International Scholars Journals

African Journal of AIDS and HIV Research ISSN 2736-1748 Vol. 12 (8), pp. 001-010, August, 2024. Available online at www.internationalscholarsjournals.org © International Scholars Journals

Full Length Research Paper

Awareness, knowledge and attitude of epidemiological spread of HIV/AIDS among senior secondary school students in Gombe State, Nigeria

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Abstract

Received 1 June, 2024; Accepted 1 July, 2024; Published 13 August, 2024

Adolescence is a period of vulnerability characterized by the onset of multiple risky behaviors, which can lead to an increased risk of engaging in unprotected and multiple sexual experiences. Young people today have access to more sources of information that can improve their knowledge about HIV; however, youth need this information to make responsible choices concerning their sexual behavior. Furthermore, attitudes regarding HIV/AIDS are expected to influence individuals' sexual behaviors. Thus, this study seeks to determine the knowledge and attitudes of students regarding the epidemiological spread of HIV. Data was collected from 100 students via questionnaires. Results from the hypotheses tested reveal: (i) It was analyzed that there was no significant relationship between students' knowledge and their attitude towards HIV/AIDS (T-value = 0.446; df = 99, p > 0.05). Therefore, null hypothesis 1 is not rejected. (ii) It was analyzed that there is a significant relationship between misconceptions about HIV/AIDS and preventive methods (T-value = 0.346; df = 99, p < 0.05). Consequently, null hypothesis 2 is rejected. However, the study established that students' level of misconception about HIV was high. Hence, there is a need for planning programs that focus on strengthening stakeholders to promote HIV counseling and campaigns, especially in schools.

Key words: Awareness, knowledge, attitude, epidemiology, HIV, AIDS, secondary, student.

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INTRODUCTION

Human health is one of the most important factors influencing economic development in any economy (Mutabazi, Esaete & Kansime, 2023). Thus, epidemics do not only affect the health of individuals but also impact households, communities, and the development and economic growth of nations (Alhasawi, Bala, Sadek, Ashoor et al., 2019).

Alarmingly, it is estimated that over 40 million people globally are living with sexually transmitted infections/diseases (STIs/STDs), even though, sexually transmitted infections can be curable or incurable, but are most often modifiable disease or infections which are mainly contracted through unprotected sexual intercourse (Hiv.gov, 2023; WHO, 2023). The curable STIs includes syphilis, gonorrhea and Chlamydia, while the incurable but modifiable STIs includes human papiloma virus, hepatitis B virus, human immune virus (HIV) and herpes virus (Nzoputam, Yakubu, Nzoputam, 2022). Since 1981 when the first cases of AIDs were reported in the united states, HIV/AIDS infection has spread rapidly to many countries over the years (Nubed, Francis & Akoachere, 2016) thus, HIV remains a global public issue, having claimed 40.4 million (32.9 - 51.3 million) lives so far with ongoing transmission in all countries globally; with some countries reporting increasing trends in new infection when previously on the decline (WHO, 2023). It was reported that sub-Saharan Africa accounts for over a half of global population of people living with HIV, making it the continent most affected with HIV/AIDS and other STI/Ds (Nzoputam, Yakubu, Nzoputam, 2022) also, there were an estimated 39.0 million (33.1 – 45.7 million) people living with HIV at the end of 2022, two third of whom (25.6 million) are in the African region (WHO, 2023).

In West Africa, HIV prevalence is low with adult HIV prevalence in the general population estimated at 2% or less, however adult HIV prevalence in Nigeria was estimated at 1.4% among people aged 15 – 49 years in 2018, Nigeria AIDS indicator and impact survey (NAIIS) (Andrew, Adeyemi, Onime, Kalnoky et al., 2023). Nigeria ranks third among the countries with highest number of people living with HIV (Ukaegbu, Alibekowa, Ali, Crape et al., 2022) 80% of new HIV infections are caused by unprotected heterosexual intercourse in Nigeria, with most remaining HIV infection happening in key population (Andrew, Adeyemi, Onime, Kalnoky et al., 2023). The new data differentiate HIV prevalence by state, indicating an epidemic that is having a greater impact in certain areas of the country. The south-south zone of the country has the highest HIV prevalence at 3.1% among adults; it is also high in the North-central zone 2.0% and in the South-east zone 1.9%, however, it is lower in the south-west zone 1.1%, the North-east zone 1.1% and north-west 0.6% (USAIDS, FMOH & NACA, 2019).

