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Sexual risk behaviors among adolescents attending secondary schools in a Southwestern State in Nigeria

Adeleye Abiodun Adeomi, Oluwatosin Adediran Adeoye, Adefisoye Adewole, Oluwaseyi Israel, Abiola Temitayo-Oboh

Department of Community Medicine, Ladoke Akintola University of Technology Teaching Hospital, Ogbomoso, Oyo State, Nigeria

Address for correspondence:
Oluwatosin Adediran Adeoye, Department of Community Medicine, Ladoke Akintola University of Technology (LAUTECH) Teaching Hospital, Ogbomoso, Oyo State, Nigeria.
Tel: +234803 3712940,
E-mail: tosinadeoye2002@yahoo.com

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ABSTRACT

Introduction: Several studies in Nigeria have reported high rates of risky sexual activities among adolescents. This study, therefore, aimed to describe the sexual risk behaviors among adolescents attending secondary schools in a Southwestern State in Nigeria. **Materials and Methods:** This was a descriptive cross-sectional study, carried out among in-school adolescents in Osun State, Southwestern Nigeria. The multi-stage sampling technique was used to select the respondents, and data were collected with pre-tested, semi-structured questionnaires which were self-administered and supervised by trained research assistants. A total of 815 questionnaires was administered, but only 786 (96.4%) were properly filled and analyzed using Statistical Package for Social Sciences version 16. **Results:** Many of the respondents (406, 51.7%) were early adolescents, while the remaining 380 (48.3%) were late adolescents with a mean age of 14.2 ± 2.2 years. One hundred and eight (22.9%) were sexually exposed with a mean age of sexual debut of 12.7 ± 2.7 years. Of the 180 that were sexually exposed, 134 (74.4%) had sex in the month preceding the study, 40 (22.2%) had paid for or demanded for payment for sex before, and only 48 (26.7%) used condom for their last sexual intercourse. Only 2 (0.3%) respondents reported having had sexually transmitted infections (STI), but, 128 (16.3%) had had symptoms suggestive of STI before. **Conclusion:** There was a high level of sexual risk behaviors among the respondents with 22.9% of them being sexually exposed with a mean age at sexual debut of 12.7 ± 2.7 years. Public health interventions to prevent human immunodeficiency virus/acquired immunodeficiency syndrome should target adolescents in their early ages before they initiate sexual activity.

KEY WORDS: Adolescents, in-school, sexual risk behavior, sexually transmitted infections

INTRODUCTION

One in three African adolescents lives in Nigeria, the most populous country in Africa. About one-third of Nigeria's total population are young people between the ages of 10 and 24 [1], and it is projected that by 2025, the number of Nigerian youth will exceed 57 million [2]. Nigeria's birth rate for adolescents is one of the highest in the world, with an estimated adolescent population of 35 million adolescents by the year 2009 [3]. The prevalence of sexually transmitted infections (STIs) including human immunodeficiency virus (HIV), among adolescents in Nigeria, is climbing rapidly [4,5].

Research confirms that many young people participate in risky sexual activities including early debut in sexual activities, sex with many partners, low and inconsistent use of condoms [6]. The adolescents in developing countries are also increasingly engaging in sexual intercourse, especially high risk sexual intercourse [7-10], and Nigeria is not an exception. Several studies in Nigeria have reported high rates of risky sexual activities, unwanted (unintended) pregnancy, abortion and STIs including HIV/acquired immunodeficiency syndrome (AIDS) among adolescents [11-14] and so they are a high-risk group in HIV transmission.

The Nigeria Demographic and Health Survey (NDHS) reported that among women who had sexual intercourse in the 12 months preceding the NDHS, the proportion who engaged in higher-risk sexual intercourse was the highest among those aged 15-19 years. Younger women aged 15-24 years were twice as likely as women aged 40-49 years to have had sexual intercourse with two or more sexual partners in the 12 months preceding NDHS. Sixteen percent of young women and 6% of young men aged 15-24 years initiated sexual activity before age 15 [15].

One of the consequences of the involvement of young persons in risky sexual activities is that this group is disproportionately affected by reproductive morbidity including STI/HIV, unwanted pregnancies and their complications [6,16,17]. One study found that the one-third of women obtaining abortions were adolescents [13]. Hospital-based studies also showed that up to 80% of Nigerian patients with abortion-related complications were adolescents [13].

