FAMILY PLANNING AND CONTRACEPTIVE UTILIZATION AMONG WOMEN OF REPRODUCTIVE AGE IN IKORODU LOCAL GOVERNMENT, NIGERIA

BY

OLUWATOSIN MATTEW TOBI

FOR

QUALIQUANT SERVICES LIMITED

APRIL, 2020

INTRODUCTION

Many developing countries are known to have rapid population growth which is partly associated with high fertility rate, high birth rates accompanied by a steady decrease in death rates, low contraceptive incidence and high but declining mortality rate (Babalola et al., 2019). Worldwide, modern contraceptive use has increased a bit from 54% in 1990 to 57.4% in 2014 but in Africa, it increased from 23.6% to 27.6% (World Health Organisation, 2016). The total number of women

in developing economies who wish to prevent pregnancy but currently not using a modern contraceptive method is currently amounting to 214 million (Wang and Cao, 2019). In sub-Saharan Africa, the percentage of married women adopting a modern method of family planning is less than 20% (Chigbu et al., 2014). In Nigeria, in spite of the high level of knowledge of family planning methods, (NPC-ICF, 2014) acceptance of modern methods is relatively very low with only 9.7% of married women adopting a modern method of family planning, according to the 2008 national demographic health survey and 9.4% according to 2013 national demographic health survey (NPC-ICF, 2014). This shows a decrease in the use of modern family planning methods in the country (Akamike et al., 2019).

Countless of untimely or undesirable pregnancies occur worldwide daily and this adds to high rates of induced abortions, maternal morbidity and mortality and infant mortality (Mwaikambo et al., 2011). In developed economies, almost all married women adopt the use of modern methods of family planning at one stage or the other in their reproductive lives but the percentage reporting such use in developing countries is very low (Decker and Constantine, 2011). According to a study that was done in Ebonyi state amongst market women of reproductive age, knowledge and awareness of contraceptives was high (83.3%) but only 28.3% used a method of family planning (Decker and Constantine, 2011). About 70% of the Ebonyi people live in the rural area and most of these rural dwellers engaged in farming activities, thus, the people believe that having many children will increase the workforce needed for the farm work (Mwaikambo et al., 2011).

![Qualiquant logo]

BACKGROUND

Contraceptive is derived from the Latin word "kon-truh-septiv" meaning tending or serving to prevent conception or impregnation (Adegboyega, 2019). It's basically defined as a practice which help individuals or couples to achieve the following objectives, which includes; avoiding unwanted births, bringing about wanted births, regulate spacing between pregnancies, control the time at which births occur in relation to the ages of the parents and control the number of children in the family (Cleland et al., 2012). The main objective of family planning is to improve the quality of life of the people (Tunau et al., 2019). The use of family planning has been revealed to be a cost-effective way to improve maternity, child, and socioeconomic indices globally (Babalola and Oyenubi, 2018).

The desire to ensure universal access to modern contraception is mostly serious in Nigeria, where population control and women empowerment are important for achieving sustainable development (Egede et al., 2015). Although study reveal that Nigerian women are increasingly partaking in education and workforce, delaying marriage and childbearing, as well as expressing the desire to

space and hinder childbirths in the last few decades, studies report that the total fertility rate in Nigeria has decreased marginally, from 5.7 in 2003 to 5.5 in 2013 (Egede et al., 2015). In most parts of Nigeria, however, communicating about sex, fertility desires, and use of family planning methods is seemingly not culturally appropriate (Chillag et al., 2006). Findings from the 2016–2017 Multiple Indicator Cluster Survey revealed that only 13.4% of in-union women of reproductive age were using any contraceptive method, while only 10.8% reported using a modern method (Babalola et al., 2019). This suggests that non-use of modern contraceptive remains a problem in Nigeria that hinders women from attaining their reproductive desires and socio-economic aspirations. Nevertheless, in spite of the substantial investment of the Nigerian government and major international donors in family planning service provision in Nigeria, modern contraceptive use remains low, most especially in northern Nigeria (Adebayo et al., 2013).

PROBLEM STATEMENT

Putting an end to the silent pandemic of unsafe abortion is an urgent public-health and human-rights imperative. Probably due to lack of access to safe and effective contraceptive use, unsafe abortion threatens women throughout the developing world. Every year, about 19–20 million abortions are done by individuals without the requisite skills or in environments below minimum medical standards, or both, leading to unsafe abortion, mostly (97%) in developing nations. Over 200 million women of reproductive age would prefer to defer subsequent pregnancy or permanently prevent pregnancy, after having enough children, though the majority of them still depend on traditional methods of contraceptives or are not using any contraceptives at all. The unreliability, in certain instances, of the traditional/calendar method of contraceptive, often results

in unwanted pregnancy and either legal or illegal abortion with unpleasant consequences. Women may not use any contraceptive method to prevent unwanted pregnancy because they have no access or they are confronted with various barriers such as lack of awareness, lack of access, cultural factors, religion, opposition to use, fear of health risks and side effects of contraceptives.

OBJECTIVES

The objective of this study is to determine the factors affecting the use of contraceptives among women within the reproductive age in the Ikorodu Local Government area.

This questionnaire-based survey was aimed to describe the knowledge and use of various contraceptive methods among women in different child-bearing age groups in Ikorodu Lagos, Nigeria.

