



# HIV/AIDS, sexual practices, reproductive health and risk assessment among informal sector workers in Ondo State Nigeria

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## ABSTRACT

**Aim:** HIV/AIDS is a rapidly growing epidemic in sub-Saharan Africa, Nigeria in particular. The report of the 2012 National Reproductive Health Survey Plus indicated that the prevalence of HIV/AIDS in Nigeria, that is, Nigerians currently living with HIV/AIDS is about 3.4% while Ondo State has a prevalence of 4.3%. Inadequate knowledge, traditional beliefs, poverty and cultural factors have all been fingered as factors contributing to the prevalence in the country. This study is therefore designed to determine the knowledge about HIV/AIDS, sexual practices and reproductive health as well as the practice of prevention and transmission of HIV/AIDS among workers in the informal sectors of Ondo State, Nigeria. **Methods:** An open-ended structured questionnaire was administered consecutively to 721 consenting informal sector workers by interviewer at the various government/public and private sector workplaces. The cross-sectional survey questionnaire comprised sections on socio-demographic data, knowledge about HIV/AIDS and knowledge about sexual practices and reproductive health. **Results:** The mean age (SD) was 40.3 (10.1) years. 303 respondents (42.0%) are male while 418 respondents (58.0%) are female. 703 respondents (97.5%) have heard about HIV/AIDS, 265 (36.8%) defined HIV correctly, 212 (29.4%) defined AIDS correctly. Only 63 (11.0%) got the prevalence rate in the state correctly. **Conclusion:** The average percentage knowledge score on the knowledge about HIV/AIDS, sexual practices and reproductive health among this category of workers indicates that there is a huge knowledge gap in certain aspects of these fields, influencing their sexual practices to be such that promotes the transmission of the virus.

**KEY WORDS:** HIV/AIDS, worker, reproductive health, sexual practice

## INTRODUCTION

HIV/AIDS is a rapidly growing epidemic in sub-Saharan Africa, Nigeria in particular. Nigeria carries the second highest burden of HIV in Africa and has an increasing population of people living with HIV (PLHIV) [1]. The report of the 2012 National Reproductive Health Survey Plus (NARHS-Plus) indicated that Nigerians currently living with HIV/AIDS is about 3.4% while Ondo State has a prevalence of 4.3%. Lack or inadequate knowledge, traditional beliefs, poverty and cultural factors have all been fingered as factors contributing to the prevalence in the country [2]. It has been reported in various studies that there are misconceptions about HIV/AIDS, sexual and reproductive health. The authors of a 2013 study on the sexual characteristics and knowledge of adolescent hawkers about HIV/AIDS in Ilorin, Nigeria, reported that all respondents have heard about HIV/AIDS, those that have ever had sexual intercourse were 31.9%, out of which 24.5% ever used condom [3]. A research on the relationship between knowledge of HIV/AIDS and sexual behaviour among in-school adolescents in Delta State, Nigeria, reported that about 47% of the respondents have good knowledge of HIV/AIDS, the electronic media were the main source of information [4]. Also, the authors of a Caribbean study on the knowledge, attitude and practices of adults of the reproductive years, stated that 4% had positive HIV test

results [5]. A 2011 Ethiopian study on the assessment of knowledge, attitude and risk behaviours towards HIV/AIDS in Gondar town, reported that all the students had heard about AIDS before the interview [6]. In Ecuador, there was a report from the cross-sectional study to assess knowledge about HIV/AIDS transmission and prevention measures in company workers that incorrect knowledge about HIV/AIDS transmission were found in 49.1% of subjects, with the incorrect knowledge higher among males, older subjects, subjects with lower education, manual labour workers and subjects without previous exposure to HIV intervention programs [7]. Also, some Indian researchers who carried out a study on vulnerability of automobile repair workers to HIV/AIDS, reported that 63.2% had poor knowledge score and one of the three participants who had commercial sex in last 12 months did not use condom [8]. This study is therefore designed to determine the knowledge about HIV/AIDS, sexual practices and reproductive health as well as the practice of prevention and transmission of HIV/AIDS among workers in the informal sectors of Ondo State, Nigeria.

