



Influence of Gender and Demographic Variables on Awareness of Secondary School Students on HIV/AIDS Infection in Abuja, Nigeria

ANETOR, GO

Department of Public Health Science, Faculty of Health Sciences, National Open University of Nigeria (NOUN), Abuja
Email: yahuanet@yahoo.com
Tel: +2348033635551

ABSTRACT: In many parts of the world, HIV/AIDS has gained pandemic dimension covering large areas and continues to spread. There are reports that worldwide, 45% of people contracting HIV/AIDS are adolescents aged between 15 and 24 years. The presence of HIV/AIDS epidemic in Nigeria elicited similar response to that experienced by many countries in Africa, and indeed, the world: denial, acceptance and finally actions to fight the scourge. Since adolescents appear to be vulnerable to HIV/AIDS infection, this study ascertained the knowledge of HIV/AIDS infection among secondary school students in Abuja. A descriptive survey design was employed. Using multistage sampling technique, 602 senior secondary school students in Abuja were selected to participate in the study. A self-developed validated questionnaire was used to collect data and data was analysed using mean, frequency counts, percentages to describe the data and ANOVA, t-test and regression were used to analyse hypotheses and question set at 0.05 significant level. The major findings were that the students of older age group had knowledge of HIV/AIDS ($p < 0.05$) and the younger age group did not have knowledge; Male students appear more knowledgeable than the female students ($p < 0.05$); gender, class and religion had influence on the knowledge of the students on HIV/AIDS ($P < 0.05$). In conclusion, Gender and Demographic Variables continue to limit the awareness of secondary school students on HIV/AIDS infection. Stakeholders must be involved in the proactive advocacy and education of secondary school students on HIV/AIDS in order to gain adequate knowledge.

DOI: <https://dx.doi.org/10.4314/jasem.v23i1.8>

Copyright: Copyright © 2019 Anetor. This is an open access article distributed under the Creative Commons Attribution License (CCL), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Dates: Received: 13 December 2018; Revised: 17 January 2019; Accepted 22 January 2019

Keywords: knowledge, HIV/AIDS, secondary schools, infection, Abuja

According to National Agency for the control of AIDS (NACA, 2016), Nigeria has the second largest HIV epidemic in the world of which 60% is among young people. With adolescence comes an increase in risk taking. Given the freedom to experiment, adolescents often take careless risks as well indulging in substance abuse and violence which leads to grim consequences some of which can be an infection with Human Immunodeficiency Virus (HIV)/ Acquired Immune Deficiency Syndrome (AIDS) (World Health Organisation (WHO), 2008). In many parts of the world, HIV/AIDS has become a pandemic. Large areas are affected and the pandemic continues to spread (Kibombo, Neema and Ahmed, 2007; Ebeniro, 2010; Janckie, Garegae and Tshako, 2011). Durojaiye (2009) reports that worldwide, 45% of people contracting HIV/AIDS are adolescents aged between 15 and 24 years. This is supported by other researchers who have found that adolescents aged 15 to 24 years constitute the largest population of HIV infected subjects (Ebeniro, 2010). The presence of HIV/AIDS epidemic in Nigeria elicited similar response to that experienced by many countries in Africa, and indeed, the world: denial, acceptance and

finally actions to fight the scourge. However, in the case of HIV/AIDS in Nigeria, the denial phase was too prolonged, the acceptance too reluctant, and the actions have been too weak to deal with the scale of the epidemic. Although HIV/AIDS spreads across social status, ethnic groups, race and religion, some conditions predispose some people to become more vulnerable to infection than others. In the forefront of these conditions are low levels of literacy, harmful cultural practices, poor health seeking behaviour as well as limited access to information and health services (Bamise, 2011). The World Health Organization (2018) defines *adolescence* as a transitional phase of growth and development between childhood and adulthood. WHO defines *an adolescent* as any person between ages 10 and 19 years. Adolescents are essential to man power development and technological advancement in Nigeria, HIV epidemic is on the increase among this vulnerable group due to lack of sexuality education and rightful intervention programs. The magnitude of the HIV epidemic as well as the prevailing lack of sexual health interventions targeting young people in

sub-Saharan Africa calls for a wider awareness and strategic approach-based advocacy.

Therefore, the objective of this study was to ascertain the influence of gender and demographic variables on the awareness of Secondary School Students towards HIV/AIDS Infection in Abuja, Nigeria.

This is deemed appropriate because young adolescents appear to be vulnerable at their stage of life to HIV/AIDS. Secondary school students are at the stage of adolescence and at this stage, they are affected by various transformations including physical, emotional and social changes and as well as peer pressure. With these come experimentation which subjects them to risky behavior that may expose them to HIV and AIDS. It is anticipated that the result of this study may be a basis for further education in areas of sex and health education for the adolescents.

