000	19	9.5
N250,001-N500,000	4	2
>N500,000	0	0

Majority of the respondents are within the age bracket of 25-34 (43.3%) within mean age and standard deviation of 31.92± 7.24 and only 4.5% are >45 years. All the respondents are Muslims. Majority of the respondents (42.3%) have delivered more

than 5times and have more than 5 children a live (38.33%). Majority of the respondents (44.3%) are housewives followed by traders/businesswomen (43.8%) with Household monthly income (67.2%) of less \leq 50,000.

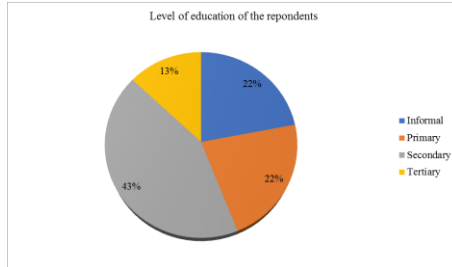


Figure 1: Level of education of the respondents

Majority of the respondent (43%) had secondary school certificate with only 13% having tertiary level of education.

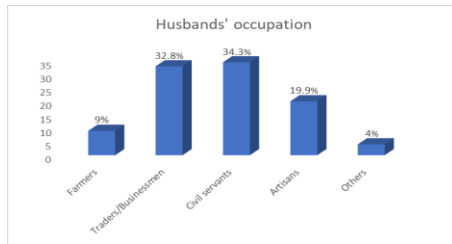


Figure 2: Husbands' occupation of the respondents

The predominant (34.3%) occupation of the respondents' husband was civil service and only 9% were farmers.

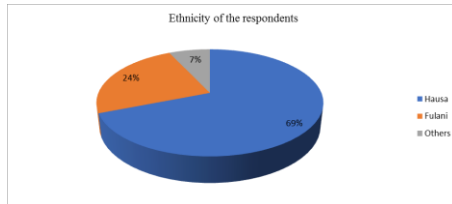


Figure 3: Ethnicity of the respondents

Most of the respondents (69%) were Hausa and Fulani comprised 24%.

Table 2: Levels of knowledge of modern methods of family planning

Level of Knowledge	Frequency (n=201)	Percentage (%)
Good	110	54.7
Poor	91	45.3
Total	201	100

It shows that 54.7% of the respondents had good knowledge and 45.3% had poor knowledge of modern methods of family planning.

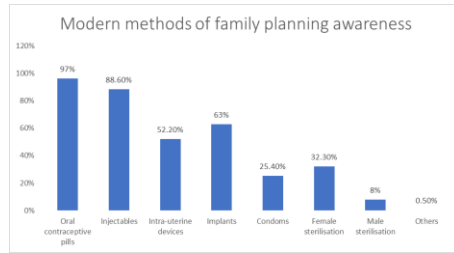


Figure 4: Awareness of the different methods of modern methods of family planning
It shows that 97% of the respondents were aware of oral contraceptive pills but only 8% were aware of male sterilization

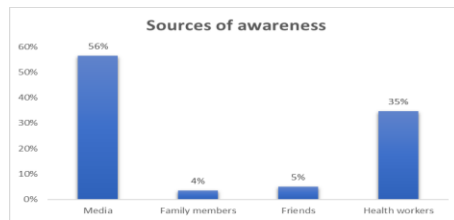


Figure 5: Sources of information of the respondents

The predominant (56%) source of awareness of the respondents was Media and 4% heard it from family members

Table 3: Attitude of Modern Methods of Family Planning among the respondents

Grading of Attitude	Frequency (n=201)	Percentage (%)
Good	191	95
Poor	10	5
Total	201	100

It shows that 95% of the respondents had good attitude and 5% had poor attitude towards modern methods of family planning.

