

Original Research Article

**Fertility Desires and Contraceptive Practices of Rural Women
in Sokoto, North western Nigeria**

Abstract

Objectives: This study was aimed at determining fertility desires and contraceptive practices of rural women in Sokoto as well as factors affecting them.

Comment [D1]: Revise!!!! There is a difference between aim and objectives

Methods: This was a cross-sectional descriptive study involving a total of 218 women who were recruited using a multi-stage sampling technique. A set of Interviewer-admini-
questionnaires was used to obtain data from the respondents, which were entered into
analysed using IBM SPSS version 20.

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Comment [D3]: Questionnaires for what?

Results: About sixty seven percent of the respondents desired more than five children and more than half desired shorter birth interval of two years. A large proportion (87.4%) of the respondents was aware of contraception in which friends and relatives as well as health personal were the main sources of information. Only 4.9% of the respondents were currently on contraception. Major reasons for low contraceptives usage include religious inhibitions, husband disapproval and fear of side effects

Conclusion: In this study the respondents had high fertility desires and although a large proportion of them were aware of contraception, very few of them used it. We therefore

recommended that health workers should create more awareness on the benefits of contraception.

Keywords; *Fertility, Contraceptive, Rural women, Sokoto*

INTRODUCTION

High fertility is one of the primary determinants of rapid population growth which can hinder socioeconomic development. Worldwide fertility rates have fallen largely due to the widespread and increasing use of modern contraceptive methods. However in some developing countries the uptake of contraception remains low with fertility rates higher in rural areas than urban areas. ^[1, 2]

The complex relationship between fertility and development is well established and is not lost on the Nigerian authorities when in 1988, concerned about the rate of demographic growth relative to economic growth, established the National Population Commission and also adopted her first population policy with the aim of achieving a total fertility rate of 4 by the year 2000, that was generally referred to as the four children per family (woman) policy.^[3] In February 2005, Nigerian government launched a reviewed population policy tagged the National Policy on Population for Sustainable Development.^[2] The targets of this new policy include a reduction in population growth rate to 2% or lower by 2015 and reduction of the total fertility rate by at least

Comment [D4]: Revise language

44 0.6 children every 5 years by encouraging child spacing through the use of family
45 planning ^[3]. Indeed, the aim of different Nigerian population policies and programmes
46 has since been to reduce fertility in the country. ^[4] In spite of this, the Nigerian
47 population has continued to grow while her GDP had continued to decline.^[2]

48 Nigeria is currently the 7th most populous country in the world and the largest in Sub
49 Saharan Africa with a United Nation's projected population of over 186 million by July,
50 2016 and 285 million by 2050.^[5 6] There are an estimated 35 million women of
51 reproductive age in the country, with an annual number of births of approximately 7
52 million and annual population growth of 3.2% per annum. The country's rapid
53 population growth has been driven by high fertility with a total fertility rate (TFR) of 5.5
54 children per woman which has fallen in the last few decades but not as rapidly as the
55 fall of the crude death rate.^[5] High population growth is related to the socioeconomic
56 development of any nation including reduced per capita income, high rural to urban
57 migration, heavy pressure on social services such as healthcare and education, high
58 unemployment rates, poverty, land fragmentation and degradation, and communal
59 clashes over arable land.^[3,5] Within families, elevated risks of maternal and child
60 mortality and a higher risk of being trapped in poverty are areas of concern as the
61 family size increases.^[4] High population levels such as seen in Nigeria can cause a
62 reduction in the 'carrying capacity' of the ecosystem, over-exploitation, depletion and
63 pressure on natural resources, thus threatening public health systems.^[1] Fertility in
64 rural areas is three times higher than that of urban areas, which can be attributed to a
65 variety of social and economic factors.^[1] In general, it is estimated that the average

66 woman would bear 15 children over her reproductive lifetime if she used no
67 contraceptive method. Nearly half of pregnancies world-wide were unintended, and
68 much remains to be done to improve contraceptive coverage.^[1,6-9]

69 Across the globe, fertility rates had fallen largely due to the widespread and increasing
70 use of modern methods of contraception. However, in some developing countries the
71 uptake of contraception remains low due to cultural, economic and political barriers.^{[1,}
72 ^{2, 5]} Today, sub-Saharan Africa is one region with the lowest levels of contraceptive use
73 and higher levels of fertility rates.^[1,2]

