



## **Use of Condom and Knowledge of Own HIV Status among Undergraduates of Ten Tertiary Schools in Ekiti and Ondo States Southwest, Nigeria**

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### **Authors' contributions**

*This work was carried out in collaboration between all authors. Author GOD designed the study and conducted the literature searches. Author AOO handled part of the administration of the questionnaire. Authors HAE, AAA, OO, OOA, AE and EFA provided support.*

### **Article Information**

DOI: 10.9734/JAMB/2018/40205

#### Editor(s):

(1) P. Rama Bhat, PG Biotechnology, Alva's College, Karnataka, India.

#### Reviewers:

(1) Joyce Kinaro, Population Studies Research Institute, University of Nairobi, Kenya.

(2) Renshan Sun, Third Military Medical University, China.

(3) Edmund J. Kayombo, Institute of Traditional medicine, Muhimbili University of Health and Allied Sciences, Tanzania.

Complete Peer review History: <http://www.sciencedomain.org/review-history/23907>

**Original Research Article**

**Received 16<sup>th</sup> January 2018**

**Accepted 24<sup>th</sup> March 2018**

**Published 30<sup>th</sup> March 2018**

### **ABSTRACT**

Bearing a burden of 66.7% of all global cases, HIV infection has become a major health challenge in Africa in general and sub-Saharan Africa in particular. For this reason, the battle to halt HIV/AIDS' spread in Africa, particularly in Nigeria is being fought on different fronts, carefully considering all factors that can help bring down prevalence rate and curb the spread of the disease. Two of such fronts are advocacies for the consistent and right use of a condom, as well as voluntary testing to know own HIV status. In this study, 100 undergraduates each were sampled consecutively from ten

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tertiary schools in Ekiti and Ondo States of Nigeria, so as to evaluate the level of use of condom and knowledge of own HIV status among this group of youths and young adults. The study was conducted through the use of self-administered questionnaires among the enrolled undergraduates. The 1000 subjects comprised 421(42.1%) males and 57.1 (57.1%) females, while 8 (0.8%) did not disclose their gender. Five hundred and twenty-one (52.1%) of the subjects fell within the 21-30 age-bracket, 407 (40.7%) were 20years and below, 22 (2.2%) were within the 31-40 age-bracket, while 12(1.2%) were 40years and above. Thirty-eight (3.8%) did not disclose their age-bracket. Two hundred and four (20.4%) of the subjects always used condom, 169 (16.9%) used it occasionally, 139 (13.9%) never used during sexual intercourse, 403(40.3%) indicated that the use of condom wasn't applicable to them (this group was presumed to be sexually inactive/inert), while 85 (8.5%) didn't volunteer information about their sexual activity. Findings also revealed that majority, 564(56.4%) of the subjects did not know their HIV status, 51(5.1%) were indifferent about their HIV status, 25 (2.5%) did not disclose if they knew their HIV status or not. However, 360 (36%) knew their HIV status. With more than half of the study population not knowing their HIV status, it is therefore suggested that health policy-makers should scale-up advocacy activities to persuade the general populace in Nigeria to go for voluntary testing.

*Keywords: HIV; AIDS; use of a condom; knowledge of own HIV status; Ekiti State; Ondo State.*

## 1. INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS), a debilitating and wasting disease- caused by Human Immunodeficiency Virus (HIV) - which was discovered among gay men and injection-drug users in the US less than forty years ago is now a serious scourge with a global spread. According to WHO estimates, about 36.7 million people are infected with HIV. Ever since its discovery a little above three decades ago AIDS has caused millions of deaths globally [1-6].

Africa seems to disproportionately bear the brunt and burden of HIV/AIDS, accounting for nearly 66.7% of all HIV infections large share of global AIDS-related deaths [7]. In Nigeria, in 2016, there were 200, 000 new HIV infections, 160, 000 AIDS-related deaths [8] and about 3.2 million HIV positive persons, in a country adjudged to be the second largest HIV country in the world [9-10]. As in the rest of Africa, in Nigeria, females bear the burden of HIV/AIDS more than their male counterparts [10]. Since sexual transmission accounts for most cases of HIV infection-heterosexual contact accounting for approximately 90% for all cases of HIV infections among women in the US [11], the use of condom becomes a logical means of protection against HIV [12-14] AIDS and other STDs. This, therefore, makes it very significant and vital to constantly determine and review the proportion or percentage of sexually active people in the society that use a condom- properly, constantly or even at all.

