Current Practice and Determinants of Family Planning Methods among Married Women in the Rural Setting of Edo-North, South-South Nigeria

Adeyemi T. O[1], Bukoye A.[2]

[1,2]Department of Statistics, School of Information and Communication Technology, Auchi Polytechnic, Auchi, Nigeria
Correspondence: omodeyemi2013@gmail.com

Abstract One of the great public health achievements of the twentieth century is modern family planning practice. The ability of individuals to determine the timing and spacing of children and family size has resulted in significant improvements in health and in the social and economic well-being of people. But, the prevalence of family planning practices in Nigeria, particularly in the rural setting, is low. Hence, this study was designed to evaluate the pattern and determinants of current use of modern methods of family planning among married women in Edo-North and South-South Nigeria. A community-based, cross-sectional study was conducted. Three hundred and seven married women were successfully interviewed using a structured and pre-tested questionnaire. A multistage sampling technique was employed. The study adopted descriptive, chi-square, and multivariate logistic regression models, and significant associations were found at a p-value less than 0.05. The result showed the prevalence of current use of modern methods of family planning was 68%. Oral contraceptive pills (40%), injectable methods (21%), and condoms (20%) were the major methods being used by the study participants. Distance from family planning services (42%), and ignorance (25%), were the reasons for not using the modern method. The study identified a strong association between age (0.026) and education (0.034) of women and the current use of modern methods. There is also an association between the number of children (0.036) and the current use of the modern method at both the bivariate and multivariate levels. As age, education, and the number of children increase, the likelihood of using modern methods increases by 67%, 39%, and 47%, respectively. In conclusion, the pattern of family planning practice in the rural setting was such that there was evidence of a substantial proportion of current use of both modern and traditional methods. The non-usership of the modern method is attributed to the distance of the family planning service from home, ignorance, and fear of side effects. The low use of IUD, female sterilization, and emergency contraceptives is due to a lack of awareness among rural women. A house-to-house enlightenment campaign on modern methods by the government and other service providers should be instituted, and continuous enlightenment and education on the benefits of modern methods should be improved upon.

Introduction

Increasing population growth is a worldwide problem today, Nigeria with about 206.1 million people [1] is regarded as the most populous country in Africa and most populous black nation in the world [2]. And one of the factors for Nigeria high population is lack of family planning access. Family planning services have the potential to better the quality of lives of couples and improve their standard of living. The couple protection rate defined as the percentage

of married couples effectively protected against unwanted pregnancy or child birth by approved method of contraceptives is an indicator of the prevalence of family planning practice in a community [3].

Family planning is the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. It is achieved through the use of contraceptive methods (4). Family planning has public health, economic and environmental benefits and reduces stress on both the natural resources and political environments at the national level [5]. On health and development investments that are available to government, family planning is most cost-effective [6]. It brings transformational benefits to women, families and communities and countries, and helps females in achieving an educational goal, start a business plan, and achieve their employment needs [7, 8]. Family planning reduces the rate and risk of unsafe abortion, low birth weight and premature birth [7, 8, 9].

In sub-Saharan Africa, over 14million unintended pregnancies are recorded yearly [10]. In Nigeria, some studies show that there is a high level of unmet need of family planning among women in spite of their high level of awareness of common methods of contraception. For instance, a study on contraceptive prevalence and determinants among women of reproductive age group in Ogbomoso, Oyo State, South-west Nigeria reported 25.4% of study population were currently using a method of family planning [11]. While another study among a cohort of South-East Nigerian women found that 28.3% of the study population were currently using any form of contraception and 16.3% were using modern methods [12]. Findings from a mixed methods study in two South-western Nigerian States [13] revealed 43.9% of the study population used any modern contraceptive methods. Also, only 30.6% had ever used contraception and 13.1% were current users in another study in Osogbo metropolis of Osun State, South-West, Nigeria [14]. This statistics is particularly high among women who are poor, less educated, and especially residents of rural areas [5, 15, 16].

