



HIV Knowledge and Risk Behaviours of Junior Staff of the University of Ibadan, Nigeria

Abayomi O. Oluwasanu¹, Eme T. Owoaje² and Mojisola M. Oluwasanu^{3*}

¹University Health Services, University of Ibadan, Nigeria.

²Department of Preventive and Primary Care, Faculty of Clinical Sciences, College of Medicine, University of Ibadan, Nigeria.

³Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.

Authors' contributions

This work was carried out in collaboration between all authors. Authors AOO and ETO initiated the study, developed the protocol and survey instruments, analysed data and wrote first draft of the manuscript. Author MMO managed the literature searches and reviewed the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Human Immunodeficiency Virus (HIV) infection remains a public health challenge and Nigerian universities are not immune to the effect of the epidemic. Despite the fact that non academic junior staff constitute a significant proportion of the workforce and are at risk due to their lower level of education and socio-economic status, few studies have focused on them. The broad aim of this study is to assess the HIV knowledge, risk perception and behaviours of junior staff of the University of Ibadan, Nigeria.

A cross-sectional study was conducted among 700 junior staff of the University of Ibadan. Respondents were selected using multistage sampling technique and completed structured interviewer-administered questionnaires. The quantitative data was analyzed using the Statistical Package for the Social Sciences (version 17) to generate frequencies and cross tabulations of variables.

*Corresponding author: Email: ope3m@yahoo.com;

The mean age of the respondents was 38.8 ± 9.9 years, 74.6% were males, 76.4% were married and 51.6% had post secondary education. Majority identified blood transfusion 94.4% and sexual intercourse 97.3% as the main routes of transmission. The commonest methods of prevention known were condom use 79.6% and mutual fidelity 89.7%. Respondents aged 20-29 years, the single and those with post-secondary education ($P=0.000$) had higher HIV related knowledge. Only 10% of the respondents perceived that they were at risk of contracting the disease; 30.3% did not think People Living with HIV and AIDS (PLWHAs) should continue to work. Fifteen percent reported sexual intercourse with a non-regular partner in the previous 12 months and 30.8% of this group did not use a condom. Workplace health education programmes to reduce HIV risk behaviours and stigmatizing attitudes are recommended.

Keywords: HIV & AIDS; HIV risk perception; non-teaching staff; PLWHA university workplace.

1. INTRODUCTION

HIV is one of the greatest challenges and major public health problem impacting significantly on all components of human development [1]. Over three decade into the pandemic, sub Saharan African consistently remains the worst-affected region and accounts for nearly two-thirds of all people living with HIV and over 70% of the world's AIDS-related deaths [2]. Nigeria, the most populous country in Africa has a national HIV prevalence of 4.1% and an estimated 3.1 million people living with HIV/AIDS. The country accounts for 10% of the global HIV burden and the second highest number of people living with HIV in the world after South Africa [3,4]. Furthermore, an estimated 1.8 million Nigerians aged 15 to 64 years in the labour force are living with HIV/AIDS [5,6].

HIV affects the sexually active and most productive segment of the labour force and poses a major threat to the world of work. It undermines three of the main determinants of economic growth, namely human, physical and social capital [7]. This has important implications for tertiary institutions in Nigeria and Africa where the age structure of the population and the congregation of a large number of people (students, staff and their dependants) interact in an environment that has direct link with the socio-economic development of the country.

Research studies have been conducted in Nigerian university settings to determine the knowledge, risk behaviours and predisposing factors to HIV infections however; most of these have focused on students, regarding them as the most vulnerable and at risk [8,9]. However, this may be untrue and contextual in view of the findings of a study conducted among staff (academic, administrative and service staff) and

students of the University of KwaZulu-Natal, South Africa. The study assessed the knowledge, attitudes, practices and HIV prevalence and the findings revealed that service staff (junior staff) had poorer HIV knowledge, accepting attitudes and higher HIV prevalence rate compared with students, administrative and academic staff [10]. The study recognised the lower cadres of staff in the University as a priority group for research studies and interventions because they are particularly vulnerable due to their lower level of education, socio-economic status and their significant numbers in the university workforce.

