



HIV Preventive Measures among Adolescents attending Secondary Schools in an Urban Community in Southwestern Nigeria

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Abstract

Many studies carried out among adolescents in Nigeria generally report the practice of preventive measures against HIV to be poor. This study was carried out to assess the HIV/AIDS preventive measures among adolescents attending secondary schools in an urban community in Southwestern Nigeria. This was a descriptive cross sectional study, carried out among in-school adolescents in Osogbo metropolis, Southwestern Nigeria. The multi-stage sampling technique was used to select the respondents and data was collected with pre-tested, semi-structured questionnaires which were self administered and supervised by trained research assistants. A total of 370 questionnaires were administered and analysed using Statistical Package for Social Sciences (SPSS) version 16. Majority knew that HIV/AIDS could be prevented by not sharing sharp objects (305, 82.4%) and the use of condom (277, 74.9%). Three hundred and twenty nine (88.9%) of the respondents were aware of condom while 205 (55.4%) were aware of HIV Counselling and Testing (HCT). Seventy four (20.0%) respondents were sexually exposed, and only 21 (5.7%) of the respondents had ever used condoms before. Only 15 (4.1%) of the respondents had had HCT before and 189 (51.1%) had had sex education before. Most of the respondents were aware of the disease called AIDS, but their comprehensive knowledge about the disease and its prevention was not correspondingly high. Twenty percent of the respondents were sexually exposed but their HIV preventive practice was generally poor; there was poor and inconsistent condom usage, poor uptake of HCT and sex education and a poor perceived self efficacy among nearly half of the respondents. The stakeholders in adolescent reproductive health should work towards the provision of straightforward and elemental information about sex, and related practical issues that normally affect adolescents, like contraception, abortion and sexually transmitted infections to adolescents.

Key words: HIV/AIDS, adolescents, preventive measures, secondary school

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Intraduction

HIV/AIDS is a global crisis, a challenge to human life and dignity with ability to erode social and economic development. It has great influence on stability, life expectancy and economic development [1]. HIV has the potential of hindering the realization of the Millennium Development Goals and its spread promotes poverty, and has unleashed immense suffering on different countries and communities worldwide [2].

Adolescents are one of the groups hard hit by HIV/AIDS. The World Health Organisation (WHO) defined adolescence as the period from 10 to 19 years of age [3]. Over half of all new HIV infections in Africa in 2005 were among young persons aged 15–24 years with the worst hit being young women [4,5]. Adolescents and other young persons are disproportionately affected by reproductive health morbidity such as abortion, sexually transmitted infection (STIs) including HIV/AIDS and they account for a significant proportion of unsafe abortions globally. According to the World Health Organisation (WHO), at least one-third of all women seeking hospital-care for abortion complications are under the age of 20 years [6], and at least 50% of young people become sexually active by age 16 years [7].

The National Policy on health and development of adolescents and young people in Nigeria promotes abstinence only programmes as a key intervention for young people [8]. However, evidences from systematic reviews conducted in developed and developing countries suggest that abstinence only programmes to prevent HIV infection are ineffective and do not effectively encourage abstinent behaviour [9,10]. On the other hand, it is difficult to reach any definitive conclusion about their impact because few studies have been conducted to assess its effectiveness. This does not mean that these programmes are not effective; but too little evidence exists to reach any strong conclusion about their effectiveness [11].

Many studies carried out among adolescents in Nigeria generally report the practice of preventive measures against HIV to be poor [12-16]. The NDHS reports that only 9.5% and 19.5% of females and males within 15–19 years of age used condoms for their first sexual intercourse respectively, and just about a third of the young people used condoms the last time they had higher-risk sexual intercourse [16].

In Nigeria, condom promotion has continued to face religious, logistic, social and economic obstacles [17-18]. In order to develop effective comprehensive sexuality interventions for young people in Nigeria, there is need to assess the perception and practice of HIV/AIDS preventive measures among adolescents. Thus, this study was carried out with the aim of assessing the knowledge and practice of HIV/AIDS preventive measures among in-school adolescents in an urban community Southwestern Nigeria.

Material and Method

This was a descriptive cross sectional study, carried out among adolescents attending secondary schools in Osogbo, the capital city of Osun State, Southwestern Nigeria. The Leslie Fischer's formula for population less than 10,000 [19], with the expression $n/1 + n/N$; where p = prevalence from a previous study [14], $n = Z^2 pq/d$, confidence interval set at 95%, normal deviation $Z=1.96$, $d=0.05$ and $p = 0.527$ [14] was used to calculate a minimum sample size of 368 participants for the study. A total of 370 questionnaires were administered, and all were properly filled and analysed.