MATERIALS AND METHODS

Description of study area: Abuja is the Federal capital Territory of Nigeria with an area of 7315km². It is bounded on the north by Kaduna State, the west by Niger State, the east and southeast by Nasarawa State and the southwest by Kogi State. Abuja is divided into 6 area councils which are each subdivided into wards headed by local councils. The councils are: Abuja municipal area council (Amac), Abaji area council, Gwagwalada area council, Kuje area council, Bwari area council and Kwali area council. The Minister of the Federal Capital Territory is the overall leader and is appointed by the President of Nigeria.

Ethical consideration: An ethical approval to carry out this study was gotten from Secondary School Education Board (SEB), Abuja. The descriptive survey design was used for the study and a multistage sampling technique was used to select the sample size for the study. Only government secondary schools in SS1 & 2 participated in this study. Inclusion criteria: Only Senior Secondary School students were included in this study because most of them were teenagers and were considered mature enough to be part of the study. Also, students in Senior Secondary 3 (SS3) were exempted from the study because they were writing West African Examination Council (WAEC) at the time this study was being carried out.

The multistage sampling was as follows: *Stage one:* The six area council in Abuja was divided into 3 strata with two councils in each stratum. Then one council was randomly selected from each stratum;

making 50% selection from the available area council. The selected councils were Amac, Kuje and Bwari.

Stage two: Proportional sampling is used in this stage. 20% from the total number of schools in each selected area council was selected to participate in this study to allow for a robust coverage of schools. Amac 21 schools; so 4 schools made up 20%; Kuje had 5 schools, so 1 school made up 20%; Bwari had 10 schools, so 2 schools made up 20%. This made a total seven (7) schools to participate (4 schools from Amac, 1 school from Kuje area council and 2 schools from Bwari area council).

Stage three: Simple random sampling was then used to select the schools to participate from each area council. The selected schools are (i) AMAC- i, Maitaima army day secondary school (Maitaima ADSS) (ii). Wuse II government day secondary school (Wuse II GDSS) (iii). Asokoro army day secondary school (Asokoro ADSS) (iv). Kabusa government secondary school (Kabusa GSS) (v). BWARI AREA COUNCIL - Mpape government secondary school (Mpape GSS) (vi). Jibi government secondary school (GSS Jibi) (vii). KUJE AREA COUNCIL- Pegi government secondary school (Pegi GSS)

Stage four: In the selected schools, respondents were sorted using stratified sampling. The population is already into groups or strata of SSS1-SSS3. SSS3 students would be exempted from this research because they are undertaking external examination, thus only SSS1 and SSS2 students will be asked to participate in this research.

Stage five: 20% of student population from each selected school will be selected for the study in order to get a large enough sample size (proportional sampling method) and also to take care of attrition.

Stage six: Simple random sampling will be used to select the calculated 20% of students to participate in the study. At the end of sampling, 607 students were selected but the study was concluded with 506 participants (16% attrition rate). Table one below shows the final selection of students that participated in the study: The research instrument was a self-developed validated questionnaire with coefficient (r) was 0.87. The questions were divided into the following parts:

Section I: Socio-demographic data: There were five questions in this part. The questions include gender, age, religion, class and school.

Table 1: Selection of Participants

Area Council	Number of school in each Council Area	Number of schools to participate (20% proportional sampling)	Total number of students in each school	Number of students to participate (20% proportional sampling)
AMAC	21	4	i. Maitama ADSS 309 ii. Wuse II GDSS 348 iii. Asokoro ADSS 359 iv. Kabusa GSS 484	i. 61 ii. 70 iii. 71 iv. 97
KUJE	7	1	Pegi GSS 530	i. 110
BWARI	11	2	i. Mpape GSS 366 ii. Jibi GSS 628	i. 73 ii. 125
TOTAL	39	7	3044	607

Source: Field Survey, 2018

Section II: Knowledge on HIV/AIDS infection: There were ten questions in this part and were asked to know the general knowledge of secondary school students about HIV/AIDS infection. 6 of the questions were multiple choice while 4 questions were dichotomous. A correct answer for each question was given 1 score and 0 score for a wrong answer. Two research assistants were employed to assist with the collection of data.

Data Analysis: Data analysis was employed using statistical package for social science (SPSS). The data were analyzed using frequency counts, means and percentages to summarize and describe data, while T-test and ANOVA were used to determine relationships at 0.05 significant level.

