

## INTRODUCTION

Human Immunodeficiency Virus (HIV) is the aetiological agent of the Acquired Immunodeficiency Syndromes (AIDS) (Akinjogula and Adegoke, 2012; AIDS Action, 2013). It is one of several complex retroviruses in the family of Retroviridae, sub family lentivirinae and genus of the lentivirus. It is transmitted through blood products (including blood transfusion, intravenous drug abuse in sharing of needles, health care workers in needles stick injuries and mucocutaneous exposures), organ transplants, sexual intercourse (both homosexual and heterosexual exposures) and vertical transmission (Ojiako *et al.*, 2007). HIV epidemics is a burden globally and presents serious public health problems in developing countries especially in Nigeria where it remains a major threat to socio-economic development (Akinjogunla and Adegoke, 2012; Girma *et al.*, 2015). It is a global crisis that represents a serious health threat, particularly among younger people such as orphan adolescents and youths who are vulnerable to HIV (Ahmed *et al.*, 2014). AIDS represents only a late stage in the disease that has several other manifestations. It is more appropriately called “HIV Disease” after its causative agent HIV. The virus gradually and progressively destroys the body’s immune system, T-lymphocytes, which are found in the blood. A person infected by the HIV remains apparently healthy for many years (up to ten years), while the virus is slowly destroying his or her immune system, and then develops “full blown AIDS with many illnesses by other germs known as opportunistic infections (AIDS action, 2013).

Acquired Immune Deficiency Syndrome (AIDS) accounts for a high mortality and resulted in the deaths of 25 million people. Everyday 5, 700 persons die from AIDS worldwide. AIDS is the primary largest cause of death and disease burden in the Sub-Sahara Africa (SSA) with an estimated 2.1 million deaths in 2007 all over the world and out of which 76% occurred in SSA (Amaya *et al.*, 2014).

HIV/AIDS directly impacts on the lives of approximately 20 million children worldwide and an estimated 16.6 million children have lost one or both parents due to the disease (Ahmed *et al.*, 2014). The epidemic in Africa puts children at risk physically, emotionally and economically. These challenges may further predispose these children at heightened risk of prolonged mental and behavioural problem (Getu and Tadesse, 2013).

Human Immunodeficiency Virus (HIV) infection spreads to young people among other routes, from risky sexual behaviours and also as men increasingly choose younger sexual partners. Some men believe that younger girls are less likely to be infected with HIV. Many young women experience rape and forced sex and this does increase the risk of being infected with HIV (Okolo *et al.*, 2015).

Students in Federal Polytechnic Idah come from different states and belong to different tribes and religion, thereby indulging in different social activities without precaution which expose them to sexually transmitted infection. Therefore this study determined the prevalence of HIV, the levels of knowledge, attitudes and HIV behavioural response profiles of Students of Federal Polytechnic Idah, living in off-campus accommodation.

## **MATERIALS AND METHODS**

### **Study Area**

The study was conducted in Federal polytechnic Idah, (FPI), Kogi State, Nigeria among students living off campus accommodation. Idah is a town in Kogi state Nigeria on the Eastern bank of Niger River the middle belt region of Nigeria. The postal code of the area 2 (post offices with map of LGA 2009 -10-20). Idah has a population of 68, 709 people latitude of 71, 000 (7560, 000N), longitude of 67, 333 (64359, 988\$E) and Altitude of 62m (Tiptobglobe.com, 2017). Idah has commercial routes on the Niger linking Lokoja the Kogi State capital, to the North of the country and Onitsha in Anambra state to the south, Agenebode, Edo state across the Niger to the West. Modern Idah remains a major trading centre (palm produce, yams, cassava (Manihot), rice, fish) in the riverine areas. Besides trade and farming the local population is engaged in making canoes, fishing nets and soap, hand, crafts and cotton wearing are significant. Idah comprises of people from the Igbo tribes, Hausas, Yorubas and Ibiras with the Igalas dominating the populations. Islam and Christianity are the dominant religions of the town, Christian's missionaries have been active among the Igalas since the 1860s and Idah's Roman Catholic community sponsors both secondary school and a Teacher-Training College. Idah also hosts the State College of Health Sciences and Technology, as well the Federal Government College Ugwolawo at the periphery of the town.

### **Study Population**

The population of the study comprises of one hundred and fifty (150) Students, both males and females living in different lodges, off-campus, who volunteered to take part in the study.

