

# *Original Research Article*

**Manuscript title:** An Appraisal of Awareness and Practice of Modern Contraception among Prenatal Clinic Attendees in Southern, Nigeria.

## **Abstract**

**Background:** Contraception is a key measure at the primary level of prevention of maternal mortality and morbidity. It is an important tool for pregnancy spacing, limiting and timing for prevention of adverse perinatal and maternal health outcomes.

**Objective:** contraceptive practice as a means of preventing unintended pregnancy was assessed among Nigerian women attending prenatal care. The findings were to contribute in defining the current contraceptive practices in the country, proffer suggestions for reproductive health planning and services.

**Method:** This was a cross-sectional study of 701 prenatal clinic attendees at a missionary Hospital in Benin-city, Nigeria. Structured pretested questionnaire was administered to each consenting client. Database was raised on relevant information and analyzed, setting the level of statistical significance at p-value <.05

**Result:** Approximately 89% of the respondents demonstrated awareness of modern contraception, about 66% ever used a modern contraception and only a minority 24.1% was using it just prior to the index pregnancy. Leading sources of information were mass media, friends/peers, school and hospital in that order. The most used methods were male condom (54.8%) and pill (21.8%). About three fifths (56.2%) of the respondents have had at least a premarital termination of unintended pregnancy. More than 71% of previous users and approximately 42% of nonusers were willing to uptake a method of modern contraception in postpartum. Women empowerment; education, quality employment and social class

24 significantly influenced contraception use ( $P<.05$ ). Key barriers to use of modern  
25 contraception were fear of unpleasant side effects, socio-cultural and religious concerns.

26 **Conclusion:** There was a wide gap between contraceptive awareness and utilization, a  
27 large unmet need of contraception among the prenatal attendees. A renewed concerted  
28 contraceptive campaign is advised

29 Key words: Attendees, awareness, contraception, modern, practice, prenatal, unmet need

## 30 1. INTRODUCTION:

31 Contraception is a key measure at the primary level of prevention strategies of maternal  
32 mortality and morbidity. As an important tool for pregnancy spacing, timing and limiting it  
33 improves perinatal and maternal health outcomes. Unintended pregnancies mostly end up  
34 in induced abortion the outcome of which depends on the safety of the prevailing abortion  
35 practices in the area. The rest end up in unplanned births with mixed consequences.  
36 Unintended pregnancy is common even in industrialized setting [1] and carries increased  
37 health risks such as lack or delayed prenatal care, drug abuse in pregnancy, low birth  
38 weight, child abuse and neglect [ 2].It leads to unwanted and mistimed births with the same  
39 obstetrics complications as planned births and 90% global unsafe abortion [3]. Africa has  
40 one of the highest death burdens of disease attributable to lack of modern contraception [3].

41 Over half a million maternal deaths occur globally every year with a whopping 99%  
42 of it in developing countries characterized by high total fertility rates (TFR), maternal  
43 mortality rates and low contraceptive prevalence . Family planning was among the measures  
44 in safe motherhood initiative launch in Nairobi Kenya about three decades ago to allow  
45 women to embark on childbearing by choice and not accidentally [4].With this, too many, too  
46 frequent pregnancies and births associated with increased perinatal and maternal morbidity  
47 and mortality would be controlled. To date this initiative is disappointing and many other  
48 global efforts continue to evolve to try to improve these unacceptably high maternal indices.

49 Today 42 million terminations of unplanned pregnancies still take place each year  
50 worldwide with some 20 million of these unsafe [5]. In all, about a quarter of the 210 million  
51 annual pregnancies and half of the unintended ones are terminated. Vast majority of these  
52 take place in low income countries of the world. Unsafe abortion has been identified to  
53 contribute a significant 13% of the global maternal deaths [5]. In developed economies, this  
54 cause of maternal death is rare mostly because of their low TFR and nearly 100%  
55 contraception use. The reverse is the case in developing countries especially the sub-  
56 Saharan Africa not long ago quoted with a contraceptive prevalence of 15%.In Nigeria  
57 average national TFR as high as 6.1-5.5 children per woman and contraceptive prevalence  
58 as low as 8-15% has been reported [6-7] with over half a million women seeking and  
59 obtaining abortion annually, albeit illegally. Nigeria demographic and Health survey of 2013  
60 indicates that average TFR varies with rural areas and northern region having much higher  
61 than urban areas and southern regions respectively [7]. Among ECOWAS countries TFR  
62 range between 4.0 in Ghana and 7.6 in Niger [7]. Nigeria is rated as having the second  
63 highest global maternal mortality [6] and illegal unsafe abortion contributes 20-40% of about  
64 60,000 annual maternal deaths [8]. Unsafe abortion case fatality as high as 18% has been  
65 reported in this region of Nigeria with restrictive abortion laws [9].

