Available online at http://www.journalijdr.com

IJDR

International Journal of
DEVELOPMENT RESEARCH

ISSN: 2230-9926

International Journal of Development Research
Vol. 6, Issue, 03, pp. 7157-7161, March, 2016

Full Length Research Article

A CROSS-SECTIONAL STUDY OF SEXUAL BEHAVIOR OF MIGRANT WORKERS IN BOTSWANA

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ARTICLE INFO

Article History:
Received 29th December, 2015
Received in revised form
18th January, 2016
Accepted 14th February, 2016
Published online 31st March, 2016

Key Words:

Migrants,
Sexual Risk Behavior,
Sexual Transmitted Infections.

ABSTRACT

Background: With recent rapid development, Botswana has been a host country to migrant workers from various countries and regions of the world for many years. The aim of this study is to investigate the sexual behavior of migrant workers in Botswana and determine the risk factors for unsafe sex.
Methods: A cross-sectional study was conducted (n = 422), in the two biggest cities of Botswana (Gaborone and Francistown) regarding the sexual behavior of migrant workers by using a structured questionnaire tool for data collection.
Results: The migrant workers' ages ranged from 18 to 65 years old (11.3 ± 34.4 years). Of the respondents, 301 migrant workers (71.3%) were unmarried while 121 were married (28.7%). The multivariate results showed that the possibility for men of having sexual intercourse with commercial sex workers was significant with education, marital status and housing ($p < 0.05$).
Conclusion: The study results are a reminder that we should support safe-sex education programs in those sectors with low condom usage and among commercial sex workers. Condom use should be encouraged, especially in older migrant workers.

INTRODUCTION

The recent, rapid development in Botswana has resulted in significant migration. Many young individuals have migrated from neighboring countries, especially from Zimbabwe, to seek employment opportunities with higher salaries. The economic developments of the country are a direct result of their contributions, vis-à-vis the construction and maintenance of the country. In the past two decades, Southern Africa has been severely affected by the HIV/AIDS epidemic. Botswana has experienced the highest HIV prevalence rates, accounting for 37% of the adult population in 2003 (Kandala, Campbell et al., 2012). This has resulted in a substantial increase in mortality and morbidity rates and a rapid decline in life expectancy. Several studies have verified how migrant workers are the most susceptible groups to HIV infection, and one of the main routes by which the disease has spread (Lurie, Willams et al., 2003). Previous studies have recognized that high-risk sexual behaviors are related to the working environment.

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In Botswana, migrant workers in the construction sectors have been the largest groups of migrant labor, with an estimated 10.5% to 12.5% of formal employment (Kaboyakgosi, Sengwaketse, 2003). Recent studies have indicated how migrant workers' sexual behaviors contributed to increased levels of HIV infection (Dintwa, 2012). While it has been demonstrated that migrants contribute to the transmission of HIV and STIs in Botswana, few findings have revealed why this is the case. In addition, most results have identified sexual behaviors involving multiple partners, commercial sex and unprotected sex, which have placed workers at greater risk of HIV and STIs.

Long-distance migration, involving the separation of workers from their long-term partners, has been recognized as one of the central factors contributing to workers' engagement in these sexual risk behaviors. However, within migrant labor, little is known of what factors have contributed to migrant workers' engagement in sexual behaviors, which may result in an increased risk of HIV infection. The aim of this study was to investigate the sexual behavior of migrant workers in Botswana and determine the risk factors for unsafe sex.

MATERIALS AND METHODS

Study site

A cross-sectional study with aquantitative approach was completed in Gaborone and Francistown between August 2013 and January 2014; these are the biggest cities with job opportunities. In Botswana, the number of undocumented migrants from Zimbabwe was estimated at between 40 000 and 100 000 as of 2009 (Campbell, Oucho, 2003).