It is estimated that 2 million adolescents (aged 10-19 years) were living with HIV, in addition to the 2.5 million children under age 15 years living with the virus in 2009 [18]. Although these young people living with HIV/AIDS could be found in countries on all continents, most of them lived in sub-Saharan Africa [19]. An estimated 1.5 million of the 2 million adolescents living with HIV were in sub-Saharan Africa. The highest numbers of adolescent boys and girls living with HIV are found in South Africa and Nigeria. This study, therefore, aimed to update knowledge on the sexual risk behaviors among in-school adolescents in a Southwestern State in Nigeria.

MATERIALS AND METHODS

This was a descriptive cross-sectional study, carried out among in-school adolescents in Osun State, Southwestern Nigeria. Osun State has three senatorial districts namely Osun Central, Osun West, and Osun East, each comprising 10 local government areas (LGAs) (making 30 LGAs) and one area office, located in Osun East senatorial district. The 30 LGAs are grouped into 18 rural and 12 urban LGAs. In the rural areas, majority of the inhabitants are farmers while in the urban areas, they are mostly traders, artisans, cloth dyers, and civil servants, hence having differing socio-economic status.

The multi-stage sampling technique was used to select the respondents. At the first stage, two out of the three senatorial districts in Osun State were selected by simple random sampling technique, while two LGAs were selected from each of the selected senatorial district at stage 2. A total of eight schools was randomly selected from the selected LGAs at the third stage, and stratified random sampling technique was used to select students from the eight schools at the fourth stage.

Data were collected with pre-tested, semi-structured questionnaires (i.e. having both closed and open-ended questions) which were self-administered by the students in designated classes and supervised by trained research assistants. The questionnaire was designed to seek information about the adolescents' socio-demographic characteristics and their indulgence in risky behaviors. A total of 815 questionnaires was administered, but only 786 (96.4%) were properly filled and analyzed.

The questionnaires were manually sorted out, entered into a computer, and the data were analyzed using Statistical Package for Social Sciences version 16 (IBM Corporation). Frequency distribution tables and/or charts were generated from variables while cross-tabulation and test statistics were done where applicable. The Chi-square test was used to compare rates, ratios, and proportions. Level of significance was set with $P \leq 0.05$.

Ethical clearance for the study was obtained from the Ethical Review Committee of Ladoke Akintola University of Technology Teaching Hospital, Osogbo. The Parent Teachers Association and Principals of selected schools were properly informed, and their informed consent was obtained, while the study participants themselves were given consent forms to fill, after they were properly informed about the study and all it entails. All information gathered was kept confidential, just as the students were re-assured at the beginning of the study. All the participants were identified using only serial numbers.

RESULTS

Many of the respondents (406, 51.7%) were early adolescents, while the remaining 380 (48.3%) were late adolescents with a mean age of 14.2 ± 2.2 years. The respondents were mainly Christians (494, 62.8%), senior secondary school students (442, 56.2%), and of the Yoruba ethnic group (778, 99.0%). Other sociodemographic characteristics are as shown in Table 1.

Table 2 shows the sexual risk behaviors among the respondents. One hundred and eight (22.9%) were sexually exposed with a mean age of sexual debut of 12.7 ± 2.7 years. Of the 180 that were sexually exposed, 134 (74.4%) had sex in the month preceding the study, 40 (22.2%) had paid for or demanded for payment for sex before, and only 48 (26.7%) used condom for their last sexual intercourse. Among those who had sex in the month preceding the study, 50 (37.3%) had more than one sexual partner with a mean number of sexual partners of 1.2 ± 1.3 partners. Other risky behaviors among the respondents include taking alcoholic beverages (170, 21.6%), smoking of

Table 1: Sociodemographic characteristics of respondents

Variable	Frequency	Percentage
Age group (in years)		
10-14 (early adolescence)	406	51.7
15-19 (late adolescence)	380	48.3
Mean age	14.2±2.2	
Gender		
Male	388	49.4
Female	398	50.6
Religion		
Christianity	494	62.8
Islam	286	36.4
Traditionalist	6	0.8
Tribe		
Yoruba	778	99.0
Others	8	1.0
Class		
Junior secondary	344	43.8
Senior secondary	442	56.2
Residence		
Urban	390	49.6
Rural	396	50.4
Father's occupation		
Unemployed	76	9.7
Unskilled	72	9.2
Semi-skilled	318	40.5
Skilled	320	40.7
Mother's occupation		
Unemployed	46	5.9
Unskilled	28	3.6
Semi-skilled	506	64.4
Skilled	206	26.2
Family setting		
Monogamous	406	51.7
Polygamous	380	48.3

cigarettes or Indian hemp (8, 1.0%), and attending night parties (96, 12.2%). After bivariate analysis, age, gender, smoking, and attendance of night parties were significantly associated with their sexual exposure [Table 3].

