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Research Article

Contraceptive Preference and Associated Factors: Implication on Pregnancy Intentions among Nursing Mothers in Southwest Nigeria

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Abstract

Background: The gap between women's reproductive intention and contraceptive behavior could be attributed to the increasing rate of unintended pregnancies globally. The present study was conducted to *e*xplore nursing mothers' perception of contraception, identify the pattern of contraceptive uptake, examine the variations in pregnancy intention, and ultimately, to identify factors influencing contraceptive uptake and pregnancy intention in Nigeria.
Methods: The current study adopted sequential explanatory mixed method. We collected the quantitative data from 400 nursing mothers in Irewole and Ife Central Local Government Areas of Osun State, Southwest Nigeria employing semi-structured questionnaire. Our nursing mothers were selected through multi-stage sampling technique. This excluded mothers whose index child were older than 2 years old. Focus Group Discussion was conducted with use of focus group discussion guide was conducted for the qualitative survey. Eight discussants selected by convenient sampling participated in each session. We analyzed the quantitative data using SPSS software at univariate, bivariate and multivariate levels. Binary and multinomial regression analysis examined the association between dependent and independent variables while the level of significance was considered at $p< 0.05$. The qualitative findings were reported thematically.
Results: The participants in this work perceived that inappropriate contraceptive use influenced pregnancy intention, 8.5% of the nursing mothers used barrier method of contraception, 9.5% used intrauterine device, 4% hormonal pills, 8% hormonal injections, 6.5% implants, 1% calendar methods, and 0.5% traditional methods whereas 62% did not use any form of contraception. About 37% of the nursing mothers had previous pregnancies unintended, 52% were ambivalent while 11% had their pregnancies planned. Age (P=0.02, relative risk ratio (RRR)=0.42, CI=0.20-0.87), parity (P=0.001, RRR=10.38, CI=3.27-32.92), ethnicity (P=0.002, RRR=0.13,CI=0.03-0.48), and religion (P=0.048, RRR=0.26, CI=0.07-0.99) were the main predictors of pregnancy intention while Islamic religion (P=0.02, OR=2.23, CI=1.16 - 4.26) and grand multiparty (P=0.01, OR=3.61, CI=1.37-9.51) significantly influenced contraceptive choices.
Conclusion: Nursing mothers' parity, age, religion and ethnicity were the main predictors of pregnancy intention, among which religion and parity significantly influenced contraceptive choices. These variables should be incorporated into future intervention programs which aim to develop effective strategies towards improving uptake and utilization of reproductive health services.

Keywords: Contraceptive uptake, Pregnancy, Intention, Nursing, Mothers, Nigeria

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1. Introduction

Globally, the use of contraceptives is recognized as a significant method of improving women's reproductive health, reducing maternal and neonatal mortality (1, 2), and as an important factor towards attaining the Sustainable Development Goal 3 (3). Despite the availability of various types of effective family planning choices, about 214 million women of reproductive age in low and middle income countries (LMIC), who want to prevent pregnancy, are not using any form of birth control (4). This gap between women's reproductive intention and their contraceptive behavior accounts for 84% of unintended pregnancies (5) and unsafe abortion, which remains a significant public health challenge among women of reproductive age, particularly in low income countries (6).

Several studies have however attempted to investigate the disparities between widespread awareness about modern contraception and low level of contraceptive uptake in Nigeria and several other countries in the West African sub-region. A study conducted in Southwest Nigeria identified grandmultiparity as a factor responsible for low contraceptive uptake despite the high level of awareness of modern contraception in the region (7). The women's age, grandmultiparity and religion were observed as determinants of unintended

pregnancies in rural areas of Ghana (8).

Furthermore, a study among nursing mothers in Osun state, Nigeria revealed that the majority of the studied nursing mothers were aware of modern contraceptive methods, yet only 27% of them used one method or the other (9). Another similar study also demonstrated that presumed side effects of contraceptive use, existing or underlying health challenges, and disapproval of contraception by spouses, presumed protection from breastfeeding, and cultural and religious factors were determinants of contraceptive uptake (10). In addition, maternal age, parity, age at first delivery, mortality experience, fertility intention, family size, level of maternal education, place of residence, and mothers' employment status were significantly associated with non-use of contraception (11). There is however paucity of information regarding the factors responsible for differentials in the pattern of contraceptive choices among nursing mothers, variations in pregnancy intentions among nursing mothers, and influence of demographic factors on contraceptive choices and pregnancy intention in Southwest Nigeria. This study therefore aimed to explore nursing mothers' perception of contraception, identify the pattern of contraceptive uptake, examine the variations in pregnancy intention among nursing mothers, and to identify the demographic factors influencing contraceptive uptake and pregnancy intention in Southwest Nigeria.

2. Methods

The current study adopted a sequential explanatory mixed method design using both quantitative and qualitative data collection methods. We collected the quantitative data from eligible nursing mothers attending selected Primary Health Care facilities in Irewole and Ife Central Local Government Areas of Osun State, Southwest Nigeria, employing semi-structured interviewer-administered questionnaire from 400 nursing mothers. This was followed by four sessions of Focus Group Discussion (FGD) held with the use of Focus Group Discussion guide in the selected Local Government Areas.

Study Setting

We conducted this work between March and April, 2019 in selected Primary Health Care centers in Irewole and Ife Central Local Government Areas of Osun State. Multistage sampling technique was employed to select the Local Government Areas.