CONTRACEPTIVE UTILIZATION

Contraceptives are devices, drugs, or methods for preventing pregnancy, either by preventing the fertilization of the female egg by the male sperm or by preventing implantation of the fertilized egg (Idoko et. al., 2018).
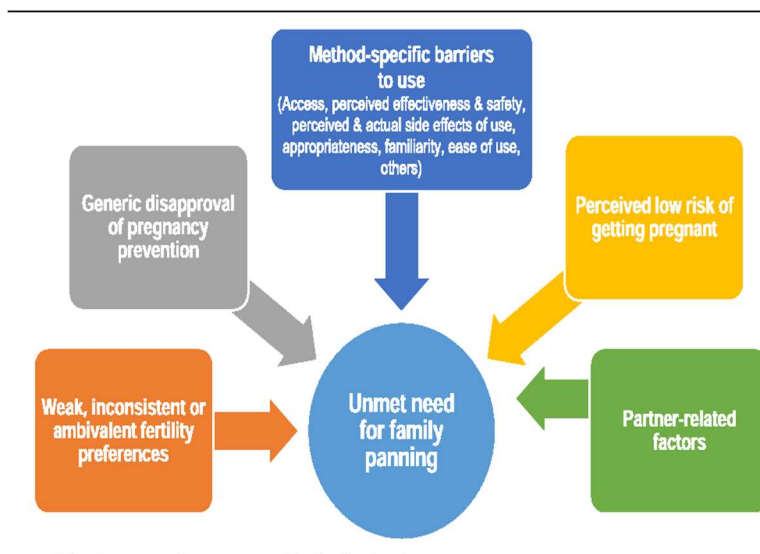
The staggering rate of teenage pregnancies, unwanted pregnancies and other health issues arising from lack of birth control reveals an urgent need for reproductive health information   especially as it relates to birth control measures (Demographic & Health Survey NPC 2014). It is pertinent to note that Nigeria has the highest fertility/morbidity level in Africa (Wang & Cao 2019). Lack of adequate knowledge of birth control methods impact negatively on the use of contraceptives and this consequently leads to a high rate of miscarriages, unsafe abortion, stillbirths, unwanted children and a reduction in employment prospect for women and other complications like an infant or maternal death (Wang & Cao 2019; Fagbamigbe et. al., 2018; Fayehun, 2017).

There are several methods of promoting and regulating contraception. This involves both short and long term methods (Etokidem et. al., 2017).

Unintended pregnancy has been a major menace that affects women which may likely lead to abortion, abortion sometimes leads to death, distort some internal organ which might lead to terminal illness or affects the womb (Ashraf et al., 2013). Contraceptive use reduces the pregnancy

rate, the number of unplanned pregnancy and associated induced abortions and the proportion of high-risk pregnancies, therefore causing a reduction in maternal mortality and an improvement in maternal and child health (Babalola et al., 2019).

TYPES OF CONTRACEPTIVES

The primary use of birth control is to prevent pregnancy. Many different methods are available that work well, each has its own particular benefits and risks. There are a few different types of birth control pills, each must be taken as directed by a doctor and the materials provided in the package.

1. Birth Control Pills: One of the most well-known methods of birth control is the oral contraceptive known as "the pills". Birth control pills are hormonal contraceptives which contain a small amount of man-made estrogen and progestin hormones. These hormones inhibit the woman's natural cycle, preventing ovulation and altering the lining of the womb.

Combination pills

Birth control pills containing two hormones- estrogen and progestin are called combination pills. These are the most common types of oral contraceptives. These usually come in 21-days or 28-days packs. As long as you take one pill every day you're protected from pregnancy while taking this form of contraception.

Progestin-only Pills (Mini pills)

These birth control pills are often recommended for people who are breastfeeding, have a certain health problem, or don't want to take estrogen. As the names imply, these pills contain only progestin unlike combination contraceptive pills, these mini-pills must be taken within the same three hours every day in order to be effective.

2. IUD (Intrauterine device): An IUD is basically a small piece of flexible plastic, shaped like T that is placed inside the uterus by a doctor. IUDs are divided into 2 types: copper IUDs and hormonal IUDs. Both the copper IUD and the hormonal IUD prevent pregnancy by changing the way sperm cells move so they can't get to the egg.

   The copper IUD works because sperm don't like copper, so the copper in the IUD makes it almost impossible for sperm to get to the egg. The hormones in the hormonal IUD prevent pregnancy in two ways, by thickening the mucus that lives on the cervix which blocks and

traps the sperm and by stopping eggs from leaving the ovaries and coming in contact with sperm.

3. Implant: The birth control implant is a small, thin rod about the size of a match-stick. The Implant releases hormones into the body that prevents one from getting pregnant. A nurse or doctor inserts the implant into the upper arm and it protects for up to 5 years.

4. Condoms: Condoms are one of the most popular forms of birth control out there. They prevent pregnancy and lower the risk of STIs by keeping the sperm inside the condom and out of the virginal.

5. Cycle bead: This device helps women use the standard days method, a fertility awareness-based family planning method. The standard days methods identify days 8-19 of cycle for women with cycles between 26 and 32 days long, as the potential fertility window.