Other factors which heighten their vulnerabilities include the nature of some of their jobs which may require them to live away from their families and frequent travels which could predispose them to high risk behaviours [11,12]. The broad aim of this study therefore is to assess the HIV knowledge and behaviours which predisposes junior staff of the University of Ibadan, Nigeria to HIV infection.

2. METHODS

This descriptive, cross-sectional study assessed the knowledge, attitude and risk behaviours of the junior staff of the University of Ibadan with regards to HIV/AIDS. The study was conducted among the junior staff of the University of Ibadan.

The University of Ibadan was founded in 1948 and it is the oldest Nigerian university. It is located 8 kilometres from the centre of the major city of Ibadan in south western Nigerian. There are 13 Faculties and 91 departments in the university. The University has a staff population of 4,340 made up of Teaching (1,214) and Non-Teaching Staff (3,126) as at 2010. The student population is made up of 19,521 Regular Mode

and 12,754 Distance Learning Mode.

2.1 Sampling Technique

To select the estimated number of respondents (700) from the total population of Junior staff (2,265), a multi-stage sampling technique was used (details in Fig. 1). The university had 11 faculties and the registry as at the time of the study. For the purpose of this study, the registry was considered as a faculty. A list that contains the names and number of the junior workers in all the faculties was obtained and used as the sampling frame.

1st stage: Five faculties were selected by simple random sampling from the list of faculties.

2nd stage: From the list of all the junior workers in the University, one-third of the junior workers were selected in each faculty involved in the study by proportionate sampling. Each respondent was then selected by a systematic

random sampling.

The junior staff population at the time of this study consisted of 2265 workers who were either junior technical or non-technical staff. The junior staff were mostly semi-skilled with primary or secondary school education and cadres such as porters, drivers, messengers, lower level technicians and administrative staff. The minimum sample size was 674 and this was determined using WINPEPI i.e. PEPI-for-Windows [13]. The sample size was increased to 700 to adjust for non response and all consenting workers were eligible to participate in the study. Multistage sampling technique was employed in sample selection. Five faculties were selected by simple random sampling and the total number of junior workers in the selected faculties was 2109. The number of respondents in each faculty was determined by proportionate to size, and each respondent was selected by a systematic random sampling from the sampling frame.

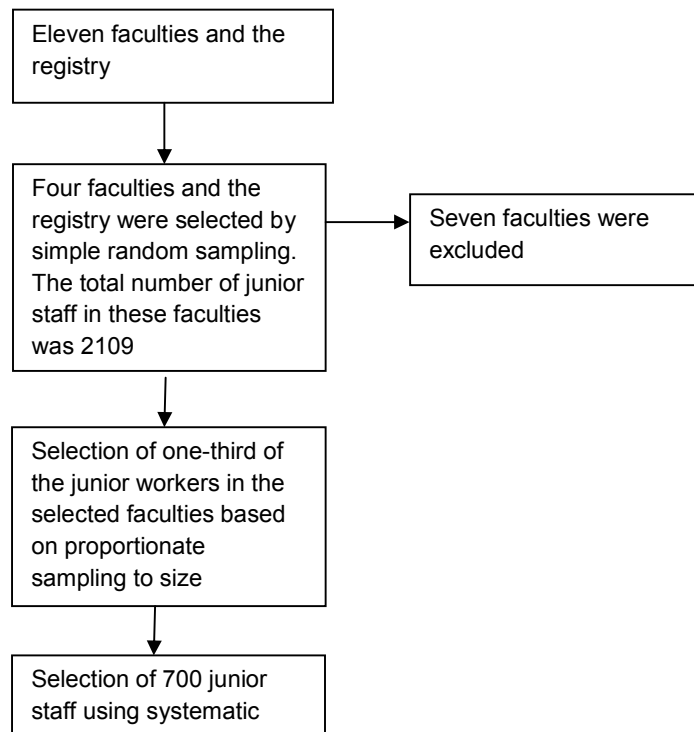


Fig. 1. A flow diagram for the sampling procedure

The data was collected by trained interviewers using a quantitative questionnaire which was field-tested to ensure its reliability and validity. The questionnaire had three key themes; socio-demographic characteristics of respondents, Sexual risk behaviours, knowledge and perception about HIV/AIDS and attitude of respondents to PLWHAs. Ethical approval was obtained from the University of Ibadan and University College Hospital Institutional Review Board and this guided the research process.

