ORIGINAL ARTICLE

Determinants of contraceptive use by women in the Central Senatorial Zone of Bayelsa State, Nigeria: A cross-sectional survey

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ABSTRACT

Background: Contraceptives are known to contribute to maternal health and well-being as well as improve child survival. Due to the multiethnic nature of Nigeria, it is known that the factors that influence contraceptive use may vary from one location to another and as such a blanket policy by the federal government on improving contraceptive use may not take into account the subtle differences in sociocultural practices that may influence contraceptive use. The aim of the study was to determine the contraceptive prevalence and explore factors that determine the use of contraceptives among women of Bayelsa Central Senatorial Zone. **Materials and Methods:** A cross-sectional survey of 210 women aged between 18 and 49 years who completed a close-ended questionnaire was carried out. Descriptive analysis was done for sociodemographic data, and tests of significance were done using SPSS version 20. **Results:** The prevalence of modern contraceptives in the Central Senatorial Zone of Bayelsa State was 36.8%. Condoms were the most common type of contraceptives used. Education, religious beliefs, and knowledge of fertile days were factors that significantly predicted contraceptive use. Age and number of children influenced the type of contraception a woman used. **Conclusion:** The contraceptive prevalence in this study is high. The factors that determine contraceptive use such as education and religion have been identified and can be leveraged upon to increase its use.

Key words: Contraceptive use, factors, natural or traditional methods

INTRODUCTION

Fertility control has always been a contentious issue with arguments being provided by proponents on both sides of the divide. In 2004, Nigeria put forward the national policy on population and sustainable development (NPPSD).[1] Its objectives were to reduce the growth rate to 2% or less by 2015, reduce the total fertility rate by 0.6 every 5 years, reduce the maternal mortality ratio to 125/100,000 live births by 2010, and 75/100,000 live births in 2015.

Taking into account the importance of modern contraceptives to achieve the objectives of the NPPSD, the policy aimed to increase the contraceptive prevalence rate by 2%/annum. The annual growth rate of the country currently stands at 3.2%/annum.[1]

The use of contraceptives contributes to improvements in maternal and child health as well as national development through direct and indirect means and also assists in national development by reducing population growth; hence, a reduction in the competition for scarce resources.[2] This is especially important for Nigeria that is classified as a lower middle-income country where 62.6% of the population live below the poverty line.[3]

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The ability of widespread use of contraception to contribute to improvements in the health indices of a country, women empowerment, and to national development has been demonstrated in developing countries.[2,4]

The prevalence of modern contraceptive usage in Nigeria increased by 2% from 8% to 10% over a 5-year period from 2003 to 2008.[1,3] The contraceptive prevalence for the South-South geopolitical zone of Nigeria stands at 15.5% and the unmet needs for contraception among married women in Nigeria is 20%.[1,5] There has been an increase in the national growth rate from 2.8% in 1991 to 3.2% in 2006 despite the country's desire to reduce the national growth and there is a clear danger of not meeting the set targets for the Millennium Development Goal 5.[1,5]

In 2011, the federal government started making contraceptives available free of charge to the various state and local governments, but before 2011, contraceptives were mainly obtained from private providers with private chemists being the major providers.[5]

From the foregoing, it is clear that the Nigerian population will continue to grow due to the rise in the country's growth rate, the gap between the total wanted fertility rate and the total fertility rate, and the corresponding poor contraceptive prevalence rate.

The high total fertility rate is associated with the high maternal mortality rates, especially when compared across the different regions. The North-East zone has a total fertility rate of 7.2 children/woman and maternal mortality ratio of 1549/100,000 live births compared to the South-West zone that has total fertility rate of 4.5 children/woman and maternal mortality ratio of 165/100,000 live births.[1,5]

The national policy of reducing the national growth rate, reducing infant and maternal mortality rate, and reducing the total fertility rate can be achieved through implementing widespread use of contraceptives in the population as has been done in developed countries.[4]

The importance of this study stems from the knowledge that contraceptive prevalence in Nigeria is low (10%) and that widespread use of contraception can contribute to a fall in the maternal mortality ratio, infant mortality ratio, improve maternal health by reducing the incidence of unwanted pregnancies and unsafe abortions. Being able to control their fertility means that women are able to have a better education and be economically empowered. These factors play a role in child survival.[4,6]

Health indices such as the maternal mortality ratio and the total fertility rate show regional differences which are a reflection of the socioeconomic situation and cultural practices in the respective regions. The contraceptive prevalence rate is, however, a national one and this figure is used when introducing policy decisions that affect the different regions. There are individual, family, and societal benefits when women take conscious steps to control their fertility. The importance of contraceptive use is underscored by its inclusion as one of the targets to be achieved under the Millennium Development Goals.[4] The decision to use contraceptives is enhanced by spousal cooperation as spouses/partners have been shown to be a stumbling block to contraceptive use by women.[7-9] Concerns about future fertility also play a role in determining whether or not a woman uses contraceptives and the type of contraceptives used.[10,11]

The Central Senatorial Zone of Bayelsa State has been chosen for this study because the maternal mortality ratio in the state (717.4/100,000 live births) is higher than the national average and the contraceptive prevalence rates are unknown. The abortion rate and infant mortality rate in this region like many others are unknown.