6. Injectables: They are hormonal preparations administered by a deep intramuscular injection into the muscle of the arm or buttock, to be effective immediately. From the injection site they are slowly absorbed into the bloodstream and the body gets sufficient levels of hormones to provide contraception for one to three months, depending on the type of injectable contraceptive used.

    Injectables contraceptive can consist of progesterone-only preparations, or combined oestrogen and progesterone preparations.

METHODOLOGY

This cross-sectional descriptive study took place in Ikorodu community at Ikorodu Local Government Area in Lagos, Nigeria. It has a population of 832,388 as of January 2020 and March 2020. The target population of the study was women in different stages of childbearing age who are FP clients in Ikorodu General hospital. According to (Bamgboye M Afolabi et al, 2015), it is estimated that 25% of the population in this community are women of childbearing age (WCBA). The independent variables of the study are marital status, level of education, religion, and age group. The dependent variables are knowledge and use of contraceptives. Their knowledge about the use of contraceptives was assessed and each of the study's participants was asked if they knew what contraceptives are. Usage was also determined by asking the women the type of contraceptive they use. A sample size calculator was used to calculate the projected sample size for the women in the reproductive age population. Using 30% as an expected frequency of contraceptive usage in the community with respect to 48.3% of the contraceptive prevalence rate in Lagos state, a confidence limit of 5%, and confidence level set at 95%, the calculated sample size was 382. Out of the total number of calculated sample sizes, only 50 respondents were interviewed as a result of time and cost management. Exit interviews were conducted with respondents who are eligible for the study at Ikorodu general hospital Lagos. All the FP clients (15–49 years) who agreed to participate were interviewed. None of the FP clients were pregnant when the interview took place. Statistical analysis of data was carried out using Excel for descriptive analysis and STATA 14 software was used for Bivariate Analysis.

ETHICS APPROVAL

Prior to the commencement of the study fieldwork, relevant permission and administrative approval was obtained from the chief nursing officer and the nurse in charge of the family planning unit. The participants were assured of anonymity and that every information shared will be treated with the utmost confidentiality.

DESK RESEARCH

Desk research was conducted before commencing with the primary data collection. Desk research involves the review of relevant literature and publications on the subject matter of the study to assess and extract key information that will further enhance knowledge about the attitude and practices relating to family planning and contraceptive utilization among women of reproductive age in Sub Saharan Africa and globally.

QUANTITATIVE APPROACH

Quantitative research design method was adopted for the study using exit interviews to conduct interviews with 50 respondents. The questionnaire was programmed on Google form (CAPI) to elicit information from respondents.

Interviews were conducted via face to face methods with patients who are currently using any family planning/contraceptive method in the General Hospital Ikorodu.

Screener questions were included in the survey questionnaire as a means to checkmate the quality of responses and eligibility of respondents. Questions on socio-demographic, usage of

contraceptives, awareness, attitudes and practices of family planning among women of reproductive age were asked to have a base knowledge of the research study.

DATA ANALYSIS

The collected data were analyzed using Excel and STATA 14. Frequency tables were used for categorical variables. Cross-tabulations and chi-square tests were used for appropriate variables. Appropriate cross-tabulations and test statistics were applied and the P-value set at $P<0.05$
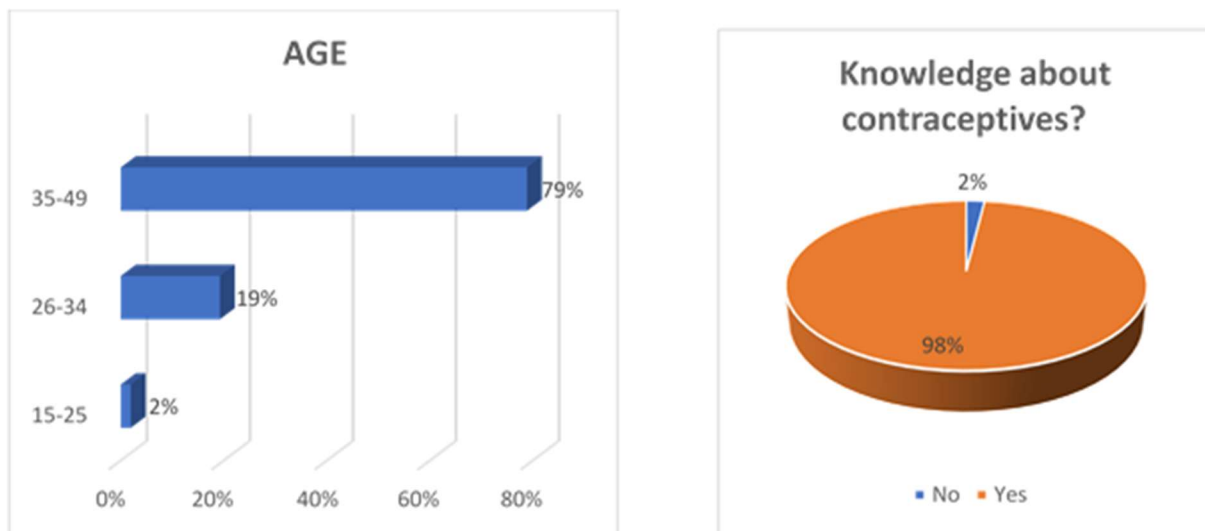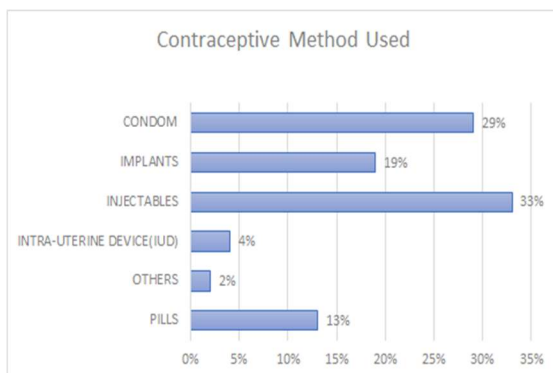
Age is an important determinant of the socio-demographic status of a population. The graph shows the baseline characteristics of women aged 15-49 years in the study. A total of 50 participants (FP clients) were interviewed from the General Health Centre in Ikorodu. The majority of the respondents are between the age of 35-49 years (79%), respondents between 26-34 years of age

