

# Determinants of the age at sexual debut among adolescents in secondary schools in Obio/Akpor local government area of Rivers State, Nigeria

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## Abstract

**Background:** The age at sexual debut is an important public health issue as it determines the onset of exposure to sexual and reproductive health diseases. Early sexual debut increases the risk of sexually transmitted infections, HIV/AIDS, teenage pregnancy and all the associated sequelae. This study determined the age at sexual debut and associated factors among adolescents in secondary schools in Obio/Akpor local government area (LGA) of Rivers State, Nigeria.

**Methods:** A descriptive cross-sectional school-based study was carried out among eight secondary schools in Obio/Akpor LGA of Rivers State between May and July 2017. Using the multistaged sampling method, 426 students aged 10–19 years were recruited. A semi-structured pretested self-administered questionnaire was used. SPSS version 20 was used for analysis. Comparison of means was done using the Student's *t*-test, while the test for association between subgroups was carried out using the Chi-square test and logistic regression analysis was done to describe the sociodemographic characteristics of respondents and to identify independently associated factors.

**Results:** Of the 426 students studied, 223 (52.3%) of them were males and 203 (47.7%) were females, giving a male-to-female ratio of 1:1. The mean age of respondents was  $13.8 \pm 1.7$  years. The prevalence of sexual intercourse was 8.0%, with a mean age at sexual debut of  $13.0 \pm 2.3$  years. The factors identified to influence the age at sexual debut include alcohol use (odds ratio [OR]: 13.088, confidence interval [CI]: 6.038–28.374,  $P = 0.000$ ), not living with both parents (OR: 7.008, CI: 3.289–15.164,  $P = 0.000$ ), peer pressure ( $\chi^2 = 17.007$ ,  $P \leq 0.001$ ) and sexual abuse ( $\chi^2 = 7.472$ ,  $P = 0.006$ ).

**Conclusion:** The prevalence of sexual intercourse is 8.0% among adolescents in Obio/Akpor LGA. Early sexual debut exists with no gender difference on the timing of sexual debut. Peer pressure, sexual abuse, alcohol use and absence of both parents in a child's life are risk factors to early sexual debut. An early and comprehensive sex education is necessary to protect children from initiating sexual intercourse early in life.

**Keywords:** Adolescents, age, secondary schools, sexual debut, sexual intercourse

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## INTRODUCTION

The adolescent phase is a period of rapid human maturation. It is a transitional period that requires special attention and protection.<sup>1,2</sup> According to the World Health Organization, adolescents are young people within the ages of 10–19 years who are in their formative years.<sup>1,2</sup> They are frequently considered as a healthy group of people; however, many of them have chronic disease conditions that are either preventable or treatable as well as reproductive health issue that can lead to their untimely deaths.<sup>1,2</sup> Furthermore, the life styles they imbibe during this developmental stage can lead to serious chronic diseases that can span into adulthood.<sup>1,2</sup>

The age at sexual debut is of important public health concern; being the age at sexual initiation, it is a reflection of the onset of exposure to reproductive and sexual diseases.<sup>3</sup> Commencing sexual intercourse at a young age increases the incidence of teenage pregnancy and the risk of sexually transmitted infections including HIV/AIDS and human papillomavirus.<sup>2</sup> Cervical cancer which is a common malignancy in women has been linked to acquiring human papillomavirus.<sup>2</sup> In addition, early sexual debut has been linked with high-risk sexual behaviors such as having multiple sexual partners as well as a higher number of lifetime sexual partners.<sup>4</sup> Sexual intercourse during adolescence has been associated with high-risk sexual behaviour, use of alcohol and other drugs of abuse.<sup>2</sup> All these have implications for the future personality development, health status and reproductive efficiency of these adolescents.