The HIV knowledge was assessed based on 14 questions highlighting the mode of transmission and prevention. Correct responses were scored 1 while incorrect responses were scored 0. Total score obtainable was 14. The respondents who scored between 0 and 4; 5 and 9; 10 and 14 were classified as having 'low', 'average' and 'high' HIV knowledge respectively.

The attitude of respondents towards HIV and PLWHA was assessed on a 5 point likert scale which was further collapsed to a 3 point scale for the purpose of analysis. Mean scores were computed and scores above the mean were classified as positive and scores below the mean as negative attitude.

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 17 software (SPSS). Frequencies and proportions were used to summarize variables of interest. Statistical tests of association were done using Chi-square. The statistical level of significance was set at 5%.

3. RESULTS

3.1 Socio-demographic Characteristics of Respondents

The respondents were predominantly males 522 (74.6%) and the breakdown per age group are as follow, 20 – 29 years old 135 (19.3%), 30-39 years old 243 (34.7%), 40-49 years 188 (26.9%), 50 and above 134 (19.1%). Majority of the respondents 535 (76.4%) were married while 159 (22.7) were single. Four hundred and eighty four respondents (90.5%) were in a monogamous relationship and about half 361 (51.6%) had post-secondary education.

The number of years that respondents had spent in the university service ranged from 9 months to 35years with a median of 7 years. Four hundred and forty two (63.2%) of respondents had worked for about 10 years and 102 (14.6%) of

respondents had job duties that required frequent travelling away from home. The number of days spent doing work related activities away from home ranged from 1 to 15 with a median of 2.

3.2 Awareness of HIV/AIDS and Sources of Information

All the respondents, 699 (99.9%) had previously heard of HIV/AIDS. However, only 101 (14.4%) and 191 (27.3%) could define HIV and AIDS respectively.

About half of the respondents 375 (53.6%) reported television as their major source of information about HIV/AIDS. This was followed by radio in 234 (33.4%) of the respondents. Other sources included newspaper 26 (3.7%); posters 18 (2.6%) and public lecture 47 (6.7%).

3.3 Knowledge of HIV Transmission and Prevention

The majority of the respondents could correctly identify sexual intercourse 681 (97.3%), contaminated needles 666 (95.1%), blood transfusion 661 (94.4%) and Mother-to-Child transmission 580 (82.9%) as the main routes of transmission of HIV. However, 271 (38.7), 266 (38.0) and 195 (27.9) stated that HIV could be transmitted by using public toilet; mosquitoes' bite and by evil spirit respectively (Table 1).

The most common modes of prevention known were being faithful to one partner 628(89.7%) and regular condom use, 557 (79.6%) (Table 1). The mean knowledge score was 11.8 ± 2.7 . When overall knowledge scores were computed, about three quarter of the respondents 515 (73.6%) had a high knowledge of HIV's modes of transmission and prevention, 166 (23.7%) and 19 (2.7%) had average and low knowledge respectively.

3.4 Respondents' Self Perceived Risk of HIV

Self perceived risk of HIV infection among respondents was low as only 19% believed that they were at risk of acquiring HIV. Four hundred and ninety eight (71.1%) of respondents believed they were not at risk, 69 (9.9%) perceived that they had some chance of acquiring HIV infection while 133 (19.0%) were not sure. Respondents' socio-demographic characteristics—age group, sex, marital status, level of education and job

duties require travelling were not significantly associated with self perceived risk of HIV ($P>0.05$).

3.5 Respondents' Attitudes to PLWHA and HIV Counselling and Testing

Most of the respondents believed that People Living with HIV and AIDS (PLWHA) are being punished for practicing unsafe sex. Only 146 (20.9%) of respondents opined that they were willing to care for PLWHA while 170 (24.3%) stated that PLWHA should be allowed to continue working (Table 2).

Overall, 513(73.3%) respondents had a negative attitude towards HIV/AIDS and PLWHA while 187 (26.7%) had a positive attitude.

