

## Knowledge of Transmission Patterns of HIV/AIDS and the place of Health Counselling among Students of Tertiary Institutions in Kwara State, Nigeria

ABDULRAZAQ ONIYE, OLUKUNMI OLAITAN, BOLANLE OLAWUYI,  
OLAWOLE OBIYEMI, ADETAYO TALABI

University of Ilorin, Nigeria

OYESEGUN O. OYERINDE

Bayero University, Kano, Nigeria

**Abstract.** This study investigated knowledge of transmission patterns of HIV/AIDS and the place of counselling among students of tertiary institutions in Kwara State, Nigeria. A proportionate sampling technique was used to select 700 students from five tertiary institutions in Kwara State. The hypotheses formulated were tested using Chi-square and analysis of variance (ANOVA) at  $\alpha = 0.05$  level of significance. In the findings, calculated  $X^2$  value of 124.69 revealed that the students have adequate knowledge about HIV/AIDS transmission through sexual contacts, also calculated  $\chi^2$  value of 67.83 revealed that students have adequate knowledge that HIV/AIDS can transmit through mother to child and the ANOVA result of 3.52 showed that students of various tertiary institutions in Kwara State have varied knowledge about HIV/AIDS transmission in health care setting. Fisher least significance difference was used as multiple range comparison test to identify where the significant difference between and within the group of students. Health counselling is not fully in place to influence students' knowledge. Based on the findings, it was recommended that AIDS education to include STDs, sexuality and reproductive health education should be made

compulsory and be incorporated into the syllabi and curricula from primary, secondary and tertiary institutions. Also, Health Counselling unit should be established in our institutions in Nigeria in Nigeria.

**Keywords:** Knowledge, Transmission patterns, HIV/AIDS, Health counselling, Tertiary institutions

### 1. Introduction

To date, epidemiological studies from throughout the world have documented that HIV transmission is mainly implicated through blood, semen and vaginal secretions. The etiological agents of AIDS are transmitted in the following ways:

#### 1.1 Sexual Contact

Sexual contact with an infected individual sexual contact is the main mode of HIV transmission. Although AIDS seems to have started among homosexuals, it is not restricted to them. Infected men can infect their female sex partners as well and infected women can similarly infect men. Transmission occurs

through anal, vaginal and oral sex intercourse, although the relative efficiency of each route is not known. Anal intercourse which frequently results in slight ruptures of the rectum is thought to be a frequent mode of transmission. Through these rupture, semen containing virus can enter the blood stream of the sexual partner (Mann, 1997).

### 1.2 Mother to Child Transmission (MTCT)

HIV can also pass from mother to child during pregnancy, labour and delivery or through breastfeeding (Rosser, 2010). If a woman who is infected with HIV becomes pregnant, there appears to be about a 50% chance that her child will be infected with HIV. Mother to child transmission may occur in the uterus during childbirth or shortly after birth (Mann, 1997).

Berge, Foster, McIntyre, Msellati, Praage and Baggaley, (2009) said that, mother to child transmission is also called vertical transmission and that mother to child transmission in pregnancy and childbirth is also called perinatal transmission. In developing countries, between one in three babies or one in four babies born to HIV positive women are born with HIV themselves. Some of these babies become infected during pregnancy, but not infected during the birth itself. There appears to be a greater risk of HIV transmission during pregnancy and childbirth if the mother has a high viral load or if her immune status is poor. Her viral load will be higher if she is HIV positive just before or during her pregnancy, and if she is continuing to be exposed to the HIV through unprotected sex in pregnancy and has symptomatic HIV (Olaitan, 2002, Rosser, 2010).

Exposure of fetus to the virus in cervico-vaginal secretion is thought to play a role. In addition, recent reports have indicated that the mode of delivery may affect the transmission rate. Caesarean section whether elective or emergency has been shown to decrease transmission in some studies (ECS, 1994). Landesman, Karlish and Burson (2006) concluded that prolong rupture of membranes (more than four hours) increase the risk of transmission.