According to WHO, 20% of people living with human immune virus and acquired immunodeficiency syndrome HIV/AIDS are in their second decade of life and each year, one out of every twenty young people contract STI (Nzoputam, Yakubu, Nzoputam, 2022), it is estimated that 6,000 – 7,000 teenagers of 15 – 24 years get afflicted with the disease on daily basis, 95% of whom live in developing countries (Dadipoor, Shahsavari, Ghaffari, Rakhshanderous et al., 2019). Lack of knowledge of HIV and its transmission have shown to be a major contributing factor for spread (Ukaegbu, Alibekowa, Ali, Crape et al., 2022). However, it was reported worldwide that over 40% of new infections are among youth who are more prone to HIV infection as well as other sexually transmitted infections. This increased vulnerability results from a lack of correct health information, engagement in risky behaviors, economic exploitation, regional and national conflicts, and a lack of access to adequate reproductive health services. (Nubed, Francis & Akoachere, 2016). Understanding sexually transmitted infections is crucial for preventing their spread especially among secondary school students who, as adolescents are more vulnerable to STIs.

Every day, 5000 young people in the world become infected with HIV, which translates into almost 2million new infection per year (Nubed, Francis & Akoachere, 2016). Thus, school students are the main target group at risk of HIV because they are more prone to developing social relationships and often perceive themselves as not vulnerable to diseases such as AIDS. (Dadi poor, Shahsavari, Ghaffari, Rakhshanderous et al., 2019). Therefore, raising students' level of knowledge about HIV is the most effective and acceptable strategy to prevent the disease. The potential risk of HIV originates from inadequate knowledge of the disease, and involvement in high-risk sexual relationships.

Statement of the Problem

This study is conducted to assess the awareness and knowledge of the epidemiological spread of HIV/AIDS among senior secondary school students. In spite of the awareness about the transmission and prevention of HIV/AIDS through newspapers, magazines, television, and radio, the general observation throughout the world is that the prevalence of HIV/AIDS among adolescents is increasing (Badru et al., 2017). The level of knowledge remains too low in most countries and is far below the goal set at the UN General Assembly Special Session on HIV/AIDS to achieve comprehensive HIV knowledge of 95% by 2010. Statistics show that globally, only an average of 31% of young men and 19% of young women have accurate understandings of the virus, including its transmission and non-transmission routes, spread, and treatment (Dzah, Tarkang & Latala, 2019). This situation now necessitates that the researcher sample senior secondary school students regarding their level of awareness about the epidemiological spread of HIV/AIDS.

Purpose of the Study

To assess the level of awareness of senior secondary school students on the epidemiological spread of HIV/AIDS infections.

Literature review

Human immunodeficiency virus (HIV) is an infection that attacks the body's immune system. HIV targets the body's white blood cells, weakening the immune system (WHO, 2023). This makes it easier to become ill with diseases such as tuberculosis, infections, and certain types of cancer. Furthermore, acquired immunodeficiency syndrome (AIDS) is the most advanced stage of the disease, often characterized by a marked reduction in CD4 cell count to less than 200 cells per microliter. HIV is spread through the bodily fluids of an infected person, including blood, breast milk, semen, and vaginal fluids; however, it is not transmitted through kisses, hugs, or sharing food. It can also be transmitted from a mother to her baby (WHO, 2023).

Conflicting findings were revealed in several studies conducted to assess HIV/AIDS knowledge, awareness, and attitudes. There were misconceptions regarding risky practices as identified by Fana (2021). In spite of the fact that adolescents in school are still under some form of guidance from parents, caregivers, or school authorities, they appear to be influenced mostly by their peers and the environment. As a consequence, they become involved in experimenting with sexuality, sexual orientation, and other new experiences (Iwu et al., 2017). Thus, there has also been a decline in formal sex education provided to young adolescents, specifically on topics discussing abstinence, birth control, and prevention of HIV/AIDS. This situation places Nigeria in a limbo state regarding whether such topics should be discussed openly or not (Badru et al., 2017). This further exposes adolescents to the HIV/AIDS epidemic concerning their degree of vulnerability, transmission risks, and potential for behavioral change (Iwu et al., 2017).