74 Community suspicion, and in many cases, rejection of family planning, particularly in
75 the northern region of Nigeria has impacted on the health of women and children. In
76 northern Nigeria, researchers found that the mean number of pregnancies was 6.7.^[5,9]
77 On the average, a northern Nigerian woman would have given birth to one child by the
78 age of 19 and more than 50% would have had eight or more children by the time they
79 were in their late forties.^[1, 5,4,9]

80 Fertility desire of people is an important predictor of their fertility behaviour and it is
81 found to vary by social structure.⁵ Studies have found that urban people prefer smaller
82 family size compared to rural dwellers that prefer large family sizes.^[3,10] In a study
83 conducted by Umoh et al in Uyo, they found that the number of children the women in
84 Uyo desired to have ranged from 2 to 12 with a mean of 4.^[2] In another study by Adiri
85 and colleagues to determine the fertility behaviour of men and women in three
86 communities in Kaduna State, they found that, all the women interviewed had at least

87 four living children and had wanted to have another child.^[4] Due to the high value

Comment [D5]: A desire

88 placed on children in typical Nigerian communities, most studies found limiting
89 childbearing to be a controversial, or disliked practice, while child spacing was
90 generally accepted.^[1,4]

91 Prevalence of contraceptive practices varies worldwide; in Nigeria fifteen percent of
92 currently married women use a contraceptive method, an increase of only 2
93 percentage points from the 2003 National Health Demographic Survey (NDHS) with
94 no change observed from the 2008 NDHS findings.^[5] A study conducted in Sokoto to
95 determine awareness and utilization of family planning commodities in a rural
96 community of north west Nigeria, found a very low contraceptive prevalence rate of 4%
97 and only 6.1% of the respondents had ever used modern family planning.^[11] Several
98 studies conducted within and outside the country observed that myths and
99 misinformation about family planning had significant negative effects on contraceptive
100 use and alluded that “contraception makes women become promiscuous”, “it is
101 expensive to practice family planning”, and “family planning causes cancer”.^[12,13]

102 Fertility desires are known to reflect subsequent fertility behaviour, therefore,
103 understanding these desires could help in planning strategies to modify fertility
104 behaviour. This study therefore aimed to determine the fertility desires, contraceptive
105 practices and factors affecting these choices among rural women in Sokoto state,
106 Nigeria.

107 METHODS

108 Background to study area:

Comment [D6]: The Target population

109 Sokoto State is one of the 36 States that make up the Federal Republic of Nigeria, The
110 state is divided into four health zones with 586 functional health facilities (2 tertiary, 19
111 secondary and 565 primary health facilities). It shares boundaries with the French
112 speaking West African States of the Republic of Niger to the north and east, Benin
113 republic to the west and south, and with the Nigerian states of Kebbi and Zamfara
114 respectively. The population of the state is estimated to be over 3,696,999, with a total
115 fertility rate of 7.0, contraceptive prevalence rate of 1% and an unmet need of family
116 planning of 8% .^[5] The study was carried out in Runji, Danfili and Shiyar Magaji
117 settlements of Dingyadi /Badawa ward of Bodinga LGA of the state.

118 A cross-sectional descriptive study design was used and a total of 218 women of child
119 bearing age who were married and have had at least one delivery (inclusion criteria)
120 were recruited into the study using a multi-stage sampling technique. In stage 1, one Local
121 government area (LGA) was selected using simple random selection, while stage 2 involved
122 selection of a ward from the LGA using simple random sampling and in stage 3 we selected the
123 settlements from the ward still using simple random sampling and the 4th and final Stage
124 involved selection of the respondents, using systematic random sampling from the list of houses
125 in the wards after proportionate allocation.

Comment [D7]: You make subtitle at first (study area, so make subtitles for all methodology (Here: Study design)

Comment [D8]: The sampling design is very poor, you should revise. Where is sample size justification (equation)?

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Comment [D10]: What do you mean??

126 A set of pretested interviewer-administered questionnaire was used to obtain data from
127 the respondents. The questionnaire consisted of three sections with total of twenty-five
128 stem questions. Section A explored the socio-demographic characteristics of the study

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129 subjects. Section B of the questionnaire focused on the respondents' fertility desires;
130 section C contained questions that assessed respondents' contraceptive practices.

