Determinants of contraceptive use among female undergraduates in Edo State Nigeria

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Abstract

Background: Use of modern contraceptive is still low among young women in Nigeria despite its potential to significantly reduce maternal morbidity and mortality. This study determines the prevalence and determinants of contraceptive use among female undergraduates in Edo State in order to implement measures that will boost its use.

Methodology: A cross-sectional study of 360 female undergraduates attending Irrua Specialist Teaching Hospital who met the eligibility criteria was conducted through interviewer administered questionnaire. The results were analysed using epi info 3.5.4 statistical software and significance level was set at $p < 0.05$.

Results: Prevalence of contraceptive use was 28% despite 100% knowledge. Reasons for non-usage included fear of future infertility, refusal by male partner, fear of safety profile of the methods and lack of interest. Contraceptive use was higher among older respondents ($p = 0.02$), single ($p = 0.04$) with high socioeconomic status ($p < 0.001$).

Conclusion: Contraceptive use is low among female undergraduates despite adequate knowledge due to fear of adverse effects and non-cooperation by male partner. There is need for greater advocacy and education on safety profile of modern contraception as well as educating men on the need for their cooperation as this will increase usage.

Key words: contraceptive use, undergraduates, determinants, prevalence

Introduction

Nigeria has one of the highest maternal morbidity and mortality worldwide accounting for 14% of the global burden of maternal mortality.[1,2] Adolescents and young adults constitute a significant proportion of the world's population. Over one-quarter of the world's population is between the ages of 10 and 24; close to 90% of the world's young people live in developing countries[3]. The periods of adolescence and youths are the most productive and energetic times, characterized by risky behaviours including exploratory sexual practices. Owing to their population base, their sexual and reproductive health behaviours critically affect the global wellbeing and population growth pattern.[4]

According to the 2018 Nigeria Demographic and Health Survey (NDHS), the mean age of coitarche for girls is 17.2 years (17.6years in 2013), while the mean age for marriage for girls is 19.1years (18.3 years in 2013)[5]. This means that as girls are becoming sexually active earlier, they are marrying later. Girls from rural settings initiate sex earlier (16years) than girls from urban setting (18.6years); also, girls from low socioeconomic class initiate sex earlier (15.5years) than girls from high socioeconomic class (19.7years).[5] Available information from previous studies in Nigeria suggests increasing sexual activity among single adolescents of both sexes, and there is also progressive decrease in age at initiation of sex and poor contraceptive use.[6]

In addition to the above, adolescents and youths have a high level of premarital, often multiple, short-term sexual relationships, and consequently are predisposed to unwanted pregnancies and sexually transmitted infections. This leads to school dropout, unsafe abortion, pelvic inflammatory disease (PID), infertility, among others.[7] The other adverse health outcomes of risky sexual behaviour were found to be greater in females than in males; for example, Nigerian National Agency for Control of HIV/AIDS (NACA) reported a prevalence of 4.1% in people between 15 and 24 years, with adolescent girls three times more vulnerable than boys of the same age[8]. Contraceptive use, particularly barrier contraceptive, has been shown to significantly reduce the above adverse health outcomes and improve maternal health indices.[2,7,9]

Contraception is the deliberate prevention of conception or impregnation using contraceptives.[10] This form of prevention is often employed for economic, demographic and/or medical purposes so as to reduce maternal mortality, teenage pregnancy, over population and sexually transmitted infections prevalence.[11] It is one of the most cost-effective ways to prevent maternal, infant, and child mortality.[7] It can reduce maternal mortality by reducing the number of unintended pregnancies, the number of abortions, and the proportion of births at high risk.[7] It can help slow the spread of HIV, promote gender equality, reduce poverty, accelerate socioeconomic development, and protect the environment.[8] Contraceptive use is however, poor among sexually active adolescents and young ladies[9,12] despite adequate knowledge of modern contraceptive methods.[5] The NDHS in 2018 reported a contraceptive prevalence of 28% among unmarried women, and 12% among married women respectively[5]. Even when used by

adolescents and young ladies, it is not consistently and properly used. Education, socioeconomic and marital statuses significantly affect usage of contraceptives.[13,14] Ignorance of the various contraceptive methods, their effectiveness, safety profile, religious conflicts are some of the reasons why young women refuse contraceptives.[12,14]

