

Contraceptive knowledge and practice among senior secondary schools students in military barracks in Nigeria

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Abstract

Background: Many adolescents lack adequate health education coupled with low contraceptive use. As a result of this, they may experience the negative health consequences of early, unprotected sexual activity as well as its social and economic implications.

Objective: To determine the level of knowledge of contraceptives and its use among senior secondary schools students in Ojo military barracks, Lagos.

Methodology: A cross-sectional study of 400 senior secondary schools students in Ojo military barracks, Lagos, selected using the multistage sampling technique was done. Data were collected using pretested, self-administered structured questionnaires. The data were analyzed using Statistical Package for Social Sciences version 17 (International Business Machine USA). Tests for statistical significance were carried out using Chi-square tests for proportions. $P < 0.05$ was considered significant.

Results: The response rate was 100%. Majority of them 391 (97.8%), were in the adolescent age group (10–19 years). The mean age was 15 ± 2.4 for males and 15 ± 2.2 for the females. Two hundred and seventy (67.5%) of them had correct knowledge of the use of condoms while 48 (31.1%) of the sexually active respondents have ever used any form of contraceptive with no statistically significant difference between the male and female respondents ($P = 0.338$). The most common barrier to contraceptive methods as reported by 131 (85.1%) of respondents was their being too embarrassed to source for the commodities.

Conclusions: There was a fairly high level of knowledge and relatively low use of contraceptives. We recommend that efforts should be intensified to promote the safe sexual practice and contraceptive use in this age group.

Key words: Contraception, knowledge, Lagos, military barracks, practice, students

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Introduction

The Nigerian National Demographic Health Survey, 2008 revealed that 16% of young women and 6% of young men

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aged 15–24 years, initiated sexual activity before age 15.^[1] About half of young women (49%) and more than a quarter of young men (26%) aged 18–24 years had first sexual intercourse before the age of 18.^[1] Despite risky sexual behaviors and increased sexual activities among adolescents; adequate health education is lacking, and contraceptive use remain low in both their first and last sexual encounters.^[2,3] In tandem with this is the high prevalence of reported experience of sexually transmitted diseases, reliance on unsafe abortion and many abortion-related complications.^[4]

Every year about 16 million adolescents aged 15–19 give birth.^[5] The health of young people all over the world, including Nigeria, represents a common future. Yet adolescent sexuality studies in Nigeria still report health and social outcomes such as unwanted pregnancies and attendant consequences such as maternal mortality and increasing the number of school dropouts.^[6-9] Complications from pregnancy and childbirth have also been reported as the leading cause of death in girls aged 15–19 years in low and middle-income countries (LMIC).^[10] These outcomes could be stemmed by ensuring good knowledge of contraceptives and its use among these age group.

The negative effects of modernization among other factors reduce the influence that families have on effectively promoting a positive attitude and healthy sexual behavior among adolescents and youths.^[11] These effects are further worsened by unstable family setups in the barracks, often as a result of a frequent job-related travel and transfers. Studies have shown that good knowledge, as well as correct and consistent use of contraceptives can go a long way in promoting sexual and reproductive health, thus averting these negative outcomes that result from poor knowledge and practice of contraception.^[12,13] Though there have been several studies on the reproductive health behavior of adolescents in the general population, no similar studies have been carried out in any barracks to determine the reproductive health status of young people who live and grow up here. With institutionalization in the barracks, it is important to create a supportive environment that would positively influence knowledge and behavior of adolescents and also help in increasing access to correct and complete information on reproductive health commodities. Furthermore, an intervention program in this kind of enclosed environment is likely to be very effective. It is against this backdrop that this survey will determine the level of knowledge of contraceptives and its use among senior secondary schools students in Ojo military barracks, Lagos.

Methodology

Description of study area

Ojo military cantonment is one of the military barracks in Nigeria. It is located in Ojo local government area of Lagos state in south western Nigeria. The barracks have an

estimated population of over 30,000 inhabitants comprising military personnel from various army units, their families, and dependents.

Three secondary schools are located within the same vicinity (about half to one kilometer away from each other). The schools include one army-owned co-educational school (Command Day Secondary school [CDSS]) and two Lagos state-owned schools, Cantonment Girls' secondary and Cantonment Boys' High schools.

