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Original Article

Alcohol use, HIV risk behavior and experience of sexually transmitted infections among female sex workers of Nepal

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ABSTRACT

Background: Alcohol use is a pervasive phenomenon among female sex workers and their clients. It affects their physical health and promotes high-risk behavior and consequently, sexually transmitted infections (STIs). Hence, we designed a study to find the factors associated with alcohol use among the female sex workers of Eastern Nepal. The prevalence of HIV high-risk behavior and STIs among sex workers was also recorded.

Methods: A cross sectional study was conducted in three commercial districts namely Sunsari, Morang and Jhapa of Eastern Nepal. All the FSWs who had been involved in commercial sex activity in the past six months were included in the study. Face-to-face interviews with 168-restaurant based and 42-street based female sex workers, who were identified through snowball sampling. Bivariate analyses were conducted using Chi-Square tests for categorical variables. Multivariate models were used to identify significant factors associated with alcohol use in the sex trade.

Results: Logistic regression analyses revealed that sex with intravenous drug user (IDUs) (AOR 2.275, 95% CI 1.266, 16.898), oral sex (AOR 3.261, 95% CI 1.166–9.121) and pregnancy

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(AOR 5.826, 95% CI 2.009, 16.898) were strongly associated with sexual encounter after consumption of alcohol. More than three fourths of the women were involved in at least one HIV high-risk behavior and more than 80% females had suffered from symptoms (past and present) of STIs.

Conclusion: HIV prevention efforts should focus on alcohol abuse, which can make the FSWs vulnerable to oral sex, accidental pregnancies, sexual encounters with IDUs.

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1. Introduction

Sex workers are highly vulnerable due to, anxiety, fear of life threatened disease like HIV, poor physical, mental and social health, lower levels of education and livelihood problems.¹ There are political and cultural restrictions on Female Sex Workers (FSWs). Official denial about their existence, social marginalization and stigmatization are accepted aspects of their lives. As a result, they resort to alcohol and drugs, which seem to help them to get through the day – their **support system** in this profession. Alcohol may also be used by FSWs to cope with the stress and violence associated with commercial sex work.²

Alcohol use is an accepted phenomenon in sex trade. A high proportion of FSWs and the clients use alcohol prior to or during sex.³ The results of a bio-behavioral study done in the current study area revealed that 66.3% sex workers, had consumed alcohol during the past one month.⁴ The clients are first lured to have food and alcohol in the restaurants and later commercial sex activity ensues. Alcohol consumption in general or prior to sex plays a crucial role in increasing sexual risk among commercial sex workers (CSWs).⁵ However, they fail to realize that alcohol abuse affects their physical health, promotes illicit drug use, poor condom negotiation with clients and even their victimization to sexual acts like oral and anal sex.

Commercial sex activity plays a very critical role in HIV transmission in Nepal. There is no clear definition of prostitution in Nepal. The very act of voluntarily selling sex is not a crime, however, law does prohibit and punish those who forcefully cause women to get engaged in prostitution.⁶ This makes the sex workers less empowered to exercise their rights and may lead to involvement in HIV high-risk behavior. Nepal is presently experiencing an epidemic of HIV which is concentrated in certain high-risk groups such as injecting drug users (IDUs), FSWs and men who have sex with men (MSM) in whom HIV prevalence is of or above five percent.

Vulnerability of Nepal to commercial sex industry is multidimensional with poverty and less avenues of employment being the most crucial dimensions. A decade (1996–2006) of armed conflict between government forces and rebel forces, an unstable political situation, and an obsolete health policy (from 1991) has also undermined an already weak health care system, resulting in poor service delivery and access to prevention and care.⁷ The situation has been further worsened by migration and trafficking of girls for sex work to the brothels in India. The first ever HIV and STI prevalence survey, which covered 16 districts in the Terai

along the East–West highway route showed that 3.9% of the FSWs and 1.5% of the truckers were HIV-positive.⁸ After three years another report concluded that the sex trade is on an increasing trend and a greater number if younger FSWs were entering the business.⁹ To make matters worse, the targeted groups still remain mobile, hidden and growing in numbers.