### 1.3 Transmission of HIV in Health Care Settings

Bouvet and Laporte (2008) discussed on the transmission of HIV infection through exposure to blood and blood products. This occurs as a result of the receipt of infected blood or blood products, the blood-contaminated needles or equipment by drug abusers, or the use of inadequately sterilized needles or other skin-piercing instruments.

Accidental exposure to blood (AEB), percutaneous exposure (PE), needle stick injury and blood splash have been discovered as the ways through which hospital workers may be infected with HIV following exposure (Bouvet and Laporte, (2008), Olaitan (2004) opined that viral transmission due to percutaneous exposure to blood in a hospital occurs in three ways:

- (i) Exposure of hospital workers to blood of patients
- (ii) Exposure of patients to blood of health workers
- (iii) Exposure of patients to blood of other patients.

In practice, exposure of hospital workers to the blood of patients is the major concern. The rate of transmission of HIV infection to the hospital worker depends on the prevalence of infection inpatients, the frequency of exposure to blood, and the risk of transmission (Olaitan, 2004).

## 2. Research Questions

- (a) To what extent do students of tertiary institutions in Kwara State have knowledge about sexual contact as a transmission pattern of HIV/AIDS?
- (b) What is the knowledge of students of tertiary institutions in Kwara State about mother to child transmission as a transmission pattern of HIV/AIDS?
- (c) Do students of various tertiary institutions in Kwara State have knowledge about health care setting practices as transmission patterns of HIV/AIDS?
- (d) Is health counselling services available for students of tertiary institutions in Kwara State on

knowledge about transmission pattern of HIV/AIDS?

**3. Research hypotheses**

- (i) Students of tertiary Institutions in Kwara State will not significantly have knowledge about sexual contact as a transmission pattern of HIV/AIDS.
- (ii) Students of tertiary Institutions in Kwara State will not significantly have knowledge about mother to-child transmission as a transmission pattern of HIV/AIDS.

- (iii) Students of various tertiary Institutions in Kwara State will not have significant difference in their knowledge about health care setting practices as transmission patterns of HIV/AIDS.
- (iv) Health counselling services availability will not significantly influence students of tertiary institutions in Kwara State on knowledge about transmission pattern of HIV/AIDS.

**4. Research Methodology**

A descriptive survey research method was used to achieve the purpose of the study. The population comprised all the students in tertiary institutions in Kwara State. A multistage sampling technique was used to select a total number of seven hundred students. The researchers constructed the instrument which seeks to elicit information from respondents on their knowledge of transmission patterns of HIV/AIDS. The instrument was validated by the experts and tested for reliability, using a split-half method with a reliability coefficient of 0.89. The researchers and 6 trained research assistants distributed and collected the questionnaire to gather data for the study. Descriptive statistics of frequency counts and percentage were used for the bio-data of the respondents, while inferential statistics of Chi-Square ( $\chi^2$ ), t-test and analysis of variance (ANOVA) were employed to analyse the hypotheses formulated at 0.05 alpha level of significance.

**5. Results and Discussion**

<b>Table 1 Bio-data of respondents</b>		<b>N=700</b>
<b>Characteristics</b>		<b>No. (%)</b>
<b>School</b>		
University of Ilorin, Ilorin (Unilorin)		310(44.3)
Federal Polytechnic Offa (Fed Poly Offa)		250(35.7)
College of Education, Oro (COE Oro)		80(11.4)
School of Nursing, Ilorin (Nursing School)		20(2.9)
College of Education, Lafiagi (COE Lafiagi)		40(5.7)
<b>Gender</b>		
Male		390(55.7)
Female		310(44.3)
<b>Age (In years)</b>		
≤ 20		193(22.6)
21-25		224(32)
26-30		148(21.1)
≥ 31		135(19.3)
<b>Religion</b>		
Christianity		288(41.1)
Islam		391(55.9)
Others		21(3)
<b>Marital Status</b>		
Single		460(65.7)
Married		240(34.3)
<b>Total</b>		<b>700(100)</b>