Adolescent females form a sixth of the women in the reproductive age.[13] Half of the pregnancies in adolescents in developing countries are unintended.[13] Studies have shown that pregnancy before 20 years of age have strong correlation with poor maternal and neonatal health outcomes, including higher rates of pregnancy-related complications[14]. Approximately, 20% of pregnancy-related morbidity and mortality, along with 32% of maternal deaths, could be prevented using effective contraception.[2,13]

To assess the current situation in our environment, periodic survey of the sexual behaviour and contraceptive practices of young female students is required. This would allow for appraisal of policy formulations that promote sexual health. A study of the sexual practices and contraceptive use among female undergraduates would reflect happenings among young adults, since most undergraduates are usually in their late teens and early twenties – a period characterised by sexual adventure and risky behaviour. The aim of this study, therefore, was to determine the prevalence and determinants of modern contraceptive use among undergraduates in Edo State.

Methodology

This study was conducted at Irrua Specialist Teaching Hospital (ISTH), Irrua, Edo State. The hospital receives students from the three major tertiary institutions in Edo Central and Edo North Senatorial Districts – Ambrose Alli University, Ekpoma, and College of Education, Igueben, both in Edo Central Senatorial District; and, Auchi Polytechnic, Auchi in Edo North Senatorial District.

Study design

The study was a descriptive cross-sectional study.

Study population

This comprised sexually active female undergraduates of reproductive age (15 – 49 years), who were present at Irrua Specialist Teaching Hospital, Irrua, during the study period.

Inclusion criteria

- Female undergraduates aged 15 to 49 years,
- Those who are sexually active,
- Those who were present at ISTH

- Those who consented to participate in the study.

Exclusion criteria

- Students who were too ill to participate in the study.

Selection of subjects

Female undergraduates presenting to the General Out-Patient Department, Accidents and Emergency Unit, and gynaecological unit of ISTH, who met the inclusion criteria were selected for the study.

The sample size was determined using the formula for single proportion[1]:

$N = Z^2pq/d^2$ where

N = estimated sample size

Z = standard normal deviate corresponding to a confidence interval of 95% (1.96)

p = prevalence of contraceptive use in Nigeria (Nigeria Demography and Health Survey reported a Contraceptive prevalence of 28% among unmarried women in Nigeria, majority of female undergraduates being unmarried)[2]

q = the proportion of those without PID in the population = 1 – p = 1 – 0.28 = 0.72

d = allowable relative error (5%)

$N = (1.96)^2 \text{ X } 0.28 \text{ X } 0.72/(0.05)^2 = 309$

Response rate: A response rate of 90% was anticipated and so the sample size to be selected (n_s) was calculated using the formula

$n_s = n/0.9$ where

n_s = sample size to be selected,

n = calculated sample size and

0.9 = anticipated response rate of 90%

$n_s = n/0.9 = 309/0.9 = 343$.

The total sample size used was 360

Sampling technique

Consecutive sampling was employed in the study. Female undergraduates who met the inclusion criteria were recruited consecutively and interviewed until the required sample size of three hundred and sixty (360) was achieved. An average of eight students were seen weekly. These patients were seen in the Family Medicine clinic, gynaecological clinics and Accident and Emergency units of Irrua Specialist Teaching Hospital, Irrua.

Study instruments

The instrument for data collection was a semi-structured, interviewer administered questionnaire. The questionnaire was pretested in the staff/NHIS clinic of the hospital. Data analysis was done with the aid of Epi info statistical software version 3.5.4, designed by the American Centre for Disease Control and Prevention (CDC), Atlanta, USA for epidemiological studies. Results were presented using tables, charts, frequency distribution and percentages. Chi-square test was used to test for association between the

occurrence of PID and associated risk factors, while $p \leq 0.05$ was considered statistically significant.

Study duration

The study lasted for six months.

