
The experience of condom use and other sexual risk practices among male brewery employees who recently migrated in Nigeria

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Abstract

Objective To identify factors that predict condom use and sexual practices of brewery employees who had recently been on short- and long-term migration in the course of their jobs in Nigeria.

Design A cross-sectional survey design was adopted to investigate the relationship between sexual practices and condom use of migrant employees, and to determine the predictors of condom use at last intercourse during migration.

Setting The study was conducted in a large multinational brewery in Nigeria with operational locations in various parts of the country.

Method A sample of 936 male employees was selected consecutively in the brewery in 2002. They were independently invited to respond to a questionnaire consisting of items that covered background characteristics, condom use and sexual experiences.

Results The findings showed that 40 per cent of participants reported they were using alcohol occasionally prior to sex and 54 per cent reported that they either received or paid money for sex. Forty-seven per cent of men indicated that they used condoms at their last intercourse during migration, while 62 per cent had had one to three sexual partners during their last migration. The odds of using a condom at last intercourse were significantly lower for married than for single participants (odds ratio, 0.57). Compared with participants without the intention to use a condom in next intercourse during migration, those with the

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[DOI: 10.1177/0017896906067784]

intention were significantly more likely to report condom use (odds ratio, 9.7). The odds of condom use were significantly higher for participants who perceived that a condom prevents HIV transmission than those who either did not have the perception or were not sure (odds ratio, 0.30–1.80).

Conclusion Steps are needed to promote condom use among brewery employees on migration. Intervention programmes aimed to enhance condom use among prospective migrant employees may be more effective if they provide opportunities for the employees to think about the advantages of condoms in sexual encounters under migration conditions.

Key words: condoms, HIV, migration, Nigeria, sexual behaviour

Introduction

There is increasing evidence that migration plays a major role in HIV spread¹. However, there is a dearth of HIV/AIDS behavioural and prevention research on employees who engage in migration in the course of their jobs in large and multinational organizations in sub-Saharan African countries. Although there is limited information on long distance truck drivers and sex workers, there is less information on sexual practices of employees in larger organizations who are on job trips to other communities within national and international boundaries. Circular migration between an urban area where the employees primarily work and another urban area where they are transferred to work for specified short- or long-term periods (before they return to the primary work area) is common among the employees in many sub-Saharan Africa countries. The pattern of sexual practices of these employees may be different and more diverse than that of other migrants who have been frequently involved in HIV-related studies, for example, gold-miners, motorbike taxi-riders, sex workers and long distance truck drivers²⁻⁴. For example, migrant employees who work in larger organizations are more likely to have higher educational qualifications than the frequently studied migrants. Education has been shown to enhance the likelihood of utilizing sexual protection devices, especially condoms⁵. Understanding the nature and diversity of sexual practices of the employees is crucial to guide the design of programmes that are effective in reducing HIV transmission among the employees. HIV epidemics in large organizations can severely hamper productivity. Employers are likely to experience shortages of experienced staff and an increase in costs due to protracted ill health and death of employees⁶.

The study setting

Nigeria is the most populated country in Africa, with an estimated population of 108 million⁷. The HIV scourge in the country reached an epidemic point in 1999 with an

adult seroprevalence rate of 5.4 per cent, which declined to 5 per cent in 2003. The rates vary in the six geo-political regions of the country, with a range of 3.7–5.7 per cent. Virus transmission is mostly through heterosexual contact. Approximately 3.5 million people were estimated to be infected with the virus in 2002, leading to 1.4 million deaths and causing 847,000 children to become orphans. Individuals in their productive years, especially those between the ages of 20 and 24 years, are mostly affected, with a prevalence rate of 6.5 per cent⁸. The HIV/AIDS epidemic has become a serious burden and an emergency problem in the country. The burden is complicated by the difficulties in the country's health services system, largely created during the long years of military political instability. Only about 50 per cent of the population in urban areas have access to safe water, and less than 30 per cent have access to sanitation. These figures are even lower in rural areas⁹. There is still a scarcity of essential drugs and supplies in the health system. The annual per capita income is US\$350, one of the lowest in the world.