Equally important in the quest to curb the scourge of HIV/AIDS in the society is the knowledge of own HIV status [15]. If somebody knows their HIV status as positive, the awareness of their positive status will tend to restrain them from indiscriminate and unprotected sex, since they are aware that not doing so will put their sex-partner at a high risk of becoming infected. Such people will also naturally want to seek medical help early before their condition aggravates to full-blown AIDS. This will in turn potentially reduce the number of AIDS patients in the society. Sadly, however, according to the Federal Government's HIV and reproductive health survey, only 17% of the youths know their HIV status [16].

Also, if somebody knows their HIV status as negative, they'll want to take precautionary measures to ensure that they maintain their negative status [17]. This study was therefore carried out among one thousand undergraduates of ten different tertiary universities, polytechnics and colleges in Ekiti and Ondo state, southwest, Nigeria to assess the undergraduates' knowledge of their own HIV status, as well as the rate of use of condom among them.

## 2. MATERIALS AND METHODS

### 2.1 Study Population

One thousand students were consecutively sampled from ten different tertiary schools in Ekiti and Ondo States, southwest, Nigeria. One hundred students each were sampled from;

1. Ekiti State University, Ado-Ekiti
2. Adekunle Ajasin University, Akungba-Akoko
3. Achiever's University, Owo
4. Federal University of Technology, Akure
5. College of Education, Ikere-Ekiti
6. College of Health Sciences and Technology, Ijero-Ekiti
7. Fabolous College of Health Sciences and Technology, Ado-Ekiti
8. Federal University, Oye-Ekiti
9. Federal Polytechnic, Ado-Ekiti
10. Crown Polytechnic, Ado-Ekiti

41(4.1%) and 25(2.5%) respectively were from EKSU, AAUA, FUTA, COEI, COHI, FABOTAS, FUYOYE, FPA and CP. Five hundred and seventy one(57.1%) of the subjects were females; 67(6.7%), 40(4%), 50(5%), 25(2.5%), 65(6.5%), 70(7%), 78(7.8%), 44(4.4%), 58(5.8%) and 74(7.4%) were from institutions in the order earlier listed above respectively (Table 1).

**2.2 Inclusion/Exclusion Criteria**

Only students who were schooling at any of the participating schools as at the time of the study were enrolled into the study. Students who weren't schooling in any of the ten participating schools were excluded.

**2.3 Ethical Clearance**

Ethical clearance for the study was obtained from the Ekiti State University Teaching Hospital, Ado-Ekiti, Ekiti State, southwest, Nigeria.

**2.4 Administration of Questionnaire**

Bio-data and other study-related information were collected from the subjects through the use of a self-administered questionnaire. The data collected through the questionnaires were then statistically analysed using Ms-Word, Ms-Excel and SPSS.

**3. RESULTS**

The subjects consisted of 421(42.1%) males. Out of this, 32(3.2%), 60 (6%), 47 (4.7%), 75(7.5%), 35(3.5%), 29(2.9%), 21(2.1%), 56(5.6%),

**Table 1. Gender distribution of the subjects**

| School       | Distribution by gender |            |               |
|--------------|------------------------|------------|---------------|
|              | Male                   | Female     | Not disclosed |
| EKSU         | 32                     | 67         | 1             |
| AAUA         | 60                     | 40         | 0             |
| AUO          | 47                     | 50         | 3             |
| FUTA         | 75                     | 25         | 0             |
| COEI         | 35                     | 65         | 0             |
| COHI         | 29                     | 70         | 1             |
| FABOTAS      | 21                     | 78         | 1             |
| FUYOYE       | 56                     | 44         | 0             |
| FPA          | 41                     | 58         | 1             |
| CP           | 25                     | 74         | 1             |
| <b>Total</b> | <b>421</b>             | <b>571</b> | <b>8</b>      |

*CP: Crown Polytechnic, Ado-Ekiti AAUA: Adekunle Ajasin University, Akungba-Akoko; AUO: Achiever's University, Owo; FUTA: Federal University of Technology, Akure; COEI: College of Education, Ikere-Ekiti; COHI: College of Health Sciences and Technology, Ijero-Ekiti; FABOTAS: Fabotas College of Health Sciences and Technology, Ado-Ekiti; FUYOYE: Federal University, Oye-Ekiti; FPA: Federal Polytechnic, Ado-Ekiti; ; EKSU: Ekiti State University, Ado-Ekiti;*

Age-wise, majority, 521 (52.1%) of the subjects fell within the 21-30 age-bracket. Four hundred and seven (40.7%) were 20years and below, 22 (2.2%) were within the 31-40 age-bracket, while 12(1.2%) were 40years and above. Thirty-eight (3.8%) did not disclose their age-bracket (Table 2).