Ethical approval and consent to participate

Ethical approval was obtained from the Ethics and Research Committee of Irrua Specialist Teaching Hospital, Irrua via ISTH/HREC/2016/MAY/031, while written informed consent was obtained from study participants after details of the study. The aim and objectives were explained to them.

Results

Respondents were female undergraduates aged 16–35 years with a mean age of 24(±3.6). Majority of respondents were aged 20 to 24 years (54.4%), mostly unmarried (93.9%), Christians (78.6%) and were of low socioeconomic class (53.3%).

Most respondents attained coitarche between the ages of 16 to 19 years (72.5%) with the mean age of sexual debut being 18±2.2 years. Only few of the respondents had single sex partner (5.3%). They all had knowledge of contraception, and the contraceptive use prevalence was 28.9%. The two main reasons for the refusal of contraceptive use was fear of future infertility (47.7%) and partner refusal (28.1%). Of those who used contraceptives, 66.3% used condom as the preferred method of contraception while Intra Uterine Contraceptive Device (IUCD) was the least preferred method of contraception (2.9%).

Table 1: Sociodemographic Characteristics of the Respondents (N=360)

Sociodemographic Characteristics	Frequency (%)
Age (Years)	
15 – 19	37 (10.3)
20 – 24	196 (54.4)
25 – 29	98 (27.2)
30 and above	29 (8.1)
Marital Status	
Single	338 (93.9)
Ever Married	22 (6.1)
Religion	
Christianity	283 (78.6)
Islam	77 (21.4)
Socioeconomic status	
Low	192 (53.3)
Middle	92 (25.6)
High	76 (21.1)

There was a significant increase in contraceptive use with increase in age ($p = 0.02$). Contraceptive use was significantly higher in singles compared to married respondents ($p = 0.04$). There was no significant difference in contraceptive use among adherents of Islam or Christianity ($p = 0.27$). Contraceptive use rate increased with rise in socioeconomic class. The rate of use between those with high socioeconomic

class compared to those from lower class was statistically significant ($p < 0.001$). Age at sexual debut did not significantly affect contraceptive usage ($p = 0.07$).

Table 2: Sexual History of Respondents (N=360)

Sexual History	Frequency (%)
Age at Coitarche (Years)	
10 – 14	3 (0.8)
15 – 19	261 (72.5)
20 – 24	89 (24.7)
25 and above	7 (2.0)
No of Sex Partners ever had (N=360)	
1	19 (5.3)
2	249 (69.2)
3	54 (15.0)
4 and above	38 (10.5)
Knowledge of Contraception (N=360)	
Yes	360 (100.0)
No	0 (0.0)
Contraceptive use (N=360)	
Yes	104 (28.9)
No	256 (71.1)
Reasons for not using (N=256)	
Fear of future infertility	122 (47.7)
Partner's refusal	72 (28.1)
Not sure of Safety profile	39 (15.2)
Don't like it	23 (9.0)
Method of Contraceptive (N=104)	
Condom	69 (66.3)
Natural	22 (21.2)
Pills	5 (4.8)
Injectables	5 (4.8)
IUCD	3 (2.9)

Discussion

The study found a contraceptive use prevalence of 28.9% among female undergraduates. This is similar to some previous studies' findings across Nigeria (respectively 26%,[1] 26.8%,[9] and 28%[5] in north-east, south-south, and the 2018 National Demographic Health Survey). This might be related to the single status of most of the participants in this study, as reflected in previous studies. This rate appeared low considering that all the respondents were literate on contraception use. However, fear of side effects, future infertility, male partner preference, developing cancer as a result of use, have been provided by previous studies[1,9,13-15] and in this study

The study showed that respondents from low socioeconomic background (20.3%) were significantly less likely to use contraceptives and compared to those from middle (33.7%), and high (44.7%) socioeconomic backgrounds.