Regarding willingness to test, 557 (79.6%) respondents were willing to undergo HIV Counselling and Testing (HCT). Age, sex, marital status and level of education had no influence on willingness to utilize HCT services ($P > 0.05$).

3.6 Respondents' Sexual Practices

Overall, about half (48.1%) of the respondents had had two or more sexual partners in their lifetime. One hundred and four (14.9%) reported

that they had sexual intercourse with someone other than their spouse or regular partner in the 12 months preceding the study. The number of other sexual partners during this time ranged from 1 to 7 with a median of 1. Of these, 72 (69.2%) reportedly used a condom during sexual intercourse with a non-regular partner.

Condom use with non-regular partners was not associated with age, sex, marital status, education or having to travel frequently ($P>0.05$). Likewise knowledge about HIV and self perceived risk did not significantly influence condom use ($P>0.05$).

3.7 Factors Associated with Multiple Sexual Partnership

Higher proportions of those aged 20-29 years (22.2%), males (17.4%), those not married (26.7%) and those whose job involved traveling frequently away from their homes (26.5%) reported multiple sexual partnership ($P < 0.05$) (Table 3). The knowledge about HIV did not significantly influence multiple sexual partnering ($P > 0.05$). Also, those who perceived themselves as being at risk of HIV/AIDS often reported having multiple sexual partners than those who did not or who were not sure ($P < 0.05$).

Table 1. Respondents' knowledge of HIV and AIDS transmission and prevention

Modes of HIV Transmission and Prevention	Yes n (%)	No n (%)
Evil spirit	195 (27.9)	505 (72.1)
Mother to child	580 (82.9)	120 (17.1)
Blood transfusion	661 (94.4)	39 (5.6)
Sexual intercourse	681 (97.3)	19 (2.7)
Public toilet	271 (38.7)	429 (61.3)
Nutritious Diet	188 (26.9)	512 (73.1)
Being faithful to one partner	628 (89.7)	72 (10.3)
Regular Condom use	557 (79.6)	143 (20.4)
Avoiding contact with PLWHA	96 (13.7)	604 (86.3)
Avoiding eating with PLWHA	117 (16.7)	583 (83.3)
Using new needles for each injection	653 (93.3)	47 (6.7)

*Multiple responses

Table 2. Respondents' attitudes to PLWHA

Statement	Disagreed n (%)	Agreed n (%)	Don't know n (%)
PLWHA are being punished for practicing unsafe sex	128 (18.3)	508 (72.6)	64 (9.1)
Willing to care for PLWHA	146 (20.9)	503 (71.9)	51 (7.3)
PLWHA should be allowed to continue working	170 (24.3)	488 (69.7)	42 (6.0)
Revealing Identity of PLWHA	121 (17.3)	544 (77.7)	35 (5.0)

Table 3. Association between respondents' socio-demographic characteristics and multiple sexual partnering

Variable	Multiple sexual partner		N =700 P =value	r
	Yes N (%)	No N (%)		
Age group (years)				
20-29	30 (22.2)	105 (77.8)	0.000	0.14
30-39	42 (17.3)	201 (82.7)		
40-49	22 (11.7)	166 (88.3)		
50 and above	10 (7.5)	124 (92.5)		
Sex				
Male	91 (17.4)	431 (82.6)	0.001	0.12
Female	13 (7.3)	165 (92.7)		
Marital status				
Currently married	60 (11.2)	475 (88.8)	0.000	.184
Not currently married	44(26.7)	121 (73.3)		
Level of education				
Primary	10 (10.0)	90 (90.0)	0.098	-.063
Secondary	34 (14.2)	205 (85.8)		
Post secondary	60 (16.6)	301 (83.4)		
Job requires frequent travelling				
Yes	27 (26.5)	75 (73.5)	0.000	.135
No	77 (12.9)	521 (87.1)		

3.8 Respondents' History and Management of Sexually Transmitted Infections

Seventy nine (11.3%) of the respondents reported having had Sexually Transmitted Infections (STIs). Out of the 79 respondents who reported having had STIs, 75 (96.2%) stated that they sought treatment.