### **Ethical Consideration**

Approval and permission for the study was given by the Kogi State Ministry of Health and the Research Committee of the Federal Polytechnic Idah. It was also approved by the

research committee of Microbiologist, Science Laboratory Technology during proposal presentation. Trained nurses from the Polytechnic Medical centre assisted by carrying out the sample collection. Questionnaires were administered to the students to obtain demographic information such as age, sex, marital status, knowledge of the disease and religion.

### **Sample Collection and Procedure**

Two (2) milliliter of peripheral blood samples were collected by venepuncture using sterile syringes and needles. The arm of each participant was first tied with tourniquet and the position of the vein disinfected with cotton wool soaked with methylated spirit. A separate needle and syringe was used for each sample collection. The blood samples were transferred into sterile universal bottles containing Ethylene Diamine Tetracetic acid (EDTA) anticoagulant. Plasma was extracted by centrifugation of blood specimens at 3000rpm for 10minutes and stored frozen at -20°C until analyzed in the laboratory.

### **Assay of HIV**

Samples were analyzed for presence of HIV antibody using determine rapid test kit manufactured by (“Alere medical Co. Ltd. 357 Matsuhidai, Matsudo-shchiba, 270-2214, Japan. [www.Alere.com](http://www.Alere.com)).

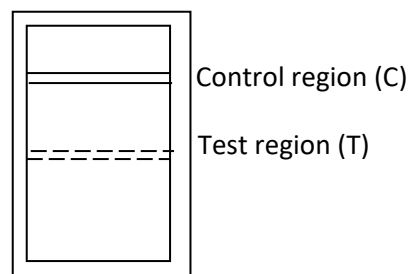
### **Principle of the Test**

The principle is that, HIV 1and 2 rapid Test Device (whole/serum/plasma) is a qualitative; membrane immune assay detection of antibodies to HIV 1 and 2 in whole blood, serum or plasma. The membrane is pre-coated with recombinant HIV antigens. During testing, the whole blood, serum or plasma specimen reacts with HIV antigen coated particles in the test strip. The blood (antibody) migrates upward on the membrane chromatography by capillary

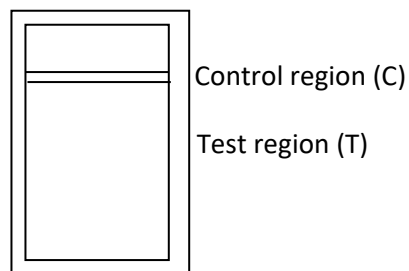
action and reacts with recombinant HIV antigen on the membrane in the test region. If the specimen contains anti-bodies to HIV-1 and 2, a coloured line appears in test region indicating a positive result. If the specimen does not contain HIV- 1 and or 2 antibodies, a coloured line will not appear in test line region which indicates a negative result.

### Interpretation of Test Results

When two red bars appeared in both control and patient windows of the strip; the test was interpreted as positive. However, the appearance of only one red bar in the control window of the strip and the absence of the red bar in the patient window was interpreted as a negative test (Figure 1).



**(Figure 1a- Positive result)**



### **(Figure 1b - Negative Result)**

**Figure 1. Interpretation of Test Results:** Two distinct red lines appeared in the control region (c) and the other in the test region (T) (Figure 1a); One red line appearing at the control region (c), No apparent red or pink line appears in the test region (T) (Figure 1b).

### **Data Analysis**

A descriptive analysis of data was done according to age, sex, marital status and religion. To determine the level of significance.

## **RESULT**

### **Prevalence of Human Immunodeficiency Virus (HIV) in federal polytechnic idah, among students living in off campus lodges.**

This study showed that out of total samples of one hundred and fifty (150) screened, there was no positive result in this school area given prevalence of (0.0%) (Table 1).

### **Age distribution of Human Immunodeficiency Virus (HIV) in federal polytechnic idah, among students living in off campus lodges**

Out of the total samples of one hundred and fifty (150) screened, age range of between 18 – 20 yrs, 21 – 25yrs, 26 – 30yrs, 31 – 35yrs and 36 – 40yrs did not show any positive result given a prevalence of (0.0%) (Table 1).