This study is on employees of a large multinational brewery in Nigeria with operational locations in various parts of the country. Many of the employees are likely to experience the risks of HIV infection, particularly due to free alcohol use, migration and multiple sexual partners.

Sexual and condom use practices of migrants

Existing studies indicate a causal link between migration and HIV infection in Africa. The HIV infection rates are higher in border towns than in areas where migration is less extensive. Data from Niger Republic show that 70 per cent of HIV-positive people have a history of visits to the west African coast. Almost all the infected people reside in the country's transit towns of Niamey and Tahoua¹⁰. To control HIV transmission in mobile populations in sub-Saharan Africa, most programmes have focused on the promotion of male latex condoms. This is consistent with the twin observations that the primary mode of HIV transmission is heterosexual and that condoms provide effective protection for sexual partners against contracting HIV and other STIs that act as co-factors for HIV infection.

There are still concerns about the need to enhance condom use for the long distance truck drivers in Nigeria, as many of them engage in high-risk sexual practices and yet make no, or erratic, use of condoms. In Ibadan, studies show that the drivers are mostly married but engage in frequent extramarital affairs with numerous partners. A majority of the drivers has recently been treated for various STIs. Only about 15 per cent of them frequently use a condom¹¹. More recent studies in various parts of the country indicate that about 70 per cent of the drivers knew about the preventive utility of condoms as a measure against HIV infection, but only 7 per cent consistently use them in extra- or non-marital sexual relationships. Those that always used a condom were likely to have a secondary school education, not likely to use herbal remedies to improve sexual energy, frequently listened to the radio and were not likely

to complain that condoms cause health problems⁴. Findings from Uganda also show that highly mobile motorbike taxi-men engaged in wide scale sexual networking with low use of condoms during their seasonal urban-rural migration. They had above average incomes that facilitated their sexual encounters with concurrent multiple sexual partners, especially sex workers, 'sugar mummies', barmaids, students and widows².

Short-term mobility was found to be a risk factor associated with HIV infection among men in rural communities of Guinea Bissau¹². Similarly, in South Africa studies show that 26 per cent of migrant men in workplaces were HIV positive, compared to 13 per cent of non-migrant men. The major risk factors for HIV infection among the employees were having been a migrant, having ever used a condom in the past, and having lived in four or more places during a lifetime¹³. Migration tends to intensify the likelihood of extramarital relationships and HIV-risk sexual practices for persons who seek employment in distant communities. Studies found that 41 per cent of Dutch expatriates who returned from job assignments in sub-Saharan Africa, Latin America, and Asia had sex with casual or steady local partners. Having sexual encounters abroad was associated with younger age, intention to have sex prior to travel, being single at departure and feelings of loneliness. Consistent condom use appeared high, however, consisting of 70 per cent of men and 64 per cent of women who always used condoms with partners during casual sex¹⁴.

Mobility and HIV infection

As previously mentioned, there is a reasonable consensus that mobility is an independent predictor of HIV infection. The question is why would mobility be linked with HIV infection? The symposium on 'Mobile Populations and HIV' at the 12th International World AIDS Conference in Geneva in 1998 identified the concept of vulnerability as useful in understanding the linkage in resource constrained communities. Other scholars also used similar conceptual frameworks¹⁵. Vulnerability to HIV infection has been defined in terms of eight dimensions that apply to migrants: feelings that they are powerless to protect themselves from the infection; exposure to greater than average risks; exposure to numerous risks of HIV infection; inability to economically offset risks of HIV infection; inability to receive optimal quality medical care; feelings of discrimination; deprivation of some social rights; and lack of political power. Empirical studies have shown that mobile populations in developing countries score highly on all the dimensions¹⁵.