Table 4: Practice of Modern Methods of Family Planning among the respondents

Grading of Practice	Frequency (n=201)	Percentage (%)
Good	99	49.3
Poor	102	50.7
Total	201	100

It shows that 49.3% of the respondents had good practice and 50.7% had poor practice of modern methods of family planning

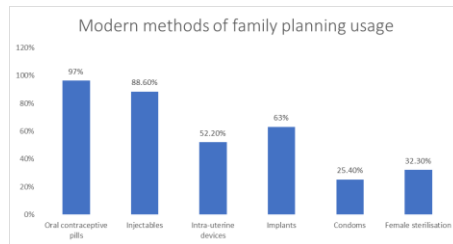


Figure 6: Distribution of contraceptive usage among the respondents

It shows that 97% of the respondents had used oral contraceptives pills but only 25% had used condoms

Table 5: Factors associated with knowledge of modern methods of family planning among the respondents

Variables	Good	Poor	Total	X ²	p-value
Age					
15-24	15 (40.5)	22 (59.5)	37 (100)	11.019	0.012
25-34	59 (67.8)	28 (32.2)	87 (100)		
35-44	32 (47.1)	36 (52.9)	68 (100)		
≥45	4 (44.4)	5 (55.6)	9 (100)		
Ethnicity					
Hausa	80 (57.6)	59 (42.4)	139 (100)	2.602	0.272
Fulani	22 (44.9)	27 (55.1)	49 (100)		
Others	8 (61.5)	5 (38.5)	13 (100)		
Parity					
0	2 (40)	3 (60)	5 (100)	10.113	0.072
1	6 (35.3)	11 (64.7)	17 (100)		
2	14 (63.6)	8 (36.4)	22 (100)		
3	26 (74.3)	9 (25.7)	35 (100)		
4	20 (54.1)	17 (45.9)	37 (100)		
≥5	42 (49.4)	43 (50.6)	85 (100)		
Number of living children					
0	3 (50)	3 (50)	6 (100)	7.611	0.179
1	5 (31.3)	11 (68.8)	16 (100)		
2	17 (63)	10 (37)	27 (100)		
3	29 (65.9)	15 (34.1)	44 (100)		
4	18 (58.1)	13 (41.9)	31 (100)		
≥5	38 (49.4)	39 (50.6)	77 (100)		
Occupation					
Housewives	38 (42.7)	51 (57.3)	89 (100)	19.000	<0.001
Traders/Businesswomen	56 (58.3)	40 (41.7)	96 (100)		
Civil Servants	16 (100)	0 (0)	16 (100)		
Husbands' occupation					
Farmers	2 (11.1)	16 (88.9)	18 (100)	27.952	<0.001
Traders/Businessmen	39 (59.1)	27 (40.9)	66 (100)		
Civil servants	50 (72.5)	19 (27.5)	69 (100)		
Artisans	15 (37.5)	25 (62.5)	40 (100)		
Others	4 (50)	4 (50)	8 (100)		
Level of Education					
Informal	15 (33.3)	30 (66.7)	45 (100)	25.955	<0.001
Primary	19 (44.2)	24 (55.8)	43 (100)		
Secondary	52 (59.8)	35 (40.2)	87 (100)		
Tertiary	24 (92.3)	2 (7.7)	26 (100)		
Income					
≤N50,000	66 (48.9)	69 (51.1)	135 (100)	15.762	0.001
N50,001-N100,000	25 (58.1)	18 (41.9)	43 (100)		
N100,001-N250,000	18 (94.7)	1 (5.3)	19 (100)		
N250,001-N500,000	1 (25)	3 (75)	4 (100)		

Respondents in the age group 25 - 34 (67.8%), Civil servants (100%), and those whom their husbands are civil servants (72.5%) were found to have good knowledge compare to other respondents in other age groups and other occupations. This finding was statistically significant (p-value <0.001). Moreover, respondents with Tertiary level of education (92.3%) and monthly household income of more than ₦100,000 (94.7%) were found to have good knowledge as compared to those with other level of education and monthly household income group respectively. This finding was also significant (p-value <0.001)

Table 6: Factors associated with attitude of modern methods of family among the respondents