3.9 Institutional Response

Two hundred and thirty (32.9%) of respondents reported ever receiving information on HIV/AIDS in their departments or workplace. Six hundred and seven (86.7%) of respondents were not aware if there was any policy on HIV/AIDS in the university. Most of the respondents wanted more information on HIV/AIDS prevention 586 (83.7%), treatment 532 (76.0%), care and support for PLWHA 523 (74.7%), transmission 508 (72.6%) and prevalence 489 (69.9%)

Majority 291 (41.6%) indicated the University bulletin as the preferred means of disseminating information in the University to the staff about HIV/AIDS. Others included departmental

seminars 253 (36.1%), posters 66 (9.4%), handbills 66 (9.4%) and newspapers 24 (3.5%).

4. DISCUSSION

This study has shown that awareness of AIDS in the study population was high and increased with age and level of education. This compared favourably with the high level of awareness of HIV & AIDS found in the urban areas (98%) in Nigeria [14] and a study among staff of a public university in Malaysia [15].

Knowledge of the routes of transmission and prevention of HIV was also high. Findings from this study were similar with the Nigeria Demographic Health Survey report, 2013 which reported a high level of knowledge about HIV/AIDS among younger age group, the singles and those with post-secondary education. It is interesting to know, that females had a higher level of knowledge than the male respondents [14]. This result might be a reflection of the fact that women have more opportunities and access to HIV information through the reproductive health services they utilize while the needs of men are largely unmet. This has an implication on the self risk perception of men and their ability

to adopt HIV protective behaviours since this is influenced by the comprehensive knowledge of HIV routes of transmission and prevention [16]. The use of multiple channels in the work place therefore remains an important platform to provide information and education regarding HIV and AIDS as men constitute the majority of the work force and spend a significant proportion of time in this setting.

Despite the high level of awareness of the epidemic, misconceptions exist regarding routes of HIV infection. Similar misconceptions had been reported among university staff in other countries [15,10]. Those with misconceptions about routes of HIV transmission are more likely to stigmatize and be discriminatory towards PLWHA and less likely to use HIV counselling and testing services. These misconceptions and gap in knowledge need to be addressed by educational programmes since less than a third of respondents reported ever receiving work place information on HIV/AIDS.

Despite high level of awareness and knowledge found among the respondents, only about a fifth believed HIV/AIDS was a serious problem in the University of Ibadan. This is not surprising because there has been no systematic documentation of the prevalence and impact of the disease on the University to date. Only about one-fifth of respondents reported knowing someone who had AIDS or had died of an AIDS-related illness in the university. This is comparable to the finding from the National HIV/AIDS and Reproductive Health Survey where only a quarter of the respondents reportedly knew someone with AIDS or who had died of AIDS [17]. This might reflect the fact that many AIDS-related illnesses and deaths are not reported due to the stigma attached to HIV/AIDS.

In terms of personal risk, majority of respondents believed that they were not at risk of contracting HIV. The above finding is consistent with the National HIV/AIDS and Reproductive Health Survey, which reported that a large proportion of the general population did not perceive they were at risk of contracting HIV [17]. This could be associated with the individual's perception of the level of infection within the institute [17] as well as perceptions held by other members of their networks [18]. Furthermore, this could also be influenced by the level of openness and discussions on HIV related issues within the networks or the institutions and this has a potential to influence the adoption of HIV

protective behaviours. These findings indicate that the respondents were yet to understand the relevance and dynamics of HIV and AIDS to their lives, as it affects the work place and the university community.

Although a large percentage of respondents stated their willingness to provide care for PLWHA, a third of them did not think that PLWHA should be allowed to continue working with others. Similar attitude of aversion, rejection and discrimination towards PLWHA was reported in the Nigeria Demographic Health Survey where slightly over half of the respondents think that a female teacher with HIV should be allowed to continue teaching [14]. Oyediran, Oladipo and Anyanti (2005) also reported in their study that over two thirds of respondents opined that an office colleague who became sick with AIDS should not be allowed to continue work [19].