Ife Central Local Government Area has its headquarter at Ile-Ife, which consists of 11 political wards. Ile Ife (believed to be the Cradle of the Yorubas; a major ethnic tribe in Nigeria) is known as one of the most important historical towns in Southwest Nigeria, one of the largest urban centers in Osun State, Southwest Nigeria, and probably the oldest town of the Yoruba people. The Yorubas constitute major inhabitants while the Hausas, Igbos and other ethnic groups are the minorities in Ile-Ile. Similarly, Irewole Local Government Area is also situated in Osun State, Southwest Nigeria with 11 political wards. The majority of inhabitants in this Local Government Area are also Yorubas, though Hausas, Ibo and other ethnic groups reside within the Local Government Area. The Majority of inhabitants of the two Local Government Areas are farmers and traders while others are artisans with very few skilled professionals.

Definition of Variables

Outcome Variable

Pregnancy intention: This refers to perceived willingness or desire of a woman to conceive.

Main Independent Variable

Contraceptive preference (use): This refers to nursing mothers' preferred choice of contraceptive method(s).

Other Independent Variables

These include selected Socio-demographic and Socio-economic variables of nursing mothers.

Other Variables Defined

Nursing mother: This refers to a woman who undertakes primary care of a child below the age of 2 and for whom she attends any of post-natal clinics, immunization clinics, infant welfare clinics, under-five clinics.

We conducted the present research between March and April, 2019. The authors undertook data collection with the support of four trained research assistants. The data analysis and interpretation were carried out by the authors.

Sample Size Determination and Sampling Technique

Sampling for quantitative study

The sample size for the quantitative study was estimated utilizing the Cochran formula for sample

size estimation; $n=Z^2pq / d^2$, **w**here n=desired sample size, Z=standard normal deviate at 95% confidence level (at 95% confidence level, Z=1.96), P=35.9% (prevalence of unintended pregnancy from a study by (12), and 10% attrition rate was considered. A total of 416 nursing mothers were estimated for the quantitative study, eligible mothers were selected using multistage sampling technique:

In the first stage, Osun East and Osun West Senatorial districts were selected with simple random sampling technique (balloting) out of the three Senatorial districts in Osun State. The second stage involved purposive selection of Irewole Local Government Area from Osun West Senatorial district and Ife Central Local Government Area from Osun East Senatorial district; the two Local Government Areas were purposively selected due to their geographical proximity. Moreover, the two Local Government Areas share similar economic, cultural, political and geographical similarities. Stage three involved purposive selection of two Primary Health Care centers from each of rural and urban communities (Primary Health Care centers with highest number of attendees of nursing mothers) in the selected Local Government Areas. A total of four Primary Health Care centers were selected for this study. The estimated sample size was evenly distributed among the selected Primary Health Care centers. At the fourth stage, a list of nursing mothers in the daily attendance register in selected Primary Health Care centers were obtained, from which eligible mothers were purposively selected. The selection continued in each clinic daily until we attained the required number of nursing mothers for each Primary Health Care center.

The quantitative data from 400 nursing mothers were considered in the ultimate analysis giving a response rate of 96.2%.

Sampling for Qualitative Study

Eight discussants aged 20-29 and 30-39 years were purposively selected to participate in the four sessions of the Focus Group Discussion, this gave rise to the total of 32 discussants. Nursing mothers whose index child was older than 2 years old were excluded from the study. This is to reduce the possibility of recall bias about the history of pregnancy and delivery of the index child.

Instruments and Procedure for Data Collection

Instrument for quantitative data: The quantitative data were collected employing a semi-structured interviewer administered questionnaire. The questionnaire had five sections labelled A to D. Section A had twelve items on socio-demographic characteristics of nursing mothers. Sections B and C were adapted from National Demographic and Health Survey, NDHS (2018) women's questionnaire; Section B had 9 items on women's reproductive characteristics. Section C of the questionnaire, with 5 items, examined the pattern of contraceptive use among nursing mothers. Section D was a modified London Measure for assessing pregnancy intention (13). This section had 6 items which assessed nursing mothers' pregnancy intention in respect of index child.

Instrument for qualitative data collection: Focus Group Discussion (FGD) guide with ten open ended questions was utilized for the qualitative study. The FGD guide was translated into the local language (Yoruba language) and the recorded responses were then transcribed back into English. The FGD explored the participants' perception of contraceptive choices, pregnancy intentions and the relevant factors. Each session of the FGD lasted approximately 60-90 minutes. Informed consent was taken from FGD participants so that the discussion could be recorded. Field note was also taken to complement audio recordings.

Validity of the Instruments

Face and content validity of the questionnaire and Focus Group Discussion Guide were ensured by subjecting these instruments to experts in the field of Nursing Science, Public health, and Demography and Social Statistics. We reviewed each item of the instruments in order to ensure their appropriateness and ability to meet the stated objective of the study. Necessary corrections were effected on the questionnaire before carrying out the research in the target population.

Reliability of the Instruments

The reliability of the instrument (questionnaire) was determined with computing Cronbach's alpha value for internal consistency. We obtained the Cronbach's alpha of 0.841.

Statistical Analysis

Quantitative data analysis: The authors herein processed the quantitative data using Statistical Package for Social Sciences (SPSS) version 22.