### **Sex distribution of Human immunodeficiency virus (HV) in federal polytechnic Idah, among students living in off campus lodges.**

Out of the total samples of one hundred and fifty (150) screened, seventy six (76) were male and with none being positive giving a prevalence rate of (0.0%) while seventy four (74) were female with also no being positive giving a prevalence of (0.0%) (Table 2).

**Distribution of Human Immunodeficiency Virus (HIV) based on marital status**

Out of the total samples of one hundred and fifty (150) screened, twenty two (22) were married with none being positive giving a prevalence rate of (0.0%), one hundred and nine were single with none also being positive giving a prevalence of (0.0%), nine (9) were cohabited with non being positive giving a prevalence of (0.0%) (Table 3).

**Distribution of Human Immunodeficiency Virus (HIV) based on religion in federal polytechnic idah among students living in off campus lodges.**

Out of the total samples of one hundred and fifty (150) screened, ninety two (92) were Christian with none being positive giving a prevalence of (0.0%), fifty eight were Muslim with non being positive giving a prevalence of (0.0%) while zero were traditionalist with none being positive giving also a prevalence of (0.0%) (Table 4).

**Table 1: Age Distribution of HIV in Federal Polytechnic Idah, among Students living in Off-Campus Lodges.**

Age	No. screened	No. positive	Prevalence %
18-20	39	0	0.0%
21-25	61	0	0.0%
26-30	33	0	0.0%
31-35	16	0	0.0%

36-41	1	0	0.0%
<b>Total</b>	<b>150</b>	<b>0</b>	

**Table 2: Sex Distribution of HIV in Federal Polytechnic Idah, among Students living in Off-Campus Lodges**

<b>Sex</b>	<b>No. screened</b>	<b>No. positive</b>	<b>Prevalence %</b>
Male	76	0	0.0%
Female	74	0	0.0%
<b>Total</b>	<b>150</b>	<b>0</b>	

**Table 3: Distribution based on Marital Status of HIV in Federal Polytechnic Idah, among Students living in Off-Campus Lodges.**

<b>Marital status</b>	<b>No. screened</b>	<b>No. positive</b>	<b>Prevalence %</b>
Married	22	0	0.0%
Cohabit	119	0	0.0%
Single	9	0	0.0%
<b>Total</b>	<b>150</b>	<b>0</b>	

**Table 4: Distribution based on Religion of HIV in Federal Polytechnic Idah, among Students living in Off-Campus Lodges.**

<b>Religion</b>	<b>No. screened</b>	<b>No. positive</b>	<b>Prevalence %</b>
Christian	92	0	0.0%
Muslim	58	0	0.0%
Traditionalist	0	0	0.0%



**Total**

**150**

**0**

## **DISCUSSION**

HIV infection is a significant public health problem particularly in developing countries, including Nigeria. Out of the total samples of one hundred and fifty (150) screened, in federal polytechnic Idah among students living in off campus lodges. None was positive with the prevalence of (0.0%) in the present study as shown in (Table 1). The result obtained in this study is lower comparable to that reported by national prevalence of 2.3% in 2010 seen among students in university. It is also lower than the similar study which was carried out in the university of Port-Harcourt where the prevalence was 3.02% according to (Mbakwem –Aniebo *et al.*, 2012). This may be as a result of the high level of information among the students and less involvement in illegal sex activities.

In the study from table 1, there was no significance difference in the prevalence of Human Immunodeficiency Virus (HIV) among the students in FPI based on age. The prevalence of HIV among the students based on age was (0.0%) in this study. This means that age was not a factor that influence the prevalence of Human Immunodeficiency Virus among the study population. The result obtained in this study was not in agreement when compared to the prevalence (2.38%) that reported by (Obekpa *et al.*, 2014) in a similar study where it was reported that age is a co-factor for disease susceptibility and progression of HIV, the highest prevalence was in the age group of 24 – 26yerars which is different from the age group of 26 – 30yerars in this study. This result also does not correlate with that which was obtain by (Frank *et al.*, 2013) in a similar study which was carried out in the University of Ibadan where the highest

prevalence was among age group 20 – 25 years having the prevalence of 8.16% compare to other age group. This is comparable to the findings of previous studies in some parts of Nigeria and outside Nigeria. This result obtained from this study may be as a result of students less exposure to multiple sexual activities which is the major risk of HIV infection.