Sample size

Sample size was calculated by using an estimation of population proportion formula: n = Z*Z[P(1-P)/(E*E)], where P = expected value = 12%, E = (expected frequency-worst acceptable) = 10%–8% = 2%, Z = 1.960 with a confidence level of 95%, n = 1.960*1.960[0.10(1–0.10)/(0.02*0.02)]. The final sample size was determined to be 431 after calculating that S = n/ [1+ (n/population)]. Only 422 were selected to be eligible as nine participants dropped out.

Exclusion and inclusion criteria

Respondents who were included in the study were migrant workers who were between 18 and 65 years of age. Only migrant workers were eligible.

Data collection procedure

Due to the geographically scattered distribution of migrant workers, different working nature and working hours, and their free time, it was difficult to arrange data collection. Data were recruited in both daytime and after hours and in their residences and workplaces. Data collectors were fourth-year students at the University of Botswana with data collection experience. Researchers interviewed migrant workers who visited an open STI facility that serves as a referral office for public and private primary health services in Botswana. The interview involved questions concerning socio-demographic and sexual information. The researcher later linked STI patients' interview reactions to their medical records.

Gain access to key participants

A snowball sampling technique was used to find a specific number of participants per target group. Participants who suited the inclusion criteria were targeted and their informed consent was received prior to recruitment. Indeed, participants were able to identify and refer other potential respondents with similar characteristics, who were willing to discuss sexual behavior. The author's contact information was passed to migrant workers whom the researchers had already interviewed so that they could pass on to other potential participants. Focus group discussions were applied to 70 migrant workers to sharpen ideas not received using the questionnaire interview.

Statistical analysis

Descriptive statistics was analyzed as mean ± *SD*. In order to examine the associations between the sexual behavior, univariate logistic regression was used.

A multiple logistic regression model with forward selection was used for potential confounding. The centrality level was at $p = 0.05$ or less. SPSS 21.0 was used to analyzethe data.

Ethical considerations

This study was approved by the Human Subjects Review Committee of the Institution of Social Medicine and Health Administration at Shandong Medical University. An ethical clearance letter was also obtained from the Research Review Committee of the Ministry of Health in Botswana. At the enrolment visit, eligible respondents were confirmed and signed informed consent obtained but immediately after data collection they were destroyed, as the study was regarded as dealing with sensitive issues in the local culture. This consent procedure was approved by the Ethical Committee of Shandong University and the Ministry of Health.

RESULTS

Demographic characteristics of participants

A total of 422 valid questionnaires were obtained, Table 1 indicates 283 (67.1%) from males and 139 (32.9%) from females. The migrant workers' age ranged from 18 to 65 years old (11.3± 34.4 years). Of the respondents 301 migrant workers (71.3%) were unmarried while 121 were married (28.7%).

Table 1. Demographic characteristics of migrant workers

Variable	Total (n= 422)	Percentage (%)
Gender		
Male	283	67.1
Female	139	32.9
Occupation		
Construction	267	63.3
Domestic service	83	19.7
Transport	39	9.2
Entertainment	33	7.8
Marital status		
Unmarried	301	71.3
Married	121	28.7
Nationality		
Zimbabwe	301	71.3
Kenya	69	16.4
China	34	8.0
Other	18	4.3
Education		
No education	18	4.3
Primary education	11	2.6
Junior education	91	21.6
Secondary education	177	41.9
Tertiary education	125	29.6
Monthly Income (Pula)		
<P1000	26	6.2
P1001–2000	68	16.2
P2001–3000	211	50
P3001≥	117	27.7
Housing		
Renting with friends	139	32.9
Renting with family	200	47.4
Renting alone	80	19.0
Self-buying	3	0.7

*Other referred to Cuba, Malawi, and Lesotho; # P referred to Botswana currency (Pula)

When it comes to monthly income, half (50.0%) of the migrant workers earned P2001–P3000 (PULA, P100=9USD), 27.7% earned above P3001, and 6.2% earned below P1000.

