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Original Research Article

Sexual Behaviour of Secondary School Students in Port Harcourt

ABSTRACT

Background: Sexual behaviour of adolescents is currently receiving global attention because a high proportion of new HIV and other sexually transmitted infections' diagnosis are among young people.

This study aimed to assess the sexual behaviour of secondary school students in Port Harcourt.

Methods: This is a school-based cross sectional descriptive study, carried out in six public secondary schools in Port Harcourt Metropolis in Rivers State, Nigeria in February 2014. A structured pre-tested, self-administered questionnaire was distributed to 1047 senior secondary 1 to 3 students selected through multistage sampling technique. Information sought included socio-demographics, if they have had sexual intercourse, age at first sex, involvement in sexual intercourse in the last 3 months before the survey, condom use and number of sex partners.

Results: One thousand and forty seven students participated in the study; mean age 16.19±1.64 SD.

Five hundred and thirty seven (51.3%) females and 510 (48.7%) males, male: female ratio was 0.9: 1.

Four hundred and forty nine (42.9%) students reported having had sex at least once in their life time.

Mean age at first sexual intercourse was 13.37±3.66SD. More females reported having sex compared to the males ($\chi^2=7.357, P=.007$). The commonest reason for having sex was because their friends had also

had sex. Two hundred and seventy eight (61.9%) students reportedly had sex in the past 3 months before the survey, out of which 14.0% had sex with 4 or more sexual partners and 18% had sex more than once a week. 19.8% of the currently sexually active students used condom during their last sexual intercourse.

146 (27.2%) females had been pregnant at least once, out of which 75.3% had induced abortion.

Watching pornographic movies and dating the opposite sex were positively associated with having sexual intercourse ($P=.000$) and ($P=.000$).

Conclusion: There is a high rate of risky sexual behaviours amongst the secondary school students in Port Harcourt.

Keywords: { Sexual behaviours, Secondary school students, Port Harcourt, Nigeria}

1. INTRODUCTION

The World Health Organization (WHO) defined an adolescent as any one between the ages of 10 to 19 years [1]. In 2009, there were 1.2 billion adolescents globally, representing 18% of the world population[2], with majority (88%) of them in the developing countries. In Sub Saharan Africa for instance, 1 in every 5 inhabitants is an adolescent and come 2050 Sub Saharan Africa would have more adolescents than any other region of the world [2]. Incidentally, the region also has the worst Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome (HIV/AIDS) epidemic in the world [3-4]. In 2012, approximately 25 million people were living with HIV, accounting for almost 70% of the global total [3-4]. Also in 2012 there were 1.6 million new HIV infections [3-4], with young people between the ages of 15 to 24 years accounting for up to 40% of the new infections in some countries in Sub Saharan Africa [5]. This same region experienced an increase in AIDS-related deaths among adolescents aged between 10 to 19 years from 2001 to 2012, with the annual number of AIDS-related deaths doubling from 2005 to 2012 [4].

Several researchers have focused their attention on the risky sexual behaviours of these adolescents which expose them to HIV/AIDS and other sexually transmitted diseases (STDs). In a study carried out among 15 to 19 year old adolescent girls in Kenya, Rositch et al. [6] reported that the median age at first sexual intercourse was 16 years, 76% of the girls were pregnant at the time of the study, 14% reported having sex with two or more partners in the past 12 months before the survey, 9% of the girls reported having sexually transmitted infections and only 20% reported using condom during their last sexual encounter.

In Nigeria, Slap et al. [7] reported that 25.3% of 12 year old and 30.9% of 14 year old adolescents in Plateau State have had sex. Among the students who had sex, 57.1% of the males and 48.3% of the females had more than one sexual

partner, 30.5% of the males and 38.1% of females had been treated for sexually transmitted disease and 22.7% males and 24.5% females were already HIV positive. Owolabi et al. [8] reported that the median age at first sexual intercourse among senior secondary 1 and 2 students in Ilesa (Western Nigeria) was 12 years with a range of 6 to 19 years. Many of their respondents had multiple sexual partners and poor perception of the risk of HIV/AIDS and other sexually transmitted diseases. They concluded that there was a high risk of the spread of HIV/AIDS and other STDs among the students. These previous studies done in Nigeria were done almost a decade ago when there was poor awareness of HIV/AIDS and poor knowledge of the various ways of its prevention [8]. Current available data indicate that there is now better awareness and Knowledge regarding HIV/AIDS and its prevention [9]. This present study therefore aimed to evaluate the sexual behaviour of secondary school students in Port Harcourt in view of this improved knowledge of risk factors for HIV/AIDS transmission.