This study thus aims to determine the use of modern contraceptives among women of Bayelsa Central Senatorial Zone and elicit those factors that determine contraceptive use in a bid to use the knowledge garnered from the study to improve the contraceptive prevalence in the Central Senatorial Zone of Bayelsa State Nigeria and to tailor reproductive health policies to this area rather than adopt a blanket policy that may not fully appreciate the differences in the reproductive health-seeking behavior of each region.

MATERIALS AND METHODS

This was a cross-sectional study that was carried out using a close-ended structured questionnaire administered on 210 randomly selected women, aged between 18 and 49 years within the Central Senatorial Zone of Bayelsa State. Bayelsa State is one of the 36 states in Nigeria, and it is located in the South-South geopolitical zone of the country. It has three senatorial zones. The central senatorial zone consists of three local government areas: Yenagoa (the state capital), Southern Ijaw, and Kolokuma/Opokuma Local government areas. The social environment is divided between rural and suburban areas. The citizens engage mostly in subsistence farming and fishing as a way of livelihood with little or no commercial/industrial presence in the state; hence, most of the citizens reside in the rural areas with the capital city being considered as suburban in terms of development.

The population of women aged 18–51 years in the Central Senatorial Zone of Bayelsa State based on the 2006 population census is put at 232,976.[1] Using EpiInfo™ 7 (Equation $N = [1.96^2 \times (p\,[1 - p])] \div e^2$) ($p$ = prevalence, e = error), the estimated sample size is 201 using a modern method contraceptive prevalence of 15.5% which is the contraceptive prevalence in South-South Nigeria (NPC, 2009), error of 5% and a confidence level of 95%. An additional 10% of the calculated sample size was

recruited for the study to take into account for nonresponse bringing the total survey sample to 221.

Women under the age of 18 and above the age of 51 were excluded from the study. Ethical approval was obtained from the University of Liverpool's Ethical Committee. Potential participants were counseled on the purpose of the study and were informed of measures taken to ensure their confidentiality. Decision to fill out the questionnaires was taken as informed consent. Data were collected in May 2013. Descriptive analysis was done for sociodemographic data, and tests of significance were done using IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp. Differences were considered statistically significant when $P \leq 0.05$.

RESULTS

Of the questionnaires distributed, 95% (210 of 221) were completed and returned. Of the 210, 9.5% (20/210) indicated that they were not sexually active and thus did not need contraceptives. These women were excluded from the study; therefore, the final analysis was done using 190.

The mean age of respondents was 28.14 ± 6.46 years with the modal age was 26. The sociodemographic characteristics of the respondents are shown in Table 1. Most participants were aged between 26 and 35 years (52.6% [100/190]). Majority of the women had some form of secondary education 46.8% (89/190) and 56.3% (107/190) were not employed. Half of the participants (50% [95/190]) were either married or living with their partner. More women had children 66.3% (136/190) and 31.6% (60/90) had one or two children.

The population distribution based on religious beliefs was Pentecostal 57.4% (109/190), Anglican 20.5% (39/190), Catholic 12.6% (24/190), Muslim 3.7% (7/190), and others (Jehovah's Witness, Apostolic, and Presbyterian) 5.8% (11/190). Most of the women surveyed could not correctly predict their fertile periods 82% (137/190). Majority of the women had received contraceptive education from more than one source 59.4% (113/190).

The modern contraceptive prevalence was 36.8% (70/190), 30.5% (58/190) of respondents used natural or traditional methods of contraception, and 32.6% (62/190) did not use any form of contraception. The types of contraceptives in use were condom 57.1% (40/70), pills 12.9% (9/70), injectable contraceptives 5.7% (4/70), implants 1.4% (1/70), intrauterine devices 4.3% (3/70), morning after pill 11.4% (8/70), and sterilization 7.1% (5/70) [Figure 1].

Respondents not using any form of contraception at the time of the survey gave their reasons as desirous of getting pregnant 14.5% (9/62), fear of side effects/experienced side effects 46.8% (29/62), distance to the hospital too far 1.6% (1/62), partners refusal 35.5% (22/62), and others 1.6% (1/62) [Figure 2].