Sexual behavior and who receives STI treatment

The 422 (100%) migrant workers interviewed were sexually active, including extramarital sex, while 189 (44.8%) had STIs, 233(55.2%) had no STIs. Of them, 38 (20.1%) were married, 151 (79.9%) were single; 125 (66.1%) had sex with a commercial sex worker in the past six months, including 42 women (22.2%) and 83 men (43.9%). Among the 189 migrant workers who had STIs, 48.0% never used condoms in their sexual intercourse and 22.8% used them occasionally. Of them, 62 (32.8%) sought medical attention during the first week of the STI symptoms, and 25.6% completed the STI treatment.

Table 2. Condom use in migrant workers

		Condom use		
Variable	Total (n= 422)	n= 288	%	p
Gender				
Male	283	187	64.9	0.01*
Female	139	101	35.1	
Age				
18–30	112	74	25.7	0.20
31–49	310	214	74.3	
Education				
No education	18	9	3.1	0.01*
Primary	11	6	2.1	
Junior	91	34	11.8	
Senior	177	149	51.7	
Tertiary	125	90	31.3	
Monthly Income				
<P1000	26	18	6.2	0.28
P1001–2000	68	42	14.6	
P2001–3000	211	127	44.1	
>P3001	117	101	35.1	
Housing				
Renting with friends	139	77	26.7	0.01*
Renting with family	200	143	49.6	
Renting alone	80	67	23.3	
Self-buying	3	1	0.4	
Occupation				
Construction	267	179	62.1	0.25
Domestic service	83	59	20.5	
Transport	39	21	7.3	
Entertainment	33	29	10.1	

CSW stands for commercial sex workers and P= 0.01*; # P referred to Botswana currency (Pula)

The risk factors of unprotected sex and sex between commercial sex workers and migrant workers. In the univariate results, condom use among migrant workers indicated significant associations with education, gender and housing (Table 2). There was no significance between condom use and age. Condom use among migrant workers aged 31–49 years (74.3%) was more likely than those who were 18–30 years of age (25.7%).

The multivariate analysis displayed in Table 3 shows that condom use was associated with education, marital status, and housing. Men appeared more likely to have sexual intercourse with commercial sex workers than women (Table 3). The multivariate results showed that the possibility of having sexual intercourse with commercial sex workers in men was significant with education, marital status and housing (p< 0.05) while the same for women was correlated with housing and marital status which is displayed in Table 3 (p< 0.05).

DISCUSSION

According to previous studies, sexual behavior among migrants always brings new challenges to the health sector. This is due to a variety of reasons, including that migrants engage in a variety of sexual acts, ranging from activities done alone to acts with another person and varying patterns of frequency. However, we are still far from understanding in detail how international migration affects the spread of STIs and HIV. This study has revealed shocking results, in that majority of migrants engage in sexual activities with commercial sex workers (CSW). The first reason is to avoid relationship complications. The second reason for being with sex workers is that migrants cannot chat up Botswana women. This study also indicates that male sex workers in Botswana are increasing. Almost three-quarter 22.2% of female migrant workers are having sexual activities with male sex workers, in addition, the majority of male sex workers are migrants. Previous studies had indicated that most people think of male sex work as dangerous, degrading work. But there are some who are attempting to reinvent it as a profession free of stigma (Betts, Kaytaz, 2009).

The study showed a high proportion of condom use among female and male (64.9%) migrant workers. However, with these results we expected to see a low proportion of Sexually Transmitted Infections in this study, but the results show 44.8% (189) of STI cases. The reason may be that respondents use condoms occasionally or respondents felt ashamed to tell "the truth" that they were engaged in unprotected sex while being sexually active with sex workers. The previous study in South Africa (33%) had indicated that condom use is less practiced among migrant workers having contact with any commercial sexual partner (McGrath, Eaton et. al, 2015). In addition, this study showed that 42.8% of participants had Chlamydia, 21.3% had Syphilis and only 11.9% had Gonorrhea.