The barracks have located in it, office blocks, a vocational center, two churches (one Catholic and one Protestant) and a mosque, a Medical Centre that offers curative services, immunization and family planning services to the military personnel, their families, and dependents.

Study design

A cross-sectional descriptive survey was done.

Study population

The study population comprises senior secondary schools (SS) students (SS1–3) of the three secondary schools. The three schools have a total population of 2903 senior students (SS1–3); a breakdown of this population is as follows: CDSS = 1512; Army Cantonment Boys' Senior Secondary School = 671; Army Cantonment Girls' Senior Secondary School = 720. Each class (SS1–2) is made up of between 5 and 7 arms in each of the three schools while SS3 classes have 3–4 arms. However, students residing outside the barracks and students whom none of the parents is a military personnel are excluded from this study. This group may not be influenced by enclosed environment as well as the way of life within the barracks.

Sample size determination

In a previous study in Nigeria, among the similar population, the level of sexual activity (P) was 52.0%.^[14] Therefore, $P = 0.52$. The sample size was determined using the Leslie Fischer's formula for the calculation of sample size in populations $> 10,000$, $n = z^2 pq/d^2$,^[15] where n = minimum sample size; P = proportion of sexually active; d = desired precision at 5%; z = a constant at 95% confidence interval $z = (1.96)$. Substituting values:

$$n = \frac{(1.96)^2 \times 0.52 \times 0.48}{(0.05)^2} = 383.55$$

Then a conversion was made using the formula for the calculation of minimum sample size in populations $< 10,000$:

$$nf = \frac{n}{1 + n/N} \text{ where } N = \text{target population} = 2903$$

$nf = 340$ students.

Anticipating a response rate of 90%, an adjustment of the sample size estimate to cover for nonresponse rate was made by dividing the sample size estimate with a factor f , i.e., n/f , where f is the estimated response rate.^[15] Thus, the calculated sample size = $340/0.90 = 378$ students. However, 400 questionnaires were distributed.

Sampling technique

A multistage sampling technique was used.

First, simple random sampling technique was used to select three arms from each of the classes (SS1–2) and 2 arms of the SS3 classes.

Second, stratified sampling technique was used to allot respondents according to relative school populations.

- CDSS = 232 = 58.0%
- Cantonment Girls' High school = 95 = 23.8%
- Cantonment Boys' High school = 73 = 18.2%

Total minimum sample size = 400 = 100%.

Third, the class registers were used as the sampling frame. For the single-sex schools, simple random sampling technique was used to select eligible and consenting students until the required number allotted to the selected arms in each class (SS1–3) has been obtained. For CDSS (which is a co-educational school), the class registers were initially stratified by sex into males and females before proportionate sample of each sex was taken using simple random sampling technique was used to select eligible and consenting students until the required number allotted to the selected arms in each class (SS1–3) has been obtained.

Data collection technique

Data collection in this study was done using pretested, self-administered structured questionnaires developed from a review of relevant literature and interview of some adolescents. All questions were written in English language and pretested in similar schools in Navy Barracks Ojo. This was done, to check for its reliability and validity. Furthermore, determined were the appropriateness of format and wording of the questionnaire as well as the time needed to fill them. Thereafter, the instruments were reviewed by senior colleagues, necessary adjustments, and corrections were effected before administering the questionnaire to the study participants.

The questionnaire is divided into six sections (A-F) to obtain data on (a) the sociodemographic characteristics of the respondents; (b) respondents' knowledge of contraceptive uses and timing; (c) pattern of contraceptive use among respondents; (d) distribution of contraceptive awareness and types of contraceptive methods used by respondents;

(e) respondents' sources of obtaining contraceptives; and (f) barriers to contraceptive use among the sexually active.

Data management and analysis

The data were scrutinized and entered into the computer. Data cleaning was done by carrying out the range and consistency checks. Data were analyzed in respect to the demographic characteristics of the respondents. Descriptive and analytical statistics of the data were carried out using Statistical Package for Social Sciences (SPSS) Windows version 17.0. Chicago, United States SPSS Inc.^[16] Tests of statistical significance were carried out using Chi-square tests for proportions. $P < 0.05$ was considered significant. Descriptive data were presented as simple frequencies and percentages.

