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## Pattern of condom use among commercial sex workers in Ibadan, Nigeria

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### Summary

Regular condom use has been proven to remarkably reduce the transmission of sexually transmitted diseases (STDs) and its regular use for casual and commercial sex is important for the success of any STD/AIDS control programme. We studied the pattern of condom use among commercial sex workers in Ibadan, Nigeria in an attempt to identify the factors associated with it. Two hundred and ninety-five commercial sex workers in 21 brothels were randomly selected, using a multi-stage sampling technique, from a total of 31 identified in the 5 local government areas that make up Ibadan municipality. They were administered a pre-tested, semi-structured questionnaire by trained research assistants. Results showed that over half (53.2%) of the respondents were in the 20-29 year age group and most (71.5%) had been in the profession for less than a year. Sixty-five (22.0%) had no formal education, 29.8% had some secondary education whilst 22.4% had completed secondary school. Their overall knowledge of sexually transmitted diseases (STDs) was rated as poor (20.7%), moderate (64.1%) and good (15.2%). Their perceived risk of contracting HIV/AIDS was low (21.7%) although 87.8% regard it as a health problem in Nigeria. Eighty-three percent of the respondents always insisted that their clients used condoms, 13.2% did so frequently whilst 1.4% only occasionally. Of those who asked clients to use condoms, 69.5% of the women would refuse sex without condoms, 49 (16.6%) would do nothing and have sex without condoms, but 4.4% would charge extra money. No factor was found to have a significant association with the practice of asking clients to use condoms or of refusing sex without condoms. We concluded that consistent condom use was high among sex workers in brothels in Ibadan and was independent of the sex workers knowledge and perception of STDs.

**Keywords:** *Commercial Sex Workers, Condom Use, STD/HIV/AIDS, Nigeria.*

### Résumé

Il y a des preuves que l'utilisation régulière de préservatifs réduit considérablement la transmission des maladies sexuellement transmissibles (MST). De même, leur utilisation par les prostituées est très importante pour la réussite de tout programme de contrôle de MST/SIDA. Nous avons étudié la manière d'utilisation des préservatifs parmi les prostituées à Ibadan, Nigéria dans la tentative d'identifier les facteurs qui y sont liés. Deux cent quatre-vingt-quinze prostituées dans 21 maisons de passe ont été choisies au hasard en employant une technique d'échantillonnage multi-niveaux, d'un total de 31 identifiés dans les 5 municipalités qui constituent la ville d'Ibadan. Les questionnaires semi-structurés et pré-controlés ont été distribués aux prostituées par des chercheurs adjoints spécialisés.

Les résultats ont montré que plus d'une moitié (53,2%) des personnes interrogées avaient entre 20 et 29 ans et la plupart (71,5%) était dans la profession depuis moins d'un an. Soixante-cinq (22,0%) étaient des analphabètes, 29,8% ont fréquenté l'école secondaire alors que 22,4% avaient terminé l'école secondaire. Leur connaissance des maladies sexuellement transmissibles (MST) était jugée médiocre (20,7%), passable (64,1%) et bien (15,2%). Selon eux le risque de contacter le VIH/SIDA était bas (21,7%) bien que 87,8% le considère comme un problème de santé au Nigéria. Quatre-vingt-trois pourcent des personnes interrogées insiste toujours que leur clients utilisent des préservatifs, 13,2% le fait souvent tandis que 1,4% le fait occasionnellement. Parmi ceux qui demande à leurs clients de les utiliser, 69,5% des femmes refuseraient un rapport sexuel sans préservatifs, 49 (16,6%) ne s'enquêteraient pas et auraient un rapport sexuel sans préservatifs, mais 4,4% d'eux augmenteraient leur frais. Aucun facteur n'était significativement lié au fait de demander aux clients à ses clients d'utiliser les préservatifs ou du refus de rapport sexuel sans préservatifs. Nous sommes arrivés à la conclusion que l'utilisation cohérent de préservatif est très élevée parmi les prostituées dans les maisons de passe d'Ibadan et ceci était hors de leur connaissance de leur perception de MST par les prostituées.