Table 1 showed that 310(44.3%) are from Unilorin, 250(35.7% from Fed Poly Offa, 80(11.4%) from COE Oro, 20(2.9%) from Nursing School and 40(5.7%) from COE Lafiaji. 390(55.7%) male and 310(44.3%) female participated in the study. On the age of respondents, 193(22.6%) are less than or equal to 20 years, 224(32%) are within 21-25 years, 148(21.1%) are within 26-30years and 135(19.3%) are greater than or equal to 31 years of age. Christian respondents are 288(44.1%), Moslem are 391(55.9%) while others are 21(3%). On the marital status; single constitutes 460(65.7%) and married are 240(34.3%). This means that, majority of the respondents are male (55.7%), within ages 21-25years (32%), Moslems (55.9%) and single (65.7%).

**Table 2: Students responses and X<sup>2</sup> result on knowledge about sexual contacts as a transmission pattern**

N=700

S/No	Sexual Contact through	SA	A	D	SD	X <sup>2</sup>	DF	Cal. X <sup>2</sup>	Rejected Decision on HO.
1.	Man and woman (Heterosexual)	152	268	83	197	124.69	15	25.00	
2.	Man and man (homosexual)	319	28	261	92				
3.	Woman and woman (lesbianism)	77	296	115	212				
4.	Man/woman and animal (Bestiality)	315	212	109	64				
5.	Male multiple sexual partners (Polyandry)	372	106	98	124				
6.	Female multiple sexual partners (Polygamous)	359	123	101	117				

P ≤ 0.05

In table 2, Since the calculated value of 124.69 was greater than the critical value of 25.00 at 0.05 level of significant, the null-hypothesis was therefore rejected. This means that students in tertiary institutions in Kwara State have significant knowledge about sexual contacts as a transmission pattern of HIV/AIDS.

**Table3: Students responses and X<sup>2</sup> results on knowledge about mother-to-child as a transmission pattern of HIV/AIDS**

N-700

S/N	Mother-to-child-transmission through	SA	A	D	SD	X <sup>2</sup>	DF	Cal. X <sup>2</sup>	Rejected
1.	MTC during pregnancy (Antenatal transmission)	89	280	360	271	67.83	9	16.92	
2.	MTC during labour/childbirth (parinatal transmission)	101	421	219	41				
3.	MTC during breast feeding (postnatal transmission)	216	150	305	29				
4.	MTC during Cesarean (sectional transmission)	92	389	115	104				

P ≤ 0.05

Table 3 shows that calculate value of 69.83 was greater than the critical value of 16.92 at 0.05 level of significant, the null-hypothesis was therefore rejected. This means that students in tertiary institutions in Kwara State have significant knowledge about mother-to-child-transmission as a transmission pattern of HIV/AIDS.

**Table 4: Percentage Performance of Health Care Setting Practices as Transmission Patterns of HIV/AIDS**

S/N	Variables	Age	PE	NSINj	B/Splash	X
1	Unilorin	38.8	39.6	71.9	50.1	50.1
2.	Fed.Poly Offa	57.1	47.3	68.5	39.9	53.2
3.	COE, Oro	41.4	36.8	70.7	28.6	44.4
4.	Nursing Sch. Ilorin	62.2	60.7	82.5	51.4	64.2
5.	COE, Lafiaji	32.3	41.6	63.4	12.5	37.5

Table 4 showed the percentage performance of students of various tertiary institutions in Kwara State on their knowledge about ways HIV/AIDS can be transmitted in the health care setting. They are, through accidental exposure to blood (AEB), percentage exposure (PE) needle stick injury (NSInj) and blood splash (B/splash). The overall analysis showed that students of college of nursing Ilorin have performance score of 64.2% followed by Federal Polytechnic Offa (53.2) Unilorin (50.1) while students of COE Oro and COE Lafiaji have below average knowledge with performance scores of 44.4% and 37.5% respectively.