Ethical consideration

Written permission to carry out this study was sought and obtained from the barracks' commander and the principals of the three schools. Consent of the respondents was also solicited and obtained for the conduct and publication of this research study. All authors hereby declare that the study has been examined and approved by the University of Ibadan and University College Hospital ethics committee, Nigeria and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

The questionnaires were administered individually to the respondents in their respective classes.

Results

A total of 400 respondents participated in the study. This was made up of representative samples from the co-educational school and the two single-sex schools. The response rate was 100%. Table 1 shows the sociodemographic distribution of the respondents. The majority of the students 391 (97.8%) were in the adolescent age group (10–19 years), only 9 (2.2%) respondents were in the age range of 20–24 years; all the respondents above 19 years were from the girls' school. The mean age of the respondents was 15 ± 2.4 for males and 15 ± 2.2 for females. There were more males 221 (55.3%) than females 179 (44.7%). Christianity and Islam were the predominant religion with Christians making 249 (62.3%) and Moslems 151 (37.7%).

Table 2 shows respondents' knowledge of contraceptive uses and timing. Majority 270 (67.5%) of the respondents had correct knowledge of the use of condoms. For the other types of contraceptive, both knowledge of the use and the timing was poor. However, there was no statistically significant difference in knowledge of contraceptive uses and timing between the male and female respondents ($\chi^2 = 1.614$, $df = 3$, $P = 0.204$).

Table 1: Distribution of respondents' sociodemographic characteristics

Characteristics	Male n (%)	Female n (%)	Total n (%)
School			
Co-educational school	148 (67.0)	84 (47.0)	232 (58.0)
Girls' school	0 (0.0)	95 (53.0)	95 (23.7)
Boys' school	73 (33.0)	0 (0.0)	73 (18.3)
Total	221 (100)	179 (100)	400 (100.0)
Age group (years)			
10-14	88 (40.0)	63 (35.0)	151 (37.8)
15-19	133 (60.0)	107 (60.0)	240 (60.0)
20-24	0 (0.0)	9 (5.0)	9 (2.2)
Total	221 (100)	179 (100)	400 (100.0)
Sex	221 (55.3)	179 (44.7)	400 (100.0)
Religion			
Christian	130 (59.0)	119 (66.0)	249 (62.3)
Moslem	91 (41.0)	60 (34.0)	151 (37.7)
Total	221 (100)	179 (100)	400 (100.0)

Table 2: Distribution of respondents with correct knowledge about contraceptives

Characteristics	Male n (%)	Female n (%)	Total n (%)
Condoms prevent STIs and HIV/AIDS when used correctly	145 (65.6)	125 (69.8)	270 (67.5)
Other types of contraceptives (oral pills, vaginal foam, injectables, IUCD, etc.,) prevents only pregnancy	16 (7.2)	76 (42.5)	92 (23.0)
Condom is to be worn on the male penis just before penetration during sexual intercourse	52 (23.5)	17 (9.5)	69 (17.3)
Emergency oral contraceptive is to be taken at most within 72 h after unprotected sex	3 (1.4)	14 (7.9)	17 (4.3)
Daily oral pills are taken regularly on daily basis for it to be effective	2 (0.9)	23 (12.8)	2 (6.3)
Injectables and IUCDs are used on long-term basis for it to be effective	3 (1.4)	5 (2.8)	8 (1.5)

STIs= Sexually transmitted infections; IUCDs=Intrauterine contraceptive devices

Table 3 shows a pattern of contraceptive use among respondents. Less than one-third, 48 (31.1%) of the sexually active respondents have ever used any form of the contraceptive method, more males 28 (34.6%) than females 20 (27.4%). However, there was no statistically significant difference in this practice between the male and female respondents ($\chi^2 = 0.919$, $df = 1$, $P = 0.338$). Only 10 (6.5%) of these respondents used some contraceptive during their first sexual intercourse. However, there was no statistically significant difference in this practice between the male and female respondents ($\chi^2 = 0.236$, $df = 1$, $P = 0.627$). 13 (20.3%) of the sexually active respondents used contraceptive in the last 3 months and there was no statistically significant difference in this practice between the male and female respondents ($\chi^2 = 0.235$, $df = 1$, $P = 0.627$). 19 (12.3%) sexually active respondents are