RESULTS AND DISCUSSION

Table 2 shows the total number of 197 males and 309 females took part in the study of which 38.9% were males and 61.1% females as shown in the table above. The total number of 367 Christians and 139 Muslims took part in the study. The greater number of participants came from 14-15 age group and the smallest from 12-13 age group. This study investigated the knowledge of HIV/AIDS infection

among secondary school students in Abuja. The result of the sociodemographic variables (table 2) in this study showed a total of 506 senior secondary school students took part in this study. The sociodemographic data (table 2) shows that more females participated in this study than males. This may be because the males have already erroneously developed the mentality that females are to be more concerned with HIV/AIDS than males. This finding confirms the finding of DiCarlo et al (2014) where they reported that in Lesotho, men generally are not well disposed to any discussion or tests relating to HIV/AIDS like their female counterpart. Another plausible reason for more females than males in the study is because generally, there are more female students than males in the schools. The religion of the students fall under the two dominant religious group in the country-Christianity and Islam. Although, the Christians were more in this study, the two religions tend to have the same moral values of premarital abstinence and the students are expected to put their religious values to play and may have had pre-knowledge of HIV/AIDS from their churches and mosques. The sociodemographic table also shows that the highest age group of the students that participated in this study were between the ages of 14 – 17 years.

Table 2: Sociodemographic variables

Gender	ADSS Maitama	GDSS Wuse II	ADSS Asokoro	GSS Kabusa	GSS Mpape	GSS Jibi	GSS Pegi	Total	%
Males	23	20	27	31	27	37	32	197	38.9
Females	28	37	32	53	36	64	59	309	61.1
Religion	ADSS Maitama	GDSS Wuse II	ADSS Asokoro	GSS Kabusa	GSS Mpape	GSS Jibi	GSS Pegi		
Christians	35	48	56	49	34	67	78	367	72.5
Muslims	16	10	3	31	29	37	13	139	27.5
Age	ADSS Maitama	GDSS Wuse II	ADSS Asokoro	GSS Kabusa	GSS Mpape	GSS Jibi	GSS Pegi		
12-13	1	3	2	1	0	3	0	10	1.98
14-15	24	34	17	33	21	43	36	208	41.11
16-17	23	18	21	28	25	47	29	191	37.75
18-abv	5	3	19	18	15	11	26	97	19.17
Arms of classes	ADSS Maitama	GDSS Wuse II	ADSS Asokoro	GSS Kabusa	GSS Mpape	GSS Jibi	GSS Pegi		
SSS1	25	36	26	40	39	49	48	263	51.97
SSS2	26	21	33	44	24	52	43	243	48.02

H₀₁: There will be no significant difference in knowledge of HIV/AIDS infection among secondary school students in Abuja.

Table 3: Knowledge of HIV/AIDS infection among secondary school students in Abuja

Students' Age	Score (%)	F-stat	P-value
12-13	47.28	16.19	.000
14-16	52.19		
16-17	63.89		
18+	87.51		
Average score	62.72		

Table 4: Regression analysis of Students' Age on Knowledge of Transmission of HIV/AIDS Infection

Model	Unstandardized Coefficient		Standardized Coefficient	T	Sig.
	Beta	Std. Error	Beta		
(Constant)	9.453	3.730		4.113	.000
12-13	-.153	.408	.026	-.372	.711
14-16	.254	.454	.491	4.970	.013
16-17	1.971	.478	.365	4.127	.003
18+	1.743	.346	.128	1.667	.002

This age group is very important to this study because studies have shown that this age group tend to have much of Sexual curiosity, leading to sexual activities and sexual risks; also mental and emotional instability (Kar, Choudhury, and Singh, 2015). The table also shows the number of students in SSS 1 and SSS11 that participated in the study; the number is relatively close enough for comparison. Table 3 above shows the general knowledge on HIV/AIDS infection among secondary school students in Abuja. The average score of 62.72% reveals that students' knowledge increased with age classification and F-statistics (16.19) carried out shows that there is significant knowledge of HIV/AIDS infection among secondary school students in Abuja signifying that null hypothesis is thereby rejected. Dependent variable: Knowledge of transmission of HIV/AIDS infection: Table 4 above further shows the relative knowledge of each of the age groups on the basic knowledge of transmission of HIV/AIDS, i.e. 12-13 ($\beta = -.026$; $p > .05$); 14-16 ($\beta = .491$; $p < .05$); 16-17 ($\beta = .365$; $p < .05$) and 18+ ($\beta = .128$; $p < .05$). Hence, while age group 14-16, 16-17 and 18+ were significant, 12-13 years was not. This implies that students in the category of 18+ had basic knowledge of transmission of HIV/AIDS infection, followed by age group 16-17 and then 14-16 but only 12-13 had no knowledge of transmission. This may be due to the age bracket they fall into and the level at which they can understand concepts. The first hypothesis (table 3) tested the knowledge of the students on HIV/AIDS infection. The Null hypothesis was rejected ($p < 0.05$) and the alternate hypothesis upheld: that is there is knowledge of HIV/AIDS infection among the students. The regression analysis carried out (table 4) further shows that the youngest age group (12-13 years) did not have knowledge of HIV/AIDS. This implies the need of sexuality, sex and sexually transmitted disease