The analysis was done at univariate, bivariate and multivariate levels; univariate analysis was carried out employing frequency and percentage distribution of respondents' background characteristics. *Nursing mothers' perception of contraception was examined with* the 5-point Likert scale. Each item of the scale was assigned a score of one point with the minimum total score of 3 and maximum score of 15. The mothers with the total score of 8-15 were categorized as being of positive perception whereas mothers with total score of 3-7 were categorized as having poor perception. The pregnancy intentions among the nursing mothers were examined and categorized as unintended, intended and ambivalent using modified London Measure of Unplanned Pregnancy. Each of the LMUP items was scored 0, 1, or 2. These were summed to create an ordinal scale of 0–12; each increase in the score reflects an increase in the pregnancy intention. The nursing mothers with a total score of 0–3 were categorized as unintended while they were categorized as ambivalent and intended pregnancy with total scores of 4–9 and 10–12, respectively. The Factors associated with contraceptive preferences among nursing mothers were identified. Chi-square statistic was applied to examine the association between selected socio-demographic variables, pregnancy intention and contraceptive use at bivariate level. Binary logistic regression analysis was carried out to examine the association between contraceptive use and selected socio-demographic variables while multinomial regression analysis

Table 1: Socio - Demographic Characteristics of Nursing Mothers

Variables	Frequency	%
Age at last birthday (years) Mean=29±6		
Less than 20	16	4.0
20-29	204	51.0
30-39	170	42.5
40-49	10	2.5
Marital status		
Married	400	100.0
Type of marriage		
Monogamous	354	88.5
Polygamous	46	11.5
Ethnicity		
Yoruba	344	86.0
Igbo	40	10.0
Hausa	10	2.5
Others(Urhobo, Ebira)	06	1.5
Religion		
Catholic Christian	34	8.5
Orthodox Christian	32	8.0
Pentecostal Christian	244	61.0
Islam	90	22.5
Highest level of Education		
No formal education	10	2.5
Primary education	14	3.5
Secondary education	242	60.5
Tertiary education	134	33.5
Employment status		
Unemployed	14	3.5
Self-employed	294	73.5
Government employed	46	11.5
Employed in Private sector	46	11.5
Average income		
*Less than 18,000 naira	216	56.0
More than 18,000 naira	170	44.0

*18,000 naira is the minimum wage in Nigeria as at the time of this study. Table 1 shows that the mean age at last birthday of nursing mothers was 29 years with 51% aged 20-29 years old. The distribution of mothers' age at last birthday, types of marriage, highest level of education, mothers' employment status and average monthly income are as shown in table 1. N=400

examined the association between pregnancy intention, contraceptive use and selected socio-demographic variables. The level of significance was taken at p-value less than 0.05.

Qualitative data analysis: We explored the similarities and differences in nursing mothers' points of views regarding their perception of contraception, pregnancy intention and associated factors. Their responses were analyzed using Nvivo 11 software and the relevant findings were presented thematically.

3. Results

Our findings implied that 60.5% of the studied nursing mothers had secondary school education, and 33.3% of them had tertiary education. Meanwhile, 3.5% of the mothers were self-employed and 3.5% unemployed (Table 1). This Study also demonstrated that the nursing mothers' age at their first marriage ranged between 17 years and 38 years with the mean of 24 years, the majority (70.5%) of whom had their first sexual intercourse between ages 20-29. In addition, 66.5% of the mothers were multipara, 24.5% were primipara, and 9.0% were grand multipara (Table 2). Our results also showed that 8.5% of the nursing mothers used barrier method of contraception, 9.5% used intrauterine device, 4% took hormonal pills, 8% had hormonal injections, 6.5% used implants, 1% applied calendar methods, 0.5% considered traditional methods of contraception, and 62% did not use any form of contraception (Table 3). About 37% of them admitted to have their last pregnancies unintendedly while only 11% of the nursing mothers had their previous pregnancies planned (Figure 1). Bivariate analysis of the leading factors of contraceptive use revealed that mothers' age (P=0.01), ethnicity (P=0.001), religion (P=0.001 and parity (P=0.001) were significantly associated with contraceptive use (Table 4) while regression analysis revealed that Islamic religion (P=0.02, OR=2.23, CI=1.16-4.26) and grand multiparty

Table 2: Reproductive Characteristics of Nursing Mothers

Variables	Frequency	%
Age at first marriage (years)		
Less than 20	28	7.0
20-29	332	83.0
30-39	40	10.0
Age at first sexual intercourse		
Less than 20	114	28.5
20-29	282	70.5
30-39	04	1.0
Parity		
Primipara	98	24.5
Multipara	266	66.5
Grand multi para	36	9.0
Menstrual cycle		
Less than 21days cycle (lasting 3-5 days)	42	10.5
21 days -35 days (lasting 3-5 days	164	41.0
Amenorrheic (Not yet resumed menses)	194	48.5

Table 2 showed that 48.5% of the nursing mothers were yet to resume menstruation after delivery. Mothers' age at first marriage, age at first sexual intercourse, parity and pattern of menstrual cycle are shown in table 2. N=400

Table 3: Pattern of Contraceptive use among Nursing Mothers

Types of Contraceptive	Frequency	%
Condom	34	8.5
Intrauterine Contraceptive device	08	9.5
Hormonal pills	16	4.0
Hormonal injections	32	8.0
Implants	26	6.5
Calendar method	04	1.0
Traditional methods	02	0.5
None	248	62.0

Sixty two percent of nursing mothers were not using any form of contraceptive. The distribution of contraceptive use by mothers is shown in the table 3 above.