are (19%) and those between the age of 15-25 are (2%). The study also shows 98% of the total number of respondents has ever had contraceptives.

Use of contraceptives

2%

98%

• No • Yes

Last used contraceptives

2%

98%

• 3-6 months • Above 6 months
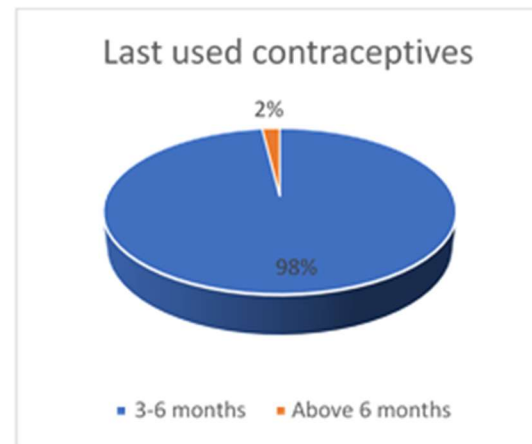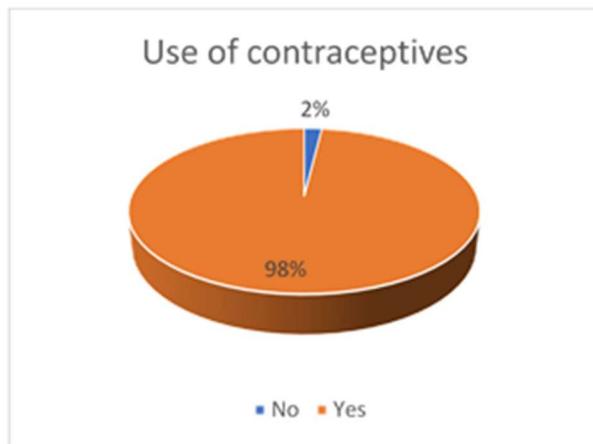
The study showed that 98% of the respondents used contraceptives for child spacing or to limit childbirth. The chart also shows that these 98% of respondents have last used contraceptives in the past 3-6month. A total of 2% of respondents have not used any method of contraceptive at the time of data collection.

Contraceptive Method Used

CONDOM	29%
IMPLANTS	19%
INJECTABLES	33%
INTRA-UTERINE DEVICE(IUD)	4%
OTHERS	2%
PILLS	13%

The above chart shows the various types of contraceptives mostly preferred by women of reproductive age. Injectables (33%) was the most used contraceptive, followed by condoms (29%), implants (19%), Pills (13%), and 4% for IUD. The reason given for the increased usage of injectables methods is due to their affordability, availability and simplicity of usage. However, duration of usage of injectables in between 2-3months.

The awareness about long-acting contraceptive methods was generally high among the respondents with about 9 in 10 respondents having a great deal of knowledge and awareness about implants and 8 in 10 knowing much about IUD. Almost all the respondents are knowledgeable about one method or the other. This high level of awareness has been similarly reported by previous studies within and outside Nigeria. (Barrett & Buckley, 2007; Ndiaye, Delaunay & Adjamagbo, 2003).

Contraceptive Source of Information

| Source	Percentage
Friends/Family	30%
Government Hospital/PHC	58%
Radio	8%
Television	4%
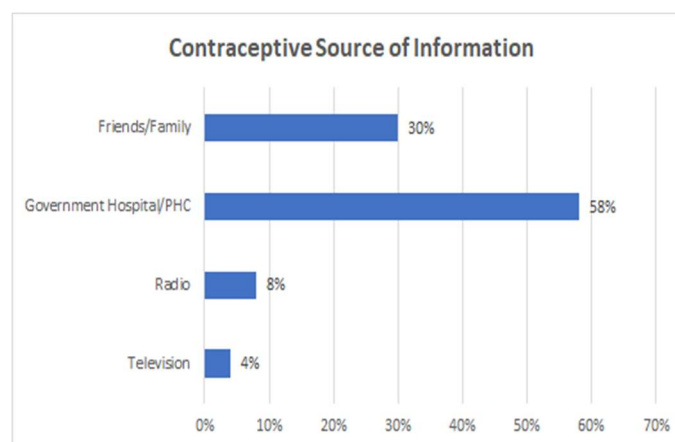
The graph shows the source of information on contraceptives as reported by the clients. It can be observed that 58% of respondents get their information on contraceptives from the Government