From this theoretical perspective, migration among working populations is primarily a means to achieve economic gain. Migrants often have a need for intimacy and sexual involvements while living in transit communities or destination areas, after leaving their home communities and departing from regular sex partners. To fulfil this need, migrants frequently develop friendships with people in the new environments with whom they have sexual relationships. They often face increased vulnerability to

contract STIs and HIV in the process of coping with sexual encounters in the new environments. Sometimes the labour policies in the new environments do not give them rights to obtain health care facilities necessary to protect them from HIV infection. The sexual norms, languages and shared values of the home environments, which guide the social actions of the migrants, may not fit into the norms of sexual behaviour in the new environments. Consequently, the migrants are likely to be quite vulnerable to contract HIV in the new environments¹⁵.

In this article, we focus on sexual behaviour of employees in Nigeria who had recently been on migration in the course of their work, as a factor that influences vulnerability to HIV/AIDS. The aim of the article is to describe sexual practices of the employees with casual partners. The casual partner type definition is sex with a person met for the first time during the last migration period at transit or destination points, but with sexual episodes occurring on fewer than five occasions during the migration period.

The sexual practices and condom use patterns of brewery employees, especially among those on migration and work trips, are not known. The employees have some background characteristics that differentiate them from mobile populations that are frequently studied (for example, long distance truck drivers, sex worker, and migrant workers). They are more educated and have access to free alcoholic drinks. Empirical evidence suggests that individuals such as brewery employees who have access to free alcoholic drinks may engage in unsafe sex, as alcohol intake reduces the likelihood of taking appropriate health measures¹⁶. In contrast, however, as previously indicated, education increases the likelihood of condom use⁷. How the factors and sexual risks account for sexual practices of brewery employees is unclear. The information is crucial to inform the design of appropriate measures that will limit possibility of HIV transmission among the employees. Consequently it is of interest to investigate the predictors of use of male latex condoms at last intercourse by brewery employees during migration, as variables that could reduce vulnerability among the employees.

Method

Participants

In October and November 2002, we recruited employees from a large multinational brewery firm in Nigeria. The brewery has about 2500 employees working in diverse industrial and sales locations across the country.

Measures

The study questionnaire invited participants to report their age, marital status, ethnicity, religion, education, other related demographic information, HIV status and substance and alcohol use prior to sex. To assess work trip patterns and sexual behaviour, participants provided information about their migration patterns from the organi-

zation to other communities. They also reported if they had sex with someone they met for the first time during their last migration period, how often they had sexual intercourse with the person and whether they used a condom the last time they had intercourse. Information was also obtained on whether participants had received or paid money for sex (an indication of frequency of engaging in commercial sex), if they perceived that a condom was useful to prevent HIV infection, and whether they thought they were susceptible to contract HIV without condom use. Participants also provided information about their sexual behaviour in the home environment during the previous two months.

Procedures

Information about the study was disseminated by electronic mail, through the human resources department in the company headquarters to all department and unit heads within the corporate headquarters and other locations in different parts of the country. The departmental heads consequently passed on the information to staff members through verbal discussions in meetings. After receiving the information, we gave a self-administered questionnaire to each of the employees who consented to participate in the study.

The questionnaire was pre-tested on a small sample of employees who did not participate in the main study. The aim was to ascertain the feasibility and reliability of the questionnaire, especially to correct any possible gaps and redundancies in the questionnaire in the light of organizational conditions and cultural sensitivities of the employees, and to check if the language was appropriate. The questionnaire was thereafter amended accordingly and administered in ways that no identifying information was collected, to allow for completely anonymous responses.

Overall, 1996 employees, yielding about a 75 per cent response rate, completed the questionnaire. Surveys were self-administered unless reading assistance was required (<2 per cent). Forty-seven per cent (942) of the employees reported that they had not gone on job trips that required them to stay at least three days away from home in the last six months. These 942 participants were omitted from the data analyses because we were particularly interested in sexual practices of the employees on job transfers to other communities. In addition, to be certain that all sexual experiences occurred with casual partners, we excluded 37 persons who had not had sex with someone met for the first time in previous migration periods, and those who had but with more than five sexual episodes. Finally, we further removed 81 female employees who constituted a minority population in the labour force. Thus, the final sample consisted of 936 male employees who had had casual heterosexual intercourse during last work trips.