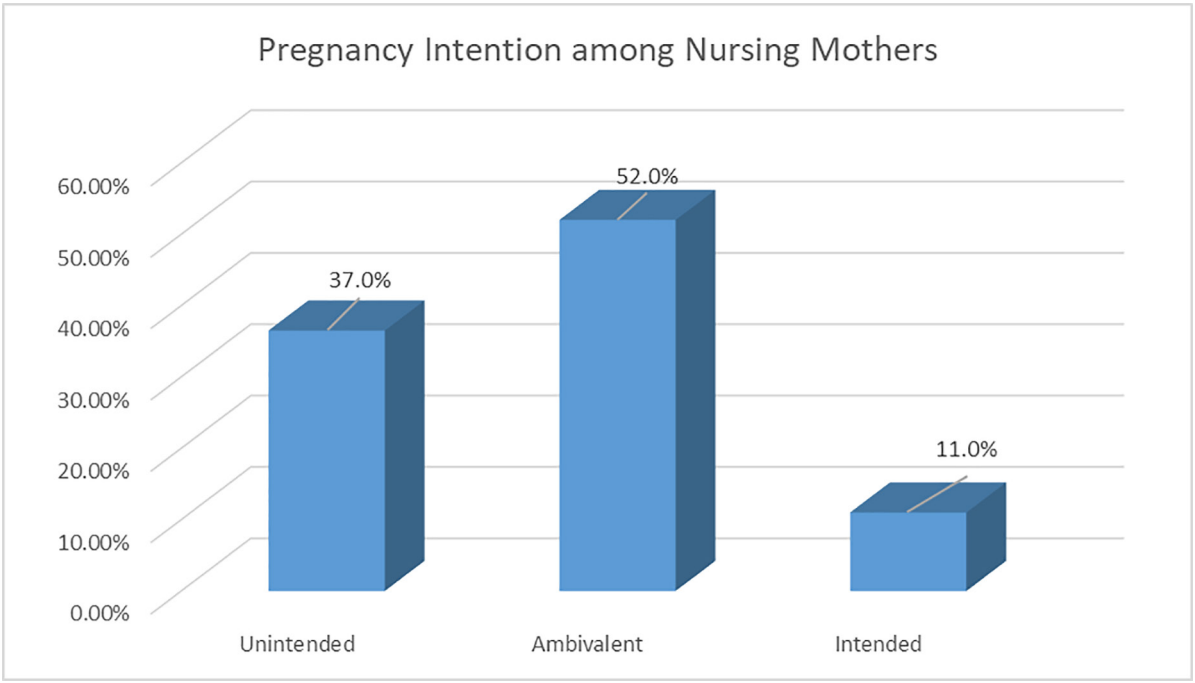

Figure 1: Pregnancy Intention among Nursing Mothers. The Bar chart above shows that 36.5% of the nursing mothers had their previous as unintended, 52.0% were ambivalent while only 11.0% of the women had their pregnancies planned.

(P=0.01, OR=3.61, CI=1.37-9.51) remained significant predictors of contraceptive choices among the nursing mothers (Table 5). The odds of a woman practicing Islamic religion (OR=2.23) to use contraceptive methods were higher than that of a Christian woman. Meanwhile, the odds that grand multiparous women (OR=3.61) would use a contraceptive method were higher than the odds for multiparous women (OR=0.49). Furthermore, bivariate analysis of the factors influencing pregnancy intention indicated that mothers' age at their last birthday (P=0.04), their age at the first marriage (P=0.01), their employment status (P=0.001), ethnicity (P=0.03) and parity (P=0.01) were significantly associated with pregnancy intentions (Table 6). However, further analysis at multivariate level revealed that mothers' age group of 25-34 years old (P=0.02, RRR=0.42, CI=0.20-0.87) and age group of 35-44 years old (P=0.003, RRR=0.21, CI=0.08 - 0.59), grand-multiparity (P=0.01, RRR=10.38, CI=3.27-32.92), ethnicity (P=0.002, RRR=0.13, CI=0.03-0.48) and religion (P=0.048, RRR=0.26, CI=0.07-0.99) were the main determinants of pregnancy intention (Table 7). The relative risk for nursing mothers aged 25-34 years old having unintended pregnancy (RRR=0.42) was higher than that of mothers whose ages were 35-44 years old (RRR=0.21) relative to ambivalent. Similarly, the relative risk for a grand-multiparous mother having unintended pregnancy (RRR=10.38) was 10 times higher than the relative risk for multiparous mother (RRR=1.91) relative to ambivalent while the relative risk for an Igbo mother (RRR=0.13) having unintended pregnancy was less than the relative risk for an hausa mother (RRR=1.14) relative to ambivalent and the relative risk for a mother practicing Islamic religion (RRR=0.26) having unintended pregnancy was less than the relative risk for a Christian Pentecostal (RRR=0.34) and orthodox mother (RRR=0.33), respectively (Table 8).

