Original Research Article

KNOWLEDGE OF SAFE PERIOD AND LONG LASTING REVERSIBLE CONTRACEPTIVES AMONG FEMALE ADOLESCENTS IN AN URBAN CITY IN NIGERIA

Comment [H1]: Knowledge of Safe Period and **Utilization** of Long Lasting Reversible Contraceptives Among Female Adolescents In an Urban City in Nigeria

Abstract

The study sought to evaluate the understanding of safe period and long-lasting reversible contraceptives among adolescent females in an urban city in Nigeria, employing a descriptive research approach. The study was directed by three research questions and one hypothesis. The study utilized a sample size of 900 teenagers residing in Port Harcourt city. The researchers utilized a methodical self-administered questionnaire to collect data from the participants. The research questions and hypothesis were analyzed using percentages and binary logistic regression with a significance level of 0.05 (alpha level). The study revealed that 65.6% of the respondents demonstrated a good understanding of safe period, while 62.1% had a good knowledge of long-lasting contraceptive methods. Only 14.7% of the respondents reported frequent use of contraception, with the majority (25.6%) of frequent users being in SS2. The findings revealed a notable disparity in the average rate of contraceptive utilization among teenagers residing in an urban area of Nigeria, depending on their social class [$F(2,887) = 854.499$; $p<0.05$]. The study determined that adolescents possessed a strong understanding of safe periods and long-acting reversible contraceptives. Furthermore, a notable correlation was observed between class and contraceptive usage. Policy makers are advised to ensure that reproductive health services are easily available to teenagers by enacting regulations that promote the development of family planning clinics specifically designed for young people.

Comment [H2]: Please rephrase the beginning of this abstract.

Abstract do not begin with the objectives of the study. Rather give us a one sentence introduction into the subject matter

Comment [H3]: Please what does this abbreviaion mean

Comment [H4]: findings revealed a notable social class dependent disparity in the average rate of contraceptive utilization among teenagers residing in an urban area of Nigeria [$F(2,887) = 854.499$; $p<0.05$].

INTRODUCTION

The menstrual cycle is a regular monthly process including physiological changes in the ovaries and uterus of adult women. The ovarian cycle and uterine cycle are two subdivisions of the menstrual cycle, which is an essential process for sexual reproduction [1]. The three phases of the ovarian cycle are the luteal, ovulation, and follicular phases. Ovulation is the process of releasing an egg from a Graafian follicle. Ovulation, the most important event for the possibility of pregnancy, takes place approximately halfway through the menstrual cycle [2].

In order to ascertain the likelihood of conception, it is necessary to possess a fundamental comprehension of the physiology of the menstrual cycle, specifically the period of ovulation. It is imperative to endorse or utilise family planning methods (FPMs), which are widely employed by a significant number of women worldwide [1]. As per the United Nations (2013), it is imperative for nations to limit their fertility rates because population size affects the standard of living for citizens. As a result, women are using hormonal contraceptives, which are linked to a number of health problems such as obesity, hypertension, and cancer. Globally, the rate at which people stop using contemporary contraception is rising at a pace that ranges from 19% to 36% [3].

Comment [H5]: What does this mean

Knowledge of fertile period is one of the natural family planning strategies that uses scientific ways to delay pregnancy. Those who prefer not to use hormonal, mechanical, or surgical methods of contraception are the predominant users [4]. This technique consists of the cervical mucus (or Billings) method, the symptom thermal approach, and the basal body temperature method. The successful application of the fertile period can be facilitated by the use of these three strategies. Women must accurately determine when their menstrual cycle is fertile in order

to practice periodic abstinence [5].However, the majority of women sometimes cannot tell for sure when in their menstrual cycle they have the highest chance of becoming pregnant.

A single strategy to reduce unwanted pregnancies is to be aware of the fertile period. According to a World Health Organization (WHO) research, two-thirds of women who wanted to postpone or reduce having children discontinued using modern contraception due to health concerns, fear of adverse effects, and underestimating the likelihood of becoming pregnant [6]. An accurate understanding of one's ovulatory cycle might prevent unwanted and unintended pregnancies. Similarly, individuals who do not employ contraception and lack knowledge of their fertile period are at a higher risk of experiencing unintended pregnancies [7]. Moreover, the majority of couples who were actually engaging in the practice of identifying their fertile period were uninformed about their fertility window and did not depend on the concept of fertility period due to insufficient understanding.

