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Original Research

Attitudes and Beliefs about HIV/AIDS and their Relationships with Sexual Practices among Senior Secondary School Students in Abakaliki, Ebonyi State, Southeast Nigeria.

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Abstract

Background: Attitudes and beliefs regarding HIV among adolescents and young adults (AYA) may influence practices that increase the risk of HIV transmission. The study aimed to determine the attitudes and beliefs regarding HIV among senior secondary students and their sexual practices.

Methodology: It was a cross-sectional descriptive study that involved 1,200 adolescents and young adults (AYA) aged 14-24 years in senior secondary schools in Abakaliki. Information was obtained using a two-part pre-tested questionnaire that tested attitudes and beliefs regarding HIV using a 6-item questionnaire and another part sought information on biodata and sexual practices. The p-value of < 0.05 was statistically significant.

Results: The median (IQR) age of participants was 16.0 (9.0) years, and the majority (64.4%, 773/1,200) were females with a male-to-female ratio of 1.0: 1.8. Seven hundred and thirty (60.8%) had positive attitudes and beliefs towards HIV. Although 628 (52.3%) were willing to be tested for HIV, only 25.6% (307/1,200) have ever been tested for HIV. Three hundred and fifty-five (29.6%) of them had engaged in sexual activities, of which 145 (12.1%) had multiple sexual partners. There were significant relationships between attitude, beliefs, and age ((χ^2= 39.69. p = <0.001), willingness to test for HIV (χ^2 = 10.20. p= 0.002), and having multiple sexual partners (χ^2= 5.49, p= 0.019).

Conclusion: Positive attitudes and beliefs regarding HIV were high but were not reflected in their practices. Sustained efforts toward effective HIV-related health education in schools and improved adolescent-friendly health services where HIV screening is readily accessible are recommended.

Keywords: *Adolescent; Attitude; Beliefs; HIV; Practices; Schools; Young Adults.*

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Introduction:

Of the global HIV burden, sub-Saharan Africa harbours a large population of people living with HIV and by extension, a large population of adolescents living with HIV.[1] It is estimated that about 1.9 million people are living with HIV in Nigeria with a national prevalence of 1.4%;[2] and the HIV prevalence of adolescents in Nigeria is estimated to be between 1.3% and 3.5%, the highest prevalence observed among countries in West and Central Africa.[3,4] The adolescent phase of life is marked by high levels of risk-taking and experimentation.[5,6] These risk-taking and experimentation adventures such as alcohol intake, substance abuse, multiple sexual partners, and indulging in unprotected sexual practices enable HIV transmission.[7] Previous studies showed that adolescents and young adults who have adverse health beliefs and misconceptions about HIV were most likely to engage in risky behaviors as they do not perceive themselves to be at risk. [8] This engagement in risky sexual behaviours increases the spread of the virus to their peers.

The majority of sexual experiences occurring among adolescents are unprotected.[7,9] This increases the risk of transmission of sexually transmitted diseases (STDs) such as HIV. Of note is that a significant proportion of adolescents are ignorant of the benefits of condom use, some cannot afford it, and others claim it decreases sexual pleasure.[7,9] Similarly, some authors observed a substantial prevalence of non-use of condoms and multiple sexual partners among senior secondary students.[10]

Negative perceptions/beliefs about HIV and people living with HIV are common among adolescents and young adults, and these influence their responses to HIV testing. [10] These negative attitudes and beliefs toward HIV transmission may make it difficult for them to access HIV testing services even when they are available. The reported rate of HIV testing among young adults in Nigeria is between 16-23.7%. [11] The low rate of HIV testing for adolescents and young people may encourage the spread of HIV infection as undiagnosed HIV-infected adolescents and young adults may not see the need to access care as long as they remain healthy.

Previous studies assessed knowledge, attitude, and practice regarding HIV prevention among adolescents. There is a dearth of information on the possible relationship between attitudes, beliefs, and practices that may influence HIV transmission among senior secondary school students. This study, therefore, aimed to assess attitudes and beliefs regarding HIV and their relationship with practices that affect HIV transmission. It is hoped that the information obtained from this study will be beneficial in extensive health education programs on HIV in secondary schools.