66 The prevalence of modern contraception is low in Nigeria especially in the northern and  
67 rural areas with rates as low as 3%. This is reflected in the comparatively high total fertility  
68 rates in these regions with consequent high maternal, perinatal and infant mortalities.

69 Reasons variously cited in literature as the barriers to effective use of contraception were  
70 side effects and other long-term health concerns, misconception on the risk of conception  
71 from acts of unprotected sexual intercourse, poor information sharing, partners' objection,  
72 religious beliefs and limited availability of methods [2,10-12].

73 The poor contraceptive-related indices in Nigeria provoked this study to appraise the current  
74 contraceptive practice as a family planning option in the Niger Delta Region of Nigeria. The  
75 findings will add to the pool of evidence from other studies and contribute to reproductive

76 health policy making. The choice of prenatal population in this study was because they form  
77 a good cohort for entry point for family planning programme. This was because they were all  
78 sexually active, some possibly carrying unintended but wanted pregnancies, at risk of  
79 postpartum unintended pregnancy and currently under the influence of pregnancy and will  
80 appreciate more ,the stress of pregnancy.

## 81 **2. Materials and Methods**

### 82 2.1 Study design

83 This was a cross-sectional descriptive observational study.

### 84 2.2 Study Setting

85 The study took place at St Philomena Catholic Hospital (SPCH) a second tier missionary  
86 hospital in Benin –city the capital of Edo state south south region of Nigeria. Edo state is  
87 one of the oil rich states of Niger Delta region. It is home to multiethnic groups both  
88 indigenous and non indigenous. The most populous indigenous groups are Bini and Esan .

### 89 2.3 Timeline

90 This study took place between August 2013 and April 2014.

### 91 2.4 Study Population

92 The study population was the pregnant women who were attending prenatal class at the  
93 center during the study period.

### 94 2.5. Selection Criteria

#### 95 2.5.1. Eligibility criteria

96 The eligibility criteria was being a prenatal attendee and giving the consent.

#### 97 2.5.2. Exclusion Criteria

98 All the prenatal attendees who declined consent

## 99 2.6. Ethical Approval

100 The consent of each participant and formal approval from the ethics and research committee  
101 of the center were obtained. Confidentiality was also ensured to all the respondents.

## 102 2.7. Data management

103 Sample size was determined using the formula [13] and prevalence rate of 25% [14]

104 As below:

105 
$$n = z^2 pq / d^2$$

106 Where P = Maximum known prevalence of contraceptive in Nigeria

107 q = 1-p (complement of p).

108 d = Allowable error margin of estimate (precision) = 0.05

109 z = this is Z statistic for 95% confidence level (value for selected alpha  
110 level  $\alpha=0.05$  which is conventionally 1.96.

111 n = sample of attendees i.e. sample size=289

112 To further increase the power of the study the sample size was increased to 701

113 The sample size (289) was calculated using the stated and referenced formula from  
114 prevalence of 25% (0.25) referenced and precision 5%, as a proportion of 1(0.05). The  
115 sample size of 701 the precision used was 3.2%, as a proportion of 1(0.032) [15].

116 A simple consecutive recruitment of the eligible attendees was used to select the sample.  
117 The prenatal clinic attendees were counseled on the study as they presented during the  
118 clinic sessions and those that consented were recruited. We did not take all the eligible  
119 ones. We stopped recruiting when the calculated sample size was gotten after many clinic

sessions for duration of 8 months. One- on -one interview was done using a structured pretested quantitative questionnaire. The authors and two trained assistants both medical officers administered the questionnaire to the consenting respondents during the antenatal clinic periods.

The questionnaire contain sections on the socio-demographic profile; age, marital status, education, occupation, ethnic group, religion and parity, pregnancy/abortion history and awareness and practices of contraception. The social classification of the women was based on the educational attainment of the women and the occupation of their husbands [16]. The husband occupation was classified into professionals, middle level and unskilled respectively scored 1, 2 and 3 while the education of the women was scored 0, 1 and 2 respectively for tertiary, secondary and primary levels of education. The aggregate of the two scores was the social class. For the purpose of this study the social class I and II was high class, class III middle class while IV and V formed the lower class.