Knowledge of fertile period is one of the main causes of the decline in high fertility, which has detrimental effects on social and economic growth[8]. Women would be better able to plan their pregnancies, identify their pregnancies early, and comprehend the risk of pregnancy if they had access to sufficient information about fertile times and relevant physiology.Natural family planning has many benefits, but a study revealed that some couples find it difficult to maintain their relationship because of issues with abstinence, a decline in frequency and spontaneity, and unequal sexual desires between partners. Additionally, some of the couple's disagreements and feelings of resentment stemmed from their unfulfilled sexual desires, which made their relationship worse [9].

According to a study done in the US, almost 40% of women were unaware of the ovulatory period [10]. According to a comparable study done in the US, 51% of women were unaware of the fertile period [11]. About 40% of individuals in an Australian study were unsure of when menstrual cycle design was most likely to occur [12]. In a similar vein, a Turkish study on youth revealed that just 40% of youth had adequate awareness of the fertile period [13].Furthermore, a study on a specific adult population in Pakistan found that just 46% of the participants were aware of the female cycle's fertile phase [14].

In twenty-nine (29) sub-Saharan African nations, a research employing data from the Demographic and Health Survey (DHS) among women of reproductive age found that only 8.3% of them knew what ovulation was [15]. This is a relatively low percentage. According to a study on male teenagers in Ghana who were asked to identify the female fertile period, only 14.2% of them could accurately name the particular period that falls inside the female menstrual cycle [16]. Comparably, a Kenyan study discovered that fewer than 8% of participants accurately identified their years of fertility [17].

Comment [H6]: Better than 29 alone

Comment [H7]: This is good but you never mentioned anywhere about lack or paucity of such knowledge in Nigeria.

Generally, what gap does your research fill?

Long-acting reversible contraceptives (LARCs) are implant and intrauterine device contraceptive techniques that are very effective and convenient, as well as long-lasting and requiring little to no maintenance. These methods have become more widely available recently, giving women the option to adopt their use. It is also more affordable and has far higher compliance rates than other hormonal approaches. Compared to user-dependent and shorter-term methods, which both raise the risk of non-compliance associated method failure (18, 19], long-term contraceptive methods (LARCs) are the best options for many women to avoid pregnancy.

When used as prescribed, Long-acting reversible contraceptives (LARCs) offer women ongoing pregnancy prevention for a minimum of three years and a maximum of ten years. Unlike short-acting techniques, these devices do not suffer from user errors, which accounts for their 99% effectiveness [18]. Moreover, LARC techniques can narrow the difference in failure rates between "typical use" and "perfect use". Globally, the failure of contraceptives results in about 48% of unwanted pregnancies, primarily as a result of improper use, inadequate adherence, and/or technological malfunction [20]. By using LARC approaches, this can be prevented as they do not rely on taking prescribed medications as directed, remembering to replace patches or rings, or scheduling doctor's appointments [20; 21].

The aim of this study was to assess the knowledge of safe period and long lasting reversible contraceptives among adolescent female population in an urban city in Nigeria.

Methodology

The study used a descriptive survey research design with a study population of 70535 female adolescents in Port Harcourt, Nigeria (National Population Commission of Nigeria, 2011). Using the Taro Yamane formula for a finite population, a sample size of 900 was calculated. The study used a multi-stage sampling approach. To collect data from respondents, a validated self-administered structured questionnaire was used. The researcher administered the questionnaire with the assistance of two trained research assistants. The research assistants were instructed on how to complete the questionnaire and the study's objectives. The questionnaire is divided into two pieces. Section A collected information on the respondents' socio-demographics, while Section B gathered information on adolescents' awareness of safe period and long-lasting contraception in Port Harcourt.The validated instrument was pre-tested on a part of the

Comment [H8]: No mention about knowledge and use of LARC in nigeria and how this inform the need for your study.