Variables	Good	Poor	Total	X ²	p-value
Age					
15-24	37 (100)	0(0)	37(100)	18.786	<0.001
25-34	87 (100)	0(0)	87(100)		
35-44	60 (88.2)	8(11.8)	68(100)		
≥45	7 (77.8)	2(22.2)	9(100)		
Ethnicity					
Hausa	131 (94.2)	8(5.8)	139(100)	0.666*	
Fulani	47 (95.9)	2(4.1)	49(100)		
Others	13 (100)	0(0)	13(100)		
Parity					
0	5 (100)	0(0)	5(100)	0.030*	
1	17 (100)	0(0)	17(100)		
2	22 (100)	0(0)	22(100)		
3	35 (100)	0(0)	35(100)		
4	37 (100)	0(0)	37(100)		
≥5	75 (88.2)	10(11.8)	85(100)		
Number of living children					
0	6 (100)	0 (0)	6 (100)	0.041*	
1	16 (100)	0 (0)	16 (100)		
2	27 (100)	0 (0)	27 (100)		
3	44 (100)	0 (0)	44 (100)		
4	30 (96.8)	1 (3.2)	31 (100)		
≥5	68 (88.3)	9 (11.7)	77 (100)		
Occupation					
Housewives	83 (93.3)	6 (6.7)	89 (100)	0.636*	
Traders/Businesswomen	92 (95.8)	4 (4.2)	96 (100)		
Civil Servants	16 (100)	0 (0)	16 (100)		
Husband's occupation					
Farmers	18 (100)	0 (0)	18 (100)	0.074*	
Traders/Businessmen	63 (95.5)	3 (4.5)	66 (100)		
Civil servants	68 (98.6)	1 (1.4)	69 (100)		
Artisans	35 (87.5)	5 (12.5)	40 (100)		
Others	7 (87.5)	1 (12.5)	8 (100)		
Level of Education					
Informal	41 (91.1)	4 (8.9)	45 (100)	0.120*	
Primary	39 (90.7)	4 (9.3)	43 (100)		
Secondary	85 (97.7)	2 (2.3)	87 (100)		
Tertiary	26 (100)	0 (0)	26 (100)		
Income					
≤₦50,000	125 (92.6)	10 (7.4)	135 (100)	0.184*	
₦50,001-₦100,000	43 (100)	0 (0)	43 (100)		
₦100,001-₦250,000	19 (100)	0 (0)	19 (100)		
₦250,001-₦500,000	4 (100)	0 (0)	4 (100)		

*Fischer's exact

Respondents in the age group 25 - 34 (100%), parity <5 (100%) and less than 5 in number of living children were found to have good attitude of modern methods of family

planning compared with respondents in other age groups, parity and number of living children respectively. This finding is statistically significant (p-value <0.05)

Table 7: Factors associated with practice of modern methods of family planning among the respondents

Variables	Good	Poor	Total	X ²	p-value
Age					
15-24	15 (40.5)	22 (59.5)	37 (100)	8.322	0.040
25-34	52 (59.8)	35 (40.2)	87 (100)		
35-44	30 (44.1)	38 (55.9)	68 (100)		
≥45	2 (22.2)	7 (77.8)	9 (100)		
Ethnicity					
Hausa	77 (55.4)	62 (44.6)	139 (100)	6.948	0.031
Fulani	18 (36.7)	31 (63.3)	49 (100)		
Others	4 (30.8)	9 (69.2)	13 (100)		
Parity					
0	0 (0)	5 (100)	5 (100)	30.978	<0.001
1	3 (17.6)	14 (82.4)	17 (100)		
2	13 (59.1)	9 (40.9)	22 (100)		
3	28 (80)	7 (20)	35 (100)		
4	22 (59.5)	15 (40.5)	37 (100)		
≥5	33 (38.8)	52 (61.2)	85 (100)		
Number of living children					
0	0 (0)	6 (100)	6 (100)	33.622	<0.001
1	3 (18.8)	13 (81.3)	16 (100)		
2	16 (59.3)	11 (40.7)	27 (100)		
3	33 (75)	11 (25)	44 (100)		
4	20 (64.5)	11 (35.5)	31 (100)		
≥5	27 (35.1)	50 (64.9)	77 (100)		
Occupation					
Housewives	33 (37.1)	56 (62.9)	89 (100)	22.654	<0.001
Traders/Businesswomen	51 (53.1)	45 (46.9)	96 (100)		
Civil servants	15 (93.8)	1 (6.3)	16 (100)		
Husband's occupation					
Farmers	1 (5.6)	17 (94.4)	18 (100)	36.220	<0.001
Traders/Businessmen	37 (56.1)	29 (43.9)	66 (100)		
Civil servants	48 (69.6)	21 (30.4)	69 (100)		
Artisans	10 (25)	30 (75)	40 (100)		
Others	3 (37.5)	5 (62.5)	8 (100)		
Level of Education					
Informal	11 (24.4)	34 (75.6)	45 (100)	24.093	<0.001
Primary	18 (41.9)	25 (58.1)	43 (100)		
Secondary	49 (56.3)	38 (43.7)	87 (100)		
Tertiary	21 (80.8)	5 (19.2)	26 (100)		
Income					
≤₦50,000	60 (44.4)	75 (55.6)	135 (100)	14.490	0.001
₦50,001-₦100,000	21 (48.8)	22 (51.2)	43 (100)		
₦100,001-₦250,000	17 (89.5)	2 (10.5)	19 (100)		
₦250,001-₦500,000	1 (25)	3 (75)	4 (100)		