**Table 2. Distribution of subjects by age**

| School       | The frequency of the subjects by age-brackets |            |           |           |             |
|--------------|---|------------|-----------|-----------|-------------|
|              | ≤20   | 21-30      | 31-40     | ≥41       | Undisclosed |
| EKSU         | 44  | 48         | 0         | 0         | 8           |
| AAUA         | 25  | 75         | 0         | 0         | 0           |
| AUO          | 50  | 46         | 4         | 0         | 0           |
| FUTA         | 49  | 48         | 1         | 0         | 2           |
| COEI         | 37  | 57         | 0         | 0         | 6           |
| COHI         | 28  | 65         | 1         | 3         | 3           |
| FABOTAS      | 35  | 32         | 16        | 8         | 9           |
| FUYOYE       | 81  | 15         | 0         | 1         | 3           |
| FPA          | 22  | 72         | 0         | 0         | 6           |
| CP           | 36  | 63         | 0         | 0         | 1           |
| <b>Total</b> | <b>407</b>                                    | <b>521</b> | <b>22</b> | <b>12</b> | <b>38</b>   |

A total of 919 (91.9%) of the subjects were single, 54(5.4%) were married, none was divorced, while 27(2.7%) didn't disclose their marital status. FUYOYE had the highest percentage (100%) of singles, while FABOTAS had the highest percentage (26%) of married subjects (Table 3).

Two hundred and four (20.4%) of the subjects always used condom, 169 (16.9%) used it occasionally, 139 (13.9%) never used during

sexual intercourse, 403(40.3%) indicated that the use of condom wasn't applicable to them (this group was presumed to be sexually inactive/inert), while 85 (8.5%) didn't volunteer information about their sexual activity. When adjustment was made for the sexually inactive subjects, findings showed that 39.8% of the sexually subjects always used a condom, 33% used it only occasionally, while 27.1% never used it (Table 4).

**Table 3. Subjects distribution according to marital status**

| School  | The frequency of subjects' by marital status |         |          |             |        |
|---------|--|---------|----------|-------------|--------|
|         | Single                                       | Married | Divorced | Undisclosed | Others |
| EKSU    | 95   | 3       | 0        | 2           | 0      |
| AAUA    | 92   | 2       | 0        | 6           | 0      |
| AUO     | 90   | 8       | 0        | 2           | 0      |
| FUTA    | 97   | 0       | 0        | 3           | 0      |
| COEI    | 95   | 2       | 0        | 3           | 0      |
| COHI    | 95   | 4       | 0        | 1           | 0      |
| FABOTAS | 67   | 26      | 0        | 7           | 0      |
| FUYOYE  | 100  | 0       | 0        | 0           | 0      |
| FPA     | 92   | 6       | 0        | 2           | 0      |
| CP      | 96   | 3       | 0        | 1           | 0      |
| Total   | 919  | 54      | 0        | 27          | 0      |

**Table 4. Frequency of use of condom among the subjects**

| Schools | Subjects distribution by frequency of use of condom |              |              |                |             |
|---------|---|--------------|--------------|----------------|-------------|
|         | Always  | Occasionally | Never/Seldom | Not Applicable | Undisclosed |
| EKSU    | 15  | 20           | 20           | 40             | 5           |
| AAUA    | 20  | 33           | 15           | 24             | 8           |
| AUO     | 50  | 14           | 6            | 30             | 0           |
| FUTA    | 6   | 8            | 15           | 60             | 11          |
| COEI    | 19  | 18           | 20           | 30             | 13          |
| COHI    | 20  | 19           | 10           | 44             | 7           |
| FABOTAS | 23  | 14           | 11           | 43             | 9           |
| FUYOYE  | 5   | 3            | 10           | 80             | 2           |
| FPA     | 24  | 20           | 16           | 26             | 14          |
| CP      | 22  | 20           | 16           | 26             | 16          |
| Total   | 204   | 169          | 139          | 403            | 85          |