For this study, the Level of awareness (knowledge) was graded into two categories: the ability to tell what contraception is, or/and correctly name one or more methods or/and having correctly used any method before was taken as 'awareness 'while absence of these was taken as lack of 'awareness'

Data analysis was done using EPI-INFO Version 3.5.1 developed by Center for disease control and prevention (CDC) in Atlanta Georgia USA released August 2008 and INSTAT statistical software. Test of statistical significance was done using Chi square ( $\chi^2$ ) test and Fisher's exact test for bivariate statistical analysis as appropriate using 2 x 2 contingency tables. Multivariate analysis was performed using logistic regression to determine the independent predictor variables for contraceptive use by contrasting selected maternal variables to estimate the adjusted Odd Ratio (AOR) and correlation coefficient (r). The level of statistical significance was set at P-value <.05.

## 2.8. Main Outcome Measures

The outcomes measured from the primary data include the proportion of the participants who demonstrated awareness and prior utilization of modern contraception.

### 3. Results

A total of 701 respondents were studied, mean age was  $30.0 \pm 4.5$  years, the range 17-48 years and mode 31 years (Figure 1).

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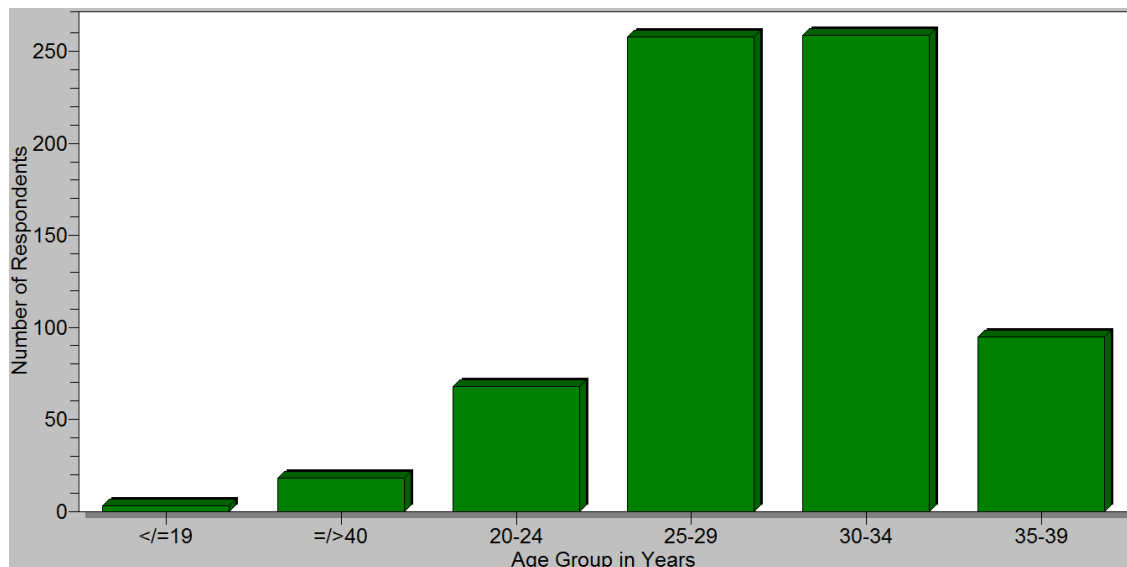


Figure 1: Age of Respondents

Majority 504/701 (71.9%) of them attained post secondary level of education, 546(77.9 %) employed while the rest 155 (22.1%) were unemployed (Table 1). Vast majority 683(97.4%) were Christians who were predominantly of Pentecostals denominations (66.5%) and Roman Catholics (27.8%).Dominant tribes were Bini (37.5%),Esan (16.5%) and Igbo (24.0%). Most 694 (99.0%) were married. About three fifths of the respondents have had at least a previous delivery.

Table 1; Socio-demographic characteristics of the respondents **vs. Contraceptive Awareness and use**