## MATERIALS AND METHODS

### Study site/subject selection/study design

The cross-sectional survey study was conducted in various parts of Ondo State, Nigeria. An open-ended

structured questionnaire was administered consecutively on 721 informal sector workers of Ondo State, Nigeria, by interviewers. The questionnaire comprised of three sections: Socio-demographic data, knowledge of HIV/AIDS, and knowledge about sexual practices and reproductive health. Simple random sampling was used to randomly select the required number of participants till the required number of willing participants is recruited. Only consenting workers in the informal sector of Ondo State, Nigeria, were included in the study. Participation was voluntary and informed consent was obtained by participants' signing the consent form attached to the questionnaire. Names of participants were not included in the information requested and confidentiality was ensured. Ethical consideration was obtained from the State Ministry of Health. The data collected through the questionnaire were statistically analyzed using Statistically Package for the Social Sciences (SPSS) for windows version 20.0 software. Frequency counts were generated for all variables and statistical tests of significance was performed with chi square test. Significance was fixed at  $P < 0.05$  and highly significant if  $P < 0.01$ .

### Sample size

Sample size calculation was determined using 95% response rate, 0.05 precision and prevalence rate. The report of the

2012 National Reproductive Health Survey Plus (NARHS-Plus) indicated that the percentage of residents of Ondo State with complete knowledge of HIV/AIDS transmission was 9.6%, with 10.2% reported to have used modern family planning in the last 12 months, while the percentage having more than one sexual partner is 22.9% [2]. It is on this premise that our sample size will be calculated, using the highest percentage. The formula for sample size when population is more than 1000 is:  $n = Z^2PQ/d^2$  [9, 10].

## RESULTS

### Socio-demographic data

A total of 721 consenting informal sector workers participated in the study. 362 (50.2%) were between 35 – 44 years while 210 (29.1%) being between ages 25 – 34 years and 50 (6.9%) being between 45 – 54 years of age. 303 (42.0%) are male while 418 (58.0%) are female. Out of the males who are already married, 36 (5.0%) reported having two wives while 491 (68.1%) have just one wife. Regarding marital status, those married are 577 (80.0%) with 111 (15.4%) being single, while the remaining are separated, divorced or widowed. A massive 669 (92.8%) are Christians while 52 (7.2%) are Muslims, with others belonging to traditional religion.

**Table 1.** Transmission Of HIV/AIDS

	Yes		No		Don't Know	
	Frequency	%	Frequency	%	Frequency	%
HIV can be transmitted by transfusion of HIV infected blood	650	90.2	9	1.2	62	8.6
HIV can be transmitted through sexual intercourse with HIV infected person	691	95.8	12	1.7	18	2.5
HIV can be transmitted by sharing plate, cup, spoon, toilet & bathroom with infected person	22	3.1	667	92.5	32	4.4
HIV can be transmitted by sharing sharp objects	693	96.1	10	1.4	18	2.5
HIV can be transmitted by mosquito bite	57	7.9	595	82.5	69	9.6
HIV can be transmitted by sharing clothes with HIV infected person	57	7.9	568	78.8	96	13.3
HIV can be transmitted from HIV infected mother to her child through breastfeeding	406	56.3	186	25.8	129	17.9

**Table 2.** HIV Testing

	Yes		No	
	Frequency	%	Frequency	%
Ever tested for HIV	387	53.7	322	44.7
Received test result	326	45.2	60	8.5
	Last 12 months		Last 6 months	
	Frequency	%	Frequency	%
Tested for HIV in last 6 or 12 months	155	21.5	50	6.9

### Educational status and occupation

The levels of education of the workers are as follow: secondary school certificate for 437 (60.6%), primary school certificate for 149 (20.7%), 58 (8.0%) had no formal western education, with the others totalling 77 (10.6%) having NCE/OND/HND/BSc, which are national certificate in education, ordinary national diploma, higher national diploma & bachelor's degree respectively. 32 (4.4%) are farmers, 226 (31.3%) are into business or trading, while 463 (64.3%) are technicians/artisans including those involved in carpentry work, stylists, fashion designers, automobile repair workers, blacksmith workers and upholstery.