**Table 5. Frequency of subjects according to the knowledge of own HIV status**

| School  | Yes | No  | Indifferent | Undisclosed |
|---------|-----|-----|-------------|-------------|
| EKSU    | 26  | 66  | 5           | 3           |
| AAUA    | 31  | 65  | 3           | 1           |
| AUO     | 90  | 6   | 3           | 1           |
| FUTA    | 41  | 56  | 2           | 1           |
| COEI    | 23  | 63  | 11          | 3           |
| COHI    | 34  | 60  | 5           | 1           |
| FABOTAS | 35  | 60  | 2           | 3           |
| FUYOYE  | 30  | 60  | 8           | 2           |
| FPA     | 20  | 64  | 7           | 9           |
| CP      | 30  | 64  | 5           | 1           |
| Total   | 360 | 564 | 51          | 25          |

Findings also revealed that majority, 564(56.4%) of the subjects did not know their HIV status, 51(5.1%) were indifferent about their HIV status, 25 (2.5%) did not disclose if they knew their HIV status or not. However, 360 (36%) knew their HIV status. Of all the ten tertiary schools that participated in the study, AUO recorded the highest number 90(90%) of subjects that knew their HIV status, while EKSU recorded the highest number 66 (66%) of subjects who didn't know their HIV status. COEI recorded the highest number 11(11%) of subjects who were indifferent about their status, while FPA had the highest number of cases of non-disclosure of status.

#### 4. DISCUSSION AND CONCLUSION

The consistent and right use of condom has always been one of the messages of (anti-)HIV/AIDS crusaders, right from the early stages of the global HIV/AIDS pandemic [18-19]. In those days, the mantra of (anti-)HIV/AIDS crusaders (especially in Nigeria) was ABC, being an acronym for abstinence, *be faithful* to one negative partner and condom [20-23]. Though awareness about HIV/AIDS and the need to consistently use condom have relatively increased compared to the early days of the HIV/AIDS pandemic, the percentage of those who consistently and rightly use condom still remains relatively low.

Findings of this present study reveal that only 20.4% of the surveyed subjects regularly used a condom. This sharply contrasts with the figures obtained by Adebowale et al. [24] in their retrospective study of data obtained from National Demographic and Health Survey. In their own study, they reported that sixty-two percent of the respondents had used a condom before, while 50% were still in the habit of using a condom by the time of the study. Olley and Rotimi [25] also got similar figures. They sampled 422 males and females from the faculties of arts and the social sciences of University of Ibadan (southwest, Nigeria). The outcome of their study showed that 77% of the students reported that they had used a condom before. Approximately 14% of the sexually active subjects in this present study had never used a condom before. When those who used a condom only once in a while are factored-in, this figure rises to about 31% of the sexually active subjects, who had either never used a condom before or used it only occasionally. Being a group of youths and young adults who are mostly (91.9%) singles, this calls for concerns. The import of this is that about 31% of these undergraduates consistently

put themselves at the risk of getting infected with HIV/AIDS and other STDs.

Another issue that calls for concern, going by the outcome of this present study is the proportion of the subjects that were ignorant of their HIV status. More than half of the subjects (56.4%) did not know their HIV status and for 5.1% of them, it didn't really matter what their HIV status was. And this is in spite of the fact that HIV testing is free in most or all government hospitals in Nigeria.

From the findings of this study, it is evident that a lot still needs to be done, particularly among the students of tertiary schools (Universities, Polytechnics, Colleges, Monotechnics etc) in the country. That is, well-structured and well-thought-out advocacy campaigns should be designed to press for behavioural change among these undergraduates, as far as sexuality and risky habits are concerned. More of them need to be persuaded to avail themselves of the free HIV testing facilities provided by the Federal Government and donor agencies.