Societal attitudes and misconceptions about sexuality education expose young adolescents to other sources of unreliable information (Badru et al., 2017). However, there is a scarcity of studies addressing knowledge and awareness among high school students (Dzah, Tarkang & Latala, 2019). For individuals, groups, or societies to remain free from HIV/AIDS—since it is incurable—a grassroots campaign aimed at effecting attitudinal change must commence from the family. One group of individuals who have assisted in this campaign is HIV-positive patients who have formed an organization called People Living with AIDS (PLWA). This group is likely to reach most vulnerable populations, particularly youths in their teens; therefore, their efforts can be complemented by the use of counselors in secondary schools. Hence, for effective counseling, there is a need to determine the level of awareness among teenagers regarding the epidemiological spread of HIV/AIDS.

METHODOLOGY

Research Design

The non-experimental descriptive survey method will be utilized in this study because it accurately portrays the characteristics of a person, situation, or group, and the frequency with which certain phenomena occur, especially within the target group.

Study Setting

Billiri Local Government is one of the 11 Local Government Areas in Gombe State, Nigeria. Its headquarters are in Billiri, a town located in the northeast of the area and situated on the A345 highway at coordinates 9°51′53″N 11°13′31″E / 9.86472°N 11.22528°E. It has a land area of 737 km² and a population of 202,144 according to the 2006 census. The postal code for the area is 771. Billiri Local Government is made up of ten wards: Banganje North, Banganje South, Bare Ward, Billiri North, Billiri South, Kalmai, Tanglang, Tal, Todi, and TuduKwaya.

The local government is also divided into two state constituencies, namely Billiri East and Billiri West. Billiri Local Government has significant economic potential that would delight any investor. First, its central location on a federal highway (A345) and other major roads linking it to various parts of the state make it a converging point for high human traffic, which is beneficial for commercial activities.

Sample and Sampling Techniques

Respondents were selected using a convenient sampling technique. The sample size comprises Senior Secondary School students in SSS 3, with a balloting method employed to select 100 respondents from four selected schools in Billiri Local Government Area of Gombe State. In the first school, 25 students from the SSS 3 class were selected, and this process was similarly conducted in the second, third, and fourth schools.

RESULTS

Discussion of findings

The result of the study from Table 2 showed that awareness about HIV/AIDS among these students was high. Almost all the respondents agreed with the statement that HIV is caused by microorganism through unhealthy practices and unprotected sex. However, there were some misconceptions about the means through which HIV can be contracted. This corroborates with Mutabazi, Esaete & Kansime (2023), who ascertained that there were varying levels of awareness among the students.

Table: 1 Showing socio-demographical information of the respondents.

Background	Labels	Frequency	Percentage (%)
1. Age	12-14 years	5	5.0
	15-17 years	38	38.0
	18-19 years	57	57.0
2. Religion	Christianity	82	82.0
	Islam	18	18.0
3. Who are you living with?	Both parents	57	57.0
	Father only	23	23.0
	Mother only	16	16.0
	Others	4	4.0
4. Parent's level of education	No formal education	21	21.0
	Did not complete high school	44	44.0
	Complete high school	19	19.0
	Complete university	16	16.0
5. Parent's occupation	Civil servant	56	56.0
	Unemployed	8	8.0
	Self employed	36	36.0

Regarding HIV/AIDS and the positive impact of the campaign on HIV prevention, there is still a need to intensify and diversify the campaign by exploring other strategies, such as one-on-one interaction and counseling. The results from Table 3 also showed that the majority of these students were afraid of getting infected with HIV, which encouraged them not to engage in risky behavior. The majority had changed their sexual habits due to HIV campaigns and now practice safe sex. However, some students believe that they have heard enough about HIV/AIDS.

According to Nubed, Francis, and Akoachere (2016), young people are particularly vulnerable to HIV/AIDS because of physical, psychological, and social factors that often increase their vulnerability to the virus. Therefore, more attention is needed to achieve global targets aimed at ending this epidemic. Similarly, Yaya, Ghose, Udenigwe, Sha et al., (2019), Dzah, Tarkang & Latala (2019), and Fana (2021) also contributed to the notion that information disseminated through advertising and social marketing proves to be effective in promoting more favorable attitudes and intentions toward engaging in unprotected sex. The results also revealed misconceptions about HIV among the students, as seen in Table 3; this showed a very high percentage among the respondents, with 76% agreeing that HIV is a punishment from God. They also believed that condom promotion had no real effect on the spread of the disease, coupled with the belief that teaching young people about sex and condom use encourages them to have sex. The study further revealed that students believed they could contract HIV by being around people who are HIV-positive and that individuals living with HIV could be identified by their appearance. This corroborates with study of Dzah, Tarkang & Latala (2019),

Table 2: results on awareness and knowledge on HIV.