Characteristic	Variable	Contraceptive use	Non contraceptive use	Total (%)	Relative	P-
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s		Aware /use N (%)	Aware/non use N (%)	Not aware/non use N (%)		Risk	value
Marital status	Unmarried	1(0.1)	4(0.6)	2(0.3)	7(1.0)	0.22	0.01
	Married	461(65.8)	156(22.2)	77(11.0)	694(99.0)	4.65	
		462(65.9)	160(22.8)	79(11.3)	701(100.0)		
Parity	0	188(26.8)	67(9.6)	37(5.3)	292(41.7)	0.96	0.52
	1-4	267(38.1)	92(13.1)	35(5.0)	394(56.2)	1.07	0.26
	≥5	7(1.0)	1(0.1)	7(1.0)	15(2.1)	0.70	0.17
Educational attainment	< secondary	9(1.3)	2(0.3)	4(0.6)	15(2.1)	0.91	0.59
	Secondary	104(14.8)	42(6.0)	36(5.1)	182(26.0)	0.83	0.005
	> secondary	349(49.8)	116(16.5)	39(5.6)	504(71.9)	1.21	0.003
Occupation	Employed	374(53.4)	120(17.1)	52(7.4)	546(77.9)	1.21	0.01
	Unemployed	88(12.5)	40(5.7)	27(3.9)	155(22.1)	0.83	
Religion	Christianity	456(65.0)	154(22.0)	73(10.4)	683(97.4)*	2.00	0.005
	Roman catholic	118(16.8)	51(7.3)	21(3.0)	190(27.1)	0.91	0.12
	Anglican	8(1.1)	5(0.7)	1(0.1)	14(1.9)	0.85	0.57
	Pentecostal	312(44.5)	91(13.0)	51(7.3)	454(64.8)	1.09	0.14
	Others	18(2.6)	7(1.0)	0(0.0)	25(3.6)	1.08	0.67
	Islam	6(0.9)	6(0.9)	6(0.9)	18(2.6)*	0.50	0.005
Social Class	upper	182(26.0)	68(9.7)	22(3.1)	272(38.8)	1.03	0.68
	middle	202(28.9)	55(7.8)	28(4.0)	285(40.7)	1.13	0.02
	lower	78(11.1)	37(5.3)	29(4.1)	144(20.5)	0.79	0.001
Ethnic group	Bini	174(24.8)	63(9.0)	26(3.7)	263(37.5)	1.01	0.93
	Esan	84(12.0)	20(2.9)	12(1.7)	116(16.6)	1.12	0.11
	Igbo	109(15.5)	40(5.7)	19(2.7)	168(23.9)	0.98	0.78
	Yoruba	18(2.6)	8(1.1)	4(0.6)	30(4.3)	0.91	0.56
	Others	77(11.0)	29(4.1)	18(2.6)	124(17.7)	0.93	0.35

160 \* Add up to the total respondents

161

## 162 Previous Pregnancies and Outcomes

163 A total of 867 premarital pregnancies took place among the respondents with the mean and

164 range of 1.24±1.4 and 0-8 respectively. Among these, a large number 835/867 (96.3%),

165 mean 1.19±1.35, a range of 0-7 were terminated (Table 2). Only fifteen (1.7%) ended in

166 premarital births and 17(2.0%) were spontaneous abortions. There were a total of 1645

167 marital pregnancies; mean 2.35±1.52 and a range of 1-9. The total marital births were 750,

168 mean 1.07±1.24 and a range of 0-7. There were 27 (1.64%) marital terminations of

169 unintended pregnancies among the respondents. In all, 58.1% and 3% of the respondents

170 have had at least one premarital and a marital termination of unintended pregnancy

171 respectively.



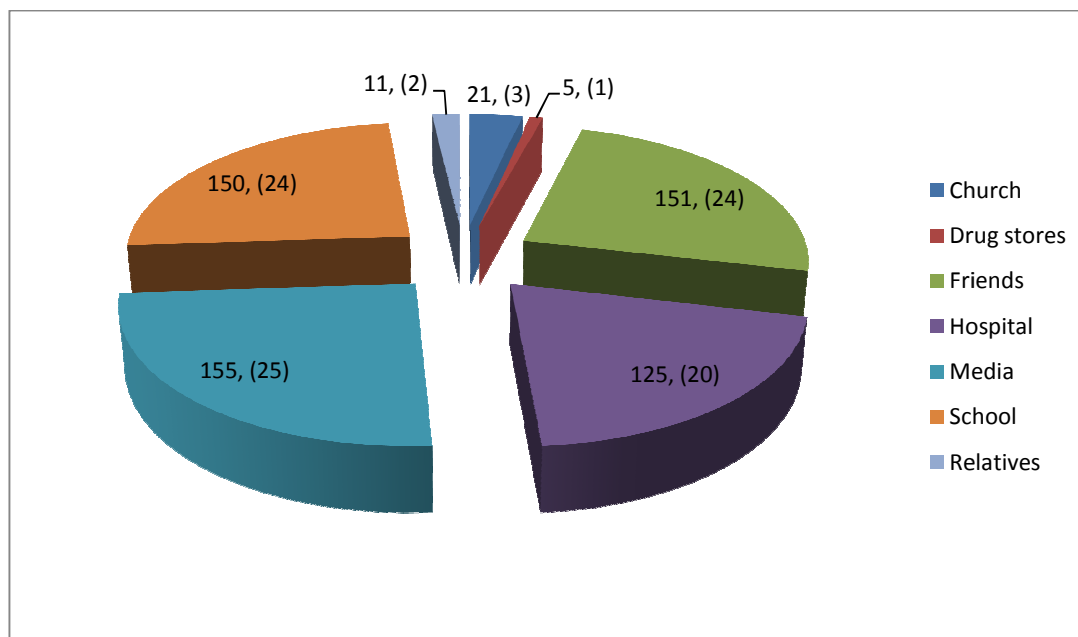
172 **Table 2: Respondents' Previous Pregnancy outcomes vs. Contraceptive Use**