Data analysis

Data were coded and analyzed using the SPSS (Statistical Package for Social Sciences) version 10 software package. The participants were separated into sub-groups by selected characteristics of substance use, condom use, multiple sexual partnerships, and commercial sex practices. For the analysis of sub-groups, the contingency table chi-square test was used to test differences for categorical data. Differences were determined to be statistically significant at $p < 0.05$. At the multivariate level, logistic regression analysis was used to measure the net effect of independent variables on the likelihood of condom use at last intercourse. Variables associated with condom use (at last sex during migration) in the bivariate analysis at $p < 0.001$ were examined in the multivariate logistic regression analysis.

Results

Of the 936 sexually active employees who had been on job transfers to other communities in the past six months, the majority of men (68 per cent) were between 25 and 39 years old, married (72 per cent), Yoruba (29 per cent) or Igbo (39 per cent), Christian (90 per cent) and university or polytechnic graduates (52 per cent) (see Table 1). About 92 per cent of the married participants were in monogamous relationships, the remaining were in polygamous relationships. The majority (52 per cent) had been married between one and eight years, and 74 per cent of all the married participants had one to four children (not shown).

The majority of the participants (55 per cent) did not know their HIV serostatus in the past six months. Of those that were sure, 2 per cent mentioned that they were HIV positive. Four per cent of men indicated that they had had STIs in the previous 12 months.

On the frequency of migration, 81 per cent reported that they migrated in the course of work occasionally, while 4 per cent reported they migrated always. Similarly, 39 per cent of participants reported that they had a short-term migration of three to seven days during their last migration, 38 per cent reported they had trips that took them away from work for one to four weeks, while 23 per cent reported that they had long-term migration of more than four weeks during their last migration.

Condom use practices during migration

Participants reported varied patterns of condom use during migration. Although all of the participants included in the study were sexually active and had had migration experience in the previous six months, the majority of participants (82 per cent) had used a condom either in home communities or during migration. The pattern of condom use while in the home environment was similar to the use while on migration. Forty-eight per cent reported that they used a condom in their last intercourse in the home environment. Similarly, 47 per cent reported that they used a condom in their last sexual encounter while on migration. Of all the participants with recent migra-

TABLE 1 Percentage distribution of recent migrant employees by selected background characteristics

Characteristics	Men (n = 936)
Age	
<25	5.4
25-29	16.0
30-34	21.0
35-39	30.7
40-44	14.8
45-49	7.9
50-54	3.7
>54	0.5
Marital Status	
*Single	27.6
Married	72.4
Ethnicity	
Yoruba	28.6
Igbo	39.0
Hausa	2.9
Edo/Delta	13.4
Tiv/Igala/Idoma	12.5
Ibibio	3.6
Religion	
Catholic	28.3
Protestants	23.4
Other Christians	38.0
Islam	8.6
Traditional	1.7
Education	
Primary	9.4
Secondary	26.6
**University/Polytechnic	52.0
Postgraduate	11.9

* Single includes participants who never married and those widowed or divorced

** Only employees without postgraduate qualifications

tion experience, the majority (55 per cent) mentioned that they paid for the condoms. Sixty-two per cent reported an intention to use a condom in their next sexual relationships during migration. Similarly, 89 per cent perceived that they could contract HIV in a sexual encounter without condom use with an irregular partner (see Table 2).

To closely examine the potential predictors of condom use at last intercourse during migration, bivariate associations between condom use and other diverse variables were conducted (see Table 3). In terms of marital status, 63 per cent of men who were single and 40 per cent of men who were married reported condom use ($p < 0.0001$). Similarly, more men who were Muslim (66 per cent) indicated they used con-

TABLE 2 Percentage distribution of recent migrant employees by selected condom use characteristics

Characteristics	Men (n = 936)
Ever used a condom	
Yes	82.0***
No	18.0
Condom use at last intercourse in home community	
Yes	47.6*
No	52.4
Condom use at last intercourse during migration	
Yes	46.6*
No	53.4
Paid for Condoms	
Yes	55.2*
No	44.8
Intention to use condoms in next intercourse during migration	
Yes	62.2****
No	37.8
Perceived that one can contract HIV in unprotected intercourse with irregular partners	
Yes	88.7*
No	11.3