	Statement	Frequency	Percentage (%)
1.	Have you heard about HIV?		
	Yes	77	77.0
	No	23	23.0
	Total	100	100.0
2	What is the source of your information		
	Radio	21	21.0
	Television	20	20.0
	School	4	4.0
	Friends	14	14.0
	Parents	5	5.0
	Hospital	36	36.0
	Total	100	100.0
3	Do you believe is real		
	Yes	58	58.0
	No	42	42.0
	Total	100	100.0
4	Do you know what causes HIV?		
	Yes	87	87.0
	No	13	13.0
	Total	100	100.0
5	If yes, what is the cause of HIV/AIDS		
	It is caused by micro-organism through unhealthy and having unprotected sex	70	70.0
	It is through touching and hugging someone who has HIV/AIDS	26	26.0
	Mosquito bites	4	4.0
	Total	100	100.0
6	Do you know your HIV status?		
	Yes	82	82.0
	No	18	18.0
	Total	100	100.0
7	Do you support or are you against HIV/AIDS testing/ screening?		
	Yes	74	74.0
	No	26	26.0
	Total	100	100.0

which revealed that misconception about the cause and spread of HIV was very high among the respondents believed HIV can be transmitted by a hand shake (aOR=3.45 [2.34-5.68]; p=0.000) and HIV can be transmitted by witchcraft (aOR= 3.12 [3.21 – 7.26]; p=0.001).

Table 2. Continued

8	Does having sex with a virgin cure HIV/AIDS?		
	Yes	43	43.0
	No	57	57.0
	Total	100	100.0
9	Can HIV/AIDS be spread through Sharing of knives, razor blade, and clipper?		
	Yes	100	100.0
	Total	100	100.0
10	Should student with HIV/AIDS be allowed to attend classes?		
	Yes	71	71.0
	No	8	8.0
	I don't know	21	21.0
	Total	100	100.0

Table 3: Attitude towards HIV spread.

S/No	Statement	SA	A	U	D	SD	Mean	SD
Percentage distribution of medium of contracting HIV								
1.	A person can get infected with HIV through mosquito bites	26 (26%)	14 (14%)	4 (4%)	34(34 %)	22(22 %)	3.12	1.55
2.	Body fluids like blood, semen, breast milk can bring about HIV spread	53 (53%)	23 (23%)	16 (16%)	-----	8 (8%)	1.87	1.18
3.	A person get infected with HIV through unprotected sex	51 (51%)	31 (31%)	9 (9%)	-----	9 (9%)	1.85	1.18
Percentage distribution of attitude of students towards HIV								
1.	I am afraid of getting AIDS	42 (42%)	17 (17%)	12 (12%)	8 (8%)	21 (21%)	2.49	1.59

Table 3. Continued

2.	**People living with HIV should be separated from the normal community life**	**18 (18%)**	**26 (26%)**	**5 (5%)**	**42 (42%)**	**9 (9%)**	**2.98**	**1.33**
3.	I think I have heard enough about HIV/AIDS	22 (22%)	35 (35%)	13 (13%)	17 (17%)	13 (13%)	2.64	1.34
4.	I have changed my sexual habit as a result of HIV/AIDS campaign	41 (41%)	33 (33%)	17 (17%)	9 (9%)	------	1.94	0.97
5.	I practice safe sex	41 (41%)	35 (35%)	12 (12%)	8 (8%)	4 (4%)	1.99	1.10
6.	I prefer to keep away from those infected	31 (31%)	13 (13%)	9 (9%)	21 (21%)	26 (26%)	2.98	1.62
Percentage distribution of misconceptions of students about HIV/AIDS								
1.	AIDS is a punishment from God	54 (54%)	22 (22%)	4 (4%)	12 (12%)	8 (8%)	1.98	1.34
2.	AIDS is created by someone in the laboratory	28 (28%)	13 (13%)	16 (16%)	22 (22%)	21 (21%)	2.95	1.53
3.	Condom promotion does not reduce HIV/AIDS, instead it promotes it	32 (32%)	4 (4%)	21 (21%)	21 (21%)	22 (22%)	2.97	1.55
4.	Condom promotion has no real effect on the spread of the disease	23 (23%)	25 (25%)	22 (22%)	17 (17%)	13 (13%)	2.72	1.34
5.	Teaching young people about sex and use of condoms encourages them to have sex	22 (22%)	31 (31%)	13 (13%)	21 (21%)	13 (13%)	2.72	1.36
6.	I can get HIV by being around people who are HIV-positive	29 (29%)	29 (29%)	4 (4%)	20 (20%)	18 (18%)	2.69	1.51
7.	HIV-positive individuals can be detected by their appearance	22(22 %)	36(36 %)	-----	20 (20%)	22 (22%)	2.84	1.52
Percentage distribution of preventive methods adopted by students								
1.	Abstain from sexual activity	27 (27%)	26 (26%)	22 (22%)	12 (12%)	13(13 %)	2.58	1.34