Timing of sexuality	Variable	Contraceptive Use		RR	95% CI	P-Value
Premarital		Yes n (%)	No n (%)			
	Induced abortions ≥1	307(43.8)	100(14.3)	1.43	1.27-1.62	<0.0001
	Nil	155(22.1)	139(19.8)	0.70	0.62-0.79	<0.0001
		462(65.9)	239(34.1)			
	Births ≥1	11(1.6)	2(0.3)	1.29	1.02-1.64	0.24
	Nil	451(64.3)	237(33.8)	0.77	0.61-0.98	0.24
		462	239			
	Spontaneous abortions ≥1	13(1.9)	4(0.6)	1.17	0.89-1.53	0.44
Marital	Nil	449(64.1)	235(33.5)	0.86	0.66-1.12	
		462	239			
	Induced abortions ≥1	14(2.0)	7(1.0)	1.01	0.74-1.38	1.00
	Nil	448(63.9)	232(33.1)	0.99	0.73-1.34	
		462	239			
	Births ≥1	270(38.5)	135(19.3)	1.03	0.92-1.15	0.63
	Nil	192(27.4)	104(14.8)	0.97	0.87-1.09	
		462	239			
	Spontaneous abortions ≥1	74(10.6)	43(6.1)	0.95	0.82-1.11	0.52
	Nil	388(26.8)	196(28.0)	1.05	0.90-1.22	
		462	239			

173

#### 174 Awareness

175 A large number 622/701 (88.7%) of respondents were aware of modern contraception  
 176 (Tables 1 & 3). Their main sources of information about contraception were media (25.1%),  
 177 Friends (24.4%), School (24.3) and Hospital/antenatal clinic (20.2%) in that order as shown  
 178 in Figure 2.



**Figure 2: Respondents' source of information about modern contraception (%)**

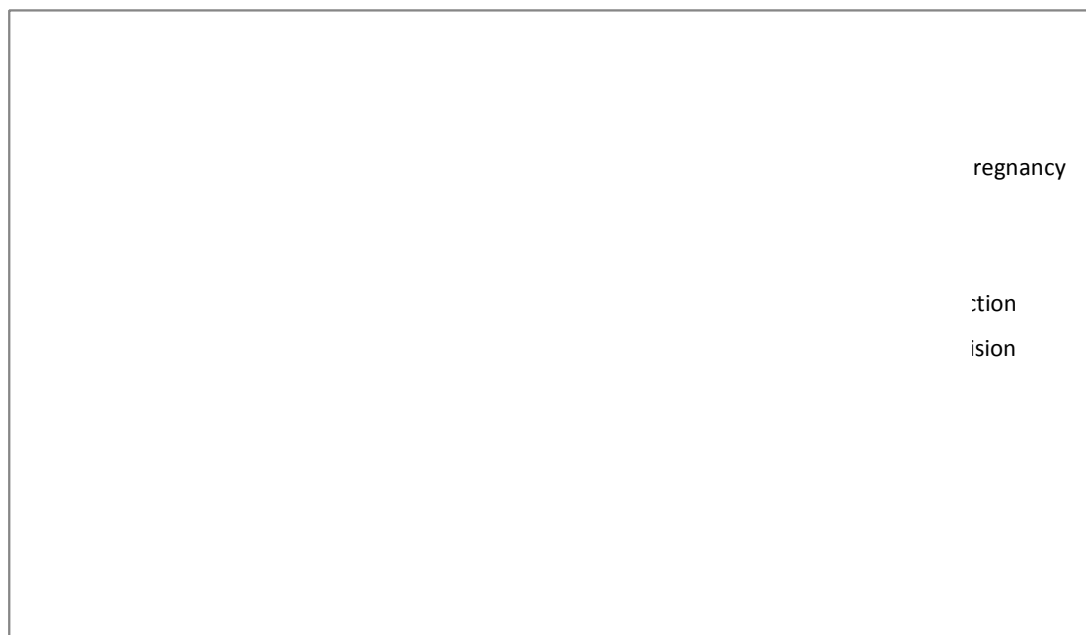
Half (50.4%) of those who were aware of contraception perceived it as a means of spacing child births, about two fifths(38.7%) saw it as a means of preventing unwanted pregnancy. In Table 1, married status influenced the level of contraceptive awareness 88.9% versus 71.4%. Similarly educational attainment 92.3% vs. 73.3, gainful employment over 90% against over 80% and Social status 91.9% vs. 79.9% for upper and lower classes. Religion of the respondents equally influenced their level of contraceptive awareness 89.3% vs.66.6% for Christianity and Islam. A further subgroup analysis of the Christian group showed their respective levels of contraceptive awareness.