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131 Data was entered into and analysed using SPSS version20. Analysis of data started
132 with description of data using mean and standard deviation for quantitative, counts and
133 frequencies for qualitative variables and bivariate analysis done using Chi square (χ^2)
134 test was used to determine associations between categorical variables.

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not descriptive as you mentioned before

135 Approval for the study was obtained from the Ethical Committee of the Usmanu
136 Danfodiyo University Teaching Hospital, Sokoto and permission to carry out the study
137 was obtained from the Ministry for Local Government and verbal consent from each of
138 the respondents before administration of the questionnaire.

139 RESULTS

140 In this study the ages of the study subjects ranged from 15-47 years with a mean age
141 of 26.73 $\pm$ 7.46 years. Majority, 175(85%) of the respondents were Hausa by tribe,
142 married, 198(96.1%) and in monogamous settings, 110(53.4%). Also, most 138(67%)
143 of the respondents had Qur'anic education alone with none of them completing tertiary
144 education, although 58(23.8%) of their husbands completed tertiary education. All the
145 respondents (207) were Muslims, about twenty percent of them had more than 5
146 children (Table1). Over two thirds of the study subjects 139 (67.5%) desired more than
147 5 children and among majority of them 125 (60.7%), their husbands alone decided the
148 number of children they should have. Majority of the respondents 180 (87.4%) were
149 aware of contraception (Figures 1 and 2). The commonest reason given by the

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150 respondents on the number of children desired was to protect their health 91(44.2%)
151 with only 12(3.8%) giving sex preference as a reason (Table 2).

152 Most, 180 (87.4%) of the respondents that were aware of contraception, 121(42.01%)
153 got their information from friends/relatives, followed by health personnel, 94(32.64%)
154 and electronic media 73(25.35%) (Figure 3). Only 10 (4.9%) of the one hundred and
155 eighty respondents who were aware of contraception were currently using a contrace
156 ptive method, 3 (1.5%) each were currently using oral pills, injectables and implants,
157 some of the respondents who had never used a contraceptive method 65(31.6%) said
158 it was against their religion, followed by 63(30.6%) who said it was against their culture
159 (Table 3). A total of 36 (17.5%) of respondents had never used a contraceptive method
160 because of fear of side effects (Table 4). Among the respondents who were aware of
161 contraception, 125 (69.4%) desired more than five children. The results (Table 5)
162 showed that a higher proportion of women who were younger desired more than five
163 children 91(44.2%). A high proportion 81(83.5%) of the respondents' husbands with
164 formal education desired to have more children and similarly those with more children
165 desired to have more than 5 children ($p < 0.05$ in both instances). Majority (65.6%) of
166 the respondents whose husbands alone decide on the family size wanted more than
167 five children, and this was found to be statistically significant, $p=0.042$ (Table 6).

168 Respondents who were Hausa, less than 30 years of age, in a polygamous marriage
169 and whose husbands were informally educated were more likely to desire five or more
170 children (Table 7)

171 DISCUSSION

172 This study showed some distinct peculiarities in the fertility desires and contraceptive
173 use of rural women in Sokoto. It was observed that majority 85(41.3%) of the women
174 were between 15-24 years with a mean age of 26.7 ± 7.5 year. This is in contrast to the
175 studies done in some Northern and Southern parts of Nigeria where the mean age was
176 between (25 ± 3.4) years).^[2, 3, 6, 8, 10] The study showed that the mean number of children
177 desired by the study subjects was eight; this is slightly higher than the national average
178 of seven.^[2] The figure obtained from this study was also higher compared to other
179 studies conducted in South-Western Nigeria where the average desired number of
180 children was 4.^[2,3,11] This may be attributable to the fact that majority of the study
181 subjects in our study lacked formal education, usually marry and give birth at early
182 ages. The age at which childbearing commences is an important determinant of the
183 overall level of fertility as well as the health and welfare of the mother and child. In
184 some societies, the delay of first births as a result of an increase in the age at marriage
185 has contributed to a decrease in fertility.^[5] The interplay of other socio-cultural factors
186 leading to high fertility desires have been highlighted in other studies from Muslim
187 dominated study areas.^[4,6,11,14]