2. MATERIAL AND METHODS

This is a school-based descriptive cross sectional study conducted in 6 public secondary schools in Port Harcourt Metropolis in February 2014. Port Harcourt is the capital of Rivers State in Southern Nigeria. The sample size was estimated by using a single proportion sample size formulae [10] by considering the following parameters: Prevalence of sexual intercourse of 63% reported by Owolabi et al. [8], 95% Confidence Interval (CI), and 5% of margin of error, with 1.5% Design effect and 20% for the non-response rate. Considering resource, a total number of 1080 students were recruited for the study.

Using the Purposive sampling technique, two all-boys, two all-girls and two mixed Senior Secondary (SS) schools were selected for the study. From each selected school, 2 arms were selected from SS1 to SS3 by simple random sampling technique. From the selected arms, the first 30 names in the class registers were recruited for the study, making a total of 60 students per class and 180 students per school. Consent forms were given to the parents of the 1080 selected students but 33(3.1%) parents/guardians did not consent to the study, consequently, their wards were excluded. Eventually, 1047 students participated in the study. A 32 itemed, pretested, structured, self-administered questionnaire was distributed to the 1047 students whose parents gave consent for the study. Information sought included socio-demographics; if the students had had sexual intercourse at least once in their life time, age at first sexual intercourse, if the students had sexual intercourse in the last 3 months before the survey, condom use, number of sex partners in the last 3 months before the survey, if the students had been pregnant at least once and if they watch pornographic movies. Having sexual intercourse in the last 3 months before the survey was regarded as being currently sexually active. The questions were adopted from the sexual behaviour section of the 2013 Youth Risk Behaviour Survey questionnaire [11].

Data were entered into SPSS version 20.0 statistical software. Univariate analysis was done to describe the socio-demographic characteristics and sexual behaviour of the study participants.

To identify independently associated factors, multiple logistic regression model was produced by having sexual intercourse as an outcome variable. All explanatory variables that were associated with the outcome variable in the bivariate analysis ($P \leq 0.05$) and variables consistently found to be associated with occurrence of sexual intercourse in other studies were included in the logistic regression model. Odds Ratio (OR) and their 95% Confidence Intervals were calculated.

3. RESULTS

A total of 1047 students participated in the survey, 537 (51.3%) females and 510 (48.7%) males with male to female ratio of 0.9: 1. Their ages ranged between 12 and 23 years. Mean age (\pm SD) was 16.2 ± 1.64 years. Three hundred and sixty one (34.5%) students belong to the 11 -15 years age group, 677(64.7%) were aged between 16-20 years and 9 (0.9%) belong to the 21- 25 years age group. Three hundred and fifty seven (34.1%) students belong to the all-girls schools, 350 (33.4%) from mixed schools and 340 (32.5%) from all-boys schools. Four hundred and three (38.5%) students were in Senior Secondary 1 (SS1) class, 458 (43.7%) in SS2 and 186 (17.8%) in SS3 class. Majority (97.1%, 1017/1047) of the students were Christians. Majority (80.2%, 840/1047) described themselves as serious Christians, 23 (2.2%) as serious Muslims, while 126 (12%) described themselves as just church goers. Majority lived with both parents (53.8%, 563/1047). All were day students.

Three hundred and seventy-nine (36.2%) students reportedly had dated the opposite sex. Four hundred and fifty one (43.1%) students reported that someone had touched their private parts without their permission (sexually harassed). The commonest parts touched were breasts (55.4%, 250/451) followed by buttocks (35.3%, 159/451) and the penis (9.3%, 42/451). The people who touched the students' private parts were their boyfriends (33.2%, 150/451), opposite sex classmates (14.6%, 66/451), same sex classmates (14.0%), adult relatives plus family friends of opposite sex (13.7%, 62/451), opposite sex adult neighbours (13.3%, 60/451) and girlfriends (11.1%, 50/451). Out of the 451 (43.1%) students who reported being sexually harassed, 241 (44.9%) were girls and 210 (41.2%) were boys. There is no statistically significant difference between the proportion of males and females who were sexually harassed ($\chi^2=1.462$, $P=0.227$). Four hundred and forty-nine (42.9%) students reported having had sex, out of which 150 (33.4%) did it because their friends had also done it, 124 (27.6%) did it for pleasure, 80 (17.8%) were raped, 58 (12.9%) were lured with financial gain and 37 (8.2%) did it out of curiosity.