Table 3: Pattern of contraceptive use among respondents

Characteristics	Male n (%)	Female n (%)	Total n (%)
Ever use of any contraceptive			
Yes	28 (34.6)	20 (27.4)	48 (31.1)
No	49 (60.5)	53 (72.6)	102 (66.2)
No response	4 (4.9)	0 (0.0)	4 (2.6)
Total	81 (100.0)	73 (100.0)	154 (100.0)
χ^2	0.919		
df	1		
P	0.338		
Used at first sexual intercourse			
Yes	6 (7.4)	4 (5.5)	10 (6.5)
No	69 (85.2)	64 (87.7)	133 (86.4)
No response	6 (7.4)	5 (6.8)	11 (7.1)
Total	81 (100.0)	73 (100.0)	154 (100.0)
χ^2	0.236		
df	1		
P	0.627		
Use by sexually active (had sex in last 3 months)			
Yes	14 (35.0)	7 (29.2)	13 (20.3)
No	23 (57.5)	13 (54.2)	44 (68.8)
No response	3 (7.5)	4 (16.7)	7 (10.9)
Total	40 (100.0)	24 (100.0)	64 (100.0)
χ^2	0.235		
df	1		
P	0.627		
Frequency of contraceptive use			
Always	11 (13.6)	8 (11.0)	19 (12.3)
Sometimes	17 (21.0)	11 (15.1)	28 (18.2)
Never	53 (65.4)	54 (74.9)	107 (69.5)
Total	81 (100.0)	73 (100.0)	154 (100.0)

regular users of contraceptives while 28 (18.2%) were occasional users.

Table 4 shows the distribution of contraceptive awareness and types of contraceptive methods used by respondents. 324 (81.0%) were aware of condoms while 142 (35.5%) had heard of oral pills and 78 (19.5%) mentioned abstinence. In addition, 51 (12.8%) mentioned other nonorthodox methods such as hot drinks, potash, as contraceptives. The most popular method of contraceptive methods among the respondents was condoms 16 (33.3%), followed by oral pills 10 (20.8%). A good percentage of them used unreliable methods such as withdrawal 7 (14.9%) and safe periods 7 (14.6%), also 8 (16.7%) used unorthodox methods.

Table 5 shows sources of obtaining contraceptives by respondents. The most popular source of obtaining contraceptive methods by the respondents was the patent medicine stores followed by boy/girlfriends. It is pertinent to note that parents and family planning clinics played no part at all in providing contraceptive services to the students.

Table 4: Distribution of contraceptive awareness and types of contraceptive methods used by respondents

	Male n (%)	Female n (%)	Total n (%)
Types of contraceptives			
Condoms	198 (89.6)	126 (65.9)	324 (81.0)
Oral pills	23 (10.4)	119 (66.5)	142 (35.5)
Natural methods (safe periods)	7 (3.2)	9 (5.0)	16 (4.0)
Injections	0 (0.0)	2 (1.1)	2 (0.5)
Intrauterine device	0 (0.0)	2 (1.1)	2 (0.5)
Withdrawal	22 (10.0)	16 (8.9)	38 (9.5)
Abstinence	36 (16.3)	42 (23.5)	78 (19.5)
Others (hot drinks, potash, codeine)	29 (13.1)	21 (11.7)	51 (12.8)
Characteristics			
Condoms	14 (50.0)	2 (10.0)	16 (33.3)
Oral pills	3 (10.7)	7 (35.0)	10 (20.8)
Natural methods (safe periods)	3 (10.7)	4 (20.0)	7 (14.6)
Intrauterine device	0 (0.0)	0 (0.0)	0 (0.0)
Withdrawal	5 (17.9)	2 (10.0)	8 (16.7)
Others (hot drinks, potash, codeine)	3 (10.7)	5 (25.0)	8 (16.7)
Total	28 (100.0)	20 (100.0)	48 (100.0)

*Multiple responses

Table 5: Respondents sources of obtaining contraceptives

Sources of obtaining contraceptives	Male n (%)	Female n (%)	Total n (%)
Patent medicine stores	13 (46.4)	7 (35.0)	20 (41.7)
Family planning clinics	0 (0.0)	0 (0.0)	0 (0.0)
Boy/girlfriends	3 (10.7)	1 (5.0)	4 (8.3)
Parents/guardians	0 (0.0)	0 (0.0)	0 (0.0)
Older siblings	1 (3.6)	0 (0.0)	1 (2.1)
No response	11 (39.3)	12 (60.0)	23 (47.9)
Total	28 (100.0)	20 (100.0)	48 (100.0)