Respondents in the age group 25 - 34 (59.8%), Civil servants (93.8%) and those with tertiary level of education (80.8%) were found to have good knowledge compared to respondents in other age groups, other occupations and level of education respectively. This finding was statistically significant (p-value <0.04). Respondents with monthly household income of more than ₦100,000 (89.5%) were found to have good knowledge as compared to those with other level of education and monthly household income group respectively. This finding was also significant (p-value =0.001)

Table 8: Logistic regression showing predictors of knowledge of modern methods of family planning among the respondents

Variable	Odd ratio	95% Confidence Interval	p-value
Age			
<35	1.98	0.97 – 4.04	0.04
≥35	1		
Occupation			
Non-governmental	0.00	0.00 – 0.00	0.998
Governmental	1		
Husband's occupation			
Non-governmental	0.5	0.26 – 1.00	0.048
Governmental	1		
Level of Education			
Informal	0.57	0.26 – 1.24	0.153
Formal	1		
Income			
≤₦100,000	0.75	0.20 – 2.82	0.020
>₦100,000	1		

Age, husbands' occupation and household income were the predictors of knowledge of modern methods of family planning. Respondents who were less than 35years old are 2 times more likely to have good knowledge of modern methods of family planning. This finding was significant with p-value = 0.04 (CI 0.97 – 4.04). Respondents with ≤₦100,000 household monthly income were 25% less likely to have good knowledge of modern methods of family planning. This finding was significant with p-value = 0.020 (CI 0.20 – 2.82).

Table 9: Logistic regression showing predictors of attitude towards modern methods of family planning among the respondents

Variable	Odd ratio	95% Confidence Interval	p-value
Age			
≤35	3.23	0.00 – 0.00	0.995
>35	1		
Parity			
Primipara	1	0.00 – 0.00	>0.99
Multipara	1		
Number of living children			
<3	1	0.000 – 0.000	>0.99
≥3	1		

Table 10: Logistic regression showing predictors of practice of modern methods of family planning among the respondents

Variable	Odd ratio	95% Confidence Interval	p-value
Age			
≤35	3.63	0.15 – 0.71	0.004
>35	1		
Ethnicity			
Hausa/Fulani	0.43	0.13 – 1.45	0.171
Others	1		
Parity			
Primipara	2.58	0.00 – 0.00	0.998
Multipara	1		
Number of living children			
<3	1.77	0.92 – 3.42	0.003
≥3	1		
Occupation		0.00 – 0.00	0.998

Governmental	1.35		
Non-governmental	1		
Husbands' occupation			
Governmental	2.44		
Non-governmental	1	1.20 – 4.95	0.014
Level of education			
Formal	1		
Informal	2.06	0.90 – 4.76	0.089
Income			
≤₦100,000	1	0.39 – 5.97	0.043
>₦100,000	1.53		

Age, number of living children, husbands' occupation and household monthly income were the predictors of practice of modern methods of family planning. Respondents who were less than 35 years old are 4 times more likely to have good practice of modern methods of family planning. This finding was significant with p-value = 0.04 (CI 0.15 – 0.71). Respondents with >₦100,000 household monthly income were 2 times more likely to have good practice of modern methods of family planning. This finding was significant with p-value = 0.043 (CI 0.39 – 5.97).

DISCUSSION

This study was carried out to assess the level of knowledge, attitude, and practice of modern methods of family planning and their associated factors among women in reproductive age at Bauchi LGA. The mean age of the respondents was 31 years (SD of 7 years) and 100% were Muslims. This is in contrast to a study conducted in Plateau State where the mean age was 29 years and 71% of the respondents were Christians. This finding was because Bauchi state was dominated by Muslims and the selected ward for the study was dominated by Muslims as well. Majority of the respondents (42.3%) have number of living children more than 5 and only 3% do not have any child. Hausa constitute more than half of the respondents (69%) and majority (43%) have secondary school level of education. This is in contrast to another study conducted in Lagos where most of the respondents (55.32%) have tertiary level of education. Most common Husbands' occupation was Civil service (34.2%) but only 8% of the respondents were civil servants. Majority of the respondents (44.3%) were Housewives. However, in another similar study conducted in Jos, the predominant occupation among the respondents was trading (32.15%).