Table 1 shows socio-demographics and sexual behaviours of the study participants. Age group had no positive relationship with having sexual intercourse ($\chi^2=4.522$, $P=.104$), though the highest proportion of those who reported having had sex (77.8%) belonged to the 21 to 25 age groups. More females (46.9%, 252/537) reportedly had had sex compared to the males (38.6%, 197/510) and this is statistically significant ($\chi^2=7.357$, $P=.007$). Academic class had a positive association with having sex, the highest proportion (52.9%, 213/403) of those who reported having had sex belonged to the SS1 class ($\chi^2=31.672$, $P=.000$). School type had no relationship with having sex ($\chi^2=.712$, $P=.701$) and who the students lived with also had no relationship with having sex ($\chi^2=1.714$, $P=.887$). Religion had no statistically significant association with having sex ($\chi^2=5.715$, $P=.221$).

Going out on a date with the opposite sex had a positive association with having sexual intercourse. Majority (59.9%, 227/379) of those who went out on a date with the opposite sex also engaged in sexual intercourse ($\chi^2=70.172$, $P=.000$). Five hundred and eighty (55.4%) students reported watching pornographic movies, out of which 354 (61.0%) watch it on the internet through their phones or their friends phones, 226 (39.0%) watch it on their televisions. Sixty seven (11.6%) students reported that their parents were aware of their habits. Watching pornographic movies had a positive association with having sex. Out of the 580 (55.4%) students who watched pornographic movies, 318 (54.8%) reported having had sexual intercourse ($\chi^2=75.725$, $P=.000$).

There is a positive association between being sexually harassed and having sex. A higher proportion (68.3%, 308/451) of students who reported being sexually harassed, also reported having had sex compared to (23.7%, 141/596) those who were not sexually harassed ($\chi^2=208$, $P=.000$).

Logistic Regression analysis of the predictors of sexual experience among the secondary school students showed that respondents who were females, in SS1 and SS3 classes, who had been involved in dating relationships with the opposite sex, who had been sexually harassed and who had watched pornographic movies were significantly more likely to be sexually experienced.

Table 1: Socio-demographics and sexual behaviours of the participants

Variable	Had sexual intercourse		Total (%)	χ^2	P Value	CI (95%)	Odds Ratio
	No (%)	Yes (%)					
Age group(yrs)							
11-15	208(57.6)	153(42.4)	361 (100)				

16-20	388(57.3)	289(42.7)	677(100)		
21-25	2(22.2)	7(77.8)	9 (100)	4.522	0.104
Total	598(57.1)	449(42.9)	1047(100)		

Gender

Female	285(53.1)	252(46.9)	537(100)	7.357	0.007	1.006-1.820	1.353
Male	313(61.4)	197(38.6)	510(100)				
Total	598(57.1)	449(42.9)	1047(100)				

Class

SS1	190(47.1)	213(52.9)	403(100)				
SS2	303(66.2)	155(33.8)	458(100)			0.317-0.736	0.483
SS3	105(56.5)	81(43.5)	186(100)	31.672	0.000	0.786-1.785	1.185
Total	598(57.1)	449(42.9)	1047(100)				

School Type

All boys	195(57.4)	145(42.6)	340(100)		
All girls	209(58.5)	148(41.5)	357 (100)	0.712	0.701
Mixed	194(55.4)	156(44.6)	350(100)		
Total	598(57.1)	449(42.9)	1047(100)		

Who the students live with

Both parents	317(56.3)	246(43.7)	563(100)		
Other relatives	149(59.1)	103(40.9)	252(100)		
Mother	83(56.1)	65(43.9)	148(100)		
Father	36(55.4)	29(44.6)	65(100)	1.714	0.881
Friends	9(69.2)	4(30.8)	13(100)		
Live alone	4(66.7)	2(33.3)	6(100)		
Total	598(57.1)	449(42.9)	1047(100)		