188 A significant proportion (60.7%), of the study subjects opined that their husbands
189 usually took decision on their respective family sizes which is not unexpected in a
190 typical rural Northern Nigerian setting where there is male dominance and the heads of
191 households usually made most decisions in every aspect including childbearing while
192 the women are obliged to respect their husbands' decisions.^[2]

Comment [D18]: Concluded

193 The study showed high level (87.4%) of awareness concerning contraception, which is
194 similar (85%) to the level of awareness observed in the NDHS 2013.^[5] However, the
195 level of awareness observed in this study is higher than that obtained in a similar study
196 carried out previously in Sokoto.^[11] A study from southern Nigeria though similar to our
197 finding observed a much higher level of awareness (92.3%) among their study
198 subjects.^[15]

199 Findings from this study showed that health workers and the electronic media were the
200 commonest sources of information regarding contraception and this is similar with the
201 study by Avideme et al.^[1] This finding of electronic media as one of the commonest
202 sources of information may not be unrelated to antedodal fact that Hausa is the
203 common language spoken in the study area and used as medium of communication by
204 international Radio stations hence the ownership of transistor radios by most families.
205 This has greatly enhanced the level of awareness and knowledge of health and health
206 related issues.

207 Only 5.6% of the respondents were currently using a contraceptive method and this is
208 similar to the national average of 5.5%.^[5] Although the figure in this study is very low,
209 it is also similar to findings from many countries where the demand for contraceptives
210 is still not being fulfilled.^[16]

211 Worldwide, 12% of women currently married or in union who do not want any more
212 children or want to postpone their next pregnancies for at least two years are not using
213 any form of contraception meaning they have an unmet need for family planning^[16] In
214 developing countries the proportion of married women with unmet need for modern

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215 contraception is 18%, but is much higher than average in Western Africa, Middle
216 Africa, Eastern Africa and Western Asia.^[17]

217 The low level of contraceptive use may be attributed to cultural and religious practices
218 common in the area of this study as majority of the respondents' reason for not using
219 contraceptives was because it was against their religion (31.6%) and culture (30.6%).

220 In this study as the age increases the proportion of those who desired more than five
221 children also increased and those in polygamous setting desired more children than
222 those in monogamous setting. This may be because the women in a polygamous
223 setting would want to compete with their co wives believing the number of children a
224 woman has gives more stance with the spouse, prevents him from marrying more
225 wives and also determine the inheritance her children will get. Similarly those who are
226 Hausa and were married had a larger proportion of those who wanted more children
227 but there is no statistically significant relationship. A high proportion (83.5%) of the
228 respondents' husbands with formal education desired to have more children and
229 similarly those with more children desired to have more than five children. Findings
230 from other studies have shown that desired fertility of a population is influenced by a
231 number of factors ranging from religion, cultural background, level of education,
232 number of wives and median age at marriage. ^[2, 11,18.,19] Similar to the findings in this
233 study, the study in Uyo found that the number of children desired was significantly
234 associated with the husband's education and the number of children alive,^[2] this is not
235 surprising as the level of education allows the individual to make informed decisions as
236 to the responsibility towards the needs of the child beyond food and shelter and studies

237 have also shown that men desire more children than women irrespective of their
238 educational status probably because they are deemed in charge of the family and are
239 responsible for providing for the family so having more children may be seen as ego
240 booster and show how capable the man is. [2, 20.21]

241 **Table 1 Sociodemographic characteristics of respondents**
242

Variables	Frequency	Percentage (%)
n=206		
Age group(years)		
15-24	85	41.3
25-34	79	38.3
35-44	38	18.4
≥45	4	1.9
Mean age (years)	26.73±7.46	
Tribe		
Hausa	175	85.0
Fulani	29	14.1
Others	2	1.0
Marital status		
Married	198	96.1
Separated	4	1.9
Divorced	4	1.9
Type of Marriage		
Polygamy	96	46.6
Monogamy	110	53.4
Level of Education		
None	13	6.3
Quranic	138	67.0

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Primary	33	16.0
Secondary	22	10.7

Occupation

Petty trading	96	46.6
Artisan	9	4.4
Housewife	97	47.1
Civil servant	1	0.5
Others	3	1.5