Table 6: Barriers to contraceptive use among the sexually active

Reasons given as barriers to contraceptive use	n (%)
Lack of fund	123 (79.8)
Too embarrassed to source far	131 (85.1)
Fear of side effects	86 (55.8)
Fear of adults disapproval	73 (47.4)
Lack of knowledge about function of contraceptive	55 (35.7)
Having sex is unexpected, no time to prepare	15 (9.7)
Total	154 (100.0)

Table 6 shows barriers that respondents encountered in sourcing for and using contraceptives. These include: Being too embarrassed to source for contraceptive methods. 131 (85.1%), lack of fund to purchase contraceptive methods required 123 (79.9%), fear of side effects of contraceptives 86 (55.8%), fear of adults disapproval 73 (47.4%), lack of knowledge on how these contraceptives work, 55 (35.7%), and other reasons such as the spontaneity of having sex were cited by 15 (9.7%) respondents.

Discussion

Majority of the respondents (97.8%) were aged between 10 and 19 years. This falls within the adolescent age group.^[17] Studies have shown that adolescents and youths constitute a high-risk group for unwanted pregnancy and sexually transmitted infections (STIs) including HIV/AIDS. These are conditions that could be averted by good contraceptive knowledge and practice. The studies posited that these occurrences could be because these adolescents are in the transition period to adulthood and are likely to experiment including sexual experimentation and their involvement in the unprotected sexual activity is also most prevalent.^[2,17,18] They tend to have wrong self-perception of infertility, and their contraceptive practice is usually very poor.

In this study, respondents' awareness of contraceptives was high. The most commonly known contraceptive method was condoms (81%) followed by pills (19.5%). This pattern is consistent with the findings in Nnewi, Nigeria.^[2] This finding is also similar to the finding by Blanc and Way, which recorded 73.9% awareness overall.^[19] However, participants in a qualitative study by Otoide *et al.* among adolescents in Benin, Nigeria often did not mention the condom as a contraceptive method.^[4] When they were asked why, the major reason for this observation was that they thought of the condom more as a means of preventing infections than as a way of preventing pregnancy. The high awareness of condoms and pills as reported in this survey is likely to be due to continuous widespread information from the mass media on the effectiveness of condoms in the prevention of STI's including HIV and teenage pregnancy sponsored mostly by donor agencies and marketers of this commodity. This finding is consistent with reports from some studies though little or no variations in sources of information exist.^[1,2] This is because information from the media may not be from experts and could, therefore, be vague and lack depth.

Students' knowledge of the use of condoms was fairly high (67.5%) while the knowledge of the uses and timing for contraceptive methods was generally poor. This finding is contrary to that of Agyei in Uganda and Boohene in Zimbabwe both of which recorded very high knowledge level of contraceptives use among young people.^[20,21] The above result, suggests that these respondents have a lack of basic factual information (particularly from reliable sources) on contraceptive devices. This lack of reliable information might have influenced their use of contraceptives while simple measures such as mobile phones and social media if censored by appropriate authorities, have been suggested as promising means of increasing contraceptive use among adolescents.^[22] The result of this study showed that less than one-third of the sexually active respondents have ever used any form of a contraceptive method. This finding is similar to that by Omo-Aghoja *et al.*, that contraceptive usage remain

poor despite the high level of awareness.^[23] Less than 10% of these respondents used some contraceptive during their first sexual intercourse while about one in every five of the sexually active respondents used contraceptive in the last 3 months. This finding has lower figures when compared to the Nnewi study, where contraceptive use among the sexually active respondents was 29.2% at their first sexual exposure but rose to 75% at their last sexual exposure preceding the survey.^[2] However, this level is higher than the finding from 1992 Nigerian National Demographic and Health Survey, which showed that contraceptive use among sexually active unmarried youths was generally low in Sub-Saharan Africa, ranging from 25% in Zimbabwe to 1% in Nigeria.^[24] This shows that an appreciable progress has not been made in ensuring contraceptive use by this group of individuals.