HIV prevention among adolescents is affected by a lot of issues ranging from behavioural, biomedical and structural issues. This informed the conceptual framework that was used for this study as depicted in the figure below.

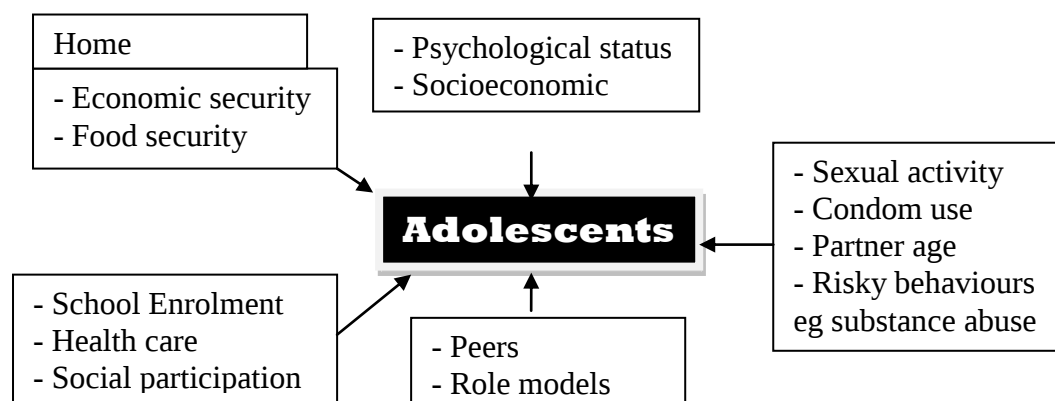


Figure 1: The Conceptual Framework for HIV Prevention among Adolescents

Using the multi-stage sampling technique, one public and one private school were first randomly selected from the list of schools in Osogbo. Public schools in Osun State are tuition free and hence they are densely populated with children from the low socio-economic class, while those from high socio-economic class usually opt for the private schools. This important difference informed the decision to pick representative schools from public and private schools. The desired sample size was selected using stratified random sampling with proportional allocation of respondents from the different classes in the selected secondary schools; stratification was along the line of classes (JSS 1 to SS 3). This was done by dividing the total number of students in the class by the total number in the school and multiplying this by the desired number of respondents in that school (i.e. 185). The respondents were then selected by systematic sampling using the teacher's class register.

Data was collected with pre-tested, semi-structured questionnaires which were self administered and supervised by trained research assistants. The questionnaires were manually sorted out, entered into a computer and the data were analyzed using Statistical Package for Social Sciences (SPSS) version 16. Level of significance was set with p-value less than or equal to 0.05.

The questions about the knowledge of respondents about HIV/AIDS preventive measures were scored. For questions whose responses were either yes or no (or correct and incorrect), a correct answer was scored 1 and a wrong answer was scored 0. For questions with three responses, (yes, no and don't know) the correct response was scored 2, the wrong response was scored 0, and don't know or no idea was scored 1. There was also scoring of the outcome variables for the perceived self efficacy (PSE) of the students for safe sex. Different questions were asked to assess their confidence in; telling their friends they did not want to have sex, telling friends they will like to use condom, buy condom from a shop, requesting condom from friends or health facility, refusing suggestions by friends to have sex and telling friends about HIV/AIDS and other STIs. The three options, very confident, little confident and not confident at all, were scored 3, 2 and 1 in that order. The mean score was calculated and the respondents who scored below the mean were regarded as having poor knowledge or low PSE for safe sex, while those who scored up to or above the mean were regarded as having good knowledge or high PSE for safe sex, as the case may be.

Ethical clearance for the study was obtained from the Ethical Review Committee of Ladoke Akintola University of Technology (LAUTECH) Teaching Hospital, Osogbo.

Results

The socio-demographic characteristics of the respondents are as shown in Table 1. Majority of the respondents were middle adolescents (171, 46.2%), males (196, 53.0%), Christians (223, 60.3%) and from the Yoruba ethnic group (368, 99.5%).