**Table 5: ANOVA results on Health Care Setting (HCS) Practices as Transmission Patterns of HIV/AIDS N=700**

Source	Ss	Df	Ms	F-Ratio
Between	7277.2414	4	1819.31035	3.52
Within	7760.1661	15	517.34440667	
<b>Total</b>	<b>15037.4075</b>	<b>19</b>		

Cal. F= 3.52

Crit value @ 0.05F<sub>4,15</sub> =3.06

*Decision on the hypothesis = rejected.*

In table 5, since the calculated value of 3.52 was greater than the critical value of 3.06, at 0.05 level of significance, the null-hypothesis was therefore rejected. i.e. there existed significant differences in the knowledge about the health care setting practices as means of transmission patterns of HIV/AIDS. Hence the need for multiple comparison test to know where the significant difference lies.

**Table 6: Multiple Range Comparison Tests (Fisher’s LSD)**

Main effect	COE Lafiaji	COE, Oro	Unilorin	Fedpoly	Nursing Sch
Means (X) —	37.5	44.4	50.1	53.2	64.2

**Conclusion:** 5 is significantly different from 3, 1, 2, and 4  
 3 is significantly different from 1, 2, and 4  
 1 is significantly different from 4

The results showed that there existed significant differences in the knowledge about health care setting practices as means of transmission of HIV/AIDS among students of various Tertiary Institutions in Kwara State as stated in the conclusion above.

**Table 7: Students responses and X<sup>2</sup> results on health counselling availability on the knowledge of transmission pattern of HIV/AIDS N-700**

S/N	Availability of health counselling services	SA	A	D	SD	X <sup>2</sup>	DF	Cal. X <sup>2</sup>	<b>Rejected</b>
1.	I have received counselling on sexual contact transmission on HIV/APDS	67	340	460	313	67.83	9	16.92	
2.	I have received counselling on MTC during labour/childbirth (perinatal transmission)	91	211	219	261				
3.	I have received counselling on MTC during breast feeding (postnatal transmission)	16	130	225	329				
4.	I have received counselling on MTC during Cesarean (sectional transmission)	71	189	205	235				

P ≤ 0.05

## 6. Discussion of Findings

The analysis revealed that students had knowledge about the transmission patterns of HIV/AIDS. Even through their knowledge varied from one Institution to the other.

The students were knowledgeable that HIV/AIDS can transmit by sexual contact through heterosexual, homosexual, lesbianism, bestiality, polyandry and polygamy practices. This corroborates the findings of Mann, (1997) who also discovered that transmission occurs through anal, vaginal and oral sexual intercourse. However, it is imperative that generally, people are in one way or the other involved in one or more of the sexual practices above.

The students were knowledgeable about the transmission of HIV from mother to the child antenatally, perinatally, postnatally, and sectionally, this is in line with Mann (1997), Baggaley et al (2009) and Rosser, (2010) that HIV can also pass from mother to child during pregnancy, labour and delivery or through breastfeeding. Some of the subjects knew that HIV can not pass to another person through the swimming pool, this is in line with WCTO/WHO/UNESCO/ILO (2005) that AIDS is not transmitted by insect, food, water, swimming, etc.

The students were knowledgeable that a person may contact HIV by sharing syringes and needles, and piercing instruments with AIDS patient, this is in line with Bouvet & Laporte (2008), Olaitan (2004) and Achalu (1993) that needle stick injury and blood splash have been discovered as the ways through which hospital workers may be infected with HIV following exposure and sharing needles, syringes, razors or other skin piercing instruments respectively. They also have knowledge about transmission of HIV/AIDS through semen, vaginal fluid and blood, this is in support of Mann (1997) that the sexual contact is the main mode of HIV transmission, i.e. transmission occurs through anal, vaginal, and oral sex intercourse, semen containing virus can enter the blood stream of the sexual partner.

According to Bouvet and Laporte (2008), and Olaitan (2002) and Marcus et al (1999) transmission of HIV can and does occur in health care settings. They further stressed that, the rate of transmission of HIV infection to hospital worker depends on the prevalence of infection in patients. This is to support the responses of the subjects who said that, in the health care setting HIV transmission is more likely from the patient to health care worker. They knew that HIV/AIDS can not be transmitted through mosquito bite, this is in line with WCTO/WHO/UNESCO/ILO (2005) that there is considerable evidence to show that HIV is not transmitted by insects, food, water, sneezing, coughing, toilet, urine, swimming pools, sweat, tears, shared eating and drinking utensils, or other items such as protective clothing, telephone, shared toys, books furniture or athletic clothing.

