

# Sexual Behaviors of HIV-Infected Men who Have Sex with Men in Jos, Plateau State, North Central Nigeria

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## Abstract

**Background:** Sub-Saharan Africa region remains heavily plagued by HIV/AIDS with recent information suggesting that sex between men is a significant contributor to the spread of this infection. It was against this backdrop that this study was conducted to examine the sexual behaviors of HIV-infected men who have sex with men (MSM) in Jos, Plateau state, North Central Nigeria. **Materials and Methods:** A cross-sectional study was conducted among 114 HIV-infected MSM 18 years and above using a quantitative method of data collection. Respondent-driven sampling technique was employed in sampling the study participants, and EpiInfo statistical software version 7 was used for the data analysis. **Results:** The mean age of the respondents was  $26.0 \pm 5.4$  years with condom use in the last anal sex being 77 (67.5%), while majority (83.3%) of the respondents was adjudged to have been engaged in risky sexual behaviors. **Conclusions:** This study has brought to light a significant level of risky sexual behaviors among HIV-infected MSM with condom use, multiple same sexual engagement, transactional sex, and bisexual concurrency as areas of possible interventions.

**Keywords:** HIV/AIDS, men who have sex with men, Nigeria, Plateau state, sexual behaviors

## INTRODUCTION

Sub-Saharan Africa region remains heavily plagued by HIV/AIDS with recent information suggesting that sex between men is a significant contributor to the spread of HIV infections.<sup>[1]</sup> Findings from studies conducted in some African countries inclusive of Nigeria indicated that a significant number of HIV infections occur among men who have sex with men (MSM), with this group constituting a conduit for HIV transmission.<sup>[2-4]</sup> Furthermore, studies conducted in countries within the African continent on the prevalence of HIV among MSM have reported a consistently higher prevalence than the national figures with a reported prevalence of 9.8% in Banjul, the Gambia, 18.0% in Abidjan, Côte d'Ivoire, 34.3% in Accra-Tema, Ghana, 34.9% in Abuja, Nigeria, and up to 50.0% among MSM engaging in sex work in Abidjan, Côte d'Ivoire.<sup>[1,3,4]</sup> It was against this backdrop that this study was conducted to examine the sexual behaviors of HIV-infected MSM in Jos, Plateau state, North Central Nigeria.

## MATERIALS AND METHODS

### Study area

This study was conducted among HIV-infected MSM linked to HIV care and affiliated to nonhealth facility HIV support groups within the network of MSM in the state. The MSM network had an estimated membership of 150 persons diagnosed with HIV positive and linked to HIV care in various health facilities. The HIV-infected MSM constitute the membership of the HIV support group.

### Study population

The study population comprised all HIV-infected MSM affiliated to the HIV support group within the network of MSM in the state.

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## Study design

This was a cross-sectional study conducted in 2019 using a quantitative method of data collection.

## Sample size estimation

An appropriate sample size determination formula for a cross-sectional study was used for this study,<sup>[5]</sup> with the proportion of MSM who engaged in risky sexual behavior from a previous study being 34% (0.34, 0.823) giving a minimum sample size of 344.<sup>[6]</sup> Application of correction for the finite population was instituted using an appropriate formula,<sup>[5]</sup> giving a minimum sample size of 105.

## Criteria for inclusion in the study

All HIV-infected MSM affiliated to the HIV support group within the MSM network in the state who were 18 years and above were eligible to participate in the study.

## Sampling technique

Respondent-driven sampling technique was used to recruit consenting eligible MSM into the study.<sup>[7]</sup> Eligible HIV-infected MSM were recruited for the study through the identified MSM network and HIV support group coordinators who were well-regarded by their peers and influential within their networks and the sampling process continued until a saturation point was reached where all consenting eligible respondents had been sampled, and no respondents were gotten for a 1-month period.

## Data collection

A semi-structured interviewer-administered questionnaire adapted from a previous similar study was used.<sup>[8]</sup> Content validity of the data collection tool was ensured by translation and back translation into the predominant language (Hausa) of location and the instrument pretested in a comprehensive HIV treatment site in the state while three trained MSM network coordinators carried out the data collection. Written and verbal informed consent was obtained from all the respondents prior to the data collection with the assurance of confidentiality and anonymity of their responses given. Ethical approval was obtained from the Jos University Teaching Hospital Institutional Human Research Ethics Committee prior to the commencement of the study.

## Data analysis

Data analysis was carried out using Epi Info statistical software version 7 CDC 1600 Clifton Rd. Atlanta, GA 30333 USA. Mean and standard deviation were used as summary indices of quantitative variables such as the age of the respondent and age at first same and/or heterosexual experience upon fulfilment of the assumptions of normality. Other qualitative variables were expressed in frequencies and percentages. Sexual behavior was adjudged risky if respondents engaged in sex without a condom and with more than one male partner.<sup>[6]</sup>

## RESULTS

One hundred and fourteen HIV-infected MSM linked to HIV care participated in this study with a mean age of

26.0 ± 5.4 years. Seventy-three (64.0%) respondents were strictly homosexuals, while 41 (36.0%) were bisexuals. Furthermore, the average age at same-sex sexual debut was 19 ± 5 years with 46 (40.4%) debuting the same sexual experience before the age of 18 years [Table 1].

Majority (77.2%) of the MSM are mainly penetrative partners, while 51 (44.7%) also affirmed to being engaged in transactional sex. Condom use in the last sexual experience with a male partner was attested to by 77 (67.5%), while more than half (61.0%) of those who engaged in bisexual intercourse also used condoms in their last sexual engagements. With regard to the number of same-sex sexual partners, 97 (85.1%) had multiple sexual partners, while majority (83.3%) of the respondents were adjudged to have engaged in risky sexual behaviors [Table 2].