These findings suggest the existence of uncertainty and fear among some of the staff due to inadequate information specific to transmission of HIV at the workplace on one hand. On the other hand, negative attitudes may arise from lack of understanding of the positive and productive life that PLWHA can have with good care and support. This has an implication on stigma and discrimination which is fuelled by ignorance, fear, secrecy and denial thus posing a major roadblock to the effective response to the AIDS pandemic. Furthermore, stigma and discrimination limits the adoption of HIV preventive behavior and the utilization of HIV testing, treatment, care and support services thus increasing the further spread of the disease [20].

These negative perception and attitudes should be targeted by behaviour change communication (BCC)/IEC programs. A good information system regarding PLWHA and the HIV/AIDS situation on the universities is needed to address these problems as studies have shown that members of the general public who are more familiar with an illness are less likely to endorse prejudicial attitudes [21].

Despite good knowledge about the sexual transmission of HIV, more than a tenth of the respondents reported that they had unprotected sexual intercourse with a non-regular partner in the 12 months preceding the study. This reveals the disassociation between knowledge and the adoption of appropriate behaviours. and could be linked to social or structural factors which limit

the abilities of the respondents to adopt HIV preventive behaviours thus increasing their vulnerabilities to HIV infection. Almost half of these reported two or more sexual partners. It was observed that this practice was commoner among the age group 20-29years, singles, males and those whose job involved travelling frequently away from their homes. The evidence presented here suggests that knowledge is not being translated into appropriate changes in sexual behaviour. This observation has been reported in other studies [17, 22]. Furthermore, it is important to note that almost one third of those who reported sex with non-regular partner did not use a condom. This constitutes a high-risk behaviour and reflects dissociation between knowledge and condom use.

Developing an institutional policy on HIV/AIDS is one of the first action that tertiary institutions should take [10]. Though policies are not sufficient to provide solutions to the challenges posed by HIV and AIDS in tertiary institutions but the presence of an institutional HIV and AIDS policy will provide a broad framework and stimulus to translate well articulated intentions to actions. As at the time of this study no tertiary institutions in Nigeria had institutional policy on HIV/AIDS. Little wonder then that majority of respondents said that they were not aware of any policy on HIV/AIDS in the University of Ibadan. It was not until 2005 that a National Policy on HIV & AIDS for the Education Sector was developed and approved by the NCE in Nigeria. Following collaboration and support from UNDP and MacArthur Foundation, UI demonstrated her leading role in tertiary education in Nigeria by sponsoring the development of an institutional policy on HIV/AIDS in 2008. Since then, substantial progress has been recorded by the University in mainstreaming HIV/AIDS in its core activities of teaching, research and human resources management.

Our study assessed the sexual behaviour of the respondents and this is a sensitive issue in a deeply cultural setting like Nigeria. In addition, self-reported sexual behaviour practices are prone to a number of biases that could affect the reliability of the result ranging from participants literacy level, recall biases, confidentiality and concerns resulting from stigmatization of the behaviour in question. Efforts were made to mitigate the impact of these by using trained interviewers to administer the questionnaires in settings which ensured privacy and assuring the respondents of full confidentiality.

5. CONCLUSION

This study has shown that in spite of the high level of awareness and knowledge about HIV/AIDS in the University of Ibadan, misconceptions about modes of transmission of HIV and the burden of the epidemic were still common among the junior staff. Attitudes suggestive of stigma and discrimination were also noted among the respondents and these can significantly hinder prevention, care and treatment efforts and impact negatively on the health of PLWHA. Of grave concern is the fact that knowledge was not being translated into appropriate changes in behaviour evidenced by the risk behaviour exhibited by the members of staff. This could be linked to other structural issues and supports the need for a holistic intervention which addresses not only the information needs, but also the cultural, social and institutional factors which limits their ability to adopt HIV protective actions. The information needs and methods of dissemination were also identified which has potentials to aid further action in Behaviour Change Communication in the university community.

CONSENT

All authors declare that oral informed consent was obtained from all respondents for the conduct and publication of this research study.

ETHICAL APPROVAL

The University of Ibadan and University College Hospital ethics committee granted ethical approval for this study. All authors hereby declare that the study have been examined and approved by the University of Ibadan and University College Hospital ethics committee, Nigeria and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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