Religion

Christianity	581(57.1)	436(42.9)	1017(100)		
Islam	15(65.2)	8(34.8)	23(100)	5.715	0.221

Pagan	2(28.6)	5(71.4)	7(100)
Total	598(57.1)	449(42.9)	1047(100)

Dated opposite

sex

No	446(66.8)	222(33.2)	668(100)				
Yes	152(40.1)	227(59.9)	379(100)	70.172	0.000	2.092-3.851	2.839
Total	598(57.1)	449(42.9)	1047(100)				

Watched

pornography

No	336(71.9)	131(28.1)	467(100)				
Yes	262(45.2)	318(54.8)	580(100)	75.725	0.000	1.624-2.951	2.189

Sexually

harassed

No	455(76.3)	141(23.7)	596(100)				
Yes	143(31.7)	308(68.3)	451(100)	208	0.000	4.408-7.971	5.927
Total	598(57.1)	449(42.9)	1047(100)				

Out of the 449 (42.9%) students who reported having had sex, 278 (61.9%) reportedly had sex in the last 3 months before the survey. Out of the 278 (61.9%) students who reported having had sex in the past 3 months before the survey, 123 (44.2%) reportedly had sex at least once a month, 105 (37.8%) more than once a month and 50 (18.0%) more than once a week. Out of the 278 (61.9%) currently sexually active students, 83 (29.9%) reportedly had sex in the last 3 months with one sexual partner, 96 (34.5%) with 2 partners, 60 (21.6%) with 3 partners and 39 (14.0%) with 4 or more partners. Out of the 449 (42.9%) students who reported having had sex, only 89 (19.8%) reportedly used condom in their last sexual encounter for protection and as contraceptive. No other means of contraceptive was used by the students. More males (25.4%) reported using condom during their last sexual encounter compared to the females (15.5%). This is statistically significant ($\chi^2=6.825$, $P=.009$)

The mean age (\pm SD) at first sexual intercourse was 13.37 ± 3.662 years. There is no statistically significant difference between the mean age at first sexual intercourse for the males (13.05 ± 4.318) and that of the females (13.67 ± 2.876), t -test= 1.328 , $P=.185$).

The sex partners of the 252 (46.9%, 252/537) female students who reportedly had had sex were adult male neighbours (56.7%, 143/252), adult family friends (27.4%, 69/252), peers (boyfriends) (13.9%, 35/252) and adult male relatives (2.0%, 5/252). Sex partners of the 197 (38.6%, 197/510) male students who reportedly had had sex were younger girls (60.9%, 120/197), female classmates (25.4%, 50/197), adult female neighbours (10.2%, 20/197) and adult female relatives (3.6%, 7/197)

Out of the 537 (51.3%) female students, 463 (86.2%) reportedly had attained menarche and 146 (27.2%) had been pregnant at least once. Out of the 146 (27.2%) female students who reportedly had been pregnant at least once, 110 (75.3%) had induced abortion and 36 (24.7%) carried the pregnancies to term.

Out of the 510 (48.7%) male students, 56 (11%) reportedly had gotten a girl pregnant, out of which 27 (48.2%) reported denying the pregnancies, 15 (26.8%) helped their girlfriends have induced abortions and 14 (25%) reported that their girlfriends carried the pregnancies to term.

Table 2 shows the consequences of unprotected sex identified by the students. The most identified consequence of unprotected sex was unwanted pregnancies. This was identified by 39.4% of the respondents, followed by HIV/AIDS (38.1%). Gonorrhoea was the list identified consequence of unprotected sex.

Table 2: Consequences of unprotected sex identified by the students.

Consequences	Yes		No		Total (%)
	Number	%	Number	%	
Unwanted pregnancies	412	39.4	635	60.6	1047 (100)
HIV/AIDS	399	38.1	648	61.9	1047(100)
Syphilis	151	14.4	896	85.6	1047 (100)
Gonorrhoea	96	9.2	951	90.8	1047 (100)

4. DISCUSSION

The result of this study revealed a high rate of sexual harassment among the students, as more than two fifth of our respondents admitted that someone touched their private parts without their permission. The commonest parts touched were the breasts, followed by the buttocks. Ajuwon et al.[12] also made similar observations, though in their study unwanted touch of the breasts and buttocks were reported by only 9% of their respondents. In this study, there is no statistically significant difference between the proportion of males and females who reported being sexually harassed.