education for the students especially in this age group. This is very important as the National Agency for the Control of AIDS (NACA) reported in 2016 that there is no available data for the children between 10 – 14 years infected by AIDS in Nigeria (NACA, 2016). Thus, prevention is really important and research should be encouraged targeting the statistics of HIV/AIDS among this age group and impacting knowledge with the knowledge of HIV/AIDS. Table 5 above shows the t-test analysis between male and female students on knowledge of HIV/AIDS infection. The results reveal higher mean score recorded on the knowledge of HIV/AIDS infection in male students ($X = 18.06$) than the female students ($X = 15.28$), indicating that male students are more expose to knowledge of HIV/AIDS than their female counterpart. Calculated t-value (79.86) is greater than critical t-value (1.96). Therefore, null hypothesis is rejected. It implies that gender significantly influenced secondary school students' knowledge of HIV/AIDS infection. The second hypothesis (table 5) examined the influence of gender on the knowledge of HIV/AIDS. Surprisingly, the males appeared to have more knowledge than the females. This is surprising because the students are age group and are at the same educational level. This finding is at variance with the finding of Burgoyne and Drummond (2008) when they attributed the more knowledge of HIV/AIDS among men to illiteracy level among the women. The difference in gender knowledge here may be related to a higher curiosity of the males and may also be due to a better cultural and social exposure on the part of the males.

- (a) Predictors: (Constant), 12-13, 14-16, 16-17, 18+
- (b) Dependent variable: Knowledge of transmission
 $R = .752^a$, $R^2 = .566$; Adj. $R^2 = .437$

Table 5: T-test Analysis between Gender and Students' Knowledge of HIV/AIDS Infection

Gender	N	\bar{x}	S.D	Calculated t-value	Critical t-value	P Sig.(2-tailed)	Decision
Male	197	18.06	3.10	79.86	1.96	0.030	Reject H_0
Female	309	15.28	2.51				

$p < 0.05$

Table 6. Regression of Students' Ages on Basic Knowledge of Transmission of HIV/AIDS Infection

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	25.686	5	6.466	19.069	0.03 ^a
Residual	465.769	500	3.105		
Total	491.455	505			

Table 7: T-test Analysis between Students' Religion and knowledge of HIV/AIDS Transmission

Religion	N	\bar{X}	S.D	Calculated t-value	Critical t-value	P Sig.(2-tailed)	Decision
Christian	367	14.52	2.83	321.26	1.96	0.003	Reject H_0
Muslim	139	9.59	2.31				

$*p < 0.05$

Table 8: T-test Analysis between SS1 and SS2 Students on Knowledge of Transmission of HIV/AIDS Infection

Class	N	\bar{X}	S.D	Calculated t-value	Critical t-value	P Sig.(2-tailed)	Decision
SS1	263	40.91	7.43	182.05	1.96	0.020	Reject H_0
SS2	243	39.08	7.10				

$*p < 0.05$

From table 6 above, value of R-square is .566 shows that 56.6% variation in students' knowledge of transmission of HIV/AIDS infection due to their ages. F-statistics were carried out to find the overall strength of the model. The value of F-statistics 19.069 shows that there is significant effect of students' basic knowledge of transmission of HIV/AIDS as regards their ages. H_{02} : Gender will not significantly influence the students' knowledge of HIV/AIDS infection

From table 7 above, the results indicate higher mean score recorded on knowledge of transmission of HIV/AIDS infection of Christian students ($\bar{X} = 14.52$) than that of the Muslim students ($\bar{X} = 9.59$), the t-value (321.26) is higher than the critical t-value at 0.05 level of significance (1.96). Thus, the null hypothesis is rejected. This implies that knowledge on the transmission of HIV/AIDS infection between Christian and Muslim students is on the high side. The difference that occurred may be due to the religious beliefs of some students. Table 8 above shows the t-test statistical procedure, the calculated t-value of 182.05 is greater than the critical t-value of 1.96. Also, the observed probability of 0.020 is less than 0.05 probabilities for a 2-tailed test. Hence, the null hypothesis is rejected. This implies that both students in SS1 and SS2 had knowledge of transmission of HIV/AIDS infection. The slight mean difference between the classes may be the level at which they understand the concept. The analysis that