Table 1: Sociodemographic characteristics of respondents

Characteristic	*n*=190 (%)
Age	
18-25	69 (36.3)
26-35	100 (52.6)
36 and above	21 (11.1)
Level of education	
Primary	28 (14.7)
Secondary	89 (46.8)
Postsecondary	73 (38.4)
Employment	
Unemployed	107 (56.3)
Employed	83 (43.7)
Number of children	
0	64 (33.7)
1-2	60 (31.6)
3-4	42 (22.1)
5 and above	24 (12.6)
Religious beliefs	
Anglican	39 (20.5)
Catholic	24 (12.6)
Pentecostal	109 (57.4)
Muslim	7 (3.7)
Others	11 (5.8)
Knowledge of fertile period	
Correct knowledge	53 (27.9)
Incorrect knowledge	137 (72.1)
Type of relationship	
Single	14 (7.4)
Single with CC	27 (14.2)
Partner	47 (24.7)
Partner with CC	5 (2.6)
Married or LWP	95 (50)
Married/LWP and CC	2 (1.1)

CC – Casual contacts; LWP – Living with partner

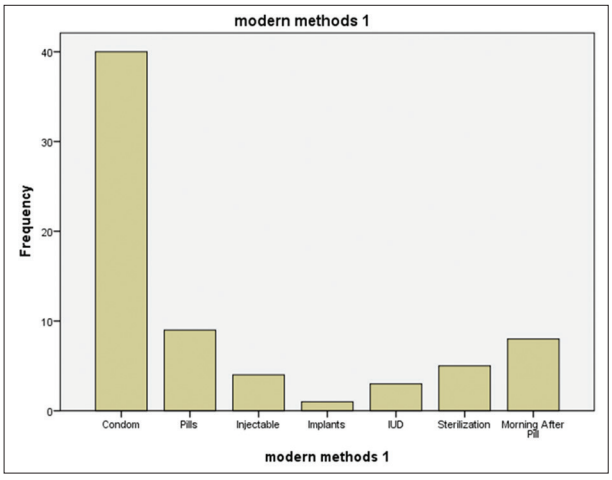

Figure 1: Contraceptive use by type

Patent medicine dealers were the most common source, i.e., 78.5% (51/65), of obtaining contraceptives and most women 90.8% paid for their contraceptives.

Table 2 shows the relationship between age group and modern contraceptive use. When tests of significance were applied, age was not a significant predictor of modern contraceptive use. There was, however, an association between age and the type of contraceptive used by a woman (Fisher's exact test value = 26.92, P = 0.001) with the data suggesting that younger women (18–35 years) are more likely to use short-acting and easily reversible methods of contraception compared to older women.

Table 3 shows the relationship between the level of education and contraceptive use. The level of education attained was significant in determining modern contraceptive use (χ^2 = 10.49; df = 4; P = 0.033). The data suggest that with increasing levels of education, women are more likely to use modern contraceptives. However, there was no association between the level of education attained and the type of contraceptive used by a woman.

There was no association found between employment and contraceptive use or the type of contraceptive used.

An association was established between religious beliefs and contraceptive use (Fisher's exact test value = 19.758 df = 8 P = 0.011) with the data suggesting that women with Pentecostal beliefs are more likely to use contraceptives when compared to women with other beliefs. There was, however, no association between the belief system and the type of contraceptive used.

The type of relationship a woman was in had no association with the use of contraceptives or the type of contraceptives a woman used.

The number of children a woman had no relationship with the use of contraceptive, but it showed an association with the type of contraceptive used (Fisher's exact test value = 37.63, P = 0.001). The results suggest that women with no children and those with only one or two children were more likely to use short-acting or easily reversible methods of contraception when compared to women with a higher number of children (five and above).

The knowledge of fertile days which was used as a measure of contraceptive education was found to be significant in determining contraceptive use (χ^2 = 9.604 df = 2 P = 0.008). The results suggest that women with correct knowledge of their fertile days were less likely to use modern contraceptives when compared to those with incorrect knowledge of their fertile days. The knowledge of fertile days did not have any association with the type of contraceptives a woman used.

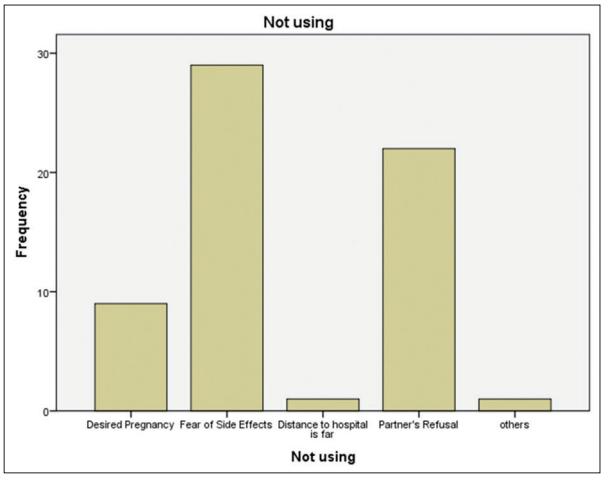

Figure 2: Reasons for nonuse of modern contraceptives

DISCUSSION

The results of this study go to show that in our environment, the decision on whether or not to use contraceptives and other decisions regarding fertility are guided by a myriad of factors. These factors may not follow any predictable pattern.[12-15]

