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## Knowledge of Primary School Teachers Regarding HIV/AIDS in Bichi Local Government Kano State, Nigeria

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### **Abstract:**

*Introduction: The aim of this study was to assess the knowledge of primary school teachers as regard accurate understanding of the modes of HIV/AIDS transmission and its prevention strategies. This is necessary because, teachers are expected to play a major role in the provision of information leading to awareness and behavior change among the learners.*

*Methods: A cross-sectional survey was conducted using simple random sampling design among primary school teachers in Bichi local government, Kano State, Nigeria. The study was conducted among 600 participants, and informed consent was provided with validated structured self-administered questionnaire. Data analysis was done using IBM SPSS version 22.0.*

*Results: The level of HIV/AIDS knowledge among primary school teachers in Bichi local government, Kano State, Nigeria was low; 24.7% for good knowledge and 75.3% for poor knowledge. The teachers answered correctly about difference between HIV and AIDS at 59%, HIV/AIDS can be transmitted from mother to her baby at 41.2%, transmission through saliva, sweat and tears at 50%, sharing sharp objects at 66.8%. Also, only 34% accept antiretroviral therapy (ART) for preventive strategies, 34.8% said 'Yes' to statement that HIV can be prevented by not sharing sharp objects and about 50% accept condom as a preventive device.*

*Conclusion: These findings highlight the need for HIV/AIDS education intervention for increasing HIV/AIDS-related knowledge of primary school teachers in Bichi local government, Kano State, Nigeria.*

**Keywords:** HIV, AIDS, knowledge, perception, teachers

### **1. Introduction**

Human Immunodeficiency Virus (HIV) which causes Acquired Immune Deficiency Syndrome (AIDS), is a fatal illness which breaks down the body's immune system, leaving the victim vulnerable to a host of life threatening opportunistic infections, neurological disorders and unusual malignancies (Goyal *et al.*, 2015). In 2016, UNAIDS estimated that 36.7 million people globally were living with Human Immunodeficiency Virus (HIV). Also, 2.1 million people became newly infected with HIV and 1.1 million people died from AIDS-related illnesses (UNAIDS, 2016). Accordingly, more than two-thirds (70%) of people living with HIV/AIDS are residing in sub-Saharan Africa, and Nigeria one of the populous country in this region, accounts for about 10% of the world's total AIDS population and has about 3.2 million people living with HIV/AIDS (Farotimi *et al.*, 2015).

Despite the use of various media for delivering information on prevention of Human Immunodeficiency Virus (HIV) in Nigeria, recent statistics from the NACA, (2014) reveal that people's knowledge of prevention of HIV transmission is low; and there is a low uptake of HIV counseling and testing (HCT) services. FRN reports only 25% of men and women between the ages of 15 and 24 correctly identified ways to prevent sexual transmission of HIV and 60% of all new infections in 2010 occurred in the same age group. The studies clearly demonstrate the need for school teachers to be provided with adequate and effective training as regards HIV/AIDS infections. In fact, this will enables them to improve their knowledge, attitude, promoting behavioral skills and be conversant with the current teaching methods.

The spread of Human immunodeficiency Virus/Acquired immune Deficiency Syndrome (HIV/AIDS) in any community is in part, determined by its members' knowledge concerning safe sexual practices and prevention of HIV transmission. Therefore, teachers are a crucial link in providing valuable information about HIV/AIDS to learners. Teachers are often the main adults other than family members with whom young people interact at daily basis. In an era of HIV/AIDS, teachers play an even more critical role of being a source of accurate information and a person with whom young people and other members of the community can raise sensitive and complicated issues about reproductive health. Ideally, as trusted gatekeepers of information, teachers can be instrumental in imparting knowledge and skills to young people. They can also function as role models, advocates for school based HIV/AIDS programs, guides for students in need of services, resources for current information, mentors and effective instructors (James-Traore *et al.*, 2006). But, to meet these expectations in the era of HIV/AIDS, teachers need adequate knowledge and skills as well as support from the educational system and broader community (Mustapha *et al.*, 2017).

Studies have shown that, Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) knowledge of teachers in Nigeria are limited (Oyewale, 2008; Federal Ministry of Health, 2013). Study conducted by Adeleke *et al.*, (2009) as regards prevention of maternal to child transmission of Human Immunodeficiency Virus (HIV) in Kano State, shows that the level of knowledge and perception of mother-to-child transmission of Human Immunodeficiency Virus (HIV) is inadequate. A significant higher proportion of respondents (58%,  $p < 0.05$ ) did not know any method to prevent mother-to-child transmission of Human Immunodeficiency Virus (HIV).

Addressing misconceptions related to the transmission of HIV is an important issue in the context of HIV-related knowledge and has implications for promoting behavior change especially among learners. In Nigeria, misconception about HIV is common among some teachers. Misconceptions that HIV is transmitted through mosquito bites (16%), kissing (18%) and witchcraft (6%) were reported in the survey conducted among primary school teachers (Federal Ministry of Education, 2013). In an attempt to curb the menace of Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS), there are needs to educate the primary school teachers who are exemplary to the younger children.