Methodology

This was a cross-sectional study conducted in secondary schools in Abakaliki, the capital of Ebonyi State. Abakaliki metropolis comprises of 2 Local government areas (LGA), which are Ebonyi and Abakaliki LGAs. The metropolis has a total of 28 public schools (11 in Ebonyi and 17 in Abakaliki LGAs). The schools that had infrastructure (separate tables and chairs for students), mixed and had the needed population of 600 and above of senior secondary students were considered for the study. Only two schools in Ebonyi and three in Abakaliki LGAs met this inclusion criteria. A school was selected by balloting from each LGA, making it a total of two public schools used for the study. The recruitment of students in each of the selected schools was by multistage random sampling. All senior secondary school students in selected schools aged 18 and above who gave consent to the study and those below 18 years of age, whose parents gave informed consent were included in the study.

The sample size was calculated using Cochran's formula for determining the prevalence of a condition in a single population.[12] The proportion of students with the desired characteristics in the population, taken to be 50% (0.5), and the desired level of precision, set at a 97% confidence interval, which equals 0.03.

The initial sample size obtained was 1,067. The study assumed a non-response rate of 10%, this brought the sample size to 1,186. The minimum sample size was therefore approximated to 1,200 students.

The sample size of 1,200 was shared with the two selected schools by proportion of the school population. From the arms (SS1-SS3), a class was selected by ballot, and students were recruited by a multistage stratified random sampling technique until the sample size was met.

The questionnaire was self-administered but the researcher and assistants were available to clarify any ambiguity experienced by participants. The questionnaire had three sections: biodata, questions on attitudes and beliefs, and practices regarding HIV.

The attitudes and beliefs were assessed using a 6-item scale questionnaire. For the validation of the study tool, a pretest was carried out in a different public school not selected for the study using 2% (24 students) of the sample size. The questionnaire was structured similarly to other known tools such as Rosenberg's self-esteem tool; which is a 10-item questionnaire with a 4-point Likert scale.[13] The six-item tool used in the index study comprised six questions used to assess the student's positive or negative attitudes and beliefs regarding HIV. Each question is answered using a 5-point Likert scale as follows; 4 (Strongly agree), 3 (agree), 2 (undetermined), 1 (disagree), and 0 (strongly disagree). For the positive questions (questions 1, 2, 3), scores are allotted in descending order from strongly agree to strongly disagree (4 to 0). In contrast, for negative questions (questions 4-6), scores are allotted in descending order from strongly disagree to strongly agree (4-0). The total scores were summed ranging from 0-24 and interpreted as follows; scores of 12 and above denoted positive attitudes and beliefs while scores below 12 represented negative attitudes and beliefs.

The students' practices concerning HIV prevention were also assessed. Students were asked about their willingness to be tested for HIV, whether they have ever been tested for HIV, whether they engaged in sexual practices if they had multiple sexual partners, and the use of condoms during sexual practices. The students were not required to write their names on the questionnaire, as such,the information obtained was not traceable to the students. Hence, they were encouraged to be as sincere as they could

Information about the father's occupation and mother's literacy level was sought and obtained from the students and was used to classify the students into upper, middle, and lower socio-economic classes as documented by Oyedeji *et al*. [14]

All data collected was analyzed using Statistical Package for Social Sciences (SPSS) version 26. Categorical data was represented in frequency tables and charts. The difference in proportions between the two groups and a test of association was done using a bi-variate Chi-square test. A p-value of less than 0.05 will be considered statistically significant.

Ethical Considerations

Ethical approval was obtained from the Health, Research, and Ethics Committee (HREC) of Alex Ekwueme Federal University Teaching Hospital Abakaliki. The HREC approval number is NHREC/16/05/22/282. Approval was also obtained from the Senior Secondary Education Board in the state and permission was obtained from the principals of the selected schools before data collection. Through the schools' moral instructors, consent was obtained from the parents/ legally authorized caregivers of the students who were recruited to be part of the study. Participants were free to withdraw from the study at any time, even after having consented initially, and this did not attract any punitive measures from the school authorities. Confidentiality and Privacy were maintained throughout data collection and management.