examined the influence of demographic variables (age, class, religion) on the knowledge of HIV/AIDS is shown in tables 6, 7 & 8. The tables showed that age, class and religion had influence on the knowledge of HIV/AIDS by the students. The age as discussed earlier showed that the older age groups of students had better knowledge concerning what HIV/AIDS. The regression analysis on table 6 further revealed the significance of age on the knowledge of HIV/AIDS. The t-test analysis of the effect of religion on HIV/AIDS (table 7) shows that the Christians contributed a higher mean to the knowledge of HIV/AIDS. This finding also suggests the need for more advocacies from religious leaders. In a previous study, Oluduro (2010) emphasized the need of proactive advocacy by religious leaders in the churches and mosques to combat HIV/AIDS infection. The advocacy will widen the knowledge of everyone but if taken directly to the secondary schools, the students will have more knowledge. With this finding, it may appear that the churches may have gotten more involved in this HIV/AIDS education and awareness. In considering the class of study influence on HIV/AIDS (table 8), the t-test analysis showed that the students in SS1 appear to have contributed a higher mean in knowledge implying better understanding of HIV/AIDS. This again, is very surprising as one would have expected the students in the higher class (SS11) to be the ones with the higher knowledge. The difference in this finding may have been contributed by a particular

school or schools; this study has the limitation of not checking school by school contribution to the class knowledge difference. It is thus suggested as an area of further study.

Conclusion: There is still lack of sufficient knowledge among secondary school students concerning HIV/AIDS infection; gender and sociodemographic variables significantly contribute to the awareness of HIV/AIDS infection. This calls for more proactive advocacy on all stakeholders (teachers, religious groups, parents, and government and non-government organizations-NGOs) to educate adolescents on HIV/AIDS so that the disease can be more prevented in Nigeria.

Acknowledgements: My special thanks go to Juliet Onwughalu for her tremendous assistance in carrying out this study. Also to Mr Saheed Kolawole who analyzed the data used.

REFERENCES

- Bamise, OF; Bamise, CT; Adedigba, MA (2011). Knowledge of HIV/AIDS among secondary school adolescents in Osun state, Nigeria. *Niger J. Clin. Pract.* 14:338-344.
- Burgoyne, AM; Drummond, PD (2008). Knowledge of HIV and AIDS in women in sub-Saharan Africa. *Afr. J. Reprod. Health.* 12 (2):14-31.
- DiCarlo, AL; Mantell, JE; Remien, RH; Zerbe, A; Morris, AH; Pitt, B; Abrams, BEJ; El-Sadr, W (2014). 'Men usually say that HIV testing is for women': Gender dynamics & perceptions of HIV testing in Lesotho. *Cult. Health Sex.* 16(8): 867–882.
- Durojaiye, CO (2009). Knowledge, perception and behaviour of Nigerian youths on HIV/AIDS. *The Internet Journal of Health.* 9 (1).
- Ebeniro, CD (2010). Knowledge and Beliefs about HIV/AIDS among male and female Students of Nigerian Universities. *Journal of Comparative Research in Anthropology and Sociology.* 1(1):121-131.
- Jankie, D; Garegae, K; Tshako, G (2011). Using focus group interviews to research adolescents 'beliefs and perceptions of sex, sexuality, HIV and AIDS in educational settings: Methodological successes and challenges. *Int. J. of Sci. Res. and Educ.* 4(2):131-141.
- Kar, SK; Choudhury, A; Singh, AP (2015). Understanding normal development of adolescent sexuality: A bumpy ride. *J. Hum. Reprod. Sci.* 8(2): 70–74.
- Kibombo, R; Neema, S; Ahmed, F (2007). Adolescents and their perceptions of HIV/AIDS. *Afr. J. of Reprod. Health* 11(3):168-181.
- The National Agency for the Control of AIDS-NACA. (2016). The National HIV Strategy for Adolescents and Young People 2016–2020. From https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_532857.pdf. Accessed may 4, 2018.
- Oluduro, O (2010). The Role of Religious Leaders in Curbing the Spread of HIV/AIDS in Nigeria. *PER / PEL J* (13)3:208/508.
- World Health Organisation (2008). *World Health Statistics 2008*. ISBN 978 92 4 0682740.
- World Health Organization. (2018). [WHO Health Statistics 2018 - From <http://apps.who.int/iris/bitstream/handle/10665/272596/9789241565585-eng.pdf>](http://apps.who.int/iris/bitstream/handle/10665/272596/9789241565585-eng.pdf). Accessed May 2, 2018.