Table 1. Socio-demographic Characteristics of Respondents

Variable	Frequency	Percentage
Age Group (in years)		
10 - 13	140	37.8
14 - 16	171	46.2
17 – 19	59	15.9
Mean age		
Gender		
Male	196	53.0
Female	174	47.0
Religion		
Christianity	223	60.3
Islam	145	39.2
Traditionalist	2	0.5
Tribe		
Yoruba	368	99.5
Others	2	0.5
Class		
Junior Secondary	179	48.4
Senior Secondary	191	51.6
Family Setting		
Monogamous	197	53.2
Polygamous	173	46.8
Number of Children in the Family		
1 – 4 children	128	34.6
> 4 children	242	65.4
Custodian		
Both Parents	251	67.8
Guardian; relative	44	11.9
Single parent; Widowed	38	10.3
Single parent; divorced	33	8.9
Guardian; non-relative	4	1.1

Most of the respondents (360, 97.3%) were aware of AIDS. Ninety one (24.6%) of the respondents knew AIDS to mean Acquired Immune Deficiency Syndrome, a deadly or incurable disease or a communicable disease while 33 (8.9%) knew HIV to be the causative agent for AIDS. Most of the respondents knew sexual intercourse (334, 90.3%), unsterilized sharp objects (328, 88.6%) and transfusion of unscreened blood (325, 87.8%) to be modes of transmission of HIV. Majority also knew that HIV/AIDS could be prevented by not sharing sharp objects (305, 82.4%) and the use of condom (277, 74.9%). Three hundred and twenty nine (88.9%) of the respondents were aware of condom while 205 (55.4%) were aware of HIV Counselling and Testing (HCT). After scoring and categorizing the knowledge of the respondents about HIV/AIDS prevention, 174 (47.0%) had poor knowledge while 196 (53.0%) had good knowledge (Table 2).

Seventy four (20.0%) respondents were sexually exposed, with a mean age at first sex of 12.9 ± 2.9 years. Only 21 (5.7%) of the respondents had ever used condoms before, out of these; 5 (23.8%) used condoms always and 16 (76.2%) used condoms only occasionally. Out of the 74 sexually exposed respondents, 9 (12.2%) used condoms for their first sexual intercourse and 15 (20.3%) used condoms for the last sexual intercourse. Only 15 (4.1%) of the respondents had had HCT before and 189 (51.1%) had had sex education before. After the scoring and categorization of the outcome variables for PSE for safe sex of the respondents, 198 (53.5%) had low PSE for safe sex while 172 (46.5%) had high PSE for safe sex. (Table 3)

Table 2. Relevant knowledge about HIV/AIDS Prevention among Respondents

Variable	Frequency	Percentage
Awareness about HIV/AIDS		
Yes	360	97.3
No	10	2.7
Meaning of AIDS		
Correct	91	24.6
Incorrect	279	75.4
Causative agent for AIDS		
Correct (HIV)	33	8.9
Incorrect	337	91.1
Modes of Transmission of HIV (Multiple response)		
Sexual intercourse	334	90.3
Unsterilized sharp objects	328	88.6
Transfusion of unscreened blood	325	87.8
Unsterilized surgical instruments	313	84.6
Mother-to-child	279	75.4
Breast milk	275	74.3
Mosquitoes	265	71.6
Coughing and sneezing	158	42.7
Supernatural means	130	35.1
Casual contact	60	16.2
Modes of Prevention (Multiple response)		
Not sharing sharp objects	305	82.4
Correct and consistent use of condom	277	74.9
Faithfulness to an HIV negative partner	255	68.9
Abstinence	211	57.0
Awareness of condom		
Yes	329	88.9
No	41	11.1
Awareness of HIV Counselling and Testing		
Yes	205	55.4
No	165	44.6
Knowledge Categories		
Poor	174	47.0
Good	196	53.0

Table 3. Sexual Exposure and Preventive Measures among Respondents

Variable	Frequency	Percentage
Ever had sexual intercourse		
Yes	74	20.0
No	296	80.0
Mean Age at first sex	12.9 ± 2.9 years	
Ever used the condom (n = 74)		
Yes	21	28.4
No	53	71.6
Regularity of condom use (n = 21)		
Always	5	23.8
Occasionally	16	76.2
Used condom for the first sexual intercourse (n = 74)		
Yes	9	12.2
No	65	87.8
Used condom for the last sex (n = 74)		
Yes	15	20.3
No	59	79.7
Reason for not using condom for the last sexual intercourse (n = 74)		
Do not like it	42	71.2
Buying a condom is embarrassing	6	10.2
Partner does not accept it	5	8.5
The sex was unplanned	4	6.8
Don't know where to get it	2	3.4
Ever had HCT		
Yes	15	4.1
No	355	95.9
Willing to go for HCT		
Yes	13	3.5
No	357	96.5
Ever had sex education		
Yes	189	51.1
No	181	48.9
Perceived self efficacy for safe sex		
Low	198	53.5
High	172	46.5

Discussion

The level of awareness of the respondents about AIDS was very high with nearly all the respondents (97.3%) being aware of the disease. This high level of awareness about HIV/AIDS has been similarly reported in secondary school students in Nigeria [14,15,20]. Comprehensive knowledge about HIV/AIDS was however not as encouraging, with only a quarter knowing the meaning of AIDS and less than 1 out of 10 knowing the causative agent for the disease. Although most of them knew that HIV could be transmitted through sexual intercourse, unsterilized sharp objects and transfusion of unscreened blood, more than 7 out of 10 still thought HIV could be transmitted through mosquitoes and more than a third thought it could be transmitted through supernatural means. This pattern of poor comprehensive knowledge, despite a high level of awareness has also been reported by previous authors [14,20,21].