Number of living children

1-2	67	32.5
3-5	96	46.6
>5	43	20.9

Husband’s Level of education

None	3	1.5
Quranic	74	35.9
Primary	22	10.7
Secondary	58	28.2
Tertiary	49	23.8

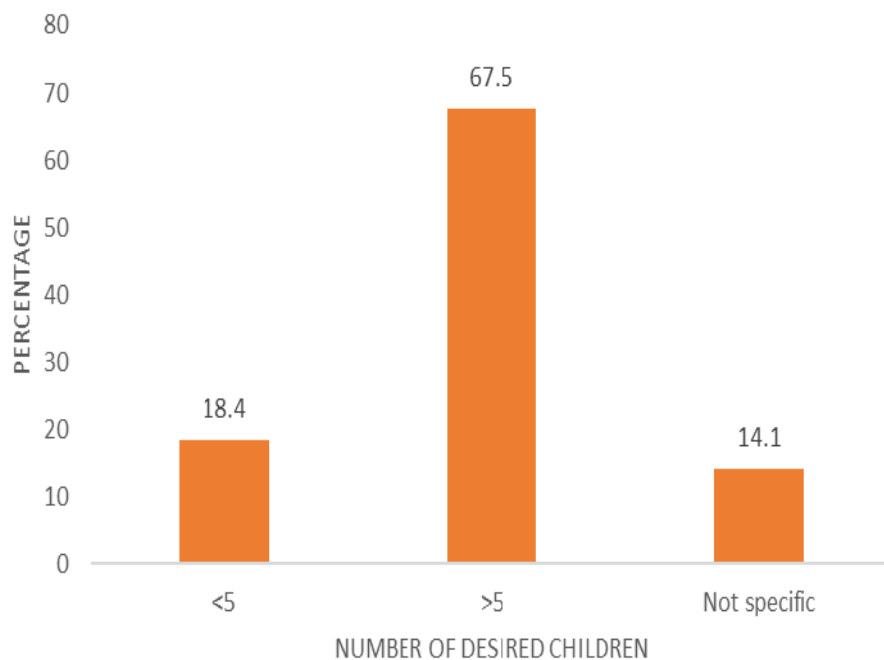


Figure 1: Number of children desired by the respondents

Table 2 Respondent's reasons for the desired number of children

Variables	Frequency (n=206) N (%)
Reasons	
To protect my health	91(44.2%)
That is the number I can cater for	6(2.9%)
To have a particular sex	12(3.8%)
It is a tradition in my village	3(1.5%)
I had no reason	83(40.3%)

Others	26(12.6%)
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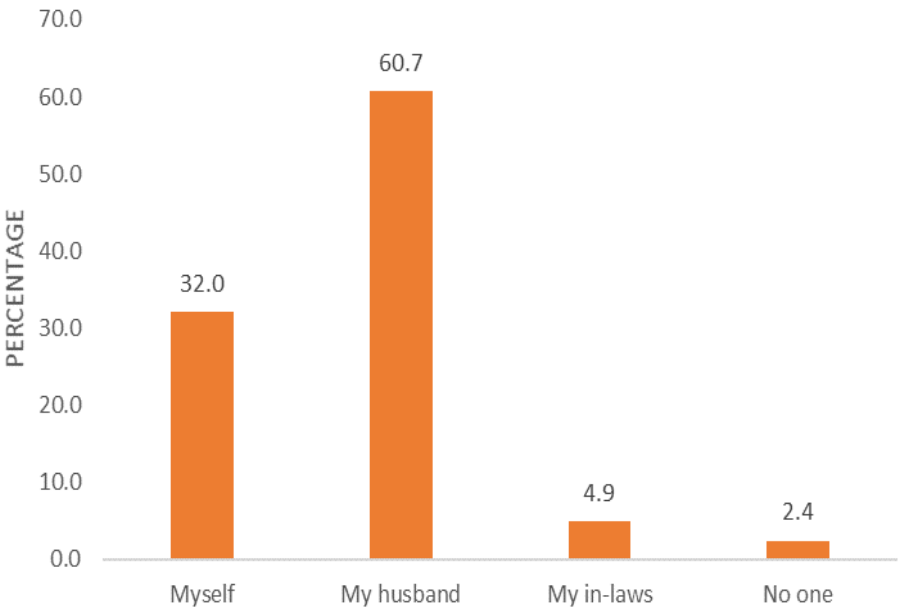