Qualitative Findings

The obtained qualitative responses revealed the participants generally perceived that contraceptive use is an essential factor influencing pregnancy intention and that non-use or ineffective contraceptive use could influence women's pregnancy intention. The findings from the qualitative survey generated four themes, including mothers' perception of modern contraception, contraceptive use and its influence on pregnancy intention, the factors influencing contraceptive use, and the consequences of non-use of contraception (Table 8).

Perception and Awareness about Modern Contraception

Nursing Mothers Perceived Contraception as Means of Spacing Children

Nursing mothers generally perceived contraception as means of spacing children and giving birth to a number of children that a family could take care of. Regarding this, a 23-year-old participant responded:

"…*Contraception refers to methods of spacing*

Table 4: Bivariate analysis of Factors influencing Contraceptive Use among Nursing Mothers

Socio- Demographic Characteristics	Contraceptive Choices Non-Use n (%)	Use n (%)	Total n (%)	Statistic χ^2 *df, p		
Age at last birthday (years)				11.45	3	0.01
Less than 20	14 (87.5)	2 (12.5)	16 (100.0)			
20-29	134 (65.7)	70 (34.3)	204 (100.0)			
30-39	92 (54.1)	78 (45.9)	170 (100.0)			
40-49	8 (80.0)	2 (20.0)	10 (100.0)			
Age at first marriage (years)				5.14	2	0.08
Less than 20	22 (78.6)	6 (21.4)	28 (100.0)			
20-29	198 (59.6)	134 (40.4)	332 (100.0)			
30-39	28 (70.0)	12 (30.0)	40 (100.0)			
Highest level of Education				7.14	3	0.07
No formal education	08 (80.0)	2 (20.0)	10 (100.0)			
Primary education	08 (57.1)	6 (42.9)	14 (100.0)			
Secondary education	160 (66.1)	82 (33.9)	242 (100.0)			
Tertiary education	72 (53.7)	62 (46.3)	134 (100.0)			
Employment status				10.01	3	0.02
Unemployed	12 (85.7)	02 (14.3)	14 (100.0)			
Self-employed	190 (64.6)	104 (35.4)	294 (100.0)			
Government employed	22 (47.8)	24 (52.2)	46 (100.0)			
Employed in Private sector	24 (52.2)	22 (47.8)	46 (100.0)			
Ethnicity				24.51	3	0.001
Yoruba	222 (64.5)	122 (35.5)	344 (100.0)			
Hausa	10 (100.0)	0 (0.0)	10 (100.0)			
Igbo	12 (30.0)	28 (70.0)	40 (100.0)			
Other tribes (Urhobo, Ebira)	04 (66.7)	02 (33.3)	06 (100.0)			
Religion				28.36	3	0.001
Christian Catholic	12 (35.3)	22 (64.7)	34 (100.0)			
Christian Orthodox	16 (50.0)	16 (50.0)	32 (100.0)			
Christian Pentecostal	146 (59.8)	98 (40.2)	244 (100.0)			
Islam	74 (82.2)	16 (17.8)	90 (100.0)			
Parity				48.99	2	0.001
Primipara	88 (89.8)	10 (10.2)	98 (100.0)			
Multipara	134 (50.4)	132 (49.6)	266 (100.0)			
Grand multipara	26 (72.2)	10 (27.8)	36 (100.0)			

Table 4 showed that age at first marriage (P=0.08) and highest level of education (P=0.07) had no significant influence on contraceptive use. df=degree of freedom

children. It involves the use of family planning methods in order to delay birth of children when a woman is ready to do so" **(a 23-year-old participant)**

A 32-year-old nursing mother with a similar opinion expressed:

"…family planning is a process of having children at the desired time. This prevents unwanted pregnancies and unwanted children". **(a 32-year-old participant)**

Widespread Awareness about Modern Contraception among Nursing Mothers

All the participants at the FGD were aware of modern family planning methods. Sources of information about contraception included mass media, health workers and family service providers and friends. A 25-year-old participant claimed:

"…I got information about family planning long before I got married. The nurses in the health center always talk about it, I also got some information from the radio". **(a 25-year-old participant)**

Similarly, a 35-year-old participant responded:

"…am aware of the different family planning methods, the health care professionals. Radio and television are the main sources of information about family planning".

Table 5: Binary Logistic Regression Analysis of Factors Influencing Contraceptive use among Nursing Mothers

Independent variables	P value	Odd Ratio (OR)	Confidence Interval (CI)
Age at last birthday (years)			
Less than 20	*RC		
20-29	0.40	3.36	0.20 - 55.30
30-39	0.20	2.99	0.56 - 16.00
40-49	0.12	3.67	0.71 - 19.01
Age at first marriage (years)			
Less than 20	RC		
20-29	0.95	1.05	0.26 - 4.26
30-39	0.58	0.63	0.12 - 3.29
Highest level of Education			
No formal education	RC		
Primary education	0.99	0.50	0.19 - 1.18
Secondary education	0.68	1.31	0.37 - 4.62
Tertiary education	0.54	0.84	0.49 - 1.46
Employment status			
Un-employed	RC		
Self-employed	0.46	0.50	0.08 - 3.09
Government employed	0.64	1.21	0.55 - 2.64
Employed in Private sector	0.21	1.84	0.71 - 4.73
Ethnicity			
Yoruba	RC		
Hausa	0.80	1.27	0.20 - 8.18
Igbo	0.89	0.19	0.02 -10.09
Other tribes (Urhobo, Ebira)	0.19	3.84	0.51- 28.77
Religion			
Christian	RC		
Islam	0.02	2.23	1.16 - 4.26
Parity			
Primipara	RC		
Multipara	0.26	0.49	0.14 -1.70
Grand multipara	0.01	3.61	1.37 - 9.51
Constant	0.04	0.03	

RC refers to reference category, CI refers to Confidence Interval, Table 5 Showed that mothers' age, age at first marriage, highest level of education, employment status and ethnicity were not significantly associated with contraceptive use.