The fact that this sexual harassment was done mostly by their boyfriends and their classmates, underscores the need for

an intervention programme aimed at behavioural change and formation of healthy positive relationships among these students.

The study also revealed that almost half of our respondents reported having experienced sexual intercourse. This is lower than the 61.1% reported by Aomreore and Alikor [13] and 63% reported by Owolabi et al.[8]. It is however higher than the 13% reported by Ajuwon et al. [12], 28.5% reported by Salako et al.[14], 34% reported by Slap et al. [7] and 34.3% reported by Duru et al. [15] all in Nigeria. Some of these previous studies were either conducted in same sex schools or co-educational schools alone, with different sample sizes. These may have accounted for the differences in observations reported. This finding however shows that sexual intercourse among secondary school students in Port Harcourt is a major problem which deserves urgent intervention if the war against HIV/AIDS and other STDs must be won. This is because young people between the ages of 15 to 24 years accounted for 40% of new infections in Nigeria in 2006 [5].

The results further indicated that the commonest reason for engaging in sexual intercourse was because their friends had also done it, giving credence to the statement of Ndebele that sexual behaviours of adolescents are peer-driven [16]. It also corroborates the findings of another study done in Nigeria which reported that peer pressure was the commonest reason for adolescents engaging in sexual intercourse [15].

Another very important observation highlighted by the results of this study is the high rate of rape among the students (i.e. 17.8% of those sexually exposed or 7.6% of our total respondents). This is very worrisome because in some societies rape is a major driving force for the spread of HIV/AIDS [17]. A previous study done in Nigeria had similar observation, though in that study, only 5% of the respondents reported being raped [12].

In this study, females were significantly more involved in sexual intercourse compared to the males, disagreeing with the reports of previous studies done in Nigeria [7,14] and in other parts of the world[18-19], which reported more male involvement in sexual intercourse. It is very possible that the males in this study may have under reported their sexual activities compared to the females.

Our data showed that academic grade level had a positive association with having sexual intercourse, disagreeing with the report of a previous study which showed no relationship between having sexual intercourse and academic grade level [8]. This difference could be explained by the fact that in this study peer influence was responsible for majority of the students engaging in sexual intercourse. A previous study showed that the likelihood of engaging in sexual intercourse increases with academic grade level [20], however in our study, the lowest class (SS1) had the highest proportion of those who reported having had sex. The authors have no logical explanation for this observation.

Our study also disagreed with a previous study which reported that adolescents living with a single parent are more likely to become sexually active than those living with both parents [18]. In this present study, who the students lived with had no relationship with their involvement in sexual intercourse; this may be due to the fact that involvement in sexual intercourse is mostly peer driven. Peer influence may also explain why religion had no relationship with having sexual intercourse in this study.

Involvement in a dating relationship showed a strong positive association with having sexual intercourse. More than half of those in a dating relationship also reported having had sex, confirming the report of a previous study that the strongest risk factor for sexual intercourse in 7th -12th grades is participation in a romantic relationship during the previous 18 months [21]. Another previous survey reported that one out of four teenagers reported that having sex is expected if you are in a relationship and one third of teen girls in a relationship reported being pressured to have sex or engage in other sexual activities even against their will [22]. This sex pressure on the adolescents in dating relationships may be the explanation for the positive association between dating and having sexual intercourse observed in this present study.

A high proportion (55.4%) of the students reported watching pornographic movies, with almost two third of them reportedly watching the movies on the internet using their phones. Watching pornographic movies is another behaviour which also showed a strong positive association with engaging in sexual intercourse. More than half of the students who reported watching pornographic movies also engaged in sexual intercourse, showing consistency with the findings of a study done in Sweden where it was reported that a high proportion of males who watched pornography reported being sexually aroused, fantasized about or tried to perform acts seen in the pornographic movies. In that same study, intercourse with a friend, anal sex and group sex had positive association with consistent viewing of pornographic movies [23].