Delaying sexual activity till maturity avails the individual the opportunity to acquire knowledge and skills on how to practice safer sex.<sup>5</sup> The age of initiating sexual intercourse is therefore a predictor of acquisition of genital and reproductive tract infections and could contribute greatly to the high burden of unplanned pregnancies and HIV/AIDS.<sup>3</sup>

Two-fifth of new cases of HIV infections in Africa are from Nigeria, and in sub-Saharan Africa, Nigeria and two other countries account for approximately 50% of new cases.<sup>6</sup> In Nigeria, the prevalence of HIV is high (4.2%) among young person aged 15–24 years and most of them acquired it through unprotected sexual intercourse with an infected person.<sup>7</sup>

Age at sexual debut is an important factor that determines the prevalence of HIV in Nigeria.<sup>8</sup> According to the report by the demographic and health survey, the age at sexual debut in Nigeria is 15 years.<sup>9,10</sup> This is alarming as

these adolescents may not be biologically, psychologically, or mentally prepared and are as such prone to sexually transmitted infection. Furthermore, it was reported that the knowledge for preventing pregnancy, HIV/AIDS and other sexually transmitted infections is poor among the adolescent age group.<sup>5</sup>

Several studies have examined the age at sexual debut and associated factors among adolescents in Nigeria;<sup>7,11,12</sup> however, the majority of the studies carried out concentrated on the relationships between the age of sexual debut and demographic factors but rarely explored beyond that. In view of the untoward complications linked to early sexual debut, it becomes imperative to understand the factors that determine the timing of sexual debut so as to develop and improve strategic preventive and interventional policies with the purpose of enhancing the adolescent's reproductive and sexual health in Nigeria.

## MATERIALS AND METHODS

### Study area

The study was conducted in Obio/Akpor local government area (LGA) of Rivers State. Obio/Akpor was created from the former Port Harcourt LGA in 1989; the LGA is bounded in the east by the Eleme LGA, in the west by Emohua LGA, in the north by Oyigbo LGA and southwards by Port Harcourt LGA. It has a population of over 750,000. The indigenous people are Ikwerres and form part of the larger Ikwerre ethnic nationality. Obio/Akpor is a cosmopolitan LGA with people of diverse culture. Obio/Akpor LGA consists of four clans, namely, Akpor, Apari, Evo and Rumueme, which consist of few urban towns and several suburban communities.

### Study design

This study is a cross-sectional, descriptive, school-based survey conducted in secondary schools in Obio/Akpor LGA in Rivers State in Southern Nigeria between May 2017 and July 2017.

### Selection and description of participants

The minimum sample size was calculated using the Cochran formula as follows:<sup>13</sup>

$$n = Z^2 pq / e^2$$

Where  $n$  = minimum sample size

$Z = 1.96$  at 95% confidence limits, so that  $Z^2 = 3.8416$

$p = 52.0\%$  which was the proportion of adolescents who had been involved in sexual intercourse (Envgladu *et al.*, 2013).<sup>11</sup>

$$52.0 = 0.520$$

$$q = 1 - 0.520 = 0.480$$

$$e = \text{Error margin tolerated at } 5.0\% = 0.05 \text{ so that}$$

$$e^2 = 0.0025$$

$$\text{Minimum sample size } n = \frac{3.8416 \times 0.520 \times 0.480}{0.0025} = 384$$

$$\text{Allowance for non-response (10.0\%)} = 38$$

A minimum sample size of 422 adolescents was estimated for the study.

The study population was the male and female students aged 10–19 years from junior secondary school 1 and 2 (JSS 1 and 2) to senior secondary school 1 and 2 (SSS 1 and 2) in selected public and private schools in Obio/Akpor LGA. JSS 3 and SSS 3 students were on break following completion of their junior and senior school certificate examinations, respectively, so were not part of this study. Students aged 10–19 years were allowed to participate in the study, while the students aged 10–19 years who were ill to participate or who did not assent or give consent to the study were excluded from the study.

Using a multistaged sampling method, eight secondary schools were selected for the study. The list of schools in Obio/Akpor LGA as obtained from the Rivers State Ministry of Education was used as the sampling frame. The schools were first stratified into public and private schools and simple balloting was used to select four public and four private schools; all the eight selected schools were coeducational. From each selected school, an arm was selected by simple balloting from each of the classes (JSS 1 and 2, SSS 1 and 2) after which 14 students were selected from each class by simple balloting. Fifty-six participants were recruited from each school, and hence a total of 448 participants were recruited for the study.