* $p < 0.05$, ** $p < 0.001$, *** $p < 0.0001$

doms than both 38 per cent of men who were Protestants and 40 per cent of men who had traditional faiths ($p < 0.05$). The majority of men with a postgraduate education (63 per cent) reported condom use compared to 38 per cent of men with a secondary education ($p < 0.05$). Similarly, the majority of men who had the intention to use a condom in future intercourse expressed that they used condoms, compared to 17 per cent of men who did not have the intention ($p < 0.0001$). About 60 per cent of men who perceived that condoms prevent HIV transmission during intercourse with non regular partners reported that they used a condom, compared to 39 per cent of men who did not know and 19 per cent of men who were not sure ($p < 0.001$). Almost half (48 per cent) of men who thought that they could contract HIV during sex with non regular partners reported condom use, compared to 26 per cent of men who did not think they could ($p < 0.05$).

Sexual risk practices

Alcohol use prior to sex was common among the participants compared to non-alcohol use. About 40 per cent reported they occasionally used alcohol prior to sex in their last migration. Only 15 per cent indicated that they occasionally used non-alcoholic substances such as local herbal preparation and synthetic tablets procured from chemists prior to sex (see Table 4).

TABLE 3 Percentage distribution of employees condom use at last sex during migration by selected characteristics ($n = 936$)

Characteristics	Men
Marital Status	
Single	62.6***
Married	40.2
Religion	
Catholic	55.1*
Protestant	38.1
Other Christian	45.0
Muslim	65.6
Traditional	40.0
Education	
Primary	50.0*
Secondary	37.8
University/Polytechnic	46.0
Postgraduate	63.0
Intention to use condoms	
Yes	64.4***
No	16.7
Perceived that condoms prevent HIV transmission	
Yes	60.0**
No	39.6
Don't Know	18.6
Thought one could contract HIV infection through unprotected intercourse	
Yes	48.3*
No	25.9

TABLE 4 Percentage distribution of substance use, number of sexual partners and commercial sex characteristics of employees on migration ($n = 936$)

Frequency of alcohol use before sex	
Not at all	57.3
Occasionally	40.8
Frequently	0.9
Frequency of use of non-alcoholic substances before sex	
Not at all	80.4
Occasionally	14.8
Frequently	4.8
Number of sexual partners during migration	
1	39.3
2	12.5
3	10.0
≥ 3	38.2
Received or paid money for sex during migration	
Yes	54.7
No	45.3

TABLE 5 Odds ratio from logistic regression predicting employees condom use at last intercourse during recent migration, by selected characteristics, according to the set of variables included in regression

Variables	Model 1	Model 2	Model 3
Marital status			
Single (ref)	1.00*	1.00*	1.00*
Married	0.57	0.57	0.57
Intention to use a condom			
No (ref)	—	1.00***	1.00***
Yes	—	9.75	9.84
Perceived condoms to prevent HIV transmission			
No (ref)	—	—	1.00*
Yes	—	—	1.80
Don't Know	—	—	0.30

Single includes participants who never married and those widowed or divorced
* $p < 0.05$, *** $p < 0.001$

The majority (62 per cent) of participants had between one and three sexual partners during the last migration period before they returned. Having multiple sex partners among married and single employees in home environments was common. Sixty-four per cent of married men reported they had only one sexual partner outside marriage, while an additional 13 per cent had two or more partners. For the unmarried employees, the majority of them had two or more sexual partners in the past two months. Fifty-two per cent of men had two partners, 24 per cent had three partners, and 9 per cent had four or more partners. In terms of commercial sexual practices, participants were more likely to have received or paid money for sexual relationships at last sex during migration (54 per cent) than while in the home environment (18 per cent).