Currently, in Nigeria, family planning services are integrated into maternal and child health care services at local, state and national levels of the health care delivery system. The health extension workers are responsible for the family planning services at the rural communities at all health posts. Considerable efforts have been made by the government, local and international partners on family planning programs and the commodities are free of charges. Despite all these efforts, the national modern contraceptive prevalence rate and unmet need for family planning were reported as 12% and 19% in Nigeria demographic and health survey 2018 respectively, this was lower than the national modern contraceptive prevalence rate (mCPR) target of 27% by 2020 [17]. Hence, this study assesses the prevalence, pattern and determinants of current use of family planning methods among married women in the reproductive age group (15-49) years in Edo-north, south-south, Nigeria.

2. Materials and Methods
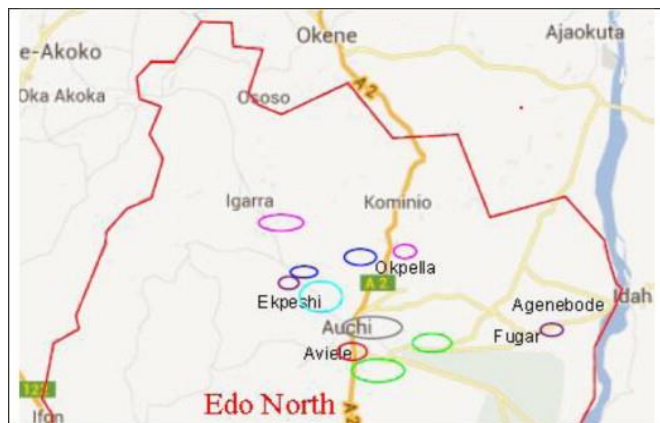### 2.1 Study area and period

Figure 1: Location map of Edo-north, south-south, Nigeria

A community-based cross-sectional study was conducted among married women of reproductive age group (15-49) years in Edo-north, South-south region of Nigeria. The Edo-north consists of 6 local government areas namely; Etsako-west, Etsako-east, Etsako-central, Akoko-edo, Owan-east and Owan-west.

2.2 Study population
The study population consists of married women of reproductive age group (15-49) years who lived with husband for over 6 months in Edo-north. However, women who had no or one child are not included. Also, divorced, widowed or separated women as well as sick women were excluded.

2.3 Sample size and sampling technique
The sample size for the household survey was determined by using Cochran's sample size formula [18] with the following assumptions; the proportion of maximum sample size to be 50%, with 95% confidence interval (CI) which is 1.96, and margin of error to be 4%. Adding non-response rate of 10%, the total sample size of 378 households were selected. A multistage sampling method was employed for household survey. Study local council areas were stratified into 6 (Etsako-West, Etsako-East, Etsako-Central, Akoko-Edo, Owan-East and Owan-West). From each stratum, 2 communities were selected by lottery method. In the second sampling unit, 2 wards from each community were selected randomly. At each ward list of households were used as the sampling frame and the required number of households were selected using systematic and random sampling techniques. In household with more than one eligible married woman, one was selected by lottery method; however, where data collectors (enumerators) could not find any eligible women in a household, they shifted to the next immediate household.

2.4 Data collection
Pre-tested structured questionnaire was used to collect the data. The questionnaire contained 3 sections, section A is related to baseline characteristics of the subject, section B related to current practice of the family planning methods. It included type and use of contraceptive. Section C contained questions about marriage and fertility related factors. Data were collected by the help of trained enumerators. Ten male and seven female data collectors participated in the study. Two supervisors supervised the data collection process in each day. The questionnaire was designed in English and pre-tested in two local council areas and some modifications were made to have the final version.

2.5 Measurements
Most of the questioners were taken from Nigeria demographic and health survey. [1]. In addition, some literatures were included to measure use of family planning methods. The guiding questions were: what determine the use of family planning method? What proportions of spouse are using modern and traditional methods?

2.6 Data Analysis
Data were checked for completeness and inconsistencies. Data were analyzed using statistical software SPSS version 21. Descriptive statistics were computed. Chi-square and logistic regression analysis were used to identify the relationship between dependent variable and independent variables. Those independent variables that were significant in bivariate analysis (P-value<0.05) were entered into the multivariate analysis. In the final model, a significant association were affirmed at a p-value less than 0.05. In the end, the results were presented in texts and tables with adjusted odd ratio and the corresponding 95% confidence interval.