### Introduction

Sexually transmitted diseases (STDs) have an average prevalence in Nigeria of 9.3% and are common to all ages and both sexes in the community [1, 2]. They rank among the top five infections for which adults seek care [3, 4]. The average national prevalence of the various STDs in 1996 varied from 1.76% for HIV to 26.3% for non-gonococcal urethritis [2]. The World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that in 1997, there were 2.3 million people living with HIV or AIDS in Nigeria. It also estimated an adult prevalence rate of HIV/AIDS of 4.12% [5]. Commercial sex workers (CSWs) are an important group in the epidemiology and control of STDs because they constitute a high-risk group for these diseases and have a high rate of partner change and thus serve as a reservoir of infection to the community. The reported prevalence of the various STDs is generally very high among CSWs compared to the rest of the population [4-11]. Reports of sentinel surveillance in Nigeria gave a prevalence of HIV among CSWs of 29.11% and 5.46% in urban and non-urban areas respectively, compared with 6.7% and 0.21-8.15% among pregnant women and 4% among truck drivers [5].

Regular condom use has been proven to remarkably reduce the transmission of STDs and its regular use for casual and commercial sex is important for the success of any STD/AIDS control program. Condoms had been demonstrated by laboratory and clinical studies to be effective in reducing the transmission of STDs including HIV/AIDS [12]. In a study of HIV discordant couples over a 2-year period, seroconversion

rate was 0% among the 123 couples using condoms consistently despite repeated sexual intercourse compared with 9.8% among couples in whom partners were not using condoms consistently [13]. In another similar study, seroconversion was 1.8% among consistent condom users compared with 11.9% among inconsistent condom users [14].

Control programs for STDs/HIV have two general approaches to intervention regarding sex workers and their clients. These include interventions directed at sex work itself (e.g., by legalising and regulating sex work and, reducing supply and/or demand for sex work). The second approach involves reducing STD prevalence among CSWs and their clients by making STD treatment services available and accessible to them, sex/health education and condom promotion and distribution [15].

Programs targeting sex workers for control of STDs have demonstrated the effect of condom use on the incidence and/or prevalence of these diseases. In Kenya, a program targeting CSWs with diagnosis and treatment of STDs coupled with condom promotion in 1985 led to a reduction of the incidence of genital ulcers amongst them from 3 episodes per woman per year to less than 1 per woman per year and prevented an estimated 6,000 to 10,000 HIV cases [16]. Cameron and colleagues [17] evaluated the effectiveness of the adoption of condom use in prophylaxis of genital ulcer disease in 423 CSWs during the period 1986-7 and 1987-8 and demonstrated an inverse relationship between the occurrence of genital ulcer disease and reported consistent condom use. There was a stepwise reduction in the likelihood of developing genital ulcer disease associated with more consistent condom use. The purpose of this study was to assess the pattern of condom use among CSWs in Ibadan municipality and to identify factors associated with it.

## Methods

The study was a descriptive cross-sectional survey using a multi-stage sampling technique. In the first stage, a list of all the brothels and their locations in Ibadan municipality was prepared with the help of the local people around the commercial districts of the city as well as the owners/proprietors of the brothels. There were a total of 34 brothels in Ibadan municipality (the study area), which is made up of five local government areas (LGAs). The locations of these brothels in the 5 LGAs were as follows: Ibadan North, 10; Ibadan Northeast, 6; Ibadan Northwest, 7; Ibadan Southwest, 2; and Ibadan Southeast, 9. An estimate of the number of CSWs was computed with the help of the managers of the brothels and there were approximately 430 CSWs in the 33 brothels. The target size for the survey was 300, which is approximately 70 percent of the total CSWs (430) in the municipality.

In the second stage, 70 percent of the brothels were randomly selected from each LGA and thus 7 brothels were selected from Ibadan North LGA, 5 from Ibadan Northwest, 4 from Ibadan Northeast, 1 from Ibadan Southwest and 6 from Ibadan Southeast LGA. All together 23 brothels were selected out of the 34 brothels in the study area. Informed consent was obtained both from the brothel managers (to conduct the survey in their brothels) as well as from each individual respondent before the interview. Four research assistants were trained for a week on how to administer the questionnaire and they pre-tested it at a brothel in Shasha community in Ibadan, which was outside the study area but had similar characteristics with the study area. It took an average of 30-40 minutes to administer a questionnaire.

As an incentive, it was agreed that a health talk should be given

to the CSWs on STDs and preventive measures at each brothel after the survey. In addition, those having health problems were given free consultation, and referred as appropriate. One brothel demanded that a payment of two hundred and fifty Naira (\$2.50) and a carton of condom be given to every sex worker before it would participate in the study. After three failed attempts to get the consent of the CSWs, another brothel was randomly selected to replace it. The sex workers in the selected brothels were eligible for the study if they had been in commercial sex work for at least one month. The questionnaire covered their socio-demographic characteristics, knowledge of, and attitude towards STDs, and condom related behaviour.