A pretested (pre-testing of the questionnaire was carried out 2 weeks before the main study among forty adolescents in four selected secondary schools; each school was from a district in Obio/Akpor LGA, the area of investigation. The schools were not part of the study schools. At the end of the survey, all ambiguous questions were corrected and changes in the procedure necessitated by this were also made; however, data from the pretesting were not used for the final study), semi-structured, self-administered questionnaire was used to obtain information on the sociodemographic characteristics of the respondents, their sexual behaviour, age of initiating sexual intercourse, family

characteristics and their social lifestyle. The researcher and two research assistants administered the questionnaires and retrieved them thereafter. Version 20.0 of SPSS statistical software, developed in 2011 by IBM (International Business Machines) corporation in Armonk, New York, United States of America, was used for the analysis of this study. Mean and standard deviation were used for descriptive statistics, while the Chi-square test and logistic regression were used to determine association between key variables at  $P \leq 0.05$  level of significance; descriptive data were presented as charts as well as simple frequencies, percentages and as summary indices such as means where appropriate.

### Ethical consideration

Ethical clearance was obtained from the Research and Ethics Committee of University of Port Harcourt and permission was obtained from the Rivers State Ministry of Education before the commencement of the study. A written consent was obtained from the parents/guardians before the commencement of the study. Assent was obtained from students who were <18 years of age alongside the written consent signed by their parents or guardians, while the students who were 18 years and above were given the consent forms to complete themselves. Details of the study were made available on the consent form in simple English. Confidentiality was assured; the names, school address and home addresses of the respondents were not included in the data collection instrument; instead, codes were used; hence, the collected data were not linked to any of the respondents.

### RESULTS

Four hundred and forty-eight students were recruited into the study. Twenty-two of them did not complete their questionnaires, giving a response rate of 95%. Of the 426 students studied, 223 (52.3%) were males and 203 (47.7%) were females, giving a male-to-female ratio of 1:1. Two hundred and nine respondents (49.1%) were from private schools, while 217 (50.9%) were from public secondary schools, giving a private and public secondary school ratio of 1:1. Furthermore, 211 (49.5%) respondents were from the junior classes, while 215 (50.5%) were from the senior classes, this gave a ratio of 1:1. The ages of respondents ranged from 10 to 19 years with a mean age of  $13.8 \pm 1.7$  years as shown in Table 1. The mean age for males was  $13.8 \pm 1.9$  years, while it was  $13.8 \pm 1.5$  years for females. This difference was not statistically significant ( $t = 0.01, P = 0.99$ ).

The socioeconomic class ranged from social Class I to V. Of the 426 participants studied, 302 (70.9%) lived with

both biological parents, while 124 (29.1%) of them did not live with both biological parents. Those that did not live with both of their biological parents lived with a single parent, with their relatives (uncles, aunts and cousins) or with no relatives. Majority of the respondents reported that they do not use alcohol, while only 77 (18.1%) of them reported that they take alcohol, as shown in Table 2.

From the proportion of respondents who had experienced sexual intercourse, the observed gender difference is not statistically significant [ $P = 0.133$ , Table 3].

The mean age for males was  $13.2 \pm 2.4$  years, while it was  $12.8 \pm 2.1$  years for females. This difference was not statistically significant ( $t = 0.53$ ,  $P = 0.60$ ) [Table 4].

Of the 34 respondents who have ever had sexual intercourse, 19 (55.9%) of them reported that it was due to peer influence, 10 (29.4%) of them were forced, 3 (5.9%) of them gave no reason and 2 (5.9%) reported that it was for financial reasons. More females (16.7%) compared to the males (0.00%) reported that they initiated sex for money. This was statistically significant ( $\chi^2 = 3.896$ ,  $P = 0.048$ ), while 18 (81.8%) of the 22 males who had experienced sexual intercourse reported that they were influenced by peer pressure compared to 1 (8.3%) of the 12 females who had initiated sex. This was statistically significant ( $\chi^2 = 17.007$ ,  $P \leq 0.001$ ). More females (7 [58.3%]) compared to the males (3 [13.6%]) had early sexual debut because they were sexually abused the first time they experienced sexual intercourse ( $\chi^2 = 7.472$ ,  $P = 0.006$ ).