Results

Of the 1,200 study participants, 687 (57.3%) were aged 14-16 years. More females than males were enrolled in the study with a male-to-female ratio of 1:1.8. The majority (952/1 200, 79.3%) of the students were from lower socio-economic classes. [Table 1]

Table 1: Socio-demographic characteristics of study participants

Socio-demographic characteristics	Frequency	Percentage
Age (in years)		
14-16	687	57.3
17-19	442	36.8
20-24	71	5.9
Gender		
Male	427	35.6
Female	773	64.4
Class		
SS 1	426	35.5
SS 2	411	34.3
SS 3	363	30.2
Socio-economic Class		
Upper	42	3.5
Middle	206	17.2
Lower	952	79.3

More than half of the students disagree (24.7%) and strongly disagree (31.3%) about sharing a room or personal items with an HIV-infected person. Similarly, 41.3% (495/1,200) and 17.1% (205/1,200) strongly disagreed and disagreed with continuing in a school if half of their teachers were HIV-positive. However, more than half of them (55.8%, 670/1,200) agreed that HIV is common among the youth, and the majority (76.0%, 912/1,200) disagreed with the statement that HIV does not exist. Also, the majority (62.4%, 749/1,200) strongly disagreed that the information on HIV was to make them not enjoy themselves. A total of 730 (60.8%) out of the 1,200 students had positive attitudes and beliefs about HIV infection. [Table 2]

Table 2: Assessment of Attitudes and beliefs regarding HIV infection among Senior secondary school students

Assessment of Attitude and Beliefs on HIV among students	SA (%)	A (%)	U (%)	D (%)	SD (%)
Can you share a room or personal items with an HIV-infected person?	190 (15.8)	238 (19.8)	101 (8.4)	296 (24.7)	375 (31.3)
Would you continue in this school if half of your teachers were HIV positive	296 (24.7)	137 (11.4)	67 (5.6)	205 (17.1)	495 (41.3)
HIV is common among youth	670 (55.8)	230 (19.2)	36 (3.0)	123 (10.3)	141 (11.8)
HIV does not exist	100 (8.3)	52 (4.3)	43 (3.6)	93 (7.8)	912 (76.0)
HIV is not a disease of black people	77 (6.4)	267 (22.3)	156 (13.0)	176 (14.7)	524 (43.7)
All the information being said about HIV is to make us not enjoy our lives	206 (17.2)	78 (6.5)	16 (1.3)	151 (12.6)	749 (62.4)
Positive Attitudes and Beliefs	730 (60.8%)				
Negative Attitudes and beliefs	470 (39.2%)				

*SA-strongly agree, A-agree, U-undetermined, D- disagree, SD-strongly disagree

Positive attitudes and beliefs about HIV were observed to be more among female students (61.4%, 475/773), those within the 14-16 years age bracket (432/687, 62.9%), and students from upper socio-economic class (38/42, 90.5%). However, only the age (χ^2 = 6.43. p=0.040) of the participants had a significant relationship with their attitudes and beliefs about HIV. [Table 3]

Table 3: Relationship between attitude and beliefs of students and socio-demographic variables

Variables	Attitudes and Beliefs of Participants		χ^2	P value
	Positive	Negative		
Age bracket (in years)				
14-16	432 (62.9)	255 (37.1)	6.43	0.040
17-19	264 (59.7)	178 (40.3)		
20-24	34 (47.9)	37 (52.1)		
Gender				
Male	255 (59.7)	172 (40.3)	0.35	0.578
Female	475 (61.4)	298 (38.6)		
Class				
SS 1	257 (60.3)	169 (39.7)	1.52	0.470
SS 2	243 (59.1)	168 (40.9)		
SS 3	230 (63.4)	133 (36.6)		
Socio-economic class				
Upper	38 (90.5)	4 (9.5)		
Middle	101(52.9)	90 (47.1)	0.25	0.884
Lower	591(61.1)	376 (38.9)		

Of the 1,200 participants, 628 (52.3%) were willing to be tested for HIV, and only 25.6% (307/1 200) have ever tested for HIV. Three hundred and fifty-five (29.6%) of them had engaged in sexual activities, while 145 (12.1%) of them had multiple sexual partners. A total of 84 (7.0%) agreed to have used a condom during their last sexual experience. [Figure 1]