Some STIs may be spread through skin-to-skin sexual contact or STIs can also be spread through non-sexual means such as tissue transfer and blood products. Many STIs including Chlamydia, Syphilis and Gonorrhea, can also be transmitted from mother to child during pregnancy and childbirth (Satterwhite, Torrone, 2013). This study also revealed that condom use during sexual intercourse with a CSW, indicated significant associations with education, gender, monthly income and housing. It seems the older migrants who earn more and had senior education had the higher possibility of condom use. It could be explained that the older migrant workers who were better educated had more knowledge of HIV/STIs. But several studies thought that the main reason given for condom use among migrant workers is contraception rather than disease prevention (Li, Zhong, 2011). This study also found that migrant workers engaged in the construction sector had the higher possibility of condom use (62.1%). This study also found that migrant workers who engaged in

Table 3. Multivariate analysis of condom use among migrant workers who had sexual intercourse with a CSW in the past six past months by gender (*N*= 189)

		Model 1	Male)			Model 2	(Female)	
Variable	CSW	Non-CSW	*p*	OR	CSW	Non-CSW	*p*	OR
n	83	38			42	26		
Age								
18–30	28	18	0.38	1	14	8	0.09	1
31–49	55	20		0.88(0.62–1.21)	28	18		0.78(0.70–1.12)
Marital Status								
Married	13	8	0.02*	1	11	6	0.01*	1
Unmarried	70	30		0.55(0.35–0.98)	31	20		0.48(0.34–0.82)
Education								
No education	2	0	0.03*	1	0	0	0.11	1
Primary	11	3		1.12(0.58–2.60)	1	0		0.92(0.60–1.20)
Junior	12	5		1.44(0.72–3.12)	8	6		0.80(0.62–0.91)
Secondary	30	18		2.10(1.30–3.48)	13	11		1.16(0.72–1.63)
Tertiary	28	12		1.48(0.92–2.44)	20	9		1.40(1.10–1.98)
Monthly Income								
<P1000	11	1	0.25	1	1	0	0.32	1
P1001–2000	8	4		1.10(0.65–1.65)	1	1		1.12(0.70–1.68)
P2001–3000	28	13		0.84(0.43–1.02)	32	11		1.26(0.82–1.82)
>P3001	36	20		1.67(0.88–2.22)	7	14		1.04(0.63–1.72)
Housing								
Renting with friends	26	8	0.01*	1	10	4	0.04*	1
Renting with family	40	21		1.12(0.88–1.98)	13	14		0.42(0.22–0.85)
Renting alone	16	8		0.82(0.66–1.02)	17	8		0.28(0.12–0.64)
Self-buying	1	1		1.02(0.89–1.61)	1	0		1.10(0.78–1.90)

OR stands for odd ratio (95%); # P referred to Botswana currency (Pula)

transport sectors were less likely to have a sexual act with a CSW. These findings are beyond our expectations. However, the previous study indicated that for transport workers, the feeling of loneliness grows with every mile, but there are some who see their families even less frequently. This may cause them to be involved with a CSW or multiple partners (Morapedi, 2007). Another surprising finding of this study was that male migrants staying with families had more possibility of having sexual activities with sex workers than the ones staying with friends (OR: 1.12, 95% CI: 0.88–1.98). This may be due to their anxiety to sexually explore with different partners.

Most previous findings revealed that the main reason migrant workers are at risk when it comes to HIV/AIDS, is because the families are left behind in their countries of origin, therefore, migrant workers may also have sex with other partners in their husbands'/wives' absence (Pettifor, Van der Straten, 2004). The further multivariate results showed that the possibility of condom use among male migrants who engaged in sexual activities with commercial sex workers was significant with education, marital status and housing ($p< 0.05$), likewise for women this was associated with housing and marital status. Unmarried migrant men were more likely (OR: 0.55, 95% CI: 0.35–0.98) to have sexual activities with CSWs than females, which is consistent with previous research (Li, Huang, 2009). This study faced a few limitations, because of budget constraints and time limits, the study was conducted in two big cities in Botswana making it hard to draw a general conclusion on the sexual behavior of migrant workers in all of Botswana. In addition, undocumented migrant workers may have feared being identified and thus shy away from contributing to the study, especially when pondering the possibility that the study might lead to their identification by authorities.