Among the 338 respondents who do not consume alcohol, 11 (3.2%) of them reported that they have had sexual intercourse compared to 23 (29.9%) of the 54 respondents who reported that they take alcohol ( $\chi^2 = 61.316$ ,  $P \leq 0.001$ ).

Moreover, of the 34 respondents who reported that they had sexual intercourse, 23 (67.6%) of them take alcohol, while 11 (32.4%) do not take alcohol.

More males (54 [24.2%]) compared to the females (23 [11.3%]) reported alcohol use ( $P = 0.001$ ). Among the 34 respondents that had experienced sexual intercourse, 14 (41.2%) reported that they used alcohol during their first sexual experience. More males (13 [59.1%]) used alcohol the first time they had sex compared to their female counterparts ( $P = 0.004$ ).

Logistic regression was performed to ascertain the effects of the presence of parents, use of alcohol, gender, social

**Table 1: School/gender and age distribution of respondents (n=426)**

School/gender and age	Frequency (%)
School type	
Private	209 (49.1)
Public	217 (50.9)
Classes	
JSS	211 (49.5)
SSS	215 (50.5)
Gender	
Males	223 (52.3)
Females	203 (47.7)
Age (years)	
10-13	174 (40.8)
14-16	227 (53.3)
17-19	25 (5.9)
Mean $\pm$ SD (years)	13.8 $\pm$ 1.7

**Table 2: Social classes, family structure and lifestyle of respondents (n=426)**

Socioeconomic class, family structure and lifestyle	Frequency (%)
Socioeconomic class	
Social class I	75 (17.6)
Social class II	48 (11.3)
Social class III	121 (28.4)
Social class IV	130 (30.5)
Social class V	52 (12.2)
Family structure	
Monogamous	345 (81)
Polygamous	48 (11.3)
Divorced/separated	17 (4.0)
Single	16 (3.8)
Living status	
Both biological parents	302 (70.9)
One of the biological parents	10 (2.3)
Relatives	89 (20.9)
No relatives	25 (5.9)
Lifestyle history	
Alcohol use	
Yes	77 (18.1)
No	349 (81.9)
Sexual experience	
Yes	34 (8.0)
No	394 (92.0)

**Table 3: Proportion of adolescents who ever had sexual intercourse**

	Initiated yes, n (%)	Sexual intercourse no, n (%)	Total, n (%)	$\chi^2$	df	P
Gender						
Female	12 (5.9)	191 (94.1)	203 (100.0)	2.262	1	0.133
Male	22 (9.9)	201 (90.1)	223 (100.0)			
Total (%)	34 (8.0)	392 (92.0)	426 (100)			

class and the experience of sexual activity [Table 5]. It shows a statistically significant association between respondents' experience of sexual intercourse and their use of alcohol. Those who use alcohol were more likely to have experienced sexual intercourse compared to respondents who do not take alcohol ( $P = 0.000$ ). The table also showed that those who use alcohol were 13.088 times at odds of engaging in sexual intercourse than those who do not

use alcohol (odds ratio [OR]: 13.088; 95% confidence interval [CI]: 6.038–28.374).

In addition, the table shows that a statistically significant association exists between respondents who do not live with both parents and their experience of sexual intercourse. Those who were not living with both parents experienced sexual intercourse more than those who lived with both parents (19.4% against 3.3%). The table also showed that those that did not live with both parents were 7.008 times at odds of initiating sexual intercourse compared with those who lived with both parents (OR: 7.008; 95% CI: 3.289–15.164;  $P = 0.000$ ).

Furthermore, the table shows that the gender and social class of respondents were not significant factors.

## DISCUSSION

The finding of this study showed an 8.0% prevalence of sexual intercourse among the adolescents attending secondary school in Rivers State, Nigeria. This finding is much lower than that of other works done in Rivers State. Aomreore and Alikor<sup>14</sup> reported a prevalence of 61.1%,

while Alex-Hart *et al.*<sup>15</sup> reported that 42.9% of adolescents had experienced sexual intercourse. These differences in the two previous studies in Rivers State may be attributed first to the study population which consisted of adolescents in SSS only whose mean age is much higher than the mean age of this study; second, this study was delimited to Obio/Akpor LGA which has several suburban areas. On the other hand, Port Harcourt Metropolis which has more urban areas may have the trappings of the modern city vices which may account for the high prevalence reported in the two previous studies.