while 30% get their information from friends/relatives. It also shows that 8% and 4% heard the information about contraceptives from Radio and Television respectively.
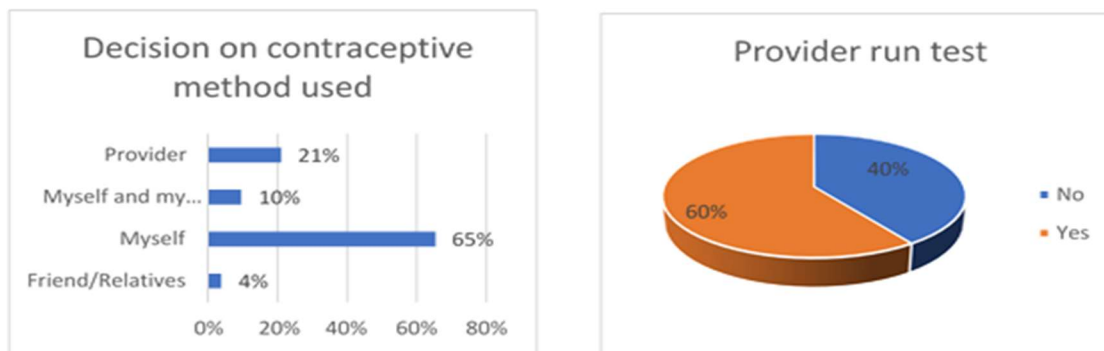
This shows that a large number (65%) of women are the sole choosers of the contraceptive method they are using presently. 21% of the women reported that the health care provider chose the method on their behalf while 10% respondents stated that theirs was chosen by their partners. 60% of the respondents were tested before administering the contraceptive method while 40% didn't receive any form of test.

Side effect of method used

23%

77%

■ No ■ Yes

Agreed number of children

37%

63%

■ No

■ Yes
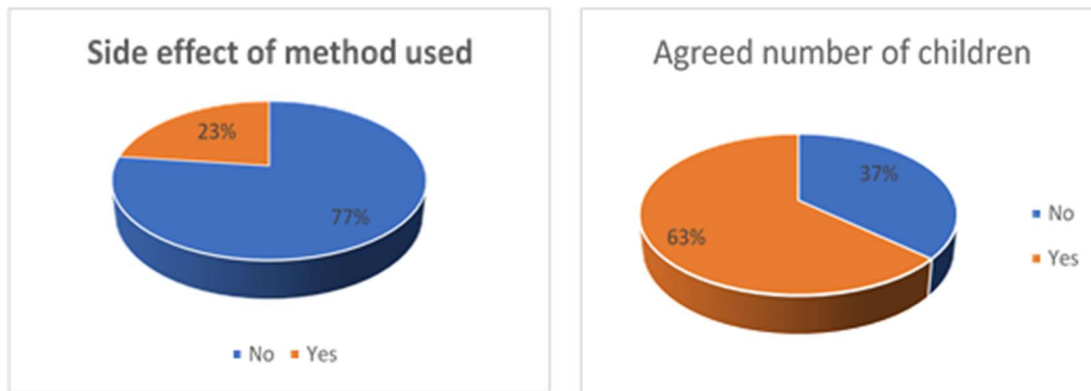
The graph above shows 77% of contraceptive users interviewed do not experience any side effects of the contraceptive method used while only 23% agreed to side effects of the method used. This can be as a result of a proper test carried out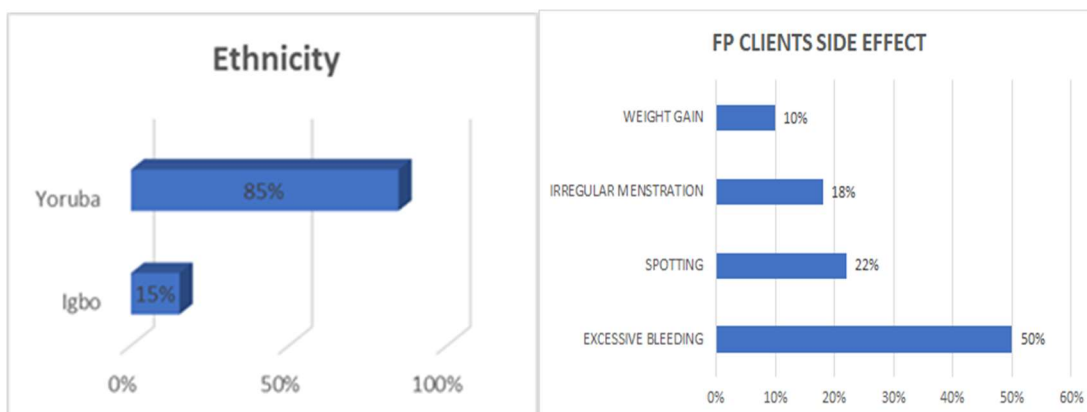 before deciding on the perfect type of FP method to place clients on. Also, the graph on the agreed number of children depicts that 63% of the FP clients agreed on the numbers of children with their spouse while 37% of the FP clients didn't agree with the spouse. This graph above depicts that 65% of FP clients disagree that religion influences their decision on FP utilization while 35% agrees that religion influences their decisions. From this, it can be concluded that religion to an extent influences the user's decision of FP among FP clients surveyed.