Data generated from the survey was entered into a computer using the EPI INFO version 6.04 software program and analysed using STATA 5.0 software package. Frequency tabulations were generated and a knowledge score for STDs was computed for each CSW based on their correct responses to 29 questions regarding symptoms, complications, transmission and prevention of STDs. The maximum obtainable score was 29 and those with scores between 0 - 9 were categorised as having a poor knowledge of STDs, those with scores of 10-19 as having fair knowledge whilst those with scores of 20 and above were categorised as having good knowledge of STDs. Logistic regression analyses were then applied and the dependent variables were the practice of always asking clients to use condoms before sex, and refusing sex if a client disagrees to use condoms.

## Results

Table 1 shows the characteristics of the respondents. Of the 295 CSWs interviewed, twenty-two (7.5%) were in the 10-19 year age group, 157(53.2%) in the 20-29 year agegroup and 28(8.1%) in the 40-49 year age group. One hundred and forty-nine (37.9%) were single, 73(24.7) were separated, 79(26.8%) were divorced and 23(7.8%) were widowed. Only 8 (2.7%) were married. Sixty-five (22.0%) had no formal education, 26 (8.8%) had some primary school education, 50 (16.9%) had completed primary school while 88 (29.8%) had some secondary school education. Fifty-three (18%) and 13 (4.4%) had completed secondary and post secondary school education respectively.

One hundred and fourteen (38.6%) respondents were engaged in commercial sex work only while 181 (61.4%) also did other work in addition to commercial sex work, which included petty trading, fashion designing/sewing, and hair dressing. One hundred and two (34.6%) had no children, 101 (34.2%) had 1-2 children, 61 (20.7%) had 3-4 children and 31 (10.5%) had 5 children or more. Regarding their duration in commercial sex work, 134 (45.4%) had been in the profession for 6 months or less, 77 (26.1%) for 7-12 months whilst 69 (23.4%) for over 12 months.

Sixty-one (20.7%) had poor, 189 (64.1%) fair and 45 (15.2%) good knowledge of STDs as depicted in Table 2. When asked to mention the STDs that they knew, 97 (32.9%) mentioned gonorrhoea, 75(25.4%) gonorrhoea and AIDS, 35 (11.9%) gonorrhoea and syphilis, and 43 (14.6%), gonorrhoea, AIDS and syphilis. Eighteen (6.1%) mentioned other STDs in addition to the above, which included vaginal thrush, rashes on the private part and herpes. Regarding their perception of HIV/AIDS as a health problem in Nigeria, 259 (87.8%) considered it to be a real problem in the country whilst 28 (9.5%) did not. Sixty-four felt they were at risk of contracting HIV/AIDS whilst 216 (73.2%) did not think so.

Two hundred and forty-six reported to always ask their clients to use condoms whilst 39 did so frequently. If a

client disagreed to use condoms, 205 (69.5%) would refuse to have sex, 49 (16.6%) would have sex and do nothing, 13 (4.4%) would have sex, but would charge extra money whilst 19 (6.4%) would have sex and do other things like praying and taking drugs and traditional herbs.

**Table 1:** Demographic characteristics of the respondents

Variable	Frequency	Percentage
<i>Age (in years)</i>		
10-19	22	7.5
20-29	157	53.2
30-39	82	27.8
≥ 40	34	11.5
<i>Marital Status</i>		
Single	112	37.9
Separated	73	24.7
Divorced	79	26.8
Widowed	23	7.8
Married	8	2.7
<i>Level of education</i>		
No formal education	65	22.0
Some primary school	26	8.8
Completed primary school	50	16.9
Some secondary school	88	29.8
Completed secondary school and above	66	22.4
<i>Occupation (in addition to commercial sex work)</i>		
Commercial sex work only	114	38.6
Petty trading	61	20.7
Fashion designing	42	41.2
Hairdressing	58	19.7
Others	20	6.7
<i>Number of children</i>		
None	102	34.6
1-2	101	34.2
3-4	61	20.7
5 and above	31	10.5
<i>Duration in commercial sex work</i>		
< 6 months	134	45.4
6-12 months	77	26.1
> 12 months	60	23.4
<i>Amount charged per session (in Naira)*</i>		
50-99	96	32.5
100-149	125	42.4
150-199	25	8.5
≥ 200	18	6.1

Logistic regression analyses were done separately to investigate the determinants of the practice of always asking clients to use condoms (Table 3) and refusing sex when he (the client) disagrees to do so (Table 4) using univariate models. Variables explored were age, marital status, education, duration of sex work, whether engaged in other work, level of knowledge of STDs, perception of HIV/AIDS as a problem in Nigeria, perceived risk of contracting HIV/AIDS and amount of money charged per (sexual) session. Due to their small number, married women were not included in the model for marital status while education was re-stratified into those with no education and those with some education.