#### CONSENT

As per international standard or university standard, the patient's written consent has been collected and preserved by the author

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

#### REFERENCES

1. Akarolo-Anthony SN, Maso LD, Igbinibe F, Mbulaiye SM, Adebamowo CA. Cancer burden among HIV positive person in Nigeria. *Infect Ag Can.* 2014;9:1.
2. Centre for Disease Control and prevention (CDC). CDC in Nigeria; 2015. Available:<http://www.cdc.gov/globalhealth/countries/nigeria/pdf/nigeria.pdf>
3. Abara Winston, Coleman Jason, Fairchild Amanda, White Jacob. A faith-based community partnership to address HIV/AIDS in southern USA. *J Reli Heal.* 2015;54(1):12-133.
4. UNAIDS. Epidemiological fact sheets on HIV/AIDS sexually transmitted diseases: Nigeria; 2008. Available:<http://www.who.int/hiv/pub/epidemiology/pubfacts/en>

5. World Health Organisation; 2017. Accessed 17.01.2018. Available:<http://www.who.int/gho/hiv/en/>
6. Kanki PJ, Adeyi O. AIDS in Nigeria: A nation on a threshold. APIN, Ibadan; 2006.
7. USAID. HIV-related knowledge and behaviours among people living with HIV in eight high HIV prevalence countries in sub-Saharan Africa, DHS analytical studies 29; 2012.
8. UNAID. HIV/AIDS country data; 2018. Accessed 18.02.2018. Available:<http://www.unaids.orgs/en/region/scountries/nigeria>
9. Avert; 2017. Accessed 18.02.2018. Available:<http://www.avert.org/professionals/hiv-around-world/sub-saharan-africa/nigeria>
10. NACA. GARPR; 2015.
11. CDC HIV among women; 2017. Accessed 18.02.2018. Available:<https://cdc.gov/hiv/group/gender/women/index.html>
12. Ahmed Lutalo, Wawer M, Serwadda D, Sewankambo NK, Nalugoda F, Makumbi F, Wabwire-Mangen F, Kiwanuka N, Kigozi G, Kiddugavu M, Gray R. HIV incidence and sexually transmitted disease prevalence with condom use: A population study in Rakai, Uganda. AIDS. 2001;15(16):2171-2179.
13. Cayley WE, Jr. Effectiveness in the use of condom in reducing heterosexual transmission of HIV. Am Fam Physician. 2004;70(7):1268-1269.
14. Paz-Bailey G, Koumans EH, Sternberg M, Pierce A, Papp J, Unger ER, Sawyer M, Black CM, Markowitz LE. The effect of the correct and consistent use of condom on chlamydial and gonococcal infection among urban adolescents. Arch. Pediatr. Adolesc. Med. 2005;159(6):536-542.
15. WHO: HIV disclosure; 2013. Available:<http://apps.who.int/adolescent/hiv-testing-treatment/page/disclosure>
16. Federal Ministry of Health (Nigeria) (2013): National HIV/AIDS Reproductive Health Survey, 2012.
17. Callegari L, Harper CC, van der Straten A, Kamba M, Chipato T, Padian NS. Consistent condom use in married Zimbabwean women after a condom intervention. Sex Trans Dis. 2008;35:624-630
18. Hardee K, Gribble J, Weber S, Manchester T, Wood M. The creation and evolution of the ABC approach. Washington, DC: Population Action International; 2008.
19. Wilson D. Partner reduction and the prevention of HIV/AIDS. BMJ. 2004;328:848-849
20. USAID. The ABCs of HIV prevention: Report of a USAID technical meeting on behaviour change approaches to primary prevention of HIV? AIDS. Washington DC: USAID; 2002.
21. Sinding S. Does 'CNN' (condom, needles and negotiation) work better than 'ABC' (abstinence, being faithful and condom use) in attacking the AIDS epidemic? Int fam plan pers. 2005;31(1):38-40.
22. Stulman M. The flawed ABCs of PEPFAR: FPIF commentary. Foreign Policy in Focus; 2007. Available:<http://www.fpif.org/fpiftxt/4484>
23. Green E. Commentary: ABC or A through Z? AIDS Link. 2003;18(1). <http://www.globalhealth.org/publications/content.php3?id=1&issue=81>
24. Adebawale AS, Titiloye M, Fagbamigbe AF, Odunayo JA. Statistical modelling of social risk factors for sexually transmitted diseases among youths in Nigeria. Afr J Repro Health. 2013;17(3).
25. Olley BO, Rotimi OJ. Gender differences in condom use behaviour among students in a Nigerian university. Afr J Repro Health, 2003;7(1):83-91.

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*Peer-review history:*  
The peer review history for this paper can be accessed here:  
<http://www.sciencedomain.org/review-history/23907>