Marital status

Single	6%
Married	88%
Divorced	6%

0% 20% 40% 60% 80% 100%

Religion

35% / 65%

■ Christian ■ Muslim
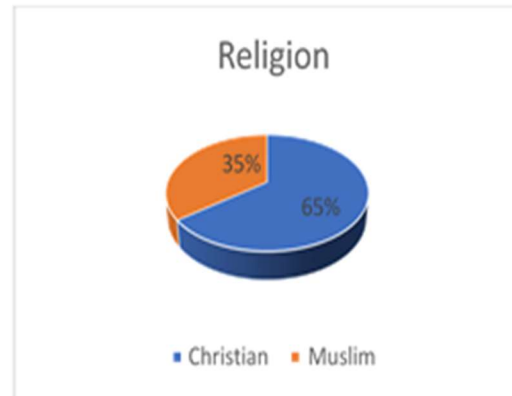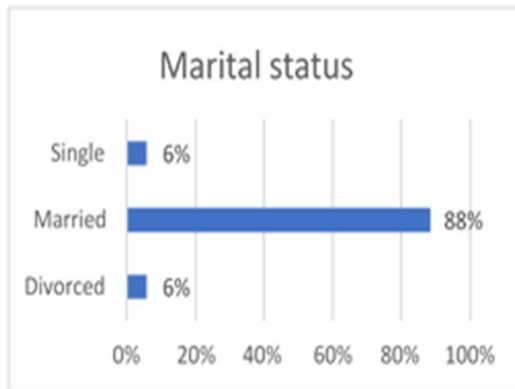
The marital status graph shows that 88% of the respondents are married while 6% are single and divorced. The distribution of the marital status shows that a good number of FP users surveyed were married. This implies these consumers are using different methods to space childbirth or limit childbirth at any point in time in marriage. With respect to religion, it was observed that 65% of the respondents were Christians while only 35% are Muslims.

Ethnicity

Yoruba	85%
Igbo	15%

0% 50% 100%

FP CLIENTS SIDE EFFECT

WEIGHT GAIN	10%
IRREGULAR MENSTRATION	18%
SPOTTING	22%
EXCESSIVE BLEEDING	50%

0% 10% 20% 30% 40% 50% 60%

The graph above shows that 85% of the FP clients are Yoruba which implies that the tribe is the predominant ethnic in the study. Also, 15% of the clients represent Muslims. With respect to the

side effects experienced by some of the women, it can be observed that 50% of the family planning users experience excessive bleeding, 22% reported spotting, 18% experienced irregular menstrual flow and 10% reported to have weight gain while using contraceptive.

BI-VARIATE ANALYSIS

Cross-Tabulation of Age category and side effect of the method used

Age category	Have you ever experienced side effects while using this method?		Total
	N0	Yes	
15 -25	1	0	1
	100.00	0.00	100.00
26 - 34	9	1	10
	90.00	10.00	100.00
35 - 49	30	9	39
	76.92	23.08	100.00

Total	40	10	50
	80.00	20.00	100.00

From the table above, the bivariate analysis shows that 77% of the age group (35-49) haven't experienced any side effect of using FP contraceptive method while 23% agreed to have experienced side effects. Also, age group (26-34) with lower experience of any side effect 23%.

HYPOTHESIS

Ho: There is no association between Age and Side effect of FP Method used.

Decision

Since the chi- square value (($\chi2$=1.11, P=0.012) is < 0.05.

The bivariate analysis shows there exists an association between age group and side effect of the method used among FP clients surveyed.

Cross-Tabulation of Side effect and FP method used

Have you ever experienced any side effect while using this method?	Condom	Implants	Injectable	Intra-uterine device (IUD)	Pills	Others	Total
No	15	7	9	2	7	0	40
	37.50	17.50	22.50	5.00	17.50	0.00	**100.00**
Yes	0	3	6	0	0	1	10
	0.00	30.00	60.00	0.00	0.00	10.00	**100.00**
Total	**15**	**10**	**15**	**2**	**7**	**1**	**50**
	30.00	**20.00**	**30.00**	**4.00**	**14.00**	**2.00**	**100.00**

From the table above, it was observed that 60% of the respondents with side effects can be attributed to users of the Injectable method. The bivariate analysis shows that 15 respondents representing 37.5% have not experienced any side effect of using a condom, 22.5% have no issue

using Injectables, while 17.5% respondents have no side effects using implant and pills respectively.

HYPOTHESIS

Ho: "There is no association between FP Side Effect and FP Method used".

Since the chi- square value (($\chi2$=1.37, *P*=0.00) is < 0.05.

The bivariate analysis shows there exists an association between FP side effect and contraceptive method used by FP clients shows there is a significant association between side effect and contraceptive method used with ($\chi2$=1.37, *P*=0.000).