2.7 Ethical considerations
Ethical clearance was sort from research review committee of Auchi Polytechnic, Auchi, Nigeria. Verbal informed consent was obtained from the study participants. All the information obtained from the study participants were kept confidence throughout the process of study. Withdrawal from the study if they wished at any point was assured.

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3. Results

A total of 307 married women were successfully interviewed giving a response rate of 81.3%. The mean age of the study participants was 27.5 (+7.32 SD) years. 34.2% of the participants were in the range of 35-44 years, the 25-34 years accounted for 30.9%. Considerable number of participants 36.8% had secondary education while 33.9% had tertiary education. More than three quarter of the participant's spouse 85.3% had formal education. Substantial number 56.4% of the participants were Christians and 37.4% were Muslin. Family type indicates that there was more monogamy 66.1% than 22.5% of polygamy among the participants. 57.3% of the participants had more than 3 children while 22.5% had 2 children. 4.9% of the participants were either still expecting a child or their child is no more. The age of last child of the participants that were between 2 to 5 years was the highest with 33.6%. The occupation of spouse shows that many of their spouses were business men and office workers, 38.1% and 23.5% respectively.

Table 1: Socio-Demographic Factors of the Study (Participants in Edo-north, Nigeria. 2023)

Variables (Categories)	Frequency (Percentage)
Age of Respondents	
≤ 24 years	44 (14.3)
25 – 34 years	95 (30.9)
35 – 44 years	105 (34.2)
≥ 45 years	63 (20.5)
Total	307 (100.0)
Education of Respondents	
No education	31 (10.1)
Primary education	62 (20.2)
Secondary education	109 (35.5)
Tertiary education	91 (29.6)
Others	14 (4.6)
Total	307 (100.0)
Religion of Respondents	
Christianity	173 (56.4)
Islam	115 (37.4)
Traditional	11 (3.6)
Others	8 (2.6)
Total	307 (100.0)
Type of family of Respondents	
Monogamy	203 (66.1)
Polygamy	69 (22.5)
Others	35 (11.4)
Total	307 (100.0)
Number of children of Respondents	
No child	15 (4.9)
One child	47 (15.3)
Two children	69 (22.5)
≥ 3 children	176 (57.3)
Total	307 (100.0)
Age of last child of the Respondents	
Up to 2 years	87 (28.3)
2 to 5 years	103 (33.6)

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>5 years	82 (26.7)
Others	35 (11.4)
Total	307 (100.0)
<u>Education of Spouse</u>	
No education	35 (11.4)
Primary education	38 (12.4)
Secondary education	113 (36.8)
Tertiary education	104 (33.9)
Others	17 (5.5)
Total	307 (100.0)
<u>Occupation of Spouse</u>	
Manual labour	51 (16.6)
Office Work	72 (23.5)
Business	117 (38.1)
Others	67 (21.8)
Total	307 (100.0)