Health counselling services have not really been available in most of the institutions, and this necessitated the major problem for the inadequate knowledge of students about transmission patterns of HIV/AIDS. Many of the respondents lack knowledge about the patterns of HIV/AIDS transmission, claiming that the little knowledge they have was through other means and not through counselling services of any kind.

## 7. Conclusion and Recommendations

From the result of the study and within its limitations, the following conclusions were drawn:

- (i) Students of tertiary institutions in Kwara State have adequate knowledge that HIV/AIDS can be transmitted by sexual contacts through heterosexual, homosexual, lesbianism, polyandry and polygamy practices.
- (ii) Students of tertiary institutions in Kwara State have adequate knowledge that HIV/AIDS can be transmitted through mother to child, antenatal, perinatal, postnatal and Caesarean sections.
- (iii) Students of various tertiary institutions in Kwara State have varied knowledge about the ways HIV/AIDS can be transmitted in health care setting. The students of college of Nursing

in Ilorin, Federal Polytechnic Offa, and University of Ilorin have quite above average knowledge, while students from Colleges of Education, Oro and Lafiaji have below average knowledge. This may be due to the exposure of these categories of students to health care setting practices and their knowledge about HIV/AIDS transmission patterns.

(iv) Students did not have health counselling services on HIV/AIDS transmission in their institutions

Based on the above findings and conclusions, the following recommendations were made:

(a) More and adequate information on knowledge of HIV/AIDS transmission patterns should be made available to the students and the entire population regardless of age, sex, religion, groups, occupation, etc.

(b) AIDS education to include STDs, sexuality and reproductive health education should be made compulsory and be incorporated into the syllabi and curricula from primary, secondary and tertiary institutions in Nigeria

(c) Federal and State Ministries of Health and Education should lay more emphasis on campaign against HIV/AIDS and should make students have access to posters, handbills, billboards, mass media both printed and electronic on the possible transmission patterns of disease.

(d) Health counselling centre should be established in our institutions to counsel students about the transmission patterns of HIV/AIDS and other related issues in general

## References

Achalu, E.I. 1993 AIDS and other sexual transmitted disease: *What everyone*

*should know* (2<sup>nd</sup> ED.) Lagos: Simarch Nig. Ltd.

Baggaley, R., Berge, M., Foster, S., McIntyre J., Msellati R. Praag. Ev 2009. Reducing mother to child HIV transmission. *AIDS action 43/Child Health Dialogue* 14.

Bouvet, E., & Laporte, A., 2008. Treatment following exposure to HIV. *Guidance Medicalson ARV Treatments*. Module 7. UNAIDS/WHO.

European Collaborative Study (ECS) 2004. Cesarean section and the risk of vertical transmission of HIV-1 infection *ECS in Lancet*, 686; 2828-2832.

Landesman, S.H., Kalish L.A. & Bursn DN 2006. Obstetrical Factors and Transmission of HIV Type 1 from Mother to Child. *New England Journal of Medicine*, 668 2224-2228.

Mann, J., 1997 HIV/AIDS. *World Health Forum* 12,679-683.

Olaitan, O.L. 2002. Knowledge of HIV/AIDS among Students of Tertiary Institutions in Kwara State. *An unpublished Master Dissertation. University of Ilorin.*

Marcus R., Kay K. and Mann. J.J. 1999. Transmission of HIV in Health Care settings. *Worldwide Bulletin of World Health Organization* 97,5944.

Rosser, J.2010. *HIV and Safe Motherhood. Health International Worldwide*, London: Russefi Press Ltd.

WCTO/WHO/UNESCO/ILO, 2005. Consensus Statement on AIDS in Schools.

*World Consultation Of Teacher's Organization (WCTO). In Association with World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO) and International Labour Organizations.*