Therefore, the aim of this study was to assess the knowledge and perception of primary school teachers as regards accurate understanding of the modes of HIV/AIDS transmission and its prevention strategies. This is necessary because, teachers are expected to play a major role in the provision of information leading to awareness and behavior change among the learners. The study will greatly help in filling the gap as regards teachers' training pertaining to HIV/AIDS.

## 2. Methodology

This was a cross-sectional study conducted in August 2015, among primary school teachers in Bichi local government of Kano State, Nigeria. A total of 600 teachers participated in this study using a self-administered questionnaire. The questionnaire covered mainly on some background information such as gender, ethnicity, age, religion, marital status, educational qualification and questions on HIV/AIDS-related knowledge. The response rate was 100%. The HIV knowledge questionnaire (HIV/AIDS-KQ-20) formulated by (Carey, 2002; Oyewale, 2008; Paul, 2011; Thanavanh *et al.*, 2013) was utilized to measure knowledge of HIV/AIDS among the respondents. It was a twenty (20) item, self-administered questionnaire, which assessed the general knowledge of transmission, prevention and treatment of HIV/AIDS. The HIV-KQ-20 consisted of twenty (20) "Yes" and "No" statements. The sum of correct responses was used in data analyses. The overall HIV/AIDS-related knowledge of the respondents were analyzed using the sum of score. Score of 75% and above, between 51 to 74%; and between 0 to 50% were considered high, medium and low level of knowledge (Christiane *et al.*, 2014). The data was analyzed using SPSS Version 22. Descriptive statistics were used to show the demographic information and HIV/AIDS-related knowledge of the respondents. Frequencies and percentages were used to show categorical data to determine the magnitude of HIV/AIDS-related knowledge of the respondents.

The research protocol was thoroughly reviewed and approved by Jawatan Kuasa Etika Universiti untuk penyelidikan Melibatkan Manusia (JKEUPM): Ethical Committee on Human Research of Universiti Putra Malaysia (Reference No: UPM/TNCPI/RMC/1.4.181 (JKEUPM)/F2. Date: 5<sup>th</sup> May 2015. In addition, each participant was provided with a fact sheet about the research, and informed consent was obtained before the conduct of research.

## 3. Results

### 3.1. Socio-demographic characteristics

Overall, 350 (58.3%) of the respondents were males, Hausa was the majority with 540 (90%). The study revealed that, Muslims account for 548 (91.3%), age group 36-50 are the majority, while marital status shows 486 (81.0%) were married and predominant number of teachers 491 (81.8%) possessed National certificate in education (NCE). Table 1 shows the socio-demographic characteristics of the study respondents.

Characteristics	Frequency (n)	Percentage (%)
<b>Gender</b>		
Male	350	58.3
Female	250	41.7
<b>Ethnicity</b>		
Hausa	540	90.0
Non-Hausa	60	10.0
<b>Religion</b>		
Islam	548	91.3
Christianity	52	8.7
<b>Age group</b>		
20 - 35	140	23.3
36 - 50	333	55.5
51 - above	127	21.2
<b>Marital status</b>		
Single	96	16.0
Married	486	81.0
Divorce	18	3.0
<b>Educational qualification</b>		
Nigeria certificate in education (NCE)	491	81.8
Bachelor of science (BSC)	67	11.2
Master of science (MSC)	15	2.5
Others	27	4.5

Table 1: Socio-demographic characteristics of the study respondents (N=600)

### 3.2. Knowledge of HIV/AIDS

As illustrated in Table 2, the respondents have heard the Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS). Generally, the knowledge about route of transmission of HIV/AIDS was relatively low for many of the factors. Accordingly, 57.3% of the respondents knew that, there is a difference between HIV and AIDS. 58.0% were aware that HIV is the acronym for Human Immunodeficiency Virus. Also, half of the respondents knew that HIV can be transmitted from mother to child, 50.3 through mosquito bites, 47% through saliva, sweat or tears, and 49.3 through sexual transmitted diseases. There was confusion as regards sign and symptoms of AIDS, only 47.2% of the respondents were able to answer the question correctly. In addition, unsatisfactory level of knowledge was reported by the teachers when they were asked questions such as: Can HIV/AIDS be prevented by not sharing sharp objects? Can using condoms during all sex activity protect against HIV-infection? Also, only 34.2% said 'yes' that taking Antiretroviral therapy (ART) can help people living with HIV/AIDS to live longer.