The figure 2 showed the bar chart distribution of participants that are currently using modern method. The bar chart revealed that Oral contraceptive method accounted for 40% prevalent rate of modern method while injectable method has about 21% prevalent rate.
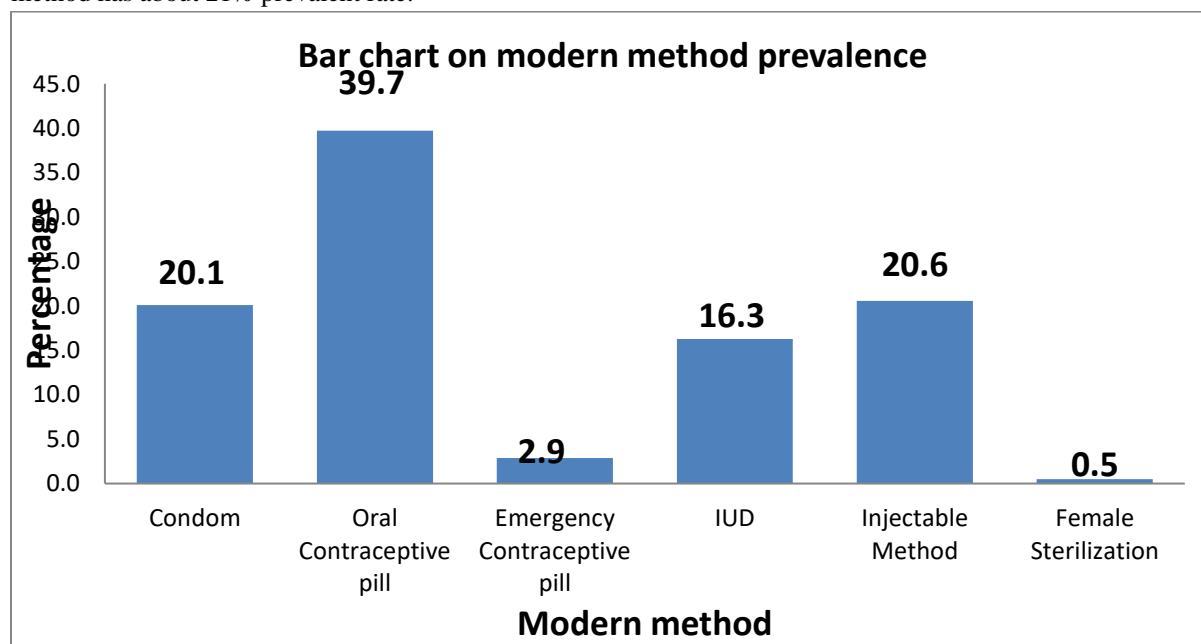

Figure 2: Frequency Distribution of the study participants based on modern family planning methods

The figure 3 is the bar chart distribution of the determinants of modern methods used by the participants. Spacing of children is the major determinant of modern methods among the participants with 46.4% while sufficient number of children ranked second by 40%.
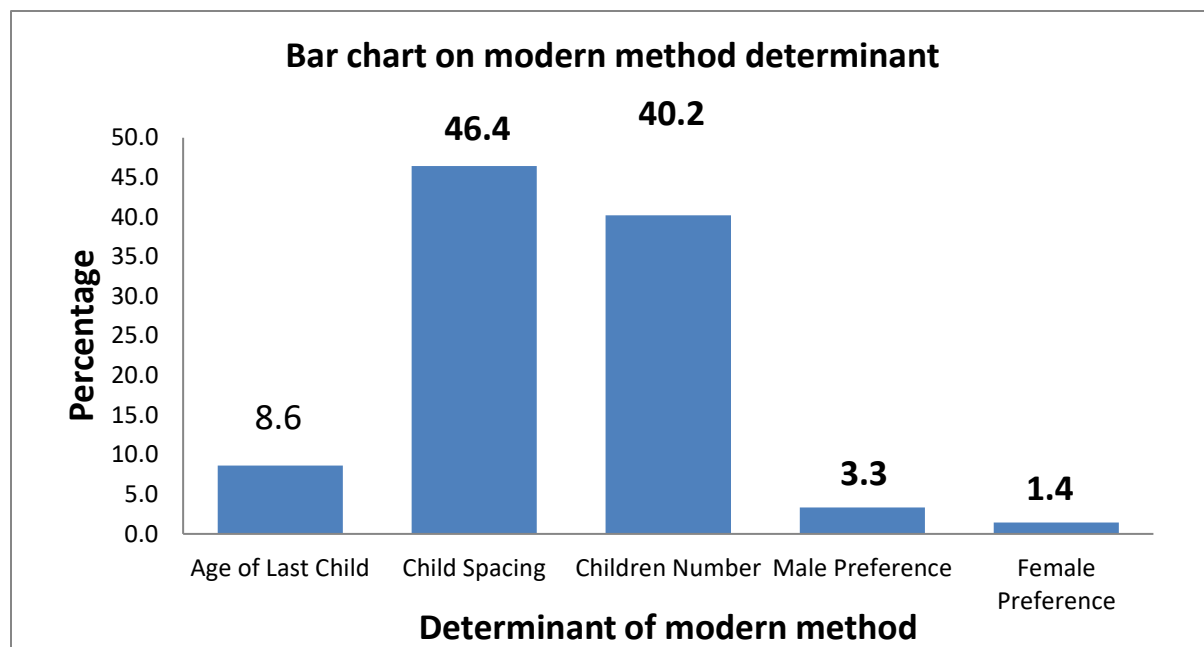
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Figure 3: Frequency Distribution of the study participants based on determinants of modern

Family Planning Methods

Table 2 showed the current use of both modern and traditional methods of family planning. The table also present bivariate model on the relationship between socio-demographic factors and current use of modern methods by the study participants using chi-square test. In the model, the current users of modern and traditional methods were treated as percentage of users and non-users respectively.