Multivariate analysis

A multivariate logistic regression analysis was conducted to assess the net effect of independent variables (marital status, intention to use a condom during next migration, and perception of condoms as useful to prevent HIV infection) on use of condoms at last sex with casual partners during migration.

Table 5 shows the odds of using a condom during migration, after controlling for independent variables. Model 1 tests whether single participants were more likely to use a condom than the married participants. Condom use was twice as likely among single than married participants (odds ratio [OR] = 0.57, 95 per cent confidence interval [CI] = 1.8–3.7). Model 2 tests whether participants with the intention to use a condom in the next sexual encounter during migration were more likely to use a condom

than those without the intention. The odds of using a condom were 10 times higher among the participants who had the intention than among those without the intention (OR = 9.75, 95 per cent CI = 2.6–33.9). In this model, marital status remained a significant predictor of condom use. Model 3 tests whether participants who perceived condoms to be useful for preventing HIV infection were more likely to actually use a condom than those who did not have the perception. Condom use was almost 50 per cent more likely among participants who perceived condoms to be adequate for preventing HIV transmission than among those without the perception (OR = 1.8, 95 per cent CI = 1.2–5.4). Still in the model, both marital status and intention to use a condom remained significant predictors of condom use.

Discussion

The study has a number of limitations that may have affected the pattern of results obtained. Chiefly that the sample of study only had recent migration experience, they were not actually on migration during the study. This may limit the readiness to recall the details of the migration experience and also heighten socially desirable responses associated with condom use.

Despite the limitations, results from the present study suggest that the greater likelihood of condom use among single participants compared to married participants may reflect that those in marital relationships perceived themselves to be in stable relationships, and consequently as having little or no need for condoms. This result was consistent with previous findings from Zambia that the use of a male condom was five to eight times as high in nonmarital as in marital partnerships⁵. The finding that the intention to use a condom in future was a strong predictor of condom use makes sense theoretically, because people might be expected to make a decision about an action (such as condom use), think about the decision and consider it advantageous before they engage in the action. According to this perspective the most immediate cause of behaviour are the *behavioural intentions*, which are conscious decisions to carry out specific actions¹⁷. The present result is also consistent with the findings from Ghana that the intention to use contraceptives is a determinant of contraceptive use¹⁸. The finding that participants who perceive condoms as preventing HIV infection reported condom use, may also be associated with intentions. The perception of adequacy of condoms to prevent HIV infection may be predictive of intentions to use a condom in future, as the positive perception of condoms may facilitate reaching the decisions to use a condom in future. The present finding was consistent with the results obtained from South Africa, that knowing that condoms could prevent transmission of a sexually transmitted infection also significantly increased the odds of use¹⁹.

It is recommended that condom use interventions that foster intentions to use condoms and offer opportunities for contemplating the advantages of condom use, are feasible to support prospective migrant employees in making effective decisions on when and how to use condoms in casual sexual relationships. This is based on the

finding that intention to use a condom and perception of condoms as adequate sexual protection predicted condom use among recent migrant employees. The study also suggests that interventions should give attention to improving condom use among married employees who are prospective migrants, as the study findings showed that married employees are less likely to use condoms with casual partners during migration. Other feasible strategies, especially supply of free condoms, have been indicated to minimize barriers to condom use among mobile populations in Nigeria⁴. Similarly, free provision of condoms to migrant brewery employees by company authorities may improve the migrants' access to condoms and therefore increase their likelihood of condom use.

Conclusion

The study findings revealed that male brewery employees had a variety of high risk sexual characteristics. Forty-seven per cent had used a condom at last intercourse during migration. The majority (62 per cent) had had one to three sexual partners during their last migration, while 54 per cent had received or paid money for sex during their last migration. Participants who were single, who also had intention to use a condom, and perceived condoms as useful to prevent HIV/AIDS transmission, were likely to use a condom at last intercourse during migration. Based on this, steps are needed to promote condom use in the population of brewery employees. Designs for condom use interventions with prospective migrants should include aspects that enable potential migrants make effective decisions to use condoms, especially by offering them opportunities to think about the advantages of condom use with casual partners during migration.

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