Table 3 shows the relationship between the respondents' characteristics and the practice of always asking clients to use condoms. None of the variables had a statistically signifi-

**Table 2:** Respondents' knowledge and perception towards STDs and their condom-related practices.

Variable	Frequency	Percentage
<i>Awareness of STDs (STDs mentioned)</i>		
Gonorrhoea only	97	32.9
AIDS only	1	0.3
Gonorrhoea and AIDS only	75	25.4
Gonorrhoea and syphilis only	35	11.9
Gonorrhoea, AIDS and Syphilis	43	14.6
Gonorrhoea, AIDS, Syphilis and others	18	6.1
<i>Level of knowledge of STDs</i>		
Poor	61	20.7
Moderate	189	64.1
Good	45	15.2
<i>Perception of HIV/AIDS as a health problem in Nigeria</i>		
Yes	259	21.7
No	28	9.3
<i>Perceived risk of contracting HIV/AIDS</i>		
Yes	64	21.7
No	210	73.2
<i>Demand clients to use condoms</i>		
Always	246	83.4
Frequently	39	13.2
Occasionally	4	1.4
Never	2	0.7
<i>Reaction if a client refuses to use condoms</i>		
Refuse sex	205	69.5
Have sex without condom	49	16.6
Have sex without condom but charge extra money	13	4.4
Have sex without condom but examine client for features of STDs	2	0.7
Others	19	6.4

cant association with asking clients to use condoms although those who perceived HIV/AIDS as a health problem in Nigeria were twice as likely (odds ratio 2.24, 95% confidence interval 0.76, 6.59) than those who did not, to ask clients to use condoms. Similarly, those who charged clients more than 100 Naira (\$1.00) were two times more likely (odds ratio 1.79, 95% confidence interval, 0.56, 5.71) to ask for condom use than those who charged 50 Naira (\$0.50) or less per session.

Table 4 shows the odds ratios for refusing sex if a client disagrees to use condoms in relation to the respondents' characteristics. The following variables had no significant association with refusing to have sex with a client who declines to use condoms: age, sex, duration of sex work, education, engaged in other work apart from sex work, knowledge of STDs, perception of HIV/AIDS as a problem in Nigeria and perceived risk of contracting HIV/AIDS infection.

## Discussion

We studied the pattern of condom-related behaviour among 295 commercial sex workers in Ibadan municipality as well as their knowledge of STDs transmission, prevention, and complications. The demographic characteristics of the CSWs were similar to that reported by earlier studies of sex workers in Nigeria [11] although the proportion that had no formal education in our

**Table 3:** Odds ratios for always demanding for condom use

Variable	Odds ratio	95% Confidence interval	
<i>Age</i>	1.00		
10-19	1.58	0.48	5.16
20-29	1.21	0.35	4.19
30-39	1.41	0.31	6.45
≥ 40			
<i>Education</i>	1.00		
None	1.28	0.61	2.72
Some education			
<i>Children</i>	1.00		
No	0.61	0.29	1.26
Yes			
<i>Duration of Sex work</i>	1.00		
< 6 months	1.23	0.56	2.73
7-12 months	1.03	0.36	2.96
> 12 months			
<i>Other work in addition to sex work</i>	1.00		
No	1.00		
Yes	1.00	0.54	1.97
<i>Knowledge of STDs</i>	1.00		
Poor	1.19	0.54	2.64
Moderate	0.97	0.34	2.80
Good			
<i>Perception of HIV/AIDS as a problem in Nigeria</i>	1.00		
No	2.24	0.76	6.59
Yes			
<i>Perceived risk of contracting HIV/AIDS</i>	1.00		
No	1.04	0.58	1.84
Yes			
<i>Amount charged/section</i>	1.00		
≥ 50 Naira	0.96	0.48	1.92
51-100 Naira	1.79	0.56	5.71
>100 Naira			

study was higher. This may be attributed to low enrollment into schools especially regarding girls in the country due to the economic recession that began in the early eighties.

Awareness of STDs among them was high with most of them mentioning gonorrhoea, syphilis and AIDS when asked to name the STDs they knew. Their general knowledge of STDs was fair as over 75% had at least a moderate knowledge of STDs and only one-fifth had poor knowledge of STDs. Knowledge of HIV/AIDS/STDs among Nigerians had been reported to be high (Nigerian Demographic and Health Survey, 1999) and our study confirms this.