Only 2 (0.3%) respondents reported having had STI, but when asked about symptoms suggestive of STI (like abnormal or bad smelling discharge from the penis/vagina, itching of or sores on the genital organs and painful urination), 128 (16.3%) had had such symptoms before [Table 4].

Table 2: Sexual risk behaviors among the respondents

Variable	Frequency	Percentage
Ever had sexual intercourse		
Yes	180	22.9
No	606	77.1
Mean age at first sex	12.7±2.7 years	
Had sex in the last 1 month (*n*=180)		
Yes	134	74.4
No	46	25.6
Number of sex partners in the last 1 month (*n*=134)		
1	84	62.7
>1	50	37.3
Mean number of sex partners in the last 1 month	1.2±1.3 partners	
Ever had paid sex (*n*=180)		
Yes	40	22.22
No	140	77.8
Used condom for the last sex (*n*=180)		
Yes	48	26.7
No	132	73.3
Other risky behaviors (multiple responses)		
Take alcoholic beverages	170	21.6
Have a smoking habit	8	1.0
Attend night parties	96	12.2
Had sex after a night party before (*n*=96)		
Yes	28	29.2
No	68	70.8

Table 3: Factors affecting sexual exposure among respondents

Variable	Ever had sexual intercourse (%)		χ^2	*P* value
	Yes	No		
Age group (in years)				
10-14	70 (17.2)	336 (82.8)	15.23	<0.0001
15-19	110 (28.9)	270 (71.1)		
Gender				
Male	122 (31.4)	266 (68.6)	31.67	<0.0001
Female	58 (14.6)	340 (85.4)		
Class				
Junior secondary	74 (21.5)	270 (78.5)	0.67	0.414
Senior secondary	106 (24.0)	336 (76.0)		
Family setting				
Monogamous	86 (21.2)	320 (78.8)	1.41	0.236
Polygamous	94 (24.7)	286 (75.3)		
Residence			3.69	0.055
Urban	78 (20.0)	312 (80.0)		
Rural	102 (25.8)	294 (74.2)		
Take alcoholic beverages				
Yes	40 (23.5)	130 (76.5)	0.05	0.826
No	140 (22.7)	476 (77.3)		
Have smoking habit				
Yes	6 (75.0)	2 (25.0)	12.43	*0.002
No	174 (22.4)	604 (77.6)		
Attends night parties				
Yes	46 (47.9)	50 (52.1)	38.76	<0.0001
No	134 (19.4)	556 (80.6)		

*Fisher's exact test used

DISCUSSION

A little more than 20% of the respondents had had sexual intercourse before. This is similar to findings by Fatusi and Blum, who reported that 19.8% of the adolescents who were randomly selected from the 36 States in Nigeria had initiated sexual intercourse [20], Asekun-Olarinmoye *et al*, in Osun State, Nigeria reported that 27.6% of the in-school adolescents studied were sexually exposed [21] and Moharson-Bello *et al*. who reported 28.3% in a study carried out in Ibadan, Nigeria [16]. The prevalence in this study is higher than the 13.0% reported among adolescents in Northeastern Nigeria [22] and South Africa [23]. Higher prevalence rates were, however, reported by Slap *et al*. who reported 34% in Plateau State [5], Owolabi *et al*. who reported 63% in Osun State [24] and Olugbenga-Bello *et al*. who reported 31.5% also in Osun State, Nigeria [17]. This variation in the proportion of adolescents who have been involved in sexual intercourse agrees with the findings in a review of studies on the sexual behavior of school students in sub-Saharan Africa with Nigeria inclusive, the prevalence of first sex was reported to vary from 3% to 93% [25]. This variation may be due to the different values attached to the issue of adolescent sexuality by different cultures and people.