The study found that, the participants of 35-44 years were the most users of modern methods with 73.3%. 79.8 % Christian were the highest users of modern methods while 47.0% of the Muslims recorded highest users of traditional methods. The study participants with monogamy family had highest use of modern methods by 77.8%. The participants and their spouse's educational levels were similar in terms of use of modern methods. Secondary and tertiary educations were 80.5% and 76.9% for the participants and 82.6% and 76.9% for their spouses respectively. The study participants with more than 3 children were the highest users of modern methods and those with one child were the least users of modern methods with 84.7% and 8.5% respectively. The participants with both up to 2 years and 2 to 5 years as the age of last child had a substantial users of modern methods with 74.7% and 73.8% respectively.

In this study, chi-square test revealed that age (0.026), education (0.034) and number of children (0.036) were statistically significant while the religion (0.126), type of family (0.371) and age of last child (0.210) as well the education (0.135) and occupation (0.530) of spouse were not statistically significant.

Table 2: Socio-Demographic Factors Associated with Modern Methods of Family Planning

Variable Category	User (%)	Non- User (%)	Total (%)	P-value from Chi-square test.
Age of Respondents				
≤ 24 years	25(26.8)	19(43.2)	44 (100.0)	
25 – 34 years	69(72.6)	26(27.4)	95 (100.0)	0.026
35 – 44 years	77(73.3)	28(26.7)	105 (100.0)	
≥ 45 years	38(60.3)	25(39.7)	63 (100.0)	

<u>Religion of Respondents</u>				
Christianity	138(79.8)	35(20.2)	173(100.0)	
Islam	61(53.0)	54(47.0)	115(100.0)	0.126
Traditional	4(36.4)	7(63.6)	11(100.0)	
Others	6(75.0)	2(25.0)	8(100.0)	
<u>Education of Respondents</u>				
No education	14(40.0)	21(60.0)	35(100.0)	
Primary education	21(55.3)	17(44.7)	38(100.0)	
Secondary education	91(80.5)	22(19.5)	113(100.0)	0.034
Tertiary education	80(76.9)	24(23.1)	104(100.0)	
Others	3(17.6)	14(82.4)	17(100.0)	
<u>Type of family of Respondents</u>				
Monogamy	158(77.8)	45(22.2)	203 (100.0)	
Polygamy	41(59.4)	28(40.6)	69 (100.0)	0.371
Others	10(28.6)	25(71.4)	35 (100.0)	
<u>Number of children of Respondents</u>				
No child	2(13.3)	13(86.7)	15 (100.0)	
One child	4(8.5)	43(91.5)	47 (100.0)	0.036
Two children	54(78.3)	15(21.7)	69(100.0)	
≥ 3 children	149(84.7)	27(15.3)	176(100.0)	
<u>Age of last child of the Respondents</u>			87(100.0)	
Up to 2 years	65(74.7)	22(25.3)	103(100.0)	
2 to 5 years	76(73.8)	27(26.2)	82(100.0)	0.210
>5 years	56(68.3)	26(31.7)	35(100.0)	
Others	12(34.3)	23(65.7)		
<u>Education of Spouse</u>				
No education	6(19.4)	25(80.6)	31(100.0)	
Primary education	38(61.3)	24(38.7)	62(100.0)	
Secondary education	94(86.2)	15(13.8)	109(100.0)	0.135
Tertiary education	70(76.9)	21(23.1)	91(100.0)	
Others	1(7.1)	13(92.9)	14(100.0)	
<u>Occupation ofSpouse</u>				
Manual labour	29(56.9)	22(43.1)	51(100.0)	
Office Work	53(73.6)	19(26.4)	72(100.0)	0.530
Business	86(73.5)	31(26.5)	117(100.0)	
Others	41(61.2)	26(38.2)	67(100.0)	