### Knowledge about HIV/AIDS

703 (97.5%) have heard about HIV/AIDS. 265 respondents (36.8%) defined HIV correctly as Human Immunodeficiency Virus, 160 (22.2%) defined it as Human Immune Virus, 49 (6.8%) defined it as Human Immune Deficiency Virus, with the majority of others, either not knowing the full meaning of the acronym at all or giving an incomplete definition such as Human Immuno Virus. As for the full meaning of AIDS, 307 (42.6%) do not have any idea but 212 (29.4%) defined AIDS appropriately as Acquired Immune Deficiency Syndrome, while 156 (21.6%) respondent defined AIDS as Acquired Immunodeficiency Syndrome. A vast majority of

the respondents know the signs and symptoms of HIV/AIDS including fever, rash, headache, sore throat, fatigue, aches and pains around muscles or joints, weight loss, unexplained tiredness, sores etc, with most respondents mentioning at least one.

Only 120 (16.6%), 233 (32.3%) and 59 (8.2%) respondents, know the top three countries with highest HIV prevalence, being South Africa, Nigeria and India respectively. 63 respondents (8.7%) got the prevalence rate in the state correctly. Only a few proportion of the respondents (less than 5%), know about newer biomedical options such as pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP). Those who never tested for HIV are mainly as a result of fear of possible test outcome, lack of interest or lack of will to know status, probably due to risky behaviours. Out of those that tested and received results of the last test, were 311 respondents (43.1%) who reported negative result, 28 (3.9%) were positive result, while 42 (5.8%) didn't disclose their result. The three most important source of information about HIV/AIDS listed by respondents were health workers, radio and television with 227 (31.5%), 188 (26.1%) and 172 (23.9%) respectively. 148 (20.5%) of the respondents have two or more sexual partners. 187 (25.9%) have used or are currently using contraceptives. The types of contraceptive listed as often used are condom (male), intrauterine devices, pills/oral pills etc.

**Table 3.** Sexual Practices and Reproductive Health

	Yes		No	
	Frequency	%	Frequency	%
Have had sexual intercourse	584	81.0	117	16.2
Ever used condom	575	79.8	140	19.4
Have had unprotected sex with regular partner	551	76.4	164	22.7
Have had unprotected sex with regular partner in last 3 months	327	45.4	385	53.4
Have had unprotected sex with casual partner	197	27.3	505	70.0
Have had unprotected sex with casual partner in last 3 months	114	15.8	536	74.3
Pre-marital sex is believed to be prohibited by religion	590	81.8	128	17.8
Have had blood transfusion	74	10.3	644	89.3

**Table 4.** Relationship between Occupation and Prevalence of HIV in the State

Occupation	Knowledge about prevalence of HIV in the state					Total
	0-1	≥1 - 3	≥3 - 5	≥5 - 7	>7	
Farmer	9	13	0	10	0	32
Artisan/Technician	114	155	41	124	29	463
Trading/Business	58	66	22	58	22	226
Total	181	234	63	192	51	721

$\chi^2 = 21.694$ , p-value = 0.001

The relationship between occupation and knowledge about prevalence of HIV in the state is statistically significant at  $P < 0.05$ .