Questions with correct response	Frequency (n)	Percentage (%)
Is there difference between HIV and AIDS (Yes)	344	57.3
HIV is the acronym for Human Immunodeficiency Virus (Yes)	348	58.0
HIV can destroy the immune defence of the human body (Yes)	355	59.2
HIV can be transmitted from mother to her baby during pregnancy (Yes)	330	55.0
HIV can be transmitted through mosquito bites (No)	298	49.7
Sexual transmitted diseases can increase the risk of getting HIV (Yes)	296	49.3
A healthy looking person can be a HIV carrier (Yes)	301	50.2
HIV can easily be transmitted through saliva, sweat and tears (No)	313	52.2
AIDS is an acronym for Acquired Immune Deficiency Syndrome (Yes)	323	53.8
AIDS is a stage of opportunistic infection and a disease caused by HIV (Yes)	347	57.8
AIDS is not an inherited disease (Yes)	351	58.5
Body immune system works to fight off infection or disease (Yes)	330	55.0
HIV is able to break down body immune system, when it gets into the body (Yes)	328	54.7
Fever, swollen gland, sore throat, rashes and muscle pains are early symptoms of HIV/AIDS (Yes)	383	47.2
The only way for sure one is infected with HIV, is to get tested (Yes)	318	53.0
Taking Antiretroviral Therapy can help HIV/AIDS person to live longer (Yes)	205	34.2
The use of condom during all sex activity can prevent HIV infection (Yes)	351	58.5
HIV can be prevented by not sharing sharp objects and piercing instruments (Yes)	209	34.8
HIV was first reported in Nigeria in the year 1981 (No)	234	39.0
Nigeria is among the countries with highest number of people living with HIV/AIDS (Yes)	231	38.5

Table 2: Response to HIV/AIDS-knowledge questions

#### 4. Discussion

This is one of the first study on HIV/AIDS-related knowledge of primary school teachers in Bichi local government of Kano State, Nigeria. The result of this study revealed several interesting findings about the knowledge of teachers toward HIV/AIDS. In general, the study shows that majority of the teachers have low knowledge and misconceptions about Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) issues, For example: teachers reported that HIV is preventable by avoiding mosquito bites. Only 57% of the respondents knew that there is difference between HIV and AIDS. Also, 50% are aware that HIV/AIDS can be transmitted from mother to child, 50.3% through mosquito bites and 49.3% from sexual transmitted diseases. Generally, the study found many misconceptions about how HIV is transmitted, e.g. mosquito bite, saliva, sweat, tears and through mother to her baby. Similar findings were reported by previous studies (Adeleke *et al.*, 2009; Federal Ministry of Health, 2013; Goyal *et al.*, 2015).

It is commendable to note that, majority of the respondents (59.2%), identified that HIV can destroy the immune defense of the human body. Sexual activities were also identified by many respondents as routes of HIV transmission, and many perceived that unprotected sexual intercourse is the commonest risk factor associated with HIV/AIDS acquisition. This is consistent with a worldwide trend in which sexual intercourse is the route of transmission popularly known by many respondents (Abiodun *et al.*, 2007; Adeleke *et al.*, 2009; Lawan *et al.*, 2012; Goyal *et al.*, 2015). The findings of this study, also share credence with that of Nigerian National Agency for the Control of AIDS (2014); which reported that most cases of HIV infection in Nigeria occur via heterosexual means with epidemic more pronounced among the females.

Teachers also exhibit mix-reactions as regards the knowledge of preventive practices. For example; they feel reluctant to accept that taking antiretroviral therapy (ART), can help a HIV/AIDS-person to live longer (only 34.2% said ‘Yes’); about half (50.0%) of the respondents did not accept that the use of condom during all sex activity can prevent HIV infection. Also, only 34.8% of the respondents said ‘yes’ to the statement that, HIV can be prevented by not sharing sharp objects and piercing instruments. The findings were consistent with the result of the study conducted among primary school teachers in Abuja, Nigeria (Oyewale, 2008). It was reported that, there were some knowledge gap among the teachers regardless of their educational qualifications. However, a significant number of respondents display some good knowledge of HIV/AIDS.

Nevertheless, the result of this study should be interpreted with caution in the light of some limitations. The study is restricted to only one local government in Kano State, Nigeria; hence, the findings of the study were only generalizable to a specific group of primary school teachers. Many of the teachers are aware of HIV/AIDS but do not act on it because of wide variety of social, cultural and economic constrains. Therefore, future studies to investigate these important issues, could help in understanding Human Immunodeficiency Virus (HIV) transmissions. Also, because of the self-administered questionnaire being used, social desirability bias may have occurred. However, concealment of the questionnaires hopefully encouraged the respondents to be honest in answering the questions.

#### 5. Conclusion and Recommendation

In conclusion, results of this study revealed that, the primary school teachers in Bichi local government of Kano State, Nigeria have low level of HIV/AIDS knowledge. The study found some weak area of knowledge and highlighted some misconceptions about HIV/AIDS, more-especially, with regards to HIV spread through social interactions and other modes of transmission, including the preventive practices which need to be addressed. An optimal plan of HIV/AIDS education intervention can be made based on the findings. Finally, these findings will create a foundational basis for designing targeted, culturally-tailored HIV/AIDS educational intervention for primary school teachers, and as well, provides opportunity for future studies. In the absence of an effective vaccine, education has been described as a “social vaccine” in the fight against the epidemic.

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#### 7. Declaration

The authors declare that they have no competing interest.

#### 8. Authors’ contributions

Mustapha Abdu design, collected the data and run the analysis, Salmiah Binti Md. Said complemented the statistical design and analysis, Suriani Binti Ismail conceptualize the study design; read and revised the manuscript critically and supervised the work to its end. Faisal Bin Haji. Ibrahim and Syed Tajuddin Sayed Hassan critically review the manuscript. All authors read and approved the manuscript prior to submission.

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