Our study showed a positive association between being sexually harassed and involving in sexual intercourse. Majority of those who reported being sexually harassed also reported having had sex. The simple explanation for this observation could be that some of those students who were sexually harassed may have eventually succumbed to the harassment and had sexual intercourse, especially as the majority of those involved in the harassment were their boyfriends. There is also the possibility that some of those who reportedly suffered this harassment were also those who were eventually raped. However, this was not explored in this study.

Logistics Regression analysis showed some variables which were strong predictors of the likelihood of the students being sexually experienced. These included being a female, being in SS1 and SS3, being sexually harassed, dating the opposite sex and watching pornographic movies. This means any intervention programmed aimed at addressing the sexual behaviour of these students must be targeted at controlling these variables. It also shows that such a programme must be targeted at the junior secondary classes or the upper primary classes before the students get sexually exposed.

The results indicated a high rate of risky sexual behaviours among the students, such as early age at first sexual intercourse (mean age 13years), high proportion of students currently sexually active (61.9% of those who have ever had sex), with 37.8% and 18% having sex more than once a month and more than once weekly respectively. There is a high rate of sex with multiple sexual partners (70.1% of those currently sexually active) and a low rate (19.8%) of condom use. These behaviours have been recognized as behaviours which contribute to unintended pregnancies and HIV/AIDS [24]. Furthermore a previous study linked early age of sexual intercourse by adolescents with the likelihood of engaging in more risky sexual behaviours and the possibility of experiencing sexual violence [25].

The study also revealed that while condom use was generally low among the sexually active students (19.8%), condom use was significantly higher among the males compared to the females. This is consistent with reports from other researchers in Nigeria [12, 14]. The male adolescents maybe more likely to use condoms compared to their female counterparts because male condoms are more well known among adolescents than female condoms as an efficient means of preventing STDs , including HIV/AIDS and unintentional pregnancies [15]. This finding also corroborates the report of a previous study done in Burkina Faso, Malawi and Uganda where it was reported that adolescent males were more likely to report knowing about condoms compared to their female counterparts [26]. It is very likely that the condom used by the females in this present study, may have been used by their male consorts, though this was not explored. Furthermore, since the male consorts of the females in this study were older men, it may have been difficult for them to negotiate safer sex due to the large age gap, hence the low condom use among the females. Several studies have also linked sex with older male partners with a high risk of HIV infection among female adolescents because of their inability to negotiate for condom use due to the age differential [27]. The high rate of unwanted pregnancies and induced abortions reported in this study are direct consequences of this lack of condom or any other contraceptive use.

Despite the introduction of Family life and HIV/AIDS Education curriculum for junior secondary school in Nigeria as far back as 2003[28], not up to two fifth of our respondents could identify unwanted pregnancies, HIV/AIDS, Syphilis and Gonorrhoea as consequences of unprotected sex. This poor Knowledge of risks of unprotected sex may explain the high rate of risky sexual behaviour observed amongst the students in this study.

The first limitation of this study is that private secondary schools were not included in the study. Comparing the sexual behaviour of students in private secondary schools and those in public schools may have given better information. The second limitation is that the information sought is self-reported, and is subject to under reporting or over reporting.

5. CONCLUSION

There was a high rate of sexual intercourse amongst secondary school students in Port Harcourt. There was also a high rate of risky sexual behaviours amongst the students. These risky behaviours included early age of onset of sexual intercourse, high frequency of sexual intercourse, having sex with multiple partners and poor condom use among the sexually active students. There was also a poor knowledge of the consequences of unprotected sex. **Being a female, being in SS1 and SS3, dating the opposite sex, being sexually harassed and watching pornographic movies were strong predictors of the likelihood of being sexually experienced.** We recommend that a school based intervention programme aimed at reducing risky sexual behaviours amongst the students be organized for secondary school students in Port Harcourt.

CONSENT

All authors declare that written informed consent was obtained from the parents of the respondents and also from the administrative heads of the schools involved in this study.

ETHICAL APPROVAL

Ethical approval was obtained from the Ethics Committee of the University of Port Harcourt Teaching Hospital.

CONFLICT OF INTEREST

All authors declare that there is no conflict of interest.

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