#### Utilization and Practices

About 7 out of every 10 respondents 462/701 (65.9%) have ever used at least a method of modern contraception at some points in their lives (Table 3). Among these a total of (293/462) 63.4 % used it only before marriage, 78/462 (16.9%) only after marriage and 91 (19.7%) both before and in their marriage. This meant that a proportion 169/701 of the respondents was using contraception at the period preceding their ongoing pregnancy, a

196 retrospective contraceptive prevalence of 24.1% in this population. A large number  
197 384/701(54.8) of the respondents who ever used contraception did so premarital while only  
198 91 (13.0%) of them continued with the use in marriage. This meant that the contraceptive  
199 use among the premarital users reduced from 63.4% to 19.7% in their marriage. Only 6 out  
200 every 10 of the respondents will use contraception in future . The methods most used by the  
201 respondents were male condom (54.8%) and oral contraceptive pill (21.8%).

202 From Figure 3, those that used contraception only before marriage discontinued mainly  
203 because of marriage (23.3%), desire for pregnancy (48.8%), partner's instruction (8.2%) and  
204 unpleasant side effects (6.4%).



205 Figure 3: Reasons for Discontinuation of Modern Contraception

206 Among those who ever used modern contraception, 330(71.4%) will still use it in the future  
207 while the rest were either undecided (8.9%), will not (19.5%) or never (0.2%) use it. Among  
208 those who never used any method 100/239 (41.8%) were ready to uptake modern  
209 contraception in the future while 84 (35.1%), 50 (20.9%) and 5 (2.1%) will not, undecided or  
210 never uptake modern contraception respectively (Table 3). The main reasons cited by those  
211 who will not, never or undecided on future use of modern contraception were spouse

212 decision (11.5%), against religion 7.5%, preferred natural methods 45.0%, personal  
 213 decision 28.4%, fear of long term side effects 4.7% or need more enlightenment 2.9%

214 The main fear expressed by the participants against the modern contraception from Table 3  
 215 were fear of unpleasant side effects (12.7%), weight gain/fatness (15.7%),delay in  
 216 conception (11.1%), damage to uterus and other reproductive organs(4.7%) , menstrual  
 217 irregularities(10.1%) and failure rates (9.9%) . As many as about two out of every five  
 218 (40.1%) of the respondents did not perceive any fear in use of modern contraception.

219 **Table 3: CONTRACEPTIVE PRACTICES AMONG THE RESPONDENTS**

Practice	Variable	Number	%	95% Confidence Interval
Level of awareness	Aware Not Aware	622 79	88.7 11.3	86.1-90.9 9.1-13.9
Contraceptive uptake	Yes No	462 239	65.9 34.1	62.2-69.4 30.6-37.8
Future use of contraceptive	Yes No Undecided Never	430 174 91 6	61.4 24.9 13.0 0.9	57.6-64.9 21.7-28.2 10.6-15.7 -
Contraceptive method used	<b>Pills</b> Injectables Male Condom Implant IUCD*	<b>153</b> 19 385 2 9	<b>21.8</b> 2.7 54.8 0.3 1.3	<b>18.9-25.1</b> 1.7-4.3 51.1-58.6 - -
Perceived benefits	Child spacing Prevent unwanted pregnancy Birth limiting Better family Sexual satisfaction Don't know None	354 272 149 34 2 35 18	50.4 38.7 21.2 4.9 0.3 5.0 2.6	46.7-54.3 35.2-42.5 18.3-24.5 2.4-5.3 - 3.6-6.9 1.6-4.1
Fears respondents have of modern contraception	Nothing Fatness/weight gain Side effects Delay conception Menstrual irregularity Failure rates/not reliable Damage of reproductive organs Cancer Infections Others †	281 110 89 78 73 69 33 13 10 13	40.1 15.7 12.7 11.1 10.1 9.9 4.7 1.9 1.4 1.8	36.6-44.0 13.1-18.6 10.4-15.4 8.9-13.7 8.3-13.0 7.8-12.4 3.3-6.6 1.0-3.2 - -

Reasons for refusal to use modern contraception	Prefer natural family planning	125	45.0	15.1-20.9
	Personal decision	79	28.4	9.1-13.9
	Partner objection	32	11.5	3.2-6.5
	Against religion	21	7.5	1.9-4.6
	Long-term side effects	13	4.7	1.0-3.2
	Need more enlightenment	8	2.9	-

\*: Intrauterine contraceptive device

†: Fibroid, impair sexual satisfaction, insufficient health education

A number of factors have been associated with the utilization of modern contraceptives among the respondents. There was a forty percent significant increased chances of a woman who had premarital termination of unwanted pregnancy up taking modern contraception (RR 1.403, P:<.001). Marital status, educational attainment, employment, social status and religious belief of the respondents significantly influenced their utilization of modern contraception (Table 1).