Comment [H9]: I think you do not have enough basis to establish this research.

Again, in the abstract, you spoke of three research questions and a hypothesis. Please where are they mentioned here?

Comment [H10]: Two sections and not pieces

population homogenous to the research sample in a different city and was proven to have a good internal consistency.Data was analyzed using descriptive statistics of percentage while regression analysis was used to test the hypotheses.

Comment [H11]: Issues of ethics and informed consent nowhere to be found

Results

Research question 1:What is the knowledge of safe period among adolescents in an urban city in Nigeria?

Table 1: Level of knowledge of safe period

S/N	Items	True Freq %	False Freq %
	Knowledge of safe period		
1	Appropriate calculations of ovulation/periods can prevent pregnancy	781(87.8)	109(12.2)
2	Appropriate calculations of ovulation/periods can prevent pregnancy	779(87.5)	111(12.5)
3	A woman will not get pregnant during her safe period	709(79.7)	181(20.3)
4	Ovulation does not take place during safe period	383(43.0)	507(57.0)
5	I know how to calculate ovulation period	176(19.8)	714(80.2)
6	Safe period is effective	677(76.1)	213(23.9)
	Grand total	**584(65.6)**	**306(34.4)**

Decision: >50% Good, <50% Poor

Table 1 shows the knowledge of safe period among adolescents in an urban city in Nigeria. According to the findings, 584 (65.6%) of respondents had high understanding of the safe period, whereas 306 (34.4%) had poor knowledge.

Research question 2:What is the knowledge of long lasting contraceptives among adolescents in an urban city in Nigeria?

Table 2: Level of knowledge of long lasting contraceptives methods

S/N	Items	True Freq %	False Freq %
	The following are long lasting contraceptives		
1	Intrauterine device	750(84.3)	140(15.7)
2	Contraceptive implant	756(84.9)	134(15.1)
3	Contraceptive injection	692(77.8)	198(22.2)
4	Contraceptive ring	392(44.0)	498(56.0)
5	Diaphragm	174(19.6)	716(80.4)
	Grand total	**553(62.1)**	**337(37.9)**

Decision: >50% Good, <50% Poor

Table 2 shows the knowledge of long lasting contraceptive methods among adolescents in an urban city in Nigeria. The result shows that 553(62.1%) of the respondents had good knowledge of long lasting contraceptive methods and 337(37.9%) had poor knowledge.

Table 3: Class and contraceptive use among adolescents

Variables	Practice of contraceptive use			Total Freq (%)
	Frequent Freq (%)	Sometimes Freq (%)	Rarely Freq (%)	
Class				
SS1	23(7.4)	30(9.7)	256(82.8)	309(100)
SS2	100(25.6)	214(54.7)	77(19.7)	391(100)
SS3	8(4.2)	10(5.2)	172(90.5)	190(100)
Total	131(14.7)	254(28.5)	505(56.7)	890(100)

Comment [H12]: The full meaning of these SS1, SS2, and SS3

The finding of the study showed that 131(14.7%) of the respondents frequently used contraceptive while 254(28.5%) sometimes used contraceptives. The result further showed that 23(7.4%) of respondents who were in SS1, 100(25.6%) in SS2 and 8(4.2%) in SS3 frequently used contraceptive.

Hypothesis

Ho: There is no significant difference in the mean value of contraceptive use among adolescentsin an urban city in Nigeria based on class

Table 4: Regression analysis showing significant difference in the mean value of contraceptive use among adolescents in an urban city in Nigeria based on class

Model		Sum of Squares	Df	Mean Square	F	Sig.	Decision
1	Regression	141.503	2	70.751	854.499	0.00*	**Rejected**
	Residual	73.442	887	.083			
	Total	214.945	889				

*Statistical significant ($p<0.05$)

The finding of this study shows that there is a significant difference in the mean value contraceptive use among adolescentsin an urban city in Nigeria based on class[$F(2,887) = 854.499$; $p<0.05$]. Therefore, the null hypothesis which states that there is no significant difference in the mean value ofcontraceptive use among adolescentsin an urban city in Nigeria based on class was rejected.