Sexual Transmitted Infections (STIs) are an important consequence of prostitution. The higher client-FSW ratio (20:1) in Nepal, compared to the South Asian average (7.5:1) indicates higher risks of STIs and HIV transmission among the FSWs including the general population.¹⁰ The spread of STIs continues from clients to sex workers, FSWs to clients, and also their partners at home. It is not unusual for the sex workers and their clients not to report and seek treatment for the symptoms of STIs. Insufficient knowledge of STIs, fear, stigmatization, women's secondary status, and the presence of male health workers in the health institutions have been identified as reasons for non-utilization of STI related health care services.¹¹

Despite rising sexually transmitted infections (STI) and human immunodeficiency virus (HIV) incidence rates which are attributed to both sex work and drug use, the conditions and environment of sex work in South East Asia have not been well described.¹² This population is highly understudied in the Nepalese context and as more people become sero-positive, reducing alcohol risk and unprotected sex among people living with AIDS (PLWA) is increasingly important, both to reduce transmission and improve health and related outcomes.¹³ There is a small but growing literature on alcohol use and HIV risk among special populations including vulnerable workers such as female sex workers and migrant workers.¹⁴

Keeping this in mind, we designed a cross sectional study to find the factors associated with alcohol use among the female sex workers of Eastern Nepal. The prevalence of HIV high-risk behavior and STIs among sex workers was also recorded.

2. Methods

This observational study was conducted in three districts namely Sunsari, Morang and Jhapa of eastern Nepal. These three districts were chosen because of their central location and busy commercial activity. Also these districts have the maximum concentration of FSWs in the eastern region of Nepal as stated in the report of Integrated Bio-behavioral survey on female sex workers in East–West highways

conducted by Family Health International, Nepal and USAID.⁴ The respondents were located via snowball sampling technique. The locations of the restaurants and initial identification of sex workers was done with the help of social mobilizers of Non-Governmental Organization (NGO) – Sahara Nepal which works for the cause of HIV prevention in these districts. All the females who had been involved in commercial sex activity in the past six months were included in the study. The FSWs who were minors, and did not give informed consent were not a part of the study. The data was collected with the help of a semi-structured questionnaire through face-to-face interviews with 168 restaurant based and 42 street based female sex workers. Probing was done to find reasons for inconsistent condom use. Interviews were conducted at their place of work. Prevalence data was expressed through frequency distribution tables. Bivariate analyses were first conducted using Chi-Square tests for categorical variables. Variables that were significant in the bivariate analysis ($P \leq 0.05$) were entered into backward, stepwise elimination model to identify significant factors associated with alcohol use in the sex trade. All reported P-values are two sided. The ethical clearance was taken from the institutional ethical review board. Informed (written) consent was taken from each female sex worker enrolled in the study. Anonymity and confidentiality of the respondents was assured and maintained.

3. Results

In our study, more than three fourths (79.0%) of the FSWs were involved in at least one HIV high-risk behavior. About half of the respondents (45.7%) gave history (past and present) of having sex after consuming alcohol. Out of which, 70.0% were involved in commercial sex activity under the influence of alcohol in their last encounter. A couple of FSWs were presently taking intravenous drugs while none of the respondents gave a positive history of syringe exchange. More than two thirds of the FSWs (71.9%), successfully

Table 1 – HIV risk behavior among the female sex workers of eastern Nepal (n = 210).

History of HIV high risk behavior	Yes (%)	No (%)
Previous history of sexual intercourse under influence of alcohol	96 (45.7)	114 (54.3)
Consumption of alcohol before last sexual encounter (n = 96)	68 (70.8)	28 (29.2)
Positive history of syringe exchange	— ^a	— ^a
History of sex with an intravenous drug user	21 (10.0)	189 (90.0)
History of anal sex	24 (11.4)	186 (88.6)
History of oral sex	23 (11.0)	187 (89.0)
History of pregnancy after joining the sex trade	89 (42.4)	121 (57.6)
History of consistent condom use	151 (71.9)	59 (28.1)
Positive history of any of the above mentioned risk behavior	166 (79.0)	44 (21.0)

a The values are not given as there was no history of syringe exchange among respondents.

Table 2 – Reasons for inconsistent use of condoms (n = 59, multiple responses).