For this study, the mean age at sexual debut was  $13.0 \pm 2.3$  years; this finding is similar to previous studies<sup>3,14,16</sup> where it was reported that the mean age at sexual debut among adolescents was 13 years. Finding from this study revealed that more males were more sexually active compared to their female counterparts. This finding is in agreement with other studies in Nigeria<sup>12,17</sup> that reported that males were more sexually active than their female counterparts. The reasons for this could be, perhaps, that the adolescent females are more monitored by their parents than their male counterparts; it could equally be attributed to the adventurous life style of the males, which appears to be permissive by the society.

Peer pressure was observed in this study as a factor that determines the age at sexual debut, particularly with the male gender. This could be because they have friends who were already sexually active and they also had to be sexually active to be accepted into such a group. This is in keeping with findings by Alex-Hart *et al.*<sup>15</sup> and Ndebele<sup>18</sup> that asserted that adolescence sexual behaviour is influenced by peer pressure. The finding is also similar to studies by Seth<sup>19</sup> and Borges.<sup>20</sup> Seth reported that peer influence was a

**Table 4: The age at sexual debut (n=34)**

	Frequency (%)
Ages (years)	
9	4 (11.8)
11	3 (8.8)
12	7 (20.6)
13	8 (23.5)
14	3 (8.8)
15	1 (2.9)
16	7 (20.6)
17	1 (2.9)
Mean±SD (years)	13.0±2.3

SD: Standard deviation

**Table 5: Logistic regression for odds ratio**

Variables	Experience of sexual intercourse		OR	(95% CI for OR)	P
	Yes (%)	No (%)			
Gender					
Males	22 (9.9)	201 (90.1)	1.742	0.839-3.618	0.133
Females	12 (5.9)	191 (94.1)			
Total	34 (8.0)	394 (92.0)			
Use of alcohol					
Yes	23 (29.9)	54 (70.1)	13.088	6.038-28.374	0.000
No	11 (3.2)	338 (96.8)			
Total	34 (8.0)	392 (92.0)			
Living with both parents					
Yes	10 (3.3)	292 (96.7)	7.008R	3.289-15.164	0.000
No	24 (19.4)	100 (80.6)			
Total	34 (8.0)	392 (92.0)			
Socioeconomic status					
Upper	10 (8.1)	113 (91.9)	1.029	0.477-2.221	0.942
Lower	24 (7.9)	279 (92.1)			
Total	34 (8.0)	392 (92.0)			

OR: Odds ratio, CI: Confidence interval

determining factor for the age of sexual debut; he stated that without the influence of peers, most of the adolescents who had initiated sexual intercourse early would have delayed till they were matured enough. While Borges<sup>20</sup> reported that some adolescents initiated sexual intercourse just because they needed to be accepted, while others had to lie that they were sexually active to be accepted into a peer group.

Sexual coercion as a reason for initiating sexual intercourse early was particularly high among adolescent females in this study. This finding collaborates with other studies done in Nigeria.<sup>15,21</sup> This finding reflects the burden of sexual abuse of female children in our society. According to a report by the World Health Organization,<sup>22</sup> sexual initiation in young adolescent age is usually due to a form of sexual violence or coercion and that most adolescents who engage in consensual sex may have been a victim of sexual abuse.

The use of alcohol as observed in other studies was shown to be significantly associated with adolescent sexual activity. This study reports that 68% of those who had engaged in sexual intercourse used alcohol. Also, there was a significant relationship between alcohol use and the risk of commencing sexual intercourse. From the findings of this study, alcohol use increases the likelihood of commencing sexual intercourse by 13 times. These findings are similar to reports from Stueve and O'Donnell<sup>23</sup> who reported that alcohol use in adolescent age had a direct relationship with early sexual debut and other high-risk sexual behaviours. Aomreore and Alikor<sup>14</sup> had reported that there was a significant relationship between substance use and engaging in sexual intercourse. Their study focused on intravenous drug use where they reported that 1.4% of the adolescents who were sexually active use intravenous drugs. In the present study, alcohol use was very high and there was no record of intravenous drug use or use of other drugs by the respondents. The possible explanation for this is that alcohol is more available, cheaper and easily accessed.