Cross-Tabulation of Level of education and choice of FP method

What is your current level of education?	Friends/Relatives	Myself	Myself and husband	Provider	Total
No formal education	0 0.00	0 0.00	0 0.00	1 100.00	**1** **100.00**
Primary	0 0.00	1 50.00	0 0.00	1 50.00	**2** **100.00**
Secondary	2 8.33	16 66.67	0 0.00	6 25.00	**24** **100.00**
Tertiary	0 0.00	17 73.91	3 13.04	3 13.04	**23** **100.00**
Total	**2** **4.00**	**34** **68.00**	**3** **6.00**	**11** **22.00**	**50** **100.00**

From the table above, the cross-tab shows that a total of 16 respondents representing 67% have a secondary level of education and chose FP methods themselves. Also, we can deduce that FP clients with tertiary education representing 74% of that category also chose FP method themselves. This implies there is an established relationship between the level of education and who decides on the method to use.

HYPOTHESIS

Ho: "There is no association between the educational level of FP clients and who chooses the FP method used".

Since the chi-square value (($\chi2$=11.37, P=0.02) is < 0.05.

The bivariate analysis shows there exists an association between education of Fp clients surveyed and who choose the FP method used.($\chi2$=11.37, P=0.02).

FINDINGS

From the Univariate analysis, most clients who utilize are between the age range of 35 –49 (79%), between 26 – 34 years were about (19%) and those between 15 – 25 years were about (2%). Showing that people 35-49 are the major consumer of long-acting contraceptive according to the study. Pertaining to the marital status also, FP clients who are married are 88% while only 6% of the clients are single, 6% are divorced. The distribution of the marital status shows that a good number of the long-acting method consumers surveyed were married people. With respect to religion also, FP clients who are Christians had a higher percentage of contraceptive utilization of

65%. For the level of education, 50% of the respondents attended secondary school while 44% attended tertiary school. This can be observed that the majority of the respondents are educated.

Also, findings with respect to the types of contraceptives used shows that the various types of contraceptives most preferred by women of reproductive age, Injectables (33%) were the most used contraceptive, 20% use female and male condom, 19% use implants, 13% use pills, while 4% preferred IUD and others 2%. The reason given for the injectables methods was affordability and availability with its simplicity to use, unlike the IUD that has to be inserted in the Uterus. It was observed that most women prefer to use the Injectables which uses 2-3 months. The awareness about different contraceptive methods was generally high among the respondents.

Furthermore, the survey also shows that a large number (65%) of women chose the contraceptive they are using presently themself, 21% of the women reported that the health care provider chose the method while 10% was recorded to be chosen by the partner and only 4% was selected by friends and relatives.

At the bivariate level, analysis of age and experienced side effects shows that the age group (35-49) years has the highest frequency with 39 responses. Also, 77% of this age group (35-49) haven't experienced any side effect of FP method used while 23% agreed to side effects of the method used compared to other age groups. Findings also show that 37.5% have not experienced any side effect of using a condom, 22.5% have no experience using Injectables, Implant and Pills 17.5% respectively and only 5% have no experience of side effects. Also, it was observed that 60% of the respondents with side effects can be attributed to users of the Injectable method.

Furthermore, the level of education shows that 67% have a secondary level of education and choose FP methods themselves. Also, we can deduce that FP clients with tertiary education representing 74% of that category also chose FP method themselves. This implies there is an established relationship between the level of education and who decides on the method to use ($\chi2$=11.37, P=0.02).

The bivariate findings were also in support of the findings of (Bamgboye M Afolabi, Emmanuel NU Ezedinachi et al, 2015) on Knowledge, non-use, use and source of information on contraceptive methods among women in various stages of reproductive age in rural Lagos, Southwest Nigeria which shows the significance association between education and age of FP users with respect to their decisions, method used .

STUDY LIMITATION

The study has some limitations worth mentioning. First, the study was not based on nationally representative data, and the sample size may not be representative of all the females in Nigeria. Second, a questionnaire study may not be able to elicit all the information needed to arrive at a broad conclusion. Other qualitative techniques, such as focus group discussions, in-depth interviews, and observational studies, were not conducted. Third, stratification by marital status was skewed more toward the married than single respondents. Fourth, the study did not document participants' knowledge of the risk of not using contraceptives or of maternal mortality arising from nonuse of contraceptives. We also did not ask whether respondents were pregnant or not or whether they needed contraceptives at the time of interview. This was because we were of the opinion that external factors such as partner's wish, pressure from family members, advice from

friends and neighbors all could contribute to whether single women in child-bearing age determine to not use or to use a contraceptive.

CONCLUSION

This study found a high level of awareness about family planning methods accompanied low practice in the rural community of Ikorodu. There was an association between the level of education and who chose the FP method used and the main reason for dis-continuation or switching of the method used as discussed by respondents were excessive bleeding, spotting, husbands dis-approval and fear, which were most significant comments from FP clients. Findings from this study are useful in advocating more comprehensive fertility control interventions in rural areas through improved promotion and accessibility to contraceptives counselling and services.

RECOMMENDATION

It is, therefore, necessary for women who have side effects with the use of family planning methods to be targeted and carried along with family planning providers and health workers to address such problems, so as to enable rural women to access and use the family planning methods with ease.

The issue of patriarchy system and socio-cultural factors in the area of spouse refusal for the non-use of family planning methods can be addressed by creating awareness on the benefits of the use of family planning methods by couples.

It is, therefore, necessary for all levels of government and concerned organizations to carry out aggressive campaigns using print and electronic media, outreach programs, and rallies to achieve better awareness and use of modern, affordable, and acceptable contraceptive methods.