**Table 4: Multivariate correlation analysis between contraceptive utilization and selected variables in the study population**

Characteristic	Variable	AOR	95% CI	Correlation coefficient(r)	P-value
Education	Secondary	ref			
	primary	1.19	0.36,3.88	+0.17	0.78
	Tertiary	1.48	0.79, 2.78	+0.39	0.22
Occupational group	Unemployed	ref			
	Employed	1.76	1.19, 2.59	+0.56	<b>0.004</b>
Social class	Lower	ref			
	Middle	1.56	0.80, 3.05	+0.45	0.19
	Upper	1.34	0.64, 2.81	+0.29	0.44
Pregnancy history	Premarital births	2.24	0.51,9.84	+0.81	0.28
	Premarital terminations	1.39	1.21,1.60	+0.33	<b>&lt;0.001</b>
	Marital births	0.97	0.85, 1.11	-0.03	0.65
	Marital terminations	0.71	0.34, 1.47	-0.35	0.35

When contrasted with other variables in a multivariate analysis of selected variables, only premarital termination of unintended pregnancy and employment consistently independently significantly correlated with utilization of modern contraception (AOR 1.4,  $r$  0.33,  $P < .001$ ) and (AOR 1.8,  $r$  0.56,  $P$  0.004) respectively (Table 4). There was a positive correlation of each of primary and tertiary education, upper and middle social class and a negative correlation of unemployment, marital birth and termination of pregnancy and utilization of modern contraception  $P > .05$ . The likelihood ratio was (49.7,  $P < .001$ ).

#### 4. Discussion

Our data revealed a high level of awareness and low up take of modern contraception among prenatal attendees, a wide gap between personal knowledge and utilization of modern contraception.

The level of modern contraceptive awareness of 88.7% in this study was high and comparable to other published reports in Nigeria [17-18]. This was higher than the reported average national awareness level [7] and lower than the figures by other authors [19-20]. The leading cited source of contraceptive information among the respondents was the media similar to other reports [14, 19, 21-22]. This contrasted with other reports citing health workers as the leading source of family planning information [18, 20, 23]. The hospital was the forth main source of contraceptive information in this study which fell short of the expected leading role of healthcare system in health information dissemination. One of the possible explanations for this was that the health facility used for the study promotes natural family planning methods in preference to the modern contraception. Since most sexually active women within the reproductive age bracket are at the risk of unintended pregnancy, reproductive health education and possibly services should be offered to everyone of them at every contact point in health facilities; post abortion care clinic, prenatal, during labor, immediate postpartum before discharge and at subsequent postnatal follow-ups. This was

strongly corroborated by our data that consistently significantly associated previous termination of unintended pregnancy and contraceptive use. This will improve contraceptive practices and reduce the incidence of unintended pregnancies and consequent maternal morbidity and mortality attributable to lack of contraception especially in poor resource countries. The accurate and reliable information is expected from health workers against every other source. It is equally expected that clients' confidence to uptake, continue and consistently use the service will be higher when the information emanates from the health professionals with much more knowledge and skill in health services.

The cumulative contraceptive prevalence of 65.9% in this population was higher than previous report in the region [19].and lower than the figures from other surveys [11, 20-21]. Contraceptive prevalence is defined as the percentage of currently married women using a method of contraception [7]. Only 24.1% of the attendees still used contraception outside their pregnancy a contraceptive prevalence of 24.1% in this population. This indicated the possibility of low post delivery contraceptive uptake in this population. This figure was similar to a report from another study [14], lower than another report in sub-Saharan Africa [24] and comparatively higher than the overall and the modern contraceptive prevalence rates of 15% and 10% respectively among currently married women in Nigeria [7]. Even among a cohort of post abortion care seekers with 7 out of every 10 with at least a previous termination of an unintended pregnancy whom about 8 of every 10 were aware of contraception their uptake was comparably poor [9].This reflected in their high unsafe abortion related maternal mortality and morbidity . The contraceptive prevalence is a valuable measure of the success of family planning programme and useful in estimation of fertility reduction attributable to contraception [7].It can also predict the disease burden attributable to contraceptive lack and its attendant unintended pregnancy and possibly unsafe abortion. The prevalence in this population as reported was nonetheless, low and comparable to reports from other centers in Nigeria and other developing countries especially sub-Saharan Africa [3, 14]. In developed economies like USA 99% of women who have ever had sexual intercourse have used at