The figure 4 present bar chart distribution of participants that are currently using traditional methods. Prolong breastfeeding has the highest prevalent rate of 34% and withdrawal method was 21%.
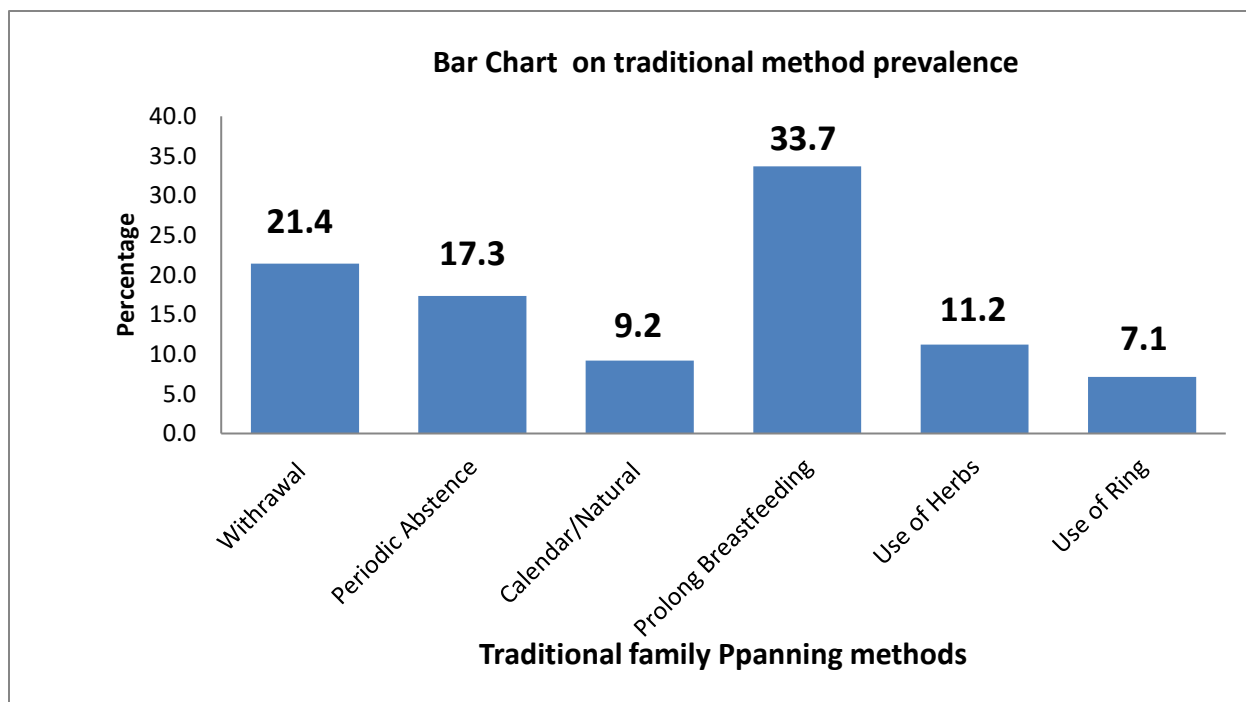
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Bar Chart on traditional method prevalence

Figure with bars: Withrawal 21.4, Periodic Abstence 17.3, Calendar/Natural 9.2, Prolong Breastfeeding 33.7, Use of Herbs 11.2, Use of Ring 7.1. Y-axis: Percentage (0.0 to 40.0). X-axis: Traditional family Ppanning methods.

Figure 4: Frequency Distribution of the study participants based on traditional family planning methods