Their perception of HIV/AIDS as a health problem in Nigeria was positive and a very high proportion thought that it was a problem in Nigeria. Their perceived risk of contracting the disease was however very low and only one-fifth believed that they were at risk of acquiring the infection. This finding is similar to that reported in a study of sex workers in Indonesia and Thailand [18,19] but lower than that observed in a study of CSWs in Cambodia by Prybylski et al in which almost three quarters reported being at risk of contracting HIV/AIDS [20]. It is a well-known fact that CSWs are at an increased risk of HIV/AIDS and sero-prevalence survey in 1993 reported a high prevalence rate of 22% amongst CSWs in Nigeria [5]. There is thus a need for intensifying universal susceptibility of people to HIV/AIDS during health education campaigns for sex workers in Nigeria.

**Table 4:** Odds ratios (crude) for refusing sex without condoms

Variable	Odds ratio	95% Confidence interval	
<i>Age</i>	1.00		
10-19	1.16	0.44	3.04
20-29	0.95	0.35	2.61
30-39	1.17	0.35	3.93
≥ 40			
<i>Education</i>	1.00		
None	1.45	0.82	2.60
Some education			
<i>Children</i>	1.00		
No	0.64	0.37	1.10
Yes			
<i>Duration of Sex work</i>	1.00		
< 6 months	1.72	0.90	3.30
7-12 months	0.89	0.49	1.63
> 12 months			
<i>Other work in addition to sex work</i>	1.00		
No	1.02	0.65	1.64
Yes			
<i>Knowledge of STDs</i>	1.00		
Poor	1.31	0.71	2.43
Moderate	1.05	0.47	2.37
Good			
<i>Perception of HIV/AIDS as a problem in Nigeria</i>	1.00		
No	1.18	0.51	2.75
Yes			
<i>Perceived risk of contracting HIV/AIDS</i>	1.00		
No	0.93	0.51	1.70
Yes			
<i>Amount charged/section</i>	1.00		
≥ 50 Naira	0.96	0.57	1.65
51-100 Naira	2.077	0.87	4.93
>100 Naira			

A high proportion (83%) of the sex workers always ask their clients to use condoms before sex which is higher than that observed by an earlier study in Nigeria [11] in which only one-third of sex workers used condoms regularly. Our findings may be reflecting the impact of interventions since then. Most sex workers studied will not have sex if a client refuses to use condoms whilst a few will charge extra money or examine clients for features of STDs (usually penile discharge or ulcer, being very lean, etc).

Previous studies of female prostitutes [19-20, 21] have observed similar pattern of condom use with clients. However, the proportion that did not ask for condom use or had sex without condoms if the client refuses to use condoms was significant. In this study, no factor (including knowledge of STDs) was found to be associated with asking clients to use condoms or refusing sex without condoms. There was no relationship between knowledge of STDs and demand for condom use or refusing sex without condom.

The disparity between knowledge of STDs and condom behaviour/practice is not new and has been reported by other researchers [21-24]. Similarly, disparity between HIV risk perception and condom use had been observed in a previous study of CSWs in Cambodia [20]. There may be other factors such as sex worker-client relationship, brothel policies, etc, which influence condom use other than knowledge. Condom availability for the CSWs and brothel policies had been observed to be

strong determinants of condom use.

A study of CSWs in 6 Nigerian cities reported that many CSWs attempted to use condoms but had little or no support from establishments and noted that condom availability affects effectiveness of interventions that promote condom use amongst CSWs. [11]. Similar findings had also been observed in studies in Indonesia and The Gambia [25, 26]. Morisky et al (1998) identified the best predictors of condom use to be the availability of condoms at the brothel establishments and establishment policies and practices on condom use. These two factors were observed to be better predictors of condom use than CSW knowledge of HIV transmission [23].

The brothels in our study area did not have any policy regarding HIV/AIDS/STDs and the CSWs purchase condoms themselves from the open market where they are widely available (from shops, drug stores and pharmacies). Lack of policies from the brothels and support regarding condoms probably underlie the differential condom use amongst our respondents rather than STD/HIV/AIDS knowledge and socio-demographic characteristics. There is a need for interventions that target brothel owners as well as the CSWs during condom promotion and STD/HIV/AIDS control efforts. Such efforts should encourage the formulation of condom policies by the brothels and make condoms more available to the CSWs through distribution outlets within the brothels.

Health education interventions should emphasize the importance of using condoms always with all clients as the only way to minimize the risk of acquiring STDs and HIV/AIDS.

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