The contraceptive prevalence in this study was noted to be high at 38.6% which is higher than national prevalence of 10% and the prevalence in the South-South geopolitical zone of Nigeria which is 15.5%. Studies from other parts of Southern Nigeria have reported prevalence rates between 18 and 29%.[12,16,17] This figure which appears to be particularly high may be due to the fact that majority of the respondents in this survey had attained the secondary level of education, a factor which positively impacts on modern contraceptive use.

Condoms were found to be the most common type of contraceptive used among participants in this study (57%). With Bayelsa State having one of the highest HIV prevalences in the country with an HIV prevalence of 9.7%[1]

Table 2: Cross-tabulation between age group and modern contraceptive type

Age group	Condom, %	OCP, %	Morning after pill, %	Injectable, %	IUD, %	Implant, %	Sterilization, %
18-25	71 (22/31)	12.9 (4/31)	16.1 (5/31)	-	-	-	-
26-35	51.9 (16/31)	16.1 (5/31)	9.7 (3/31)	12.9 (4/31)	3.2 (1/31)	-	6.4 (2/31)
36 and above	25 (2/8)	-	-	-	25 (2/8)	12.5 (1/8)	37.5 (3/8)

OCP – Oral contraceptive pill; IUD – Intrauterine device

Table 3: Level of education and contraceptive use

Educational level	Modern contraceptive users, %	Natural/ traditional methods, %	Nonuser, %
Primary	17.8 (5/28)	28.4 (8/28)	53.8 (15/28)
Secondary	39.3 (35/89)	35.9 (32/89)	24.8 (22/89)
Postsecondary	41 (30/73)	24.6 (18/73)	34.4 (25/73)

and with condoms been identified and advertised as being capable of preventing transmission of HIV, it may not be easy to differentiate condom use for contraception from condom use for HIV prevention as they often go together. This finding may have biased the high contraceptive prevalence in this study.

This study demonstrated that despite the widespread contact of respondents with contraceptive information, the quality of transmission was poor. Less than 20% of the population had correct contraceptive knowledge, despite being relatively educated. As such, contraception education may be incorporated into the school curriculum or regular organization of symposia on contraception such that the correct information can be channeled across.

In this study, education, religious beliefs, and knowledge of fertile days were significant determinants of modern contraceptive use. Women, who had more education, were Pentecostals and did not have accurate knowledge of their fertile days were more likely to use modern contraceptives. A woman's age and the number of children a woman had were significant determinants of the type of modern contraceptive a woman would use.

From the reviewed literature, education and religious beliefs were identified as predictors of contraceptive use and the number of living children a woman had as a predictor of the type of contraceptive used by a woman.[1,7,12,16,18,19]

Other predictors of contraceptive use or the type of contraceptives used which were identified from literature but were not be assessed in this study were spousal literacy levels, partners/spousal support, and domestic violence and the sex distribution of living children.[8,9,13,15,20-24]

Findings from this study that were of particular concern were the large number of women who depended solely on the morning after pill as a mode of contraception and women who could not accurately predict their fertile days and yet depended on natural contraceptive methods. These women would at risk of unwanted pregnancy and its sequelae.

Over 80% of respondents not using any form of modern contraception at the time of the survey gave their reasons as fear of side effects/experienced a side effect 46.8% (29/62) and partner refusal 35.5% (22/62). This represents a large pool of women with unmet need for contraception. The direct consequence of this is an increase in the occurrence of unintended pregnancies and a concomitant rise in the incidence of unsafe abortions and maternal mortality.[4,25]

Nigeria has set a goal of a 36% contraceptive prevalence rate by 2018. With a current contraceptive prevalence rate of 15% reaching the additional 16% of women, who have unmet needs for contraception, will attain that goal.[26]

CONCLUSION

The contraceptive prevalence in this study is high. The factors that determine contraceptive use such as education and religion have been identified and can be leveraged upon to increase its use. These factors can be drawn upon and used to design social marketing strategies to reach populations that are identified to have low contraceptive usage. Female education should be encouraged, and the goal should be to increase the percentage of women who have at least a secondary level of education. Furthermore, attempts should be made to expose young women to messages that emphasize the importance of contraception and the benefits that can be accrued from the correct and consistent use of contraception. To this end, there is a need to take the message of contraceptive use to religious and community leaders who can influence the people they lead.

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Conflicts of interest
There are no conflicts of interest.

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