Majority of the respondents knew they could prevent HIV by using condoms and not sharing sharp objects, as has been similarly reported by earlier studies [15,16,22]. It was however surprising that only a little above 50% recognized abstinence as a mode of preventing HIV. This finding is important because the National Policy on health and development of adolescents and young people in Nigeria promotes abstinence only programmes as a key intervention for young people [8]. However, evidences from systematic reviews conducted in developed and developing countries suggest that abstinence only programmes to prevent HIV infection are ineffective and do not effectively encourage abstinent behaviour [9,10]. This underscores the need to increase support for comprehensive programmes which emphasize abstinence at the same level with condom promotion and address not only knowledge or attitude change, but the social context in which young people live and make decisions [23]. Thus, further research is required to provide insightful information to policy makers, adolescent sexuality leaders and organizations on the effectiveness of abstinence only programmes as a key intervention for adolescents [24].

Nearly 9 out of 10 respondents had heard about the condom before, but only about half of the respondents had heard about HIV counseling and testing (HCT). All the outcome variables for knowledge were scored and afterwards categorized, and more than two-fifths of the respondents had poor HIV/AIDS knowledge about prevention. This is similar to what was found by Asekun-Olarinmoye et al [14] in Southwestern Nigeria, where they found that 35% of their respondents had poor knowledge after scoring and categorizing the outcome variables for knowledge. The Joint United Nations Programme on HIV/AIDS also reported that only 44% of men and 38% of

women aged 15 to 24 correctly identified ways to prevent HIV and only about 1 out of 5 of them had what can be classified as having high knowledge [25].

Only about 3 out of 10 of the sexually exposed had used the condom before. Of those who had used the condom before, more than three-quarters were occasional users, only about 1 out of 10 of the sexually exposed used condom for their first sexual intercourse and about a fifth used condoms for their last sexual act. This rather poor preventive culture among adolescents has been reported by other similar studies [15,16,21,26,27]. Olugbenga-Bello et al [15] found that less than a third of the sexually active adolescents used condoms while the Nigerian Demographic and Health survey (NDHS) [16] 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 pattern is not only disturbing, but may also explain the reason why young people are at the centre of the global HIV/AIDS epidemic, in regards to both new infections and opportunities for halting the transmission of HIV [28].

Of those that had heard about HCT, less than 5% had had HCT prior to this. This corroborates the finding of the NDHS[16] were only 7% of the young people (15–24 years of age) had been tested for HIV in the 12 months preceding the survey. Despite the different programmes going on in Nigeria about HCT, it was disturbing to find that only 3.5% were willing to go for HCT. This finding is however comparable to some previous studies [15,29], and further shows that much more still needs to be done about promoting HCT among adolescents. Sex education for children is rarely done openly in almost every culture, especially in Africa and other conservative countries like China and India [30-34]. It therefore was not surprising that only about half of the respondents had ever had sex education before the study. The provision of straightforward and elemental information about sex, and related practical issues that normally affect adolescents, like contraception, abortion and STI may however be an important way to empower them to deal with these issues. Perceived self-efficacy (PSE) is someone's perception of his/her ability to carry out behaviour [35]. This PSE has been applied in different surveys to gauge the extent to which young persons have the ability or confidence to adopt safer sexual behaviours including abstinence, purchase of condom, distribution of condoms, and use of condoms [35]. According to this theory, the higher a person's PSE to adopt safer sexual behaviour the higher the probability that he/she will actually put into practice such behaviour [12,35,36]. Only about half of the respondents in this study had high PSE for safe sex. This is

important because the war against HIV/AIDS among young people will be easier to win if the young people themselves are armed with what they need to protect themselves.

Conclusion and Recommendation

Most of the respondents were aware of the disease called AIDS, but their comprehensive knowledge about the disease and its prevention was not correspondingly high. Twenty percent of the respondents were sexually exposed but their HIV preventive practice was generally poor; there was poor and inconsistent condom usage, poor uptake of HCT and sex education and a poor perceived self efficacy among nearly half of the respondents. The stakeholders in adolescent reproductive health should work towards the provision of straightforward and elemental information about sex, and related practical issues that normally affect adolescents, like contraception, abortion and sexually transmitted infections to adolescents.

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