Conclusion

To study migrant workers was a complex topic and the sampling process was influenced largely by the ability to reach the target population, especially those who were involved in sexual activities with commercial sex workers. This study has positively identified the risky sexual behaviors, migrant workers are involved in. The most common risk behavior being sexual activity with commercial sex workers. The study results are a reminder that we should support safe-sex education programs in those sectors with low condom usage and among commercial sex workers. It is recommended that more attention should be focused on sexual education especially for commercial sex workers, and those who are infected with sexually transmitted diseases. In addition, condom use should be encouraged, especially in older circumcised migrant workers as they believe that circumcision can prevent the spread of HIV/AIDS.

Conflict of interest

The authors declare that there is no conflict of interest.

Author contributions

SL implemented the data collection/ management/analysis tools/wrote the paper. XL, revised and commented on the draft. All authors approved the final version of the paper and submission.

Funds: No

REFERENCES

Betts, A. and Kaytaz, E. 2009. *National and international responses to the Zimbabwean exodus: implications for the refugee protection regime*. Geneva: UNHCR. New issues in refugee research, research paper number 175.

Campbell, E.K. and Oucho, J.O. 2003. *Changing attitudes to immigration and refugee policy in Botswana.*Southern African Migration Project (SAMP). (28).

Dintwa, K.F. 2012. *Economic Status, Education and Risky Sexual Behavior for Urban Botswana Women.* Journal of International Women's Studies. 13 (3): p. 153–170.

Kaboyakgosi, G. and Sengwaketse, M. 2003. *Construction and related service in Botswana*, Botswana Institute for Development PolicyAnalysis. (BIDPA), Editors., SATRN Gaborone, Botswana. p. 13–15.

Kandala, N.B., Campbell, E.K, Rakgoasi, S.D., Madi-Segwagwe, B.C. and Fako T.T. 2012. *The geography of HIV/AIDS prevalence rates in Botswana.* HIV/AIDS (Auckland, N.Z.), 4: p. 95–102.

Li, S.F., Zhong, Z.H., Lei, X., Zhang, M., Xu, X. and Yan, W. 2011. *A study on sexual behavior status and social strategies of married migrant workers in Chongqing. Chinese J Evid Base Med.,* 11(3): p. 257–260.

Li, S.H., Huang, H., Cai, Y., Xu, G., Huang, F.R. and Shen, X.M. 2009. *Characteristics and determinants of sexual behavior among adolescents of migrant workers in Shanghai (China).* BMC *Public Health*, 9: p. 195.

Lurie, M.N., Williams, B.G., Zuma, K. Mkaya-Mwamburi, D. Garnett G, Sturm A.W, Sweat M.D, Gittelsohn J, Abdool Karim S.S. 2003 *The impact of migration on HIV-1 transmission in South Africa: a study of migrant and nonmigrant men and their partners.* Sex Transm Dis., 30(2): p. 149–56.

McGrath, N., Eaton, J.W., Newell, M. Hosegood, V. *Migration, sexual behaviour, and HIV risk: a general population cohort in rural South Africa.* The Lancet HIV, 2(6): p. e252–e259.

Morapedi, W.G. 2007. *Post-Liberation Xenophobia in Southern Africa: The Case of the Influx of Undocumented Zimbabwean Immigrants into Botswana.* Journal of Contemporary African Studies, 25: p. 229–250.

Pettifor, A.E., van der Straten, A., Dunbar, M.S., Shiboski, S.C. and Padian, N.S. 2004. *Early age at first sex:a risk factor for HIV infection among women in Zimbabwe.* AIDS,. 18: p. 1435–1442.

Satterwhite, C.L., Torrone, E., Meites, E., Dunne, E.F., Mahajan, R., Ocfemia, M.C., Su, J., Xu, F. and Weinstock, H. 2008. *Sexually transmitted infections among US women and men: prevalence and incidence estimates,.* Sex Transm Dis, 2013. 40(3): p. 187–93.

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