Figure 2: Person who decides the family size of the respondents

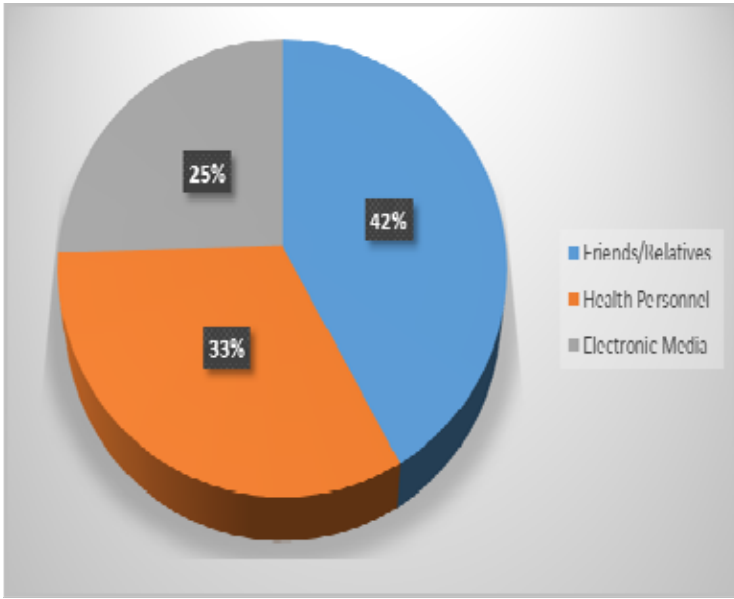


Figure 3: Source of information about contraception

Table 3 Respondents currently on contraception

Variable	Frequency (n=180)	Percentage (%)
currently on any contraception		
Yes	10	4.9
No	170	82.5
Methods of contraception Currently being used by respondents :		
Oral pills	3	1.5
Injectables	3	1.5
Implants	3	1.5

Table 4. Reasons for not using contraception*

Variables	Frequency (n=170)	Percentage (%)
It is against my culture	63	30.6
It is against my religion	65	31.6

It encourages promiscuity	4	1.9
Fear of side effect(s)	36	17.5
Ignorance of method	25	12.1
Others	38	18.4

*Multiple responses

Table 5. Relationship between desired number of children and socio-demographic profile of the respondents