Table 3. Continued

2.	**Avoid of transfusion of unscreened blood and unsterilized instrument**	**31 (31%)**	**38 (38%)**	**18 (18%)**	**4 (4%)**	**9 (9%)**	**2.22**	**1.29**
3.	Correct and constant use condom can prevent HIV	32 (32%)	35 (35%)	16 (16%)	8 (8%)	9 (9%)	2.27	1.24
4.	Faithfulness to one partner can prevent HIV	23 (23%)	34 (34%)	26 (26%)	4 (4%)	13 (13%)	2.50	1.25
5.	Avoid wound contamination with blood, semen and virginal secretions	33 (33%)	30 (30%)	17 (17%)	8 (8%)	12 (12%)	2.36	1.33
6.	Avoid of sexual intercourse with risk people, prostitutes, homosexual, use of sterile injection needles, razor blades etc.	49 (49%)	38 (38%)	4 (4%)	4 (4%)	5 (5%)	1.78	1.05
Percentage distribution of factors influencing preventive measures against HIV/AIDS								
1.	Students movement against HIV/AIDS	28 (28%)	44 (44%)	8 (8%)	16 (16%)	4(4%)	2.24	1.14
2.	Inclusion of HIV/AIDS programme in academic curriculum	31 (31%)	57 (57%)	4 (4%)	8 (8%)	-------	1.89	0.81
3.	Have open day against HIV/AIDS	32 (32%)	50 (50%)	4 (4%)	5 (5%)	9 (9%)	2.09	1.17
4.	Constant sensitization on the dangers of unprotected sex	32 (32%)	46 (46%)	9 (9%)	4 (4%)	9 (9%)	2.12	1.17
5.	Religion	46 (46%)	16 (16%)	13 (13%)	20 (20%)	5 (5%)	2.22	1.34
6.	Joining a social network against HIV/AIDS	51 (51%)	37 (37%)	4 (4%)	8 (8%)	-------	1.69	0.88

The study also showed the preventive methods mentioned by students, which include: abstinence from sex, avoiding transfusions with unscreened blood and unsterilized instruments, correct and consistent use of condoms, faithfulness to one partner, and avoiding wound contamination with blood, semen, and vaginal secretions. This also corroborates with a study by Pharr, Enejoh, Mavegam, Olutola et al. (2017) reviewing the “Roles of HIV/AIDS knowledge in risky sexual behaviors of adolescents in Nigeria.” Adolescents displayed a high level of HIV knowledge as over 80% of the respondents had accurate knowledge about HIV transmission myths.

Table 4: T-test result.

Variable	Mean	N	t-value	Df	P-value	Remarks
T-test of significant relationship between the knowledge of student and their attitude towards HIV/AIDS						
Knowledge	34.0624	100	0.446	99	0.327	Not significant
Attitude	26.1123	100				P>0.05
T-test of significant relationship between misconception about HIV/AIDS and preventive methods adopted by students						
Misconception	43.3472	100	0.346	99	<0.005	Significant
Preventive Methods	28.7682	100				

CONCLUSION

From the findings of this study, as shown in Table 4, it can be concluded that the respondents have good knowledge and attitudes towards HIV/AIDS. However, respondents should be educated about misconceptions and the proper modes of transmission of HIV/AIDS. Sensitization on the importance of preventive methods cannot be overemphasized. Strict adherence to the recommendations would help reduce the spread of HIV/AIDS among secondary school students in this community.

Ethical considerations

All ethical consideration were sought from relevant authorities and observed accordingly.

Conflict of interest

The researchers declare no conflict of interest at the course of this research work.

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