Majority of the sexually active respondents that used contraceptives obtained this from drug stores (mostly patent medicine stores). This finding is consistent with the report that adolescents in many places are unwilling to visit facilities providing contraception because they view them as unfriendly.^[22] The result also confirmed previous research findings that adolescents were the most neglected segment of the population because little attention is paid to their reproductive health needs and that in most cases, they are not always attended to in government hospitals or clinics.^[25] In addition, the negative societal and health personnel attitude to young people visiting family planning clinic is a major negative influence on adolescents' utilization of contraceptives. This area is of deep concern that requires urgent attention. The government should institute adolescent friendly centers where this age group can access contraceptives and other reproductive health commodities with ease. The World Health Organization's Guidelines on adolescent pregnancy call for making health services adolescent friendly to make it easier for adolescents to obtain the contraceptive methods they need.^[5] In making health services adolescent friendly, it is important to build on what already exists-modifying general health facilities and building the competencies and attitudes of existing health service providers.

Regarding barriers encountered by sexually active respondents in obtaining/use of contraceptive methods, majority of the respondents said they feel too embarrassed to source for contraceptive. This agrees with findings from several published studies.^[26,27] It is, however, at variance with reports from a previous study where adolescents did not feel that having to obtain contraceptives was a major hindrance to using. Other barriers reported by respondents include Lack of fund, fear of side effects, and fear of adult disapproval and lack of correct knowledge about functions of contraceptives. This corroborates the finding that all adolescents in LMIC-especially unmarried ones face a number of barriers in obtaining contraception and in using them correctly and consistently.^[22]

It is pertinent to note that students had a lot of misconceptions about effective contraceptive methods; they practiced ineffective methods such as withdrawal methods and various unorthodox methods of contraception, which are not likely to be effective or might even be harmful as the case maybe. It has been reported that youths generally felt that the services offered by patent medicine dealers were sufficient to meet their contraceptive needs.^[4] It was adduced that these dealers are located on street corners. Hence such a finding is not a surprise, as they provide confidential services. This may also explain adolescents' knowledge and use of modern antibiotics and other medications as contraceptives, as these likely were recommended by and procured from patent medicine dealers. Previous studies have also shown that patent medicine dealers often are not trained and have diverse educational backgrounds, with a significant number of them not literate.^[4,28]

Limitations of the study

This study is based on self-reported behaviors, and the data is, therefore, subject to reporting errors of unknown magnitude and direction. Another limitation was the inability of a number of respondents to read and understand the questions; to minimize this, research assistants were mandated to read and interpret aspects of the questionnaire as the need arose; this was also time-consuming.

Conclusions

Findings from this study have shown that though there was a high level of contraceptive awareness, and fairly high level of knowledge, the level of use by the study respondents was relatively low coupled with contraceptive barriers. Based on the findings of this study, we recommend that efforts should be intensified to promote safe sexual practice including effective contraceptive use among this age group.

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Conflicts of interest

There are no conflicts of interest.

References

1. National Population Commission (NPC) Nigeria and ICF Macro. Nigeria Demographic and Health Survey 2008. Abuja, Nigeria: National Population Commission and ICF Macro; 2009. p. 225-38.
2. Duru CB, Ubajaka C, Nnebue CC, Ifeadike CO, Okoro OP. Sexual behavior