In this study, adolescents who lived with both biological parents were less likely to have experienced sexual intercourse (OR = 0.143) compared to those not living with both of their biological parents. In this regard, the finding from this study is consistent with numerous earlier studies,<sup>12,24</sup> which reported that not living with both biological parents places a child at a higher risk of engaging in sexual intercourse. It is also noted from this study that sexual debut before the legal age of maturity was more common among children from polygamous family settings. This may be a reflection of the effect of family composition on the timing of sexual debut. For instance, this study reported that 14.6% of children

from polygamous families are sexually active compared to the 5.5% from a monogamous setting. The possible explanation for this could be that in a polygamous family and one-parent household setting, there may be poor supervision of children and family disequilibrium that can predispose children from these families to sexual exploitation and risky sexual behaviours.

This study did not find any significant difference in the prevalence of sexual intercourse among respondents from various socioeconomic classes. Though the odds of experiencing sexual intercourse was 1.029 times more likely amongst respondents from the upper social class, this was however not statistically significant. It shows that experience of sexual intercourse in an early age is not restricted to any particular socioeconomic class rather it is prevalent in all social classes. This is in contrast to a study by Odimegwu and Adedini<sup>25</sup> which had reported that low socioeconomic status predisposes adolescents to engage in sexual intercourse.

#### Limitation of the study

Bearing in mind the sensitive nature of the study, some participants may not have given their true experiences, which is a limitation of this study.

#### CONCLUSION

This study concluded that the proportion of adolescents who had experienced sexual intercourse is 8%, contrary to 61.1% and 42.9% of previous studies in Rivers State. The study averred that this finding was attributed to the age of the study participants and the location. It further affirmed that early sexual debut was common with adolescents having their sexual debut at the age of  $13 \pm 2.3$  years. More males compared to their female counterparts engaged in sexual intercourse early. Peer pressure, sexual coercion and alcohol use were risk factors to early sexual debut, while the presence of both biological parents in the family was protective against early age at sexual debut; however, socioeconomic class was not a significant factor that determined the age at sexual debut.

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#### Conflicts of interest

There are no conflicts of interest.

#### REFERENCES

1. World Health Organization. Defining Sexual Health. Available from: [http://www.who.int/reproductivehealth/publications/sexual/defining\\_sexual\\_health.pd](http://www.who.int/reproductivehealth/publications/sexual/defining_sexual_health.pd). [Last retrieved on 2017 Mar 18].