Reasons	Frequency
Disagreement by the client	57 (96.6%)
After consumption of alcohol	46 (77.9%)
Clients paid more i.e. extra money	42 (71.2%)
With lover or desired partner	32 (54.2%),
Condom breakage	22 (37.3%)
Non-availability of condoms	11 (18.6%)

negotiated condom use with their clients during every sexual encounter (Table 1).

We further explored the reasons for inconsistent condom usage during every sexual encounter. Disagreement by the client was the most frequently stated reason. The various other reasons were under the influence of alcohol, more payment by the clients, with known or desired partner, condom breakage and non-availability of condoms (Table 2).

Almost all the respondents had heard about infections, which spread due to sexual contact. In spite of that more than 85% females had suffered from symptoms (past and present) of STIs. The most common reported symptom of STIs was lower abdominal pain followed by genital discharge (Table 3).

Table 4 shows that FSWs who had sex after alcohol consumption were more than three times more likely to have sex with an intravenous drug user (OR 3.33, 95% CI 1.23, 8.96). The risk of FSWs who are involved in oral sex were five times more likely to be having sex under alcohol influence (OR 5.03, 95% CI 1.79, 3.64). Similarly, the odds of being pregnant after joining sex trade was twice among respondents who gave positive history of sexual intercourse after alcohol consumption (OR 2.09, 95% CI 1.19, 3.64). Surprisingly, alcohol use was not associated with inconsistent condom use.

After adjustment with mentioned risky behaviors, the variables significantly associated with alcohol use prior to sexual encounter were pregnancy, sex with intravenous drug user and oral sex as shown in Table 5.

4. Discussion

According to our study, there is a high prevalence of risky behaviors among the female sex workers of eastern Nepal. But

Table 3 – Experience of sexually transmitted infections by female sex workers (n = 210).

Characteristics	Yes (%)	No (%)
Heard about sexually transmitted infections	206 (98.1)	4 (1.9)
History of abdominal pain	132 (62.9)	78 (37.1)
History of genital discharge	102 (48.6)	108 (51.4)
History of itching	90 (42.9)	120 (57.1)
History of burning pain on urination	67 (31.9)	143 (68.1)
History of foul smelling discharge	50 (23.8)	160 (76.2)
History of genital sores or ulcers	41 (19.5)	169 (80.5)
History of swellings of groin	29 (13.8)	181 (86.2)
Positive history of any one of the above symptoms	179 (85.2)	31 (14.8)

Table 4 – Percentage distribution and odds Ratio estimates of risk behavior by alcohol use.

Risk behavior	Alcohol use		Crude odds ratio	95% Confidence interval	Sig. value (p value)
	Yes (%)	No (%)			
Sex with an intravenous drug user					
Yes	71.4	28.6	3.33	1.23, 8.96	*0.019
No	42.9	57.1			
History of anal sex					
Yes	62.5	37.5	2.16	0.90, 5.18	0.071
No	43.5	56.5			
History of oral sex					
Yes	78.3	21.7	5.03	1.79, 3.64	*0.001
No	41.7	58.3			
Pregnancy after joining sex trade					
Yes	56.2	43.8	2.09	1.19, 3.64	*0.009
No	38.0	62.0			
Consistent condom use					
Yes	45.8	54.2	1.00	0.54, 1.83	0.993
No	45.7	54.3			

*Statistically significant.

the history of intravenous drug use was reported by only a couple of FSWs, which is in contrast to the study done in Vietnam where the prevalence of intravenous drug use was 5.7%.¹⁵ In the same Vietnamese study 55% of IDUs shared their needles and syringes while no such history was given by our respondents. In the current study, nearly half of participants gave a positive history of having sex under influence of alcohol or drugs which is justified by a systematic review which integrated quantitative and qualitative studies from 1980 to 2008. It concluded that the use of alcohol facilitates the transition into and practice of commercial sex among both FSWs and male clients, and also self-medication among FSWs.¹⁶

More than one tenth of the respondents gave a positive history of anal sex (11.4%) and oral sex (11.0%). We did not further categorize oral and anal sex into receptive or insertive. Our prevalence rate is low as compared to a study done in Beijing and Qingdao City, China. The rate of receptive anal intercourse, insertive anal intercourse, receptive oral sex and insertive oral sex with clients was 57.6, 48.2, 65.8 and 65.8%, respectively.¹⁷

The prevalence of condom use as reported by respondents during every sexual encounter is 71.90% which is high compared to a Puerto Rican study according to which 60% of the participants reported regular condom use during

intercourse or oral sex.¹⁸ High rates of consistent condom use in our study can also be attributed to the efforts of the NGO that has been working for prevention of HIV/AIDS in eastern Nepal since five years. They provide free condoms to street and restaurant based sex workers.