This pattern of more use of contraceptive among the those with high socioeconomic class compared to those from low, have been echoed too from previous studies.[7,9] In other words, poverty might be a major barrier to contraceptive use. Such observation might

Table 3: Determinants of Contraceptive Use (N=360)

Sociodemographic Characteristics	Contraceptive Use			Test Statistics (χ^2 Test)
	Yes N=104(%)	No (N=256)	Total (N=360)	
Age (Years)				
15 – 19	6(16.2)	31(83.8)	37(100)	$\chi^2 = 9.64$
20 – 24	67(34.2)	129(65.8)	196(100)	P = 0.02
25 – 29	35(35.7)	63(64.3)	98(100)	
30 and above	8(36.4)	21(63.6)	29(100)	
Marital Status				
Single	102(30.2)	236(69.8)	338(100)	$\chi^2 = 4.46$
Married	2(9.1)	20(90.9)	22(100)	P = 0.04
Religion				
Christianity	78(27.6)	205(72.4)	283(100)	$\chi^2 = 1.23$
Islam	26(33.8)	51(66.2)	77(100)	P = 0.27
Socioeconomic status				
Low	39(20.3)	153(79.7)	192(100)	$\chi^2 = 18.13$
Middle	31(33.7)	61(66.3)	92(100)	df = 2
High	34(44.7)	42(55.3)	76(100)	P < 0.001
Age at Coitarche				
10 – 14	3(100)	-(0)	3(100)	$\chi^2 = 6.91$
15 – 19	74(28.4)	187(71.6)	261(100)	df = 3
20 – 24	24(27.0)	65(73)	89(100)	P = 0.07
25 and above	3(42.9)	4(57.1)	7(100)	

also lead to the extrapolation of some female students engaging in sexual intercourse for monetary gain.[15] This puts them in a condition where they are less likely to negotiate contraceptive use before sex.[13,15]

The mean age of sexual debut found in our study was 18±2.2years. This was like findings in some previous Nigerian studies[5,15] Also, this finding is comparable with the findings in some other places such as South Africa and Ireland where sexual debut was at 17.3 years and 17.6 years respectively.[16,17] This observation might be related to educational and cultural factors associated with delayed age of marriage as most of the participants in this study are not married.

More than 94% of the participants had multiple sexual partners and similar pattern is seen in previous studies.[5,13-15] This might be related to most of the participants being single and apparently influenced by media and drugs of abuse like alcohol.[15]

Age was found to significantly affect contraceptive use in our study. The older the respondent, the higher the likelihood of them using a modern contraceptive method. This was also reflected in a previous Nigerian study.[15]

Marital status was also identified as a deterrent to contraceptive use among the study participants (i.e., married to unmarried contraceptive use rate was respectively 9.1% vs 30.1%). This is similar to the 2018 NDHS outcome of 12% vs 28% respectively for married and unmarried Nigerians. Such observation might be related to the expectation of married participants yearning to have children. And as to the common knowledge, contraception use for the married is often for child spacing and when they have completed their family size.

The commonest method of contraception used by the respondents was male condom (63.3%). This is comparable to the finding reported in a previous study.[15] The preferred use of male condom found in our study is perhaps due to its availability, cheap price knowledge. This study find increase in age, being single, belong to the high socioeconomic class and ease of access as significant variables influencing use of contraceptive methods. It is hoped that future studies will explore further why these variables stand out.

Conclusion

Contraceptive use is low among female undergraduates in Edo State despite adequate knowledge. This study finds increase in age, being single, belonging to high socioeconomic class and ease of access as significant variable influencing use of contraceptive methods. It is hoped that future studies will explore further why these variables stand out and what roles religion and spirituality play in these observations.

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Authors' Contributions

OSENI, Tijani Idris Ahmad – Conceived the idea, conducted the study and wrote the manuscript.

MOMOH, Mojeed O. – Conceived the idea and wrote the manuscript.

AFFUSIM, Christopher Chidozie – Conducted the study and wrote the manuscript.

EROMON, Pauline Etuajie – Conducted the study and wrote the manuscript.

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LIST OF ABBREVIATIONS

HIV/AIDS	Human Immunodeficiency Virus/Acquired ImmunoDeficiency Syndrome
ISTH	Irrua Specialist Teaching Hospital
IUCD	Intra Uterine Contraceptive Device
NACA	National Agency for Control of HIV/AIDS
NDHS	Nigeria Demographic and Health Survey
PID	Pelvic Inflammatory Disease
STI	Sexually Transmitted Infections

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