- and practices among secondary school adolescents in Anambra state, Nigeria. *Afrimed J* 2010;1:22-7.
3. Orji EO, Esimai OA. Sexual behaviour and contraceptive use among secondary school students in Ilesha south west Nigeria. *J Obstet Gynaecol* 2005;25:269-72.
 4. Otoide VO, Oronsaye F, Okonofua FE. Why Nigerian adolescents seek abortion rather than contraception: Evidence from focus group discussions. *Int Fam Plan Perspect* 2001;27:77-81.
 5. Oringanje C, Meremikwu MM, Eko H, Esu E, Meremikwu A, Ehiri JE. Interventions for preventing unintended pregnancies among adolescents. *Cochrane Database Syst Rev* 2009;(4):CD005215. [DOI:10.1002/14651858].
 6. Tolulope Monisola OL, Oludare BO. Adolescent sexuality and sexuality education in South-Western Nigeria: Combining quantitative and participatory methodologies. *Soc Sci* 2009;4:264-8.
 7. Ajibade BL, Oyedele EA, Ajayi AD, Amoo PO, Makinde OY, Adesina K. Adolescents health and management of sexual risk taking behaviour among selected secondary school students in Osun State, Nigeria. *Eur J Bus Manage* 2013;5:15.
 8. Morhason-Bello IO, Oladokun A, Enakpene CA, Fabamwo AO, Obisesan KA, Ojengbede OA. Sexual behaviour of in-school adolescents in Ibadan, South-West Nigeria. *Afr J Reprod Health* 2008;12:89-97.
 9. Araoye MO, Fakeye OO. Sexuality and contraception among Nigerian adolescent and youth. *Afr J Reprod Health* 1998;2:142-50.
 10. Lopez LM, Hiller JE, Grimes DA. Education for contraceptive use by women after childbirth. *Cochrane Database Syst Rev* 2010;(1):CD001863. [10.1002/14651858].
 11. Godswill J. Education and sexuality: Towards addressing adolescents' reproductive health needs in Nigeria. *Curr Res J Soc Sci* 2012;4:285-93.
 12. Stover J, Ross J. How increased contraceptive use has reduced maternal mortality. *Matern Child Health J* 2010;14:687-95.
 13. Conde-Agudelo A, Belizán JM, Lammers C. Maternal-perinatal morbidity and mortality associated with adolescent pregnancy in Latin America: Cross-sectional study. *Am J Obstet Gynecol* 2005;192:342-9.
 14. Imaledo JA, Peter-Kio OB, Asuquo EO. Pattern of risky sexual behavior and associated factors among undergraduate students of the University of Port Harcourt, Rivers State, Nigeria. *Pan Afr Med J* 2012;9:97.
 15. Araoye MO. *Research Methodology with Statistics for Health and Social Sciences*. 2nd ed. Saw-Mill, Ilorin: Nathadex Publications; 2008. p. 115-22.
 16. *Statistical Package for Social Sciences (SPSS) Windows version 17.0*. Chicago, United States. SPSS Inc. 2010.
 17. World Health Organization (WHO). *Adolescent Health and Development*, Department of Child and Adolescent Health and Development. Geneva, Switzerland: World Health Organization; 2004.
 18. Emmanuel M, Andrea S, John E. Contraceptive practices in Nigeria. *Afr J Reprod Health* 2010;10:9-22.
 19. Blanc AK, Way AA. Sexual behavior and contraceptive knowledge and use among adolescents in developing countries. *Stud Fam Plann* 1998;29:106-16.
 20. Agyei WK, Epema EJ. Sexual behavior and contraceptive use among 15-24 years olds in Uganda. *Int Fam Plan Perspect* 1992;18:14-6.
 21. Boohene E, Tsodzai J, Hardee-Cleaveland K, Weir S, Janowitz B. Fertility and contraceptive use among young adults in Harare, Zimbabwe. *Stud Fam Plann* 1991;22:264-71.
 22. Chandra-Mouli V, McCarraher DR, Phillips SJ, Williamson NE, Hainsworth G. Contraception for adolescents in low and middle income countries: Needs, barriers, and access. *Reprod Health* 2014;11:1.
 23. Omo-Aghoja LO, Omo-Aghoja VW, Aghoja CO, Okonofua FE, Aghedo O, Umueri C, *et al.* Factors associated with the knowledge, practice and perceptions of contraception in rural southern Nigeria. *Ghana Med J* 2009;43:115-21.
 24. Federal Office of Statistics (FOS) Nigeria, DHS, IRD/Macro International. *Nigeria Demographic and Health Survey 1990*. Lagos, Nigeria: Federal Office of Statistics and IRD/Macro; 1992. p. 1-244.
 25. De Carvalho FT, Silva P. Reproductive health of the adolescents. *Women and Their Right to Health Policy*. Vol. 9. 1990. p. 111-21.
 26. Naré C, Katz K, Tolley E. Adolescents' access to reproductive health and family planning services in Dakar (Senegal). *Afr J Reprod Health* 1997;1:15-25.
 27. Olowu F. Quality and costs of family planning as elicited by an adolescent mystery client trial in Nigeria. *Afr J Reprod Health* 1998;2:49-60.
 28. Okonofua FE, Ogonor JI, Omorodion FI, Temin MT, Coplan PA, Kaufman JA, *et al.* Assessment of health services for treatment of sexually transmitted infections among Nigerian adolescents. *Sex Transm Dis* 1999;26:184-90.