In summary, the average percentage knowledge score based on the total number of correct responses by respondents divided by the total number of available options/questions, in percentage gave average score of 58%. The study methodology rating scale of percentage knowledge score, classified an average score below or equal to 39% as poor knowledge, 40 – 49% rated fair knowledge, 50 – 59% rated average knowledge, 60 – 69% rated good knowledge, while 70% and above is classified as excellent knowledge. Based on this rating, this informal sector workers group are thus rated as having average knowledge about HIV/AIDS generally. Although, despite this classification, there seem to be a general poor knowledge in the areas of prevalence rates of the virus locally and globally, as well as, the definition of both acronyms HIV and AIDS, as a substantial number of respondents have some knowledge inadequacy or knowledge gap in these areas.

## DISCUSSION

Our findings that 97.5% of the respondents have heard about HIV/AIDS, is similar to a 2013 study that reported that all respondents have heard HIV/AIDS [3], so also similar to the report of the 2011 Ethiopian study that stated that all the students had heard about HIV/AIDS before the interview [6]. The findings on the proportion of the respondents that correctly defined the full meaning of both HIV and AIDS, which shows the respondents have a knowledge gap in this aspect, is slightly contrast to the outcome of the 2013 study in Ecuador which reported that 49.1% of the subjects had incorrect knowledge about HIV/AIDS [7]. Our report that only 16.6%, 32.3% and 8.2% of the respondents know that South Africa, Nigeria and India, are the three top countries with highest prevalence of HIV/AIDS, as well as, the 8.7% respondents stating correctly the state (Ondo State) prevalence rate, shows that majority of the persons that took part in these study may only be educated to certain extent, they have some knowledge gap in these areas.

The 3.9% finding of the respondents that tested for HIV and received positive results is very similar to the outcome of the Caribbean study which stated that 4% had positive HIV test results [5]. Our findings of 53.7% and 45.2% of respondents that ever tested for HIV and received results respectively, are in contrast to the 2012 report that quoted nationwide figures of 26.4% and 15.7% respectively [2]. The variations might be due to the difference in methodologies. The three most important sources of information about HIV/AIDS in this research were through health workers, radio and television. This may be as a result of the fact that most of the respondents have access to the means of information/communication much more easily than other means. This is related to the outcome of a 2006 study which reported electronic media as the main source of information on HIV/AIDS [4]. Also, the percentage average score of 58%, which translated to average knowledge about HIV/AIDS, varies from the 2012 Indian research that reported 63.2% having

poor knowledge score [8].

A finding of 81.0% and 79.8% that have had sexual intercourse and used condom, is a direct implication of the marital status of the majority of the respondents. Those that have had unprotected sex with casual partners are 27.3%, even despite their marital status, which implies that the majority of respondents are married. This finding supports the outcome of a research on knowledge about HIV/AIDS and sexual practices among automobile repair workers, which concluded that the attitudes of the workers are such that will encourage transmission of HIV. Moreover, 20.5% of them have two or more sexual partners and 25.9% of them have used or are using contraceptives. The finding on sexual partner is similar to that reported in 2013 that 11.4% of young women and men aged 15 – 49 years who had sexual intercourse with more than one partner [1]. However, the finding on contraceptive is contrary to the 2012 report which said modern contraceptive prevalence among women nationwide was 8.2% [2]. The major aspects of HIV/AIDS, sexual practices and reproductive health, that the workers seem to have done poorly include accurate definition of HIV & AIDS, pre & post exposure prophylaxis, prevalence of HIV/AIDS in the state and worldwide, use of contraceptives as well as unprotected sexual intercourse with a number of partners especially casual partners. This was largely responsible for the eventual average knowledge outcome. This could be due to the fact that majority of the workers either have knowledge gap because of their educational status or have not given more attention to issues relating to HIV/AIDS, sexual practices and reproductive health.

## CONCLUSION

The average percentage knowledge score on the knowledge about HIV/AIDS, sexual practices and reproductive health among this category of workers indicates that there is a huge knowledge gap in certain aspects of these fields especially pre- and post-exposure prophylaxis and prevalence rate, influencing their sexual practices to be such that promotes the transmission of the virus. Thus, there is need for more health education intervention or societal re-orientation on possible risks of such practices, thereby bridging the knowledge gap.

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