(a 35-year-old participant)

Perception of Contraceptive Use and Influence on Pregnancy Intention

Low Contraceptive Uptake Among Nursing Mothers

The responses from the FGD illustrated that there was generally low contraceptive use among the studied participants. Several reasons were given by the participants for its non-use or low use. For instance, a participant aged 39 responded:

"… my husband is presently not at home, so I do not need family planning. Even if he comes around, I can't be pregnant" **(a 39-year-old participant)**

Similarly, another 32-year-old nursing mother responded:

"… I will not use family planning because my elder sister did so and could not be pregnant again for a long time. My mother warned all her children not to use any family planning method because of this experience" **(a 32-year-old participant)**

A participant aged 28 also responded:

"… my friend continued to bleed after family planning, I don't want to have a similar problem. I cannot use any family planning method now because I am still young and have not yet completed my family" **(a 28-year-old participant)**

Table 6: Bivariate analysis of Factors influencing Pregnancy Intention among Nursing Mothers

Socio- Demographic Characteristics	Pregnancy Intention Unintended n (%)	Ambivalent n (%)	Intended n (%)	Total n (%)	Statistic χ *df, p		
Age at last birthday (years)					29.28	3	0.04
Less than 20	14 (87.0)	02 (12.5)	0 (0.0)	16 (100.0)			
20-29	80 (39.2)	102 (50.0)	22 (10.8)	204 (100.0)			
30-39	48 (28.2)	102 (60.0)	20 (11.8)	170 (100.0)			
40-49	04 (40.0)	02 (20.0)	04 (40.0)	10 (100.0)			
Age at first marriage (years)					14.23	2	0.01
Less than 20	16 (57.1)	10 (35.7)	02 (7.1)	28 (100.0)			
20-29	124 (37.3)	172 (51.8)	36 (10.8)	332 (100.0)			
30-39	06 (15.0)	26 (65.0)	08 (20.0)	40 (100.0)			
Highest level of Education					48.44	2	0.35
No formal education	04 (40.0)	05 (50.0)	01 (10.0)	10 (100.0)			
Primary education	08 (57.1)	14 (28.6)	02 (14.3)	14 (100.0)			
Secondary education	110 (45.5)	118 (48.8)	14 (5.8)	242 (100.0)			
Tertiary education	28 (20.9)	76 (56.7)	30 (22.4)	134 (100.0)			
Employment status					21.36	3	0.001
Un-employed	06 (42.9)	08 (57.1)	0 (0.0)	14 (100.0)			
Self-employed	122 (41.5)	140 (47.6)	32 (10.9)	294 (100.0)			
Government employed	06 (13.0)	30 (65.2)	10 (21.7)	46 (100.0)			
Employed in Private sector	12 (26.1)	30 (65.2)	04 (8.7)	46 (100.0)			
Ethnicity					13.98	3	0.03
Yoruba	134 (39.0)	172 (50.0)	38 (11.0)	344 (100.0)			
Hausa	06 (60.0)	04 (40.0)	0 (0.0)	10 (100.0)			
Igbo	08 (20.0)	26 (65.0)	06 (15.0)	40 (100.0)			
Other tribes (Urhobo, Ebira)	02(33.3)	03 (50.0)	01 (16.7)	6 (100.0)			
Religion					2.54	3	0.86
Christian Catholic	12 (35.3)	16 (47.1)	06 (17.6)	34 (100.0)			
Christian Orthodox	10 (31.2)	18 (56.2)	04 (12.5)	32 (100.0)			
Christian Pentecostal	88 (36.1)	128 (52.5)	28 (11.5)	244 (100.0)			
Islam	36 (40.0)	46 (51.1)	08 (8.9)	90 (100.0)			
Parity					14.53	2	0.01
Primipara	40 (40.8)	54 (55.1)	4 (4.1)	98 (100.0)			
Multipara	86 (32.3)	142 (53.4)	38 (14.3)	266 (100.0)			
Grand multipara	20 (55.6)	12 (33.3)	4 (11.5)	36 (100.0)			
Current contraceptive use					43.90	1	0.05
No Contraception	94 (37.9)	124 (50.0)	30 (12.1)	248 (100.0)			
Uses Contraception	52 (34.2)	84 (55.3)	16 (10.5)	152 (100.0)			

Table 6 showed that mothers' highest level of education (P=0.35), religion (P=0.86) and contraceptive use (P=0.05) had no significant association with pregnancy intention among the nursing mothers. *df=degree of freedom

Contraceptive Use/Non-Use Could Influence Mothers' Desire to Conceive

Once asked to describe their opinion about the influence of contraception on pregnancy intention, our participants responded that contraception enables a woman to determine the number of children she intends to have and the time she wants the children. This is possible if she uses the method chosen appropriately. Expressing her opinion, a 34-year-old participant responded:

"…Family planning helps a woman to plan her children, the number she intends to have and the time she desires to have them. The proper use of family planning could prevent unwanted pregnancies, but the method chosen must be applied properly". **(a 34-year-old participant)**

A 35-year-old participant also supported this expressing: *"…family planning helps a couple to plan their family in terms of the number of children and the number of years in-between the children. The Proper use of family planning could influence pregnancy intention because we will be able to decide the time of our next pregnancy".* **(a 35-year-old participant)**

Table 7: Multinomial Logistic Regression Analysis of Factors Influencing Pregnancy Intention among Nursing Mothers

Independent variables	Unintended	Intended
	*RRR P value *CI	RRR P value CI
Age at last birthday (years)		
Less than 25 * RC	1	1
25-34	0.42 0.02 0.2-0.87	2.66 0.26 0.49-14.50
35-44	0.21 0.003 0.08-0.59	2.67 0.32 0.38-18.42
Age at first marriage (years)		
Less than 25 RC	1	1
25-34	0.61 0.12 0.32-1.14	0.42 0.07 0.17-1.07
Highest level of Education		
No formal education RC	1	1
Primary education	0.43 0.97 0.16-2.79	5.63 0.83 0.68-12.30
Secondary education	1.19 0.76 0.38-3.74	0.81 0.12 0.12-5.44
Tertiary education	0.96 0.95 0.27-3.37	5.52 0.78 0.78-38.86
Employment status		
Unemployed RC	1	1
Self-employed	0.87 0.06 0.02-1.64	0.93 0.05 0.03-3.97
Government employed	1.66 0.14 0.84 - 3.25	2.68 0.03 1.08-6.62
Employed in Private sector	0.65 0.09 0.23-1.63	0.97 0.16 0.56-2.34
Ethnicity		
Yoruba RC	1	1
Hausa	1.14 0.23 0.36-1.76	0.87 0.45 0.43-1.00
Igbo	0.13 0.002 0.03-0.48	0.70 0.65 0.15-3.00
Other tribes (Urhobo, Ebira)	0.43 0.22 0.11-1.67	0.35 0.34 0.04-3.04
Religion		
Christian Catholic RC	1	1
Christian Orthodox	0.33 0.17 0.07-1.56	0.59 0.62 0.07-4.68
Christian Pentecostal	0.34 0.095 0.10-1.20	0.51 0.44 0.09-2.81
Islam	0.26 0.048 0.07-0.99	0.51 0.49 0.07-3.60
Parity		
Primipara RC	1	1
Multipara	1.91 0.06 0.97-3.75	3.95 0.04 1.10-14.15
Grand multipara	10.38 0.001 3.27-32.92	4.73 0.10 0.75-29.92
Current contraceptive use		
No contraception RC	1	1
Uses contraception	1.12 0.79 0.48-2.61	0.69 0.67 0.12-3.92
Constant Model statistics:	3.62 0.26 0.39 – 33.76 n=400. P value=0.000 R square=0.1662	0.01 0.017 0.00 – 0.43

Table 7 shows that mothers' age at first marriage, highest level of education, employment status, and contraceptive use had no significant influence on pregnancy intentions. * Note: RRR: relative-risk ratio; 95%CI: confidence interval Base Outcome: ambivalent, RC=Reference Category

Perception of Factors Influencing Contraceptive Use

Number of Children Ever Born by a Woman, Women's level of Education, Spousal Influence,

Culture and Religion

The participants in the FGD considered the number of children ever born by a woman, women's level of education, spousal influence, and culture and religion as probable factors that could be influential on a woman's contraceptive choice. Regarding this, a 36-year-old participant claimed:

"*…a woman who has completed the desired number of children would consider family planning. The number of children could determine whether a woman will use family planning or not as long as her husband consents*". **(a 36-year-old participant)**

FGD participants also expressed their opinions about women's level of education as a pivotal factor in contraception. A 27-year-old participant expressed:

"*…I believe that educated women are more likely to use family planning than less educated women because they would easily understand the importance of family*

Table 8: Perception of Nursing Mothers about Contraception: Thematic Analysis of Responses from Focus Group Discussion

Main Theme	Themes	Sub-themes
Perception about Contraception	Perception and awareness about modern contraception	Nursing mothers perceived contraception as means of spacing children
		Widespread awareness about modern contraception among nursing mothers
	Perception about contraceptive use and Influence on pregnancy intention	Low contraceptive uptake among nursing mothers Contraceptive use/non-use could influence mothers' desire to conceive
	Perception about factors influencing contraceptive use	Number of children ever born by a woman Women's level of education Spousal influence Culture and Religion
	Perception about consequences of non-use of contraception	Unwanted pregnancies and Births Risk for unsafe abortion Risk for complications of unsafe abortion

Qualitative responses resulted in developing four themes and eleven sub-themes

planning and the consequences of its non-use. **(a 27-year-old participant)**

When asked to express their thoughts about the influence of culture and religion on contraception, FGD participants believed that culture and religion play an important role in the choice of contraception. Their responses revealed that certain cultures forbid the use of some family planning methods while some cultures even forbid contraception out rightly. In the following we could see some of the participants' opinions: *"… am not using any contraception because my church (Catholic church). The catholic church only encourages withdrawal method.* **(a 26-year-old participant)**