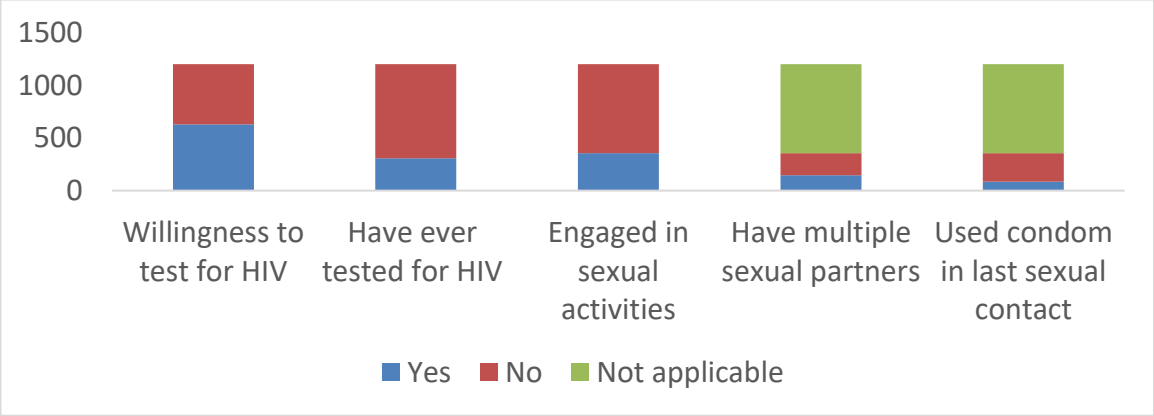

Figure 1: The practices observed in the study participants

Of the 628 students who were willing to undergo HIV screening, 409 (65.1%) had a positive attitude toward HIV and 211 (68.7%) of the 307 (25.6%) who had ever tested for HIV also had a positive attitude toward the infection. The majority (559/845, 66.2%) of students who had never engaged in sexual practices had positive attitudes to HIV while more than half of the students with negative attitudes towards HIV had multiple sexual partners. Only 84 (22.9%) of the 355 who had engaged in sexual practice used condoms in their last sexual experience. There were significant relationships between attitudes and beliefs regarding HIV and willingness to go for the test (χ^2= 10.20, p = 0.002), having engaged in sexual practices (χ^2= 33.94, p = <0.001), and having multiple sexual partners, (χ^2 = 5.49, p = 0.019) as depicted in Table 4.

Table 4: Relationships between attitude and beliefs of students and Sexual practices

Practices	**Attitudes and Beliefs of Participants**		χ^2	**P value**
	Positive	**Negative**		
Willingness to go for an HIV test				
Yes	409 (65.1)	219 (34.9)	10.20	0.002
No	321 (56.1)	251 (43.9)		
Have ever tested for HIV				
Yes	211 (68.7))	96 (31.3)	2.03	0.076
No	519 (58.1)	374 (41.9)		
Tested for HIV in the last year				
Yes	46 (63.0)	27 (37.0)	0.89	0.784
No	684 (60.7)	443 (39.3)		
Engaged in sexual practices				
Yes	171 (48.2)	184 (51.8)	33.94	<0.001
No	559 (66.2)	286 (33.8)		
Number of sexual partners				
Only one	112 (53.3)	98 (46.7)		
More than one	59 (40.7)	86 (59.3)	5.49	0.019
Condom use during sex				
Yes	32 (38.1)	52 (61.9)		
No	139 (51.3)	132 (48.7)	5.53	0.063