Comment [H13]: Owkk, so the SS1, SS2 and SS3 means class of the students.

Please descibe these variables well to avoid confusing the readers.

DISCUSSION OF FINDINGS

The findings of the study show that more than half of the respondents had good knowledge of safe period. This was in variance with the findings of a cross-sectional study carried out in 29

African nations, which showed that the average level of ovulation awareness in those nations was 21.5% [15]. The results were higher than those of a Michigan state survey [1], which found that approximately 32.8% of women knew when to expect their period. In a similar vein, the findings of this study exceeded those of a study carried out in Ghana [22], which revealed that around 38% of women knew that the ovulation window occurs halfway through the menstrual cycle. Getahunand Nigatu [23] showed only 3,699 (23.6%) were found to be knowledgeable about a woman's ovulation period. Factors associated with increased knowledge of the ovulation period among reproductive women included living in an urban area (AOR=1.93; 955 CI=1.76, 2.12), higher educational status (AOR=4.39; 95% CI=3.77, 5.11), receiving family planning counseling within the last 12 months (AOR=1.33; 955 CI=1.20, 1.48), and having menstruation within the previous six months (AOR=1.30; 95% CI=1.18, 1.42).

Comment [H14]: Are these results part of your work or it is from another study.

If it is from another study, please where is the citations

However, the findings of this investigation were consistent with those of research done in Australia and India [24; 25]. This discrepancy may result from variations in the study participants' socioeconomic background (educational attainment), study environments, and study population. The general consensus from numerous research reviews was that women know very little to nothing about fertility, the fertile window, or the ovulatory phase.

The findings of this study showed majority of the respondents had good knowledge of long lasting contraceptive methods. This finding did not agree with that of Bolarinwa and Olagunju [26] which showed only 14.8% of women were using long lasting contraceptive methods, but showed a significant relationship between knowledge and use of long lasting contraceptives which implied there was low knowledge of long lasting contraceptive among the women and this calls for an awareness campaign on the benefits of LARC. However the study's finding agreed with that of White et al. [27] which showed overall 51%, 23% and 47% of women reported they

had heard of the copper IUD, LNG-IUS and implant, respectively. The main justifications given by women who were considering LARC were that it was more convenient, effective, and offered longer-term contraception protection than their current method.

The findings of the study showed that majority of the respondents in SS2 indicated good contraceptive utilization, while the less than a quarter respondents from the other classes indicated good contraceptive utilization. This implies that there is influence of class on contraceptive usage. The findings of the present study is not in line with the study of [28] which indicated that majority of the students of the senior secondary class three had better knowledge and use of contraceptives compared to other classes. Also the present study deviates from the findings of Gbagbo [29] which reported that awareness and use of contraceptives are more prevalent among junior high school pupils. The discrepancies in the findings could be attributed to the pupils' exposure to and access to sex education information. However, students who got contraceptive information from their parents/guardians were more likely to use contemporary contraception regularly than their peers who did not. As a result, with young people in primary schools becoming sexually active, there is a need for formalized contraceptive education in primary schools to provide right information and teaching.

Comment [H15]: This is the full meaning of SS3

Conclusion

Based on the findings of this study, it was concluded that there was good knowledge of safe periods and long lasting contraceptives among adolescents, Also there was a strong association between class and use of contraceptives.

Comment [H16]: Remove this

Recommendations

The study's findings led to the following recommendations:

- Policy makers should make reproductive health services accessible to adolescents by promulgatinglaws that encourages the establishment of youth friendly family planning clinics.
- • It is crucial for the governments, non-governmental organisations (NGOs), donor agencies, and key stakeholders to collaborate in order to guarantee the availability, accessibility, and continuous promotion of long-lasting contraceptives for teenagers.
- School heads should encourage peer-led initiatives that empower students with accurate knowledge about safe periods and long lasting contraceptives to their peers.
- Ministry of health should develop and maintain informative websites or mobile applications that provide reliable and up-to-date information on use of contraceptives,leveraging on social media to disseminate educative and relatable content.

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Comment [H17]: Referencing style do not follow the journal guidelines.
The intext citation is okay but the bibliographic list deviated significantly from the journal guidelines.