Of those that had sexual intercourse in the month preceding the study, nearly two-fifths had sexual intercourse with more than one sexual partner, and more than 1 in 5 of those sexually exposed had paid someone or demanded payment for sex within the same time period. A fifth of the respondents took alcoholic beverages, more than 1 in 10 attended night parties, and 1% had a smoking habit. Of those who attended night parties, 3 out of 10 of them had sexual intercourse after such parties. This pattern of high-risk sexual behavior has been well-established by previous studies, though the findings vary from place to place [5,12,14-16,20-27]. Olugbenga-Bello *et al*. in Osun State [17] found that 14.6% of the secondary school students surveyed had more than one sexual partner, and 3.3% had visited commercial sex workers before. Asekun-Olarinmoye *et al*. [21] in Osun State found that, of the sexually active students that were surveyed, 48.4% had multiple sexual partners, and 37.9% patronized commercial sex workers [21]. Aderibigbe and Araoye [26] also worked among secondary school students in Ilorin, Kwara State and found that 24.2% of the respondents had received gifts in exchange for sex, while 45% had more than one sexual partner. This high levels of risky sexual behavior have made adolescents and young people particularly

Table 4: STIs among the respondents

Variable	Frequency	Percentage
Ever had STI		
Yes	2	0.3
No	784	99.7
Ever had symptoms suggestive of STI		
Yes	128	16.3
No	658	83.7

STI: Sexually transmitted infections

vulnerable to and at risk of STI and HIV infections, and hence, the reason why evidenced-based interventions should be directed at this age group.

Despite this high level of risky sexual behavior among the adolescents, it is something of concern that just about a quarter used condom for the last sexual experience. This rather poor preventive culture among adolescents has been reported by other similar studies [11,12,15,17,26]. In Osogbo, Southwestern Nigeria, Olugbenga-Bello *et al.* [17] found that less than a third of the sexually active adolescents used condoms while the NDHS [15] reported that among young people that had sexual intercourse in the 12 months preceding the survey, 94.5% of male adolescents had high-risk intercourse and only 36.3% of them used condom. This low rate of condom use among respondents may be due to poor comprehensive knowledge about contraception, STIs and related issues among adolescents [11,21,28].

It has been said that substance use can impede adolescents' decision-making ability, thereby making sexual activity more likely [17]. This saying was corroborated by the findings of this study where significant relationships were found between smoking and attendance of night parties and sexual exposure. This is similar to the finding of Olugbenga-Bello *et al*. in Osun State, Nigeria [17] and that of Graves and Leigh in the United States of America [29]. In a study by Olugbenga-Bello *et al*., alcohol intake was found to be significantly associated with sexual activity, while Graves and Leigh reported that alcohol intake and smoking had significant relationships with the sexual activity of their respondents.

The mean age at first sexual intercourse in this study was 12.7 ± 2.7 years, which is similar to the 12 years reported by Owolabi *et al*. [24] in Ilesa, Osun State. The finding in this study was, however, lower than the 15.2 years reported by Olugbenga-Bello *et al*. in Osogbo, Osun State [17] and the 15.8 years reported by Ajuwon *et al.* in Oyo State [22]. Okpani and Okpani [30], in their study, carried out in Rivers State, also indicated declining age at first sex. Studies have shown that adolescents who begin sexual activity early are likely to have sex with more partners, and with partners who have been at risk of STI/HIV exposure [31]. Public health interventions to prevent HIV/AIDS should, therefore, target adolescents in their early ages before they initiate sexual activity, at which time their risk of exposure to the virus increases dramatically [32-35].

CONCLUSION AND RECOMMENDATION

There was a high level of sexual risk behaviors among the respondents with 22.9% of them being sexually exposed with a mean age at sexual debut of 12.7 ± 2.7 years. Of the sexually exposed, 74.4% had sex in the month preceding the study, 22.2% had had paid sex before, and only about a quarter used condoms for their last sex. Although only two respondents reported having STI, 16.3% of them had symptoms that were highly suggestive of STI. Public health interventions to prevent HIV/AIDS should target adolescents in their early ages before they initiate sexual activity. There is also a need to explore evidenced-based interventions that work among adolescents and to direct them at this age group. Governmental, non-governmental organizations, and other stakeholders and policy makers in adolescent reproductive health should work toward designing comprehensive education programs to reach secondary schools across the country.

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