2. WHO. Adolescents and Youths. Geneva, Switzerland: World Health Organization, 2012; 3-27.
3. Kuzman M, Simetin IP, Franelić IP. Early sexual intercourse and risk factors in Croatian adolescents. *Coll Antropol* 2007;31 Suppl 2:121-30.
4. Mmbaga EJ, Leonard F, Leyna GH. Incidence and predictors of Adolescent's early sexual debut after three decades of HIV interventions in Tanzania: A time to debut analysis. *PLoS One* 2012;7:e41700.
5. Nigeria Demographic and Health Survey 2003 – The DHS Program. Retrieved from: <https://www.dhsprogram.com/pubs/pdf/FR148/FR148.pdf>. [Last accessed on 2017 May 29].
6. UNAIDS. Prevention Gap Report. Available from: [http://www.unaids.org/sites/default/files/media\\_asset/2016-prevention-gap-report\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/2016-prevention-gap-report_en.pdf). [Last accessed on 2017 Jun 17].
7. Nnebue CC, Chimah UC, Duru CB, Ilika AL, Lawoyin TO. Determinants of age at sexual initiation among Nigerian adolescents: A study of secondary schools students in a military barracks in Nigeria. *Am J Med Sci Med* 2016;4:1-7.
8. Naca Annual Report. Report of Achievements for the Year;2016. Available from: <https://www.naca.gov.ng/naca-annual-report-2016/>. [Last retrieved on 2017 Jul 18].
9. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF International, 2013. Available from: <https://www.dhsprogram.com/pubs/pdf/SR213/SR213.pdf>. [Last retrieved on 2017 Jul 18].
10. Federal Ministry of Health. National HIV & AIDS and Reproductive Health Survey, (NARHS Plus). Abuja, Nigeria: Federal Ministry of Health, 2012. Available from: <http://www.naca.gov.ng/wordpress/wp-content/uploads/2016/11/NARHS-Plus-2012-Final-18112013.pdf>. [Last retrieved on 2017 Jun 13].
11. Enzuladu EA, Agbo HA, Ohize VA, Zoakah AI. Social factors associated with teenage sexual behavior: A risk factor for STI/HIV among female adolescents in a rural community in Plateau State, Nigeria. *J Med Res* 2013;2:117-22.
12. Slap GB, Lot L, Huang B, Daniyam CA, Zink TM, Succop PA, *et al.* Sexual behaviour of adolescents in Nigeria: Cross sectional survey of secondary school students. *BMJ* 2003;326:15.
13. Cochran WG. *Sampling Technique*. 2<sup>nd</sup>ed. New York, USA: Wiley and Sons Inc., 1963.
14. Aomreore AA, Alikor EA. Prevalence of major HIV- risk related behaviour among SSS3 students in Port Harcourt Metropolis, Nigeria. *Afr J Health Sci* 2008;15:42-9.
15. Alex-Hart B, Okagua J, Opara PI. Sexual behaviours of secondary school students in Port Harcourt. *Br J Med Med Res* 2015;6:325-34.
16. Ndebele M. Risky Sexual Behaviour among South African Adolescent Learners: Possible Interventions? Available from: [http://www.Education.gpg.gov.za/Documents/Risky\\_Sexual\\_Behaviour.pdf](http://www.Education.gpg.gov.za/Documents/Risky_Sexual_Behaviour.pdf). [Last accessed on 2017 Jun 16].
17. Salako AA, Iyaniwura CA, Jeminusi OA, Sofowora R. Sexual behaviour, contraception and fertility among in-school adolescents in Ikenne local government, South-Western Nigeria. *Niger J Clin Pract* 2006;9:26-36.
18. Ndebele M. Risky Sexual Behaviour Among South African Adolescent Learners: Possible Interventions? Available from: [http://www.Education.gpg.gov.za/Documents/Risky\\_Sexual\\_Behaviour.pdf](http://www.Education.gpg.gov.za/Documents/Risky_Sexual_Behaviour.pdf). [Last accessed on 2017 Jun 20].
19. Seth OR. Peer Effects in Sexual Initiation: Separating Social Norms and Partner Supply Publicly Accessible Penn Dissertations. Available from: <http://www.repository.upenn.edu/edissertations/118>. [Last accessed on 2017 Jun 21].
20. Borges AL. Peer social pressure on the sexual debut of adolescents. *Rev Esc Enferm USP* 2007;41:782-6.
21. Ajuwon AJ, Olaleye A, Faromoku B, Ladipo O. Sexual behavior and experience of sexual coercion among secondary school students in three states in North Eastern Nigeria. *BMC Public Health* 2006;6:310.
22. World Health Organization. Rape and Sexual Violence. Available from: [http://www.apps.who.int/iris/bitstream/10665/77434/1/WHO\\_RHR\\_12.37\\_eng.pdf](http://www.apps.who.int/iris/bitstream/10665/77434/1/WHO_RHR_12.37_eng.pdf). [Last retrieved on 2017 Jun 19].
23. Stueve A, O'Donnell LN. Early alcohol initiation and subsequent sexual and alcohol risk behaviors among urban youths. *Am J Public Health* 2005;95:887-93.
24. Devine D, Long P, Forehand R. A prospective study of adolescent sexual activity: description, correlates, and predictors. *Adv Behav Res Ther* 1993;15:185-209.
25. Odimegwu CO, Solanke LB, Adedokun A. Parental characteristics and adolescent sexual behaviour in Bida local government area of Niger state, Nigeria. *Afr J Reprod Health* 2002;6:95-106.