The findings from this survey have implications for national policy and public health FP programmes. In particular, it was highlighted that although the current family planning policy acknowledges that men should be more included in reproductive health, they are largely excluded in reality.

It is crucial for FP services to be more inclusive of the male partner interaction. While numerous studies have outlined high rates of unplanned pregnancies, few explore the reasons behind the non-use of FP that result in an unplanned pregnancy. The findings from this study focused on the utilization of contraceptive methods.

REFERENCES

Adebayo, S.B., E. Gayawan, C. Ujuju, and A. Ankomah. 2013. Modelling geographical variations and determinants of use of modern family planning methods among women of reproductive age in Nigeria. J. Biosoc. Sci. 45(1): 57–77. doi: 10.1017/S0021932012000326.

Adegboyega, L.O. 2019. Attitude of married women towards contraceptive use in Ilorin Metropolis, Kwara State, Nigeria. Afr. Health Sci. 19(2): 1875–1880. doi: 10.4314/ahs.v19i2.10.

Akamike, I.C., I.N. Okedo-Alex, U.C. Madubueze, and C.D. Umeokonkwo. 2019. Does community mobilisation improve awareness, approval and uptake of family planning methods among women of reproductive age in Ebonyi State? Experience from a quasi-experimental study. Pan Afr. Med. J. 33: 1–9. doi: 10.11604/pamj.2019.33.17.17401.

Ashraf, Q.H., D.N. Weil, and J. Wilde. 2013. The Effect of Fertility Reduction on Economic Growth. Popul. Dev. Rev. 39(1): 97–130. doi: 10.1111/j.1728-4457.2013.00575.x.

Babalola, S., C. Loehr, O. Oyenubi, A. Akiode, and A. Mobley. 2019. Efficacy of a digital health tool on contraceptive ideation and use in Nigeria: Results of a cluster-randomized control trial. Glob. Heal. Sci. Pract. 7(2): 273–288. doi: 10.9745/GHSP-D-19-00066.

Babalola, S., and O. Oyenubi. 2018. Factors explaining the North-South differentials in contraceptive use in Nigeria: A nonlinear decomposition analysis. Demogr. Res. 38(1): 287–308. doi: 10.4054/DemRes.2018.38.12.

Chigbu, B., S. Onwere, P. Feyi-, C. Kamanu, C. Aluka, et al. 2014. The impact of collaboration and family planning counseling in the community setting. J Med. Investig. Pract. 9(1): 16–20. doi: 10.4314/jomip. v9i1.

Chillag, K., G. Guest, A. Bunce, L. Johnson, P.H. Kilmarx, et al. 2006. Talking about sex in Botswana: Social desirability bias and possible implications for HIV-prevention research. African J. AIDS Res. 5(2): 123–131. doi: 10.2989/16085900609490372.

Cleland, J., A. Conde-Agudelo, H. Peterson, J. Ross, and A. Tsui. 2012. Contraception and health. Lancet 380(9837): 149–156. doi: 10.1016/S0140-6736(12)60609-6.

Decker, M., and N.A. Constantine. 2011. Contraceptive Use in Angola African Journal of Reproductive Health.

Egede, J.O., R.C. Onoh, O.U.J. Umeora, C.A. Iyoke, I.B.O. Dimejesi, et al. 2015. Contraceptive prevalence and preference in a cohort of south–east Nigerian women. Patient Prefer. Adherence 9: 707–714. doi: 10.2147/PPA.S72952.

Mwaikambo, L., I.S. Speizer, A. Schurmann, G. Morgan, and F. Fikree. 2011. What works in family planning interventions: A systematic review. Stud. Fam. Plann. 42(2): 67–82. doi: 10.1111/j.1728-4465.2011.00267.x.

NPC-ICF. 2014. NIGERIA DEMOGRAPHIC AND HEALTH SURVEY 2013 National Population Commission Federal Republic of Nigeria Abuja. : 1–362. https://dhsprogram.com/pubs/pdf/FR293/FR293.pdf (accessed 10 February 2020).

Tunau, K.A., S. Singh, A. Panti, E. Nwobodo, M. Hassan, et al. 2019. Overview of Contraceptive Use in Usmanu Danfodiyo University Teaching Hospital Sokoto North Western Nigeria. J. Clin. Diagnostic Res.: 4–8. doi: 10.7860/jcdr/2019/41547.12960.

Wang, C., and H. Cao. 2019. Persisting Regional Disparities in Modern Contraceptive Use and Unmet Need for Contraception among Nigerian Women. Biomed Res. Int. 2019. doi: 10.1155/2019/9103928.

World Health Organisation. 2016. Family planning/contraception factsheet.

Singh S, Darroch JE, Vlassoff M, Nadeau J. Adding it Up: The Benefits of Investing in Sexual and Reproductive Health. New York, NY: The Alan Guttmacher Institute; 2003. [Accessed November 29, 2014].Available from: www.guttmacher.org/pubs/AddingItUp2009.pdf. [Google Scholar

Knowledge, non-use, use and source of information on contraceptive methods among women in various stages of reproductive age in rural Lagos, Southwest Nigeria

Bamgboye M Afolabi,1 Emmanuel NU Ezedinachi,2 Iwara Arikpo,2 Abiodun Ogunwale,3 Damilola Fatimah Ganiyu,1 Rashidat A Abu,1 and Adewunmi A Ajibade