"…Islam forbids contraception and also forbids putting restriction on the number of children a

woman should have. All pregnancies are considered the act of God, especially if the woman is

married" **(a 38-year-old participant)**

A 30-year-old participant however had a different opinion:

"…my church is not against family planning. Family planning is encouraged within the marriage setting in order to properly space the children. This must be a mutual agreement between the husband and the wife" **(a 30-year-old participant)**

Perception about Consequences of Non-use of Contraception

Unwanted Pregnancies and Births, Risk of Unsafe Abortion, Risk of Complications of Unsafe Abortion

FGD participants believed that unwanted pregnancies and unwanted child births are the possible outcomes when a woman is not using contraception or when the method chosen is not properly used. Other consequences of non-use of contraception identified by participants were the risk of unsafe abortion and the relevant complications. We could see some of the expressed opinions in the following:

"…a woman may have unplanned pregnancy if she is not using family planning and she may want to abort the pregnancy. Abortion might lead to other complications like bleeding, inability to conceive later and so on. So it's better for her to go for family planning (contraception)". **(a 32-year-old participant)**

"…I think a woman stands the risk of being pregnant if she doesn't use family planning. Such a woman may not be able to space her children" **(a 26-year-old participant)**

4. Discussion

Our findings indicated that there was a widespread awareness of modern contraceptive methods among nursing mothers. They also revealed that nursing mothers generally perceived that non-use or inappropriate use of contraception could influence women's pregnancy intention. The inappropriate use of modern contraception identified during the focus group discussion includes wrong choice of contraceptive methods and the ineffective use of the method chosen. The reasons given by FGD participants for the above-mentioned issues include previous side effects experienced by close family members and friends, perceived consequences from methods chosen on future pregnancy intentions. The results

obtained from Focus Group Discussion revealed strong interconnections between culture, religion and birth control methods; for instance, the participants practicing Islamic religion claimed that Islam forbids the use of certain contraceptive methods and that prolong breastfeeding is recognized as a form of birth control. This response was supported by a 'hadith' in the Quran. The above-mentioned findings are in consistence with the submission of (14) who asserted that Prophet Mohamed permits coital interruption and the use of condom and diaphragm provided the woman consents. Similarly, a few of the mothers who were Catholic Christians attested that all the forms of modern contraception are not allowed except for the withdrawal method. This corroborated the report of (15) which identified religion as a factor that influences women's attitude towards sexual and reproductive health behavior. Regarding the influence of culture on contraceptive options, an FGD participant from Igala tribe, in Kogi state, North Central region of Nigeria, reported that women of Igala tribe are forbidden from all the forms of contraception and that any defaulter will die. This belief and many of such misconceptions pose strong barrier to acceptance and uptake of contraception among women of reproductive age in Nigeria. These observations corroborate the submission of (16) who reported that cultural and religious endowments play a significant role in influencing women's pregnancy intention, their reproductive capabilities and utilization of reproductive health services.

The present research also revealed that 36.5% of the nursing mothers had their previous pregnancies as unplanned. This finding was comparable with the result of multi-country analysis of demographic and health survey conducted by (16) which found an overall prevalence rate of 29% for unintended pregnancy. However, a study (17) reported a prevalence of 27.8% in Nigeria. Analysis of the factors influencing the use of contraception and pregnancy intention at the multivariate level exhibited that Islamic religion and grand multiparty remained significant predictors of contraceptive choices among the nursing mothers while nursing mothers' age, parity, culture and religion remained the leading determinants of pregnancy intention. The findings of a multi-national survey involving analysis of demographic and health surveys data conducted by (18) which observed that women of other age categories had higher odds of unintended pregnancies compared to women aged 15-19 years old. Similar observations were made by (8), (19, 20). In addition, a similar study observed the significant relationship between grandmultiparity and the use of contraception in Southwest Nigeria (7) whereas the age of women, grandmultiparity and religion were identified as determinants of pregnancy intentions in rural areas of Ghana (8). Maternal age, age at the first sexual intercourse, low educational status, and marital status were identified as determinants of unintended pregnancy (21) while (22) in their study demonstrated that there was a significant relationship between educational status, wealth index, and unintended pregnancies. Additionally, (23) observed that the majority of women with unintended pregnancies never participated in any form of modern contraception studies in Nairobi and Kenya while (24) revealed that unintended pregnancy was a consequence of strong opposition to family planning by their partners.

The obtained findings herein would serve as template for nurses, midwives, other reproductive health service providers, and researchers to develop strategies towards improving utilization and uptake of reproductive health services by women of reproductive age. Our results also provide the information needed for policy makers to incorporate cultural and religious components of reproductive health services towards effective service delivery.

This study was conducted in Southwest Nigeria, similar study involving other geo-political zones of the country is recommended.

5. Conclusion

Nursing mothers' age, parity, ethnicity and religion were observed to be the main predictors of pregnancy intention. Meanwhile, religion and parity significantly influenced contraceptive choices. These variables should be incorporated into future intervention programs aiming to develop effective strategies towards improving uptake and utilization of reproductive health services.

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Ethical Approval

Ethical permission (number: IPH/OAU/12/961) was obtained from the Ethics and Research Committee

of the Institute of Public Health, Obafemi Awolowo University, Ile-Ife. Written consent was obtained from each participant prior to the data collection.

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