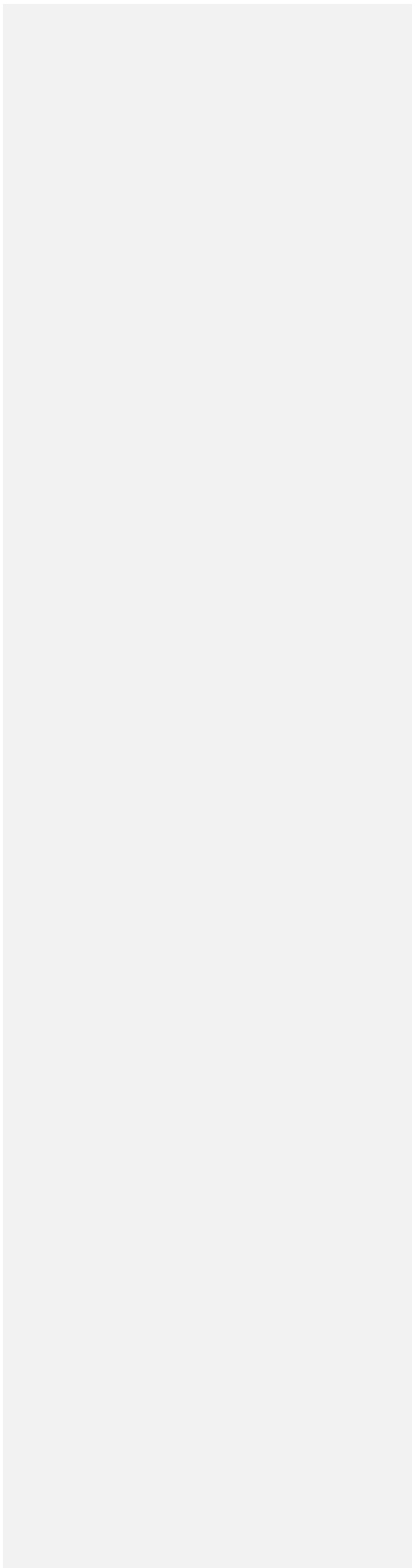
Variable	Desired number of children		Not specific (Any number) n(%)	Test statistic/P-value
	<5 n(%)	>5 n(%)		
Age group(Years)				
<30	8(5.9)	109(80.7)	18(13.3)	Fisher's exact p=0.913
≥30	4(5.6)	56(78.9)	11(15.5)	
Tribe				
Hausa	12(6.9)	141(80.6)	22(12.6)	Fisher's exact p =0.215
Fulani	0 (0.0)	23 (79.3)	6(20.7)	
Others	0(0.0)	1(50.0%)	1(50.0)	
Marital status				
Married	11(5.6)	156(80.0)	28(14.4)	Fisher's exact p =0.323
Separated	1(25.0)	2(50.0)	1(25.0)	
Divorced	0(0.0)	4(100.0)	0(0.0)	
Type of Marriage				
Polygamy	7(7.4)	76(80.0)	12(12.6)	$\chi^2=1.586$
Monogamy	4(3.8)	85(80.2)	17(16.0)	p =0.45
Level of Education				
Informal	10(6.7)	118(78.7)	22(14.7)	$\chi^2=0.948$
Formal	2(3.6)	47(83.9)	7(12.5)	p =0.62
Occupation				
Unemployed	3(3.1)	81(83.5)	13(13.4)	$\chi^2=2.7$
Employed	9(8.3)	83(79.9)	16(14.8)	p =0.25
Husband level of education				
Informal	8(10.7)	55(73.3)	12(16.0)	$\chi^2=6.89$
Formal	2(2,3)	107(84.3)	17(13.4)	p =0.03
Parity				
≤2	9(13.0)	48(69.6)	12(17.4)	$\chi^2\chi= 11.54$ p-0.02

Comment [D22]: ??? one cell include 4!!!!!!so
X2 not suitable

Comment [D23]:
Revise all cells!!!

3-5	2(2.1)	81(85.7)	12(12.6)	265
>5	1(2.4)	36(85.7)	5(11.9)	~~266~~

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292 **Table 6 Relationship between -desired number of children and decision on family size**

Variable	Desired number of children (n=206)			Test statistic/ p-value
	<5 n(%)	>5 n(%)	Not specific n(%)	
Myself	11(16.7%)	51(77.3%)	4(6.1%)	Fisher's exact P=0.042
My husband	22(17.6%)	82(65.6%)	21(16.8%)	
My in-laws	3(30.0%)	4(40.0%)	3(30.0%)	
No one	2(40.0%)	2(40.0%)	1(20.0%)	

Comment [D24]: What test , also poor tabulation

293

294 **Table 7. Respondents' likelihood of desiring 5 or more children (large family size)**

	AOR	LOWE R	UPPER	p VALUE
		95% CI for OR		
Tribe				
Hausa	9.07	0.39	209.6	0.17
Fulani	3.69	0.14	99. 7	0.44
Age				
< 30 years	4.12	0.70	24.1	0.12
Type of marriage				
Polygamous	3.80	0.73	19.71	0.11
Education level				
Informal	2.57	1.03	6.39	0.04
Occupation				
Employed	0.98	0.39	2.40	0.96
Partner's Education level				
Informal	4.817	1.02	22.70	0.04
Ever used contraceptives				
Yes	1.43	0.12	16.91	0.78

Comment [D25]: Confusing table with poor interpretation in the results

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296

297 4. CONCLUSION

298 The results of this study showed that the respondents had high fertility desires and
299 although a large proportion of them were aware of contraception, very few of them

300 used it. Some factors responsible for this included socio-cultural, religious, spousal
301 influence, parity and level of education. We therefore recommend that Health workers
302 should create more awareness on the benefits of contraception and how it can help
303 with spacing despite the number of children desired. The government should also help
304 develop strategies involving men, traditional and religious leaders in reproductive
305 health matters which can be achieved through advocacy on the need for the adoption
306 of modern methods of family planning.

307 **COMPETING INTERESTS**

308 The authors declare no competing interest.

309 310 **REFERENCES**

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