Findings from this study revealed that slightly more than half (54.7%) of the respondents have good knowledge of modern methods of family planning. However, awareness was 100%. This is in concordance with a similar study in Bauchi in which level of knowledge was 57% and 99% awareness of family planning methods. In contrast, similar studies conducted in Zaria and Plateau State has shown a higher level of knowledge of 97.9% and 71% respectively. Awareness of modern methods of family planning is generally high in most of the studies reviewed. 90% and 75% awareness were seen in studies from Ekiti and Zaria. In a similar study in Sierra Leon, 100% of the respondents were aware of modern methods of family planning. Most of the respondents' source of information is through media (56%). Other sources were health workers (35%), friends (5%) and family members (4%). This is contrary to another study in Jos and Zaria where the most common source of information were health care

workers (46.5% and 42% respectively). A similar study conducted in Calabar teaching hospital also has the health care workers as the most common source (38.4%) of awareness of modern methods of family planning. Among the different methods of modern family planning, an oral contraceptive pill has the highest awareness (97%). This was followed by injectable (88.60%), intra-uterine devices (52.5%), implants (63%), female sterilization (32.90%), condoms (25.4%), male sterilization (8%) and others (0.5%). This finding was similar to another study conducted in USA where oral contraceptive pills has the highest awareness of 98% but condoms have gotten a much higher awareness of 95% unlike this study. In contrast, a study in India has found condoms to have the highest awareness of 42% followed by oral contraceptive pills of 23%. Similarly, a study in Calabar has found that the most commonly known method of contraception was male condom (32.1%) followed by IUCD (20.0%).

Most of the respondents (95%) have good attitude towards modern methods of family planning which is similar to a study conducted in India in which 85% have good knowledge. The finding of this study generally was similar to most literatures reviewed. A recent study in the southern part of Nigeria has shown that out of 288 respondents, 280 (97.2%) have a positive attitude towards modern methods of family planning. Similarly, a study conducted in Jos, North Central Nigeria has shown but a little low in comparison of good attitude in 317 (75.4%) out of 420 women of reproductive age. Up to 60% of the respondents agreed that child spacing is important and only 7.8% strongly disagreed. Despite this high percentage of agreement that child spacing is important, only 24% are likely to use the family planning now or in the future. 80% of the respondents agreed that their religion does not forbid use of any modern methods of family planning and only 18% agreed that there is associated stigmatization against people using the modern methods of family planning. However, only 4.5% of the respondents are ready to recommend any methods of family planning to another person. The practice of modern family planning methods in Bauchi LGA was found to be slightly poor, where only 49.3% of respondents have good practice. This finding is similar to a study conducted here in Bauchi where 46.9% of the respondents had good practice.⁹ This finding is comparable with similar studies conducted in Kano (Dala), Abia and Rivers states which documented 39.4%, 39.2% and 46.88% respectively.^{61,15,62} This study finding was higher than similar studies conducted in Sabon-Gari Zaria and Nigeria which showed the practice of 12.3% and 12% respectively.^{63,8} But it is in contrast with similar studies carried out in Lagos state and India showing 64.1% and 78.1% of the respondents have good practice.^{64,6}

This study showed that the most common methods used by the participants were oral contraceptive pills 97% and injectable 88.6%. This is congruent with similar studies conducted in Bauchi, Kano and Kaduna states where the most common method used 66.3%, 21.47% and 5.2% respectively was oral contraceptive pill or injectable.^{9,61,63} Another study carried out in Nigeria has shown that injectable (3%) was the common method used by married women which is similar to the finding of this study.⁸ However, it is in disagreement with similar studies conducted in India where female sterilisation (42.3%) was the most common method used.⁶ The least method used by the participants was condom (25.4%) and this finding is comparable with similar study conducted in Kano (1.04%). However, it is in disagreement with a study conducted in Bauchi where the least method used was emergency contraceptive. Also, studies carried out in Abia

and south-south Geopolitical zone documented tubal ligation (3.4%) and intra-uterine devices (1.9%) as the least methods used in contrast to the finding of this study.