The figure 5 showed the bar chart distribution of the determinant of traditional method used by participants. The major determinants of traditional method were distance of family planning services with 42% and ignorance due to lack awareness of types of modern methods and services ranked next with 24%.
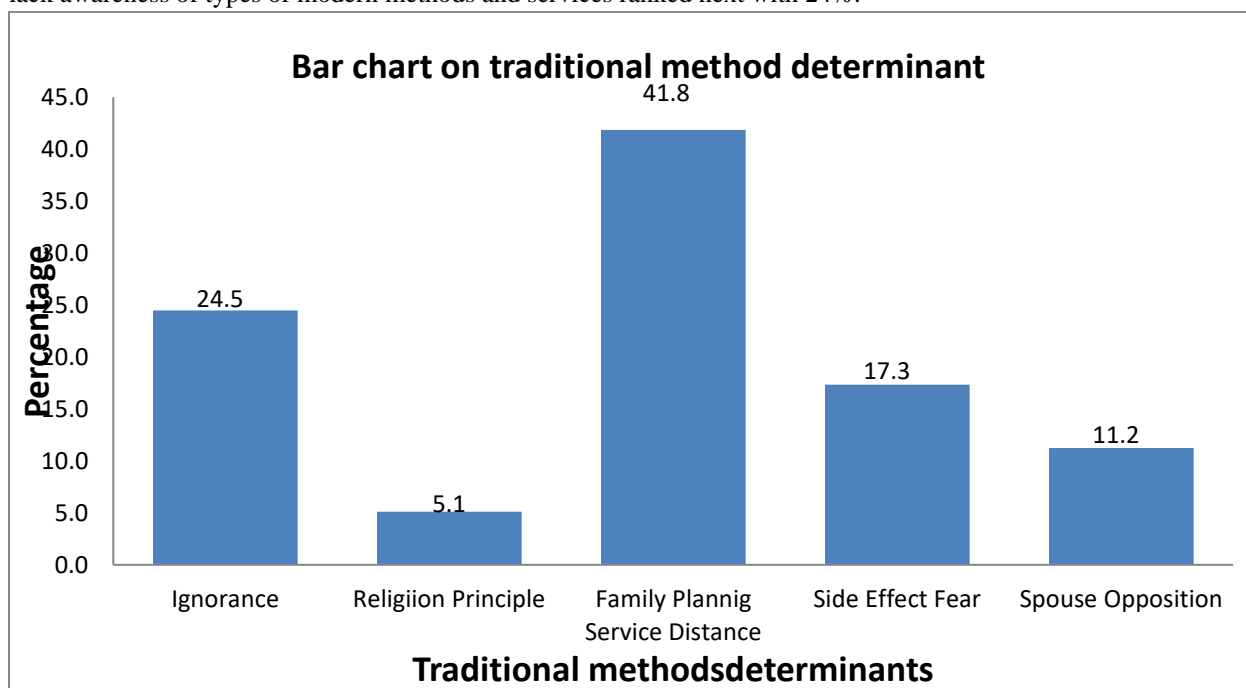
Bar chart on traditional method determinant

Figure with bars: Ignorance 24.5, Religiion Principle 5.1, Family Plannig Service Distance 41.8, Side Effect Fear 17.3, Spouse Opposition 11.2. Y-axis: Percentage (0.0 to 45.0). X-axis: Traditional methodsdeterminants.

Figure 5: Frequency Distribution of the study participants based on determinant of traditional family planning methods

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Table 3 present odds ratios, standard error and 95% confidence interval (CI) for the parameters in the model. The results revealed a significant increase in odds of modern method when compared with reference point.

A significant increase were observed in age 25-34 years, 35-44 years and the odds of modern method are higher and kept increasing as age of the participants increases. Findings from participants' education revealed that when compared with no formal education, the level of modern method is lower among participants with primary but higher among secondary and tertiary education and is very significant.

Findings also revealed that the odds of using modern method are lower, non-significant among the study participants with one child. But, it is higher and not significant among the participants with 2 children and higher and significant with participants with 3 or more children when compared with the participants with no child. As the number of children increases, findings revealed that there will be 47% more likely for the participants to use modern methods.