least a contraceptive method [ 25-26]. About 62% of all women of reproductive age and 83-91% among the various population subgroups at risk of unintended pregnancy were currently using a contraceptive method [25]. Other developed economies similarly demonstrate high level of modern contraceptive awareness and use with significant proportion of the target population benefiting from modern contraception [23]. In the global perspective, the proportion of the reproductive aged women who used modern contraception ranged 14% in WHO African region to 64% in high income countries [3]. Level of women empowerment and self-motivation, concerted and coordinated media campaign coupled with strong governmental will and involvement are some of the possible reasons for the observed regional differences in modern contraceptive up take. This is eloquently evident in the wide regional disparity in TFR and maternal mortality [7, 25]. The most popular contraceptive methods among the respondent users were male condom and pills in tandem to other reports [17-18, 20, 23] and contrasted with the national report with injectables the most popular followed by male condom and pill [7]. In USA the pill, female sterilization and male condom in that order were the most popular [1, 25].

According to our data, majority of the prenatal attendees were aware of modern contraception, its availability and benefits yet, poor contraceptive utilization. The expectation is that contraceptive awareness would positively influence the utilization [25]. In this population this was not the case, socio-cultural and religious concerns seemed to influence the health seeking behavior and contraceptive services up take than lack of information, availability and accessibility to modern contraception. The Federal government of Nigeria in her effort intensified the provision of free contraceptives to the citizens [7]. From our results the extent of empowerment of a woman contributed to her contraceptive utilization as demonstrated by the positive correlation between gainful employment and social class and contraceptive utilization as against unemployment and lower social class .This was in agreement with other reports [7, 11, 24-25].



The leading reason for discontinuation of contraceptive use among the population was the desire for pregnancy .This was similar to other reports [7, 17]. This was to be expected in this population; married and characterized by high TFR but the concern was the prompt resumption and consistent post delivery use of contraception to achieve the objectives of family planning programme of proper timing, spacing and limiting child birth. Other reasons for discontinuation were partners' objection and side effects. A well structured and coordinated counseling and information sharing on merits and demerits of modern contraception and actions to take in event of any side effects will enable the recipients make informed decision and engender better compliance . It was evident that good-quality prenatal contraceptive counseling improved postpartum contraceptive adoption and decreased the incidence of discontinuation therefore unintended and mistimed pregnancies [1, 27-28].This is further corroborated by the evidence from the survey on the effect of product labeling and practice guidelines on contraceptive use [10]. Again the male partners have vital role in reproductive health and should be carried along in family planning efforts to make the programme and service delivery more effective. About 42% of nonusers in this study indicated the willingness for future use. Though this was higher than the figure reported in 2013 NDHS [7] nevertheless, it was low. The future demand of modern contraception among nonusers as demonstrated in this population indicates more intense contraceptive campaign to overcome the cited barriers of personal indecision, religious beliefs, fear of side effects and spouse disapproval.

As in another report [20], most of the respondents correctly identified contraception as a valuable means of birth spacing and limiting. It appears that accurate knowledge of the benefits of contraception is not a guarantee for service uptake. Some factors like partner objection and religious beliefs appeared prominent barrier to uptake of modern contraception in this population as in another report [21]. In addition, a good number of the subjects in this study received their information majorly from peers/ friends who might not have had and passed accurate contraception information. More so the peer's negative health beliefs and

bias may impair contraceptive utilization. This indicates the need for the healthcare workers to take their central role by increasing their campaign efforts. Health care providers and media play a significant role in dissemination of medical information, targeting the duo to improve the utilization of contraceptive services will undoubtedly have a beneficial effect on contraceptive efforts.

This study drew its strength from the sample size and prospective data. However, this data was self-reported behaviors known to be fraught with inaccuracies. It was a hospital based data which may not be the true reflection of the larger community. A multicenter study will be more representative. The currently prenatal attendees cannot be used for accurate determination of contraceptive prevalence rather their use rate before or after the prevailing pregnancy. Participants indication of willingness to use contraception following delivery may be influenced by the pregnancy outcome therefore may not be the best index of contraceptive willingness. A postpartum or interpregnancy contraceptive survey would be better. Non pregnant married and sexual active unmarried women of reproductive age group at risk of unintended pregnancy will equally give a better contraceptive use rate.

## 5. Conclusion

The participants demonstrated a high level of awareness and a huge unmet need of contraception. Obviously there was a pressing need for concerted and well coordinated mass contraceptive campaign backed by committed government will and supervision to overcome the mitigable barriers and myths. Contraception and other family planning practices no doubt, help reduce family expenses and improve health and social standards

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