Discussion

The majority of adolescents and young adults generally exhibited positive attitudes and beliefs regarding HIV in this study. However, more than half of them displayed attitudes that were discriminatory and stigmatizing to people living with HIV. This was in agreement with that reported by other studies. [10, 15] This may be related to ignorance about HIV, fear of contracting the disease, social and moral perceptions about HIV, and people living with HIV (PLWHIV). This finding is similar to previous authors who reported discriminatory attitudes among family members, communities, and health workers. [16] This was reflected in their refusal to share personal items with HIV-infected persons as observed in the index study, excluding them from family activities and denial of care by the healthcare provider. HIV-related stigma and discrimination have a negative snowball effect on people living with HIV. It predisposes HIV-infected people to psychosocial problems such as anxiety, depression, and low or negative self-esteem, [17] which may eventually result in poor clinic visits, poor adherence to drugs, loss of follow-up, and eventually death from HIV. [18] Some authors, [19] opined that low self-esteem in people living with HIV is the resultant effect of rejection, loss of social identity, and physical consequences of HIV disease. On the other hand, students who exhibit such discriminatory attitudes are generally not inclined to go for HIV screening for themselves, thereby delaying possible HIV diagnosis, initiation to care, and continued spread of the virus.

More than half of the students possessed the right belief system that HIV is common among youths and blacks and that HIV is not a myth. Also, information about HIV is not to deter youth from pleasure but to guide them appropriately. These findings among the students may be the resultant impact of HIV-related knowledge from HIV education in schools. The introduction of family life and HIV education in the school curriculum by the Ministry of Education in Nigeria has helped to create awareness of HIV-related knowledge among students. [20]A similar finding was observed in an earlier school-based AIDS education program conducted among secondary school students in Nigeria. [21]

Negative attitudes and beliefs about HIV were more prevalent in males compared to their counterparts. This agreed with the observation of a study conducted in Botswana among youths living with HIV. [22] They also reported that males are more discriminatory and stigmatized people infected with HIV. This is not surprising as females are inherently emotional and compassionate in their relationships compared to males. Adolescents aged 14-16 years (mid-adolescents) had positive attitudes and beliefs about HIV compared to their older colleagues. This is contrary to earlier authors who reported better attitudes and beliefs in older age groups due to the possibility of older adolescents being more informed about HIV. [23] This bolsters the fact that maturity in age does not always translate to a better attitude and belief.

The willingness to be tested for HIV was observed more in students who had positive attitudes and beliefs. However, only a quarter have ever been tested for HIV during their lifetime. This suggests that the students who were willing to get tested were not afraid of the resulting outcome nor bothered about the stigma that may be associated with a positive result but did not know how and where to get tested for HIV. This is an important finding as lack of access to HIV testing fuels new infections in that it forms a barrier to early diagnosis of HIV and commencement of potent antiretroviral treatment. This retards the possibility of achieving the country's 2025 target of 95% testing rate. This low prevalence of HIV testing (25.6%) in the index study corroborates the findings of previous research on the rate of HIV testing among adolescents and young adults in Nigeria which reported a prevalence of 23.7%. [11]

Prevalence rates of those who engaged in sexual practices and had multiple sexual partners were higher in students with negative attitudes and beliefs about HIV. Their misconception about HIV may have influenced this. The condom use in the index (23.7%) was observed to be poor. This was similar to previous authors that reported 28.7%. [24] but lower than 39.2% reported in Tanzania, [25] and 56.2% of

condom use reported in a study in Cameroun. [10] in 2016. The difference in findings may be attributed to ignorance of its benefits, financial constraints, and inability to access condoms among students in public schools used in the index study. Ironically, the majority of condom use among participants was among students with negative attitudes and beliefs about HIV. It is plausible that these students with negative attitudes and beliefs about HIV may be living in denial and fear of contracting the disease.

Limitation of study

The cross-sectional nature of the study limits its ability to conclusively predict causality. It is also possible that the information obtained through the students' self-administered questionnaires may not reflect their practices. However, the anonymity of the questionnaires hopefully encouraged students to be honest in their responses. Moreso, important findings such as low levels of HIV testing despite their willingness to do so, poor condom use, the relationship between negative attitudes and beliefs, and multiple sexual partners observed in this study might be an invaluable source of information for researchers and policymakers.

Conclusion

The study observed satisfactory positive attitudes and beliefs regarding HIV/AIDS among senior secondary school students. However, some misconceptions about HIV, discriminatory attitudes, engaging multiple sexual partners, and poor condom use observed among the students, call for concern and should be addressed promptly through the re-enforcement of sexual education taught in schools.

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