From Table 2, Sex distribution did not show significant difference in HIV prevalence among students in federal polytechnic Idah, living off campus lodge. The gender difference in patterns of HIV infection among young people varies substantially around the world and not so in this study. This compares favourably with the study of (Mbakwem-Aniebo *et al.*, 2012) who reported no significant association with the sex of subjects. This finding also concurred with the findings by (Frank *et al.*, 2013) in a similar study who reported no significant differences among gender. This result deviated from the findings of some studies in Nigeria (Laah and Ayiwulu, 2010), reported higher seroprevalence rate of HIV in females in Nasarrawa state, Nigeria. A few studies have however, documented higher prevalence of HIV/AIDS among males (Celikbas *et al.*, 2008). Also this result does not agree with the result obtained by (Ijeoma *et al.*, 2014). In a similar study which reported that female students showed higher incidence of the infection (4.3%) while the male had a prevalence of (2.92%). The reason for no significance difference in the prevalence of the study was as a result of high knowledge of HIV mode of transmission, and they might have had formal education on HIV infection and less involvement in sexual activity.

This study in (Table 3) does not find marital status difference in HIV prevalence of federal polytechnic Idah among students living in off campus lodges. Among the total of one hundred and fifty (150) of total samples screened, there was no positive result with prevalence of (0.0%). This result is not in agreement when compared to the result of (Mbakwem-Aniebo *et al.*, 2012) who found HIV prevalence to be highest among singles in a similar study carried out and

stated that it could be because of other contributing factor such as pre-marital and extra-marital sexual contact which were common in Port-Harcourt (Mbakwem-Aniebo *et al.*, 2012). The low prevalence of (0.0%) in married students in this study could be as a result of more HIV uninfected men are having affair with women indiscriminately. None prevalence of (0.0%) in single and cohabit could be because of prevalence rate of HIV cofactor varies worldwide, depending on the geographical regions and risk group (Jindal *et al.*, 2008). This may also be as a result of precaution taking by the use of condom.

In Table 4, there was no significant difference in the prevalence of HIV based on their religion. This means that religion was not a factor that influence the prevalence of HIV in the study population and this is similar for the study conducted among Universities in Nigeria (Durojaiye and Oyewole, 2011) but, even with the high level of awareness, religion doesn't seems to be factor influencing the disease in the study population. This is due to the fact that student of tertiary learning are at risk as a result of high risk sexual behaviour, attitudes constraints of the societies in which they grow up (Oppong-Asante and Oti-Boadi, 2012).

## **CONCLUSION**

This study revealed that there is no actually HIV prevalence among federal polytechnic idah students screened with the percentage of 0.0%, thus there is no significant differences among age status, sex status, marital status and religions status.

Therefore, there is need to advice students to stick firmly to the prevention strategies and control methods of the infection. More public health enlightenment, campaign is highly needed to highlight the dangers of HIV. Early diagnosis of HIV may lead to prompt intervention management towards reducing the vertical transmission of the infection.

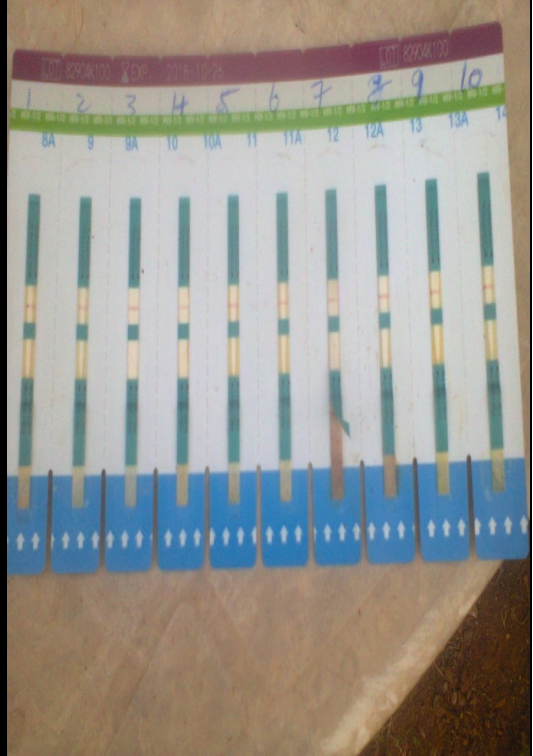
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EDTA Bottles Containing Blood Sample



Below are the Kits for the HIV Test.