Bivariate analysis showed significant association between age, occupation, husbands' occupation, level of education and household income with knowledge of modern methods of family planning with p-value of 0.012, <0.001, <0.001, <0.001 and 0.001 respectively. Respondents in the age group of 25 – 34 years have percentage of good knowledge up to 60% while those above 45 years have low percentage of 40% only. Civil servants were found to have a higher per cent of knowledge (100%) than other occupation. The association between household monthly income and knowledge is significant. Respondents with >₦100,000 household income has 94.5% good knowledge while only 33.3% of those with monthly household income <₦50,000 have good knowledge. The findings in this study is in keeping with a similar study conducted in Ethiopia in which age and occupation were found to have statistical significant association with the knowledge of modern methods of family planning. However, in this Ethiopian's study, educational status was significant as well. Similarly, some of these findings were seen in a study conducted in Zaria in which age, education, occupation, religion, type of marriage (monogamous or polygamous), tribe, and parity were found to be associated with the knowledge of modern methods of family planning (p-value <0.005). Significant association was seen between age, parity and number of living children, with attitude of modern methods of family planning with p-value of <0.001, 0.030 and 0.041 respectively. Respondents in the age group 25 - 34 (100%), parity <5 (100%) and less than 5 in number of living children were found to have good attitude of modern methods of family planning compared with respondents in other age groups, parity and number of living children respectively. This finding was similar to a study conducted in Jos where age, parity and number of living children were significant associations as well. However, in this Plateau's study, monthly household income was another significant variable.

The majority of the respondents with good practice are in the age bracket 25-34 (59.8%) and those in 45-49 have the least practice (22.2%). This finding is in keeping with similar studies conducted Ile-Ife, Lagos and Jos. Participants with 2-4 living children were found to have good practice, where 59.3%, 75% and 64.5% of those living with 2, 3 and 4 children respectively had good practice. This finding is in agreement with similar study conducted in Umahia, Abia state where women with four or more children were more likely to be current users of contraceptives. This finding is statistically significant with p-value of <0.001. In addition, the study revealed that civil servants and Businesswomen had better practice 93.8% and 53.1% respectively compared to housewives (37.1%), similar findings were documented in Ethiopia. Moreover, those participants with higher level of education, tertiary (80.8%) and secondary (56.3%) had better attitudes against those with primary (41.9%) and informal education (24.4%) similar study had documented similar findings in the south-south Geopolitical zone.

Age, husbands' occupation and monthly household income were the predictors of good knowledge of modern methods of family planning. Respondents with age <35 years were 2 times more likely to have good knowledge of modern methods of family than those who were above 35 years. This might be possible as young individuals have more exposure to social media where information is easily accessible. Husbands' occupation being non-governmental was 50% less likely to have good knowledge than

being governmental. Respondents who earn <₦100,000 in a month have 25% less likelihood of having good knowledge than those who earn >₦100,000 in a month.

The predictors of good practice are age, number of living children, husbands' occupation and monthly income. Respondents <35 years are 4 times more likely to have good practice than those ≥ 35 years which is in keeping with a similar study conducted in Jos. This is statistically significant with p-value = 0.004. Those participants with <3 Children alive are 2 times more likely to have good practice than those with ≥ 3. This is statistically significant with a p-value = 0.003. Respondents who were married to husbands working in governmental sectors are 3 times more likely to have good practices than those with their husbands working in non-governmental sectors. This is statistically significant with a p-value = 0.014. Participants whose household monthly income was >₦100,000 are 2 times more likely to have good practice than those earning ≤₦100,000. It is in keeping with a similar study conducted in Kaduna and Abia where it showed that those with higher income had better practice.¹⁰ This is statistically significant with p-value = 0.043.

CONCLUSION

Good knowledge and attitude of modern methods of family planning was observed among the study participants. However, the practice is relatively poor when compared to the other two variables. Age, occupation, parity, husbands' occupation, level of education, number of living children and household monthly income were the factors associated with the knowledge, attitude and practice of modern methods of family planning. The independent predictors of knowledge, attitude and practice were age, number of living children, husbands' occupation, and household monthly income. Multipronged approaches are needed to strengthen the practice of modern methods of family planning in Bauchi State, Nigeria.

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