Table 3: Factors Associated with Modern Methods of Family Planning in the Multivariate Model

Variable Category	Odd Ratio	Standard Error	95 % CI
Age of Respondents			
≤ 24 years (Ref)	1		
25 – 34 years	1.310	0.093*	0.139, 1.804
35 – 44 years	1.413	0.081*	0.733, 1.312
≥ 45 years	1.667	0.747	0.375, 3.431
Education of Respondents			
No education	1		
Primary education	0.238	0.404	0.133, 1.481
Secondary education	0.483	0.368	0.328, 3.480
Tertiary education	1.393	0.45*	0.358, 5.374
Others	0.062	0.111	0.722, 4.740
Number of children of Respondents			
No child (Ref)			
One child	1		
Two children	0.027	0.136	0.767, 3.713
≥ 3 children	0.158	0.151	0.293, 4.427
	0.471	0.038*	0.273, 4.221

4. Discussion

One of the great public health achievements of the twentieth century is family planning practice. The ability of individuals to determine the desired family size and the spacing and timing of births of children has resulted in significant improvements in health and in social and economic well-being of the people. Therefore, studies on the prevalence of family planning practice particularly in the rural setting in Nigeria are essential.

This study was designed to evaluate pattern and determinants of current use of both modern and traditional family planning methods among married women in Edo-north south-south, Nigeria. Although, a number of studies have investigated the determinants in Africa, [19-23]. This study is aim of providing policy makers with tools to design effective interventions programs to address the barrier to the practice at the rural setting. The study adopted a descriptive, bivariate and multivariate logistic regression models and for that reason, the models interpretation could be assumed to be more objectives.

In this study, it is interesting to note that the study participants were either using modern or tradional methods. It was found that the prevalence of current use of modern methods is 68%. This was lower compared with the study in Nnewi, south-east 73.3% [19]. It is relatively higher compared with the study in South Gondar 66.2% [23], Gedeo Zone 64.2% and study in bale eco-region of [24] in Ethiopia. The high prevalence of modern methods may be due to

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high numbers of participants with formal education. On the proportion of modern methods being adopted, oral contraceptive pills, Injectable and condom were the majors methods used. These findings were consistence with the Nigeria demographic and health Survey report [17] and Ethiopia health survey reports [24]. Bhattacherjee and Datta [25] and Kassa et al [26]. Beldal et al also reported that injectable and oral contraceptive pills were the main methods used [27]. Spacing of children and sufficient number of children were the major determinants of current use of modern methods.

The proportion of the study participants currently using traditional methods was relatively high and the common prevalent were prolong breastfeeding and withdrawals methods. The factors responsible were the distance from family planning services and ignorance on the part of women who had hitherto used modern methods but later discontinued and also quite a number of the participants were breast feeding their baby at time of the survey.

The study identified a strong association between the age of the study participants and current use of modern method. The findings also revealed that there exists an association between education of the women and current use and also there is an association between the number of children and current use modern method. These were in line with studies in [20, 28, 29].

In the multivariate model, an increase in the age of participants is associated with current use. For every unit increase in participant's age, the likelihood of using modern method is significantly increased by 67%. Participant's education also associated with current use. With tertiary education, it is higher and very significant. The findings suggest that as the level of education increases, there will be 39% more likely for the participants to use modern methods.

The study revealed that participants with more than 3 children were likely to use modern method than those that have less than 3 children. In other words, for every unit increase in number of children a participant has, the likelihood of using modern method is significantly increased by 47%. These are in line with studies in [23, 30, 31].

5. Conclusion

The pattern of family planning practice in the rural setting is such that there were evidences of substantial proportion of current use of both modern and traditional methods. The prevalent of usage of modern methods need to be enhanced as non-usage is attributed to distance of family planning services from home, ignorance due to lack of awareness about the methods and services and fear of side effect. The prevalent of emergency contraceptive, Intra Uterine Device and female sterilization were very low. This can be attributed to ignorance as well and lack of awareness among rural women. Government should improve information and communication activities to correct the fears and feeling toward modern family planning use and services. The modern family planning services providers need to do more by decentralizing modern family planning services centres for easy accessibility and house to house enlightenment campaign on modern methods in the rural setting by government and other service providers should be instituted. Age and education of women are statistically significant demographic factors associated with current use of modern methods. In addition, number of children also associated with modern methods. Hence, continuous enlightenment and education on the benefit of modern methods of family planning services be improved upon by the government and service providers. As a limitation, this study might be affected by the gender interviewers in which majority were male and may affect response rate. In addition, the accessibility of traditional methods was not assessed which could be the reason for opting for traditional method. Furthermore, in computing the prevalence of modern methods, the study does not take in to consideration women with health challenge.

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Conflicts of Interest: None.

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