## DISCUSSION

Sexual behavior is an important driver of transmission of new HIV infections in the general population but more importantly among the MSM population. Bisexual concurrency was expressed in slightly above a third of the respondents in this study, which is slightly higher than what was reported in studies conducted among MSM in Mexico, United Kingdom, and Abuja, Nigeria.<sup>[3,8,9]</sup> However, other studies found a much higher level of engagement in the bisexual act.<sup>[10-12]</sup> This implies that MSM still constitutes an unrecognized link in the transmission

**Table 1: Demographic characteristics of the respondents (n=114)**

Characteristics	Frequency (%)
Mean age (years), mean±SD	26.0±5.4
Marital status	
Single	105 (92.1)
Married	7 (6.1)
Separated	2 (1.8)
Sexual orientation	
Homosexual	73 (64.0)
Bisexual	41 (36.0)
Age at same-sex debut (years)	
<18	46 (40.4)
≥18	68 (59.6)
Mean age at same-sex debut (years), mean±SD	19.1±5.1
Family type	
Monogamy	41 (36.0)
Polygamy	73 (64.0)
Family history of same-sex orientation	
Absent	74 (64.9)
Present	40 (35.1)
Highest level of education attained	
Primary	8 (7.0)
Secondary	62 (54.4)
Tertiary	44 (38.6)
Employment status	
Employed in paid job	42 (36.8)
Not employed	72 (63.2)

SD: Standard deviation

**Table 2: Sexual behaviors of the respondents (n=114)**

Characteristics	Frequency (%)
Type of MSM	
Penetrative partner	88 (77.2)
Receptive partner	18 (15.8)
Both	8 (7.0)
Engagement in transactional sex	
Engaged	51 (44.7)
Not engaged	63 (55.3)
Use of condoms in the last same sexual intercourse	
Yes	77 (67.5)
No	37 (32.5)
Use of condoms in the last bisexual intercourse	
Yes	25 (61.0)
No	16 (39.0)
Number of same sexual partners	
One	17 (14.9)
Two or more	97 (85.1)
History of other STIs	
Positive	78 (68.4)
Negative	36 (31.6)
Sexual behaviour	
Risky	95 (83.3)
Not risky	19 (16.7)

MSM: Men who have sex with men, STIs: Sexually transmitted infections

of HIV infection in the general population. Furthermore, the variation that exists in the level of bisexual engagement among the MSM within Nigeria and even in other countries could be attributable to the contributions of societal perception of same-sex relationship, nonacceptability of same-sex practices following its criminalization in some countries, and social marginalization of MSM. This invariably is promoting occult sexual behaviors among this group resulting in the act of having female sexual partners to safe face.<sup>[13]</sup>

Engagement in transactional sex was reported in slightly below half of the study participants with shared similarities with findings of other studies conducted in Nigeria.<sup>[3,14]</sup> However, dissimilarities exist with findings of other studies reporting a much lower level of engagement transactional sex, while a Kenyan study reporting a much higher level.<sup>[3,6,8,12]</sup> This variation has further brought to light that sex in exchange for money or gift may be prompted by different factors bothering on economic viability, pressure from peers, and behavioral disposition of individuals. In addition, it is also imperative to state that this study was conducted among HIV infection MSM population as against other studies conducted among the general MSM population who may not have been aware of their HIV status.

Sexual intercourse with multiple partners is an important vehicle in the chain of transmission of HIV and sexually transmitted infections (STIs). In the study, majority of the respondents had multiple same-sex sexual partners in 3 months preceding this study which is much higher than the findings

of other studies.<sup>[3,9]</sup> The implication to practice is that more MSM will continue to be vehicles in the transmission of HIV and STIs if appropriate behavior change intervention is not targeted at them.

Consistent condom use is an important component of the assessment of risky sexual behavior as well as the fulcrum for the prevention of transmission of HIV and STIs. Condomless anal sex was reported by one-third of the participants in this study, of which other studies across different countries and cultural settings found a much higher practice among this population.<sup>[3,6,9,12]</sup> Similarly, other studies have reported a lower level of practice of condomless anal sex than that of this study. These findings have brought to light that condom use is largely influenced by an individual's disposition regardless of the settings but could also be driven by availability and affordability of the condom itself as well as the ability to negotiate sex, particularly in a mutual sexual relationship and also in transactional sexual engagement. Furthermore, it is important to note that this study was limited to HIV-infected MSM linked to HIV care as against other studies carried among the general MSM population. Nonetheless, it is becoming needful and necessary to refocus condom programming interventions among MSM in the settings where MSM activities permitted within the law and developing such in other settings where MSM activities are criminalized to avert an impending outburst of new HIV infections. It is also important to note that this study did not assess the practice of group sex or oral sex among this population bring to light its limitation in generalizing the level of condom use in sexual engagement among the MSM population. Assessment of the level of risky sexual behavior among the MSM in this study was done using a combination of sexual activity. Majority of the study participants were adjudged to have been engaged in risky sexual behavior which is way higher than what was reported in another Nigerian study though conducted in using of secondary national data.<sup>[11]</sup> In this light, it is important to bring to fore that HIV prevention and control activities may not achieve its desired results if MSM and other key affected population are not given the needed behavioral change interventions.

## CONCLUSIONS

This study has brought to light a significant level of risky sexual behaviors among HIV-infected MSM which highlighted areas of possible interventions targeting condom use, multiple same sexual engagement, transactional sex, and bisexual concurrency.

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### Conflicts of interest

There are no conflicts of interest.

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