The frequent reasons for inconsistent condom use in our study were clients did not agree, alcohol, better pay, with desired partner, condom breakage and non-availability of condoms. Similar reasons were elicited by a study from conducted by Grayman et al, in which the most common reason for not using a condom was that the partners did not agree to its use.¹⁹ FSWs are more likely to use condom when having sex with their clients compared with their regular partners as also seen in the present study. Sex in exchange for alcohol, drugs, food, clothing and/or shelter were six times more likely to have not used a condom in their last sexual intercourse with a client.²⁰ A research in Nepalese context revealed intimate partners and regular clients as the important risk, which placed them at risk of STIs including HIV. In addition to intimidation and violence from the police, clients and intimate partners, clients' resistance and lack of negotiation capacity were identified as barriers in using condoms by the FSWs.¹

Almost all FSWs had heard regarding sexually transmitted infections. The percentage of FSWs who had ever experienced symptoms of STI was 85.23%. A high incidence and persistence/recurrence of STIs, demonstrate high-risk sexual behavior and poor treatment seeking behavior with the possibly substandard treatment of infections. Furthermore high rates of HIV/STIs, when combined with the high rates of mobility, imply that HIV may spread to low-risk areas through mobile FSWs.²¹

The common symptoms of STI experienced by FSWs in the current study were lower abdominal pain (62.9%) followed by genital discharge (48.6%), itching (42.9%), burning micturition (31.9%), foul smelling discharge (23.8%), genital ulcers or sores (19.5%) and swelling of the groin area (13.8%). Comparable results were demonstrated from a case study from eastern Nigeria in which incidence of STDs among the target population was 88.70%. Known symptoms, such as pain and ulcer were common among the respondents.²² There are various barriers in utilization of health care services for STIs in Nepal. Survey findings showed that more than a quarter had never visited any health facilities seeking for health care services. FSWs prefer distant health clinics because of social stigma and fear of exposure to the public. FSWs perceived that the quality of doctors was higher in the government hospitals, but they lacked privacy and confidentiality, were inaccessible outside daytime hours, and was characterized by long waiting hours.²³

Table 5 – Multivariate logistic regression to identify factors associated with alcohol use among female sex workers before sexual encounter.

Significant variables	Regression coefficient (β)	Sig. value	Adjusted odds ratio	95% Confidence interval	
				Lower	Upper
Pregnancy after joining sex trade	0.82	*0.006	2.275	1.266	4.086
Sex with intravenous drug user	1.182	*0.024	3.261	1.166	9.121
Positive history of oral sex	1.762	*0.001	5.826	2.009	16.898

*Statistically significant.

In our study, risky behaviors like pregnancy, sex with IDUs and positive history of oral sex were strongly associated with alcohol use before sexual intercourse. Heavy alcohol use has been linked to risky sex in an Indian study as well.¹³ Alcohol use and risk behavior were linked again by another Indian study which reported non-usage on condoms by more than half (50.7%) of HIV-infected FSWs in their first month in sex work with the majority of participants reported frequent alcohol use in the initial month after entry (54.0%) and alcohol use at first sex work episode (59.2%).¹⁷

No association was seen between alcohol and inconsistent condom use in the current study. There seems to be conflict in the answers given by the respondents. On one hand, alcohol prior to sex is linked with pregnancy while not with inconsistent condom use. The probable explanation could be the shame or even fear of answering about not using condom as there has been serious advocacy regarding condom use by the NGO working for them in the study area.

Majority of our respondents were from restaurants, being involved in food and drinks is a very pivotal aspect of income generation apart from commercial sex activity. During our observations, we saw that accompanying customers for drinks is almost customary for a female sex worker. The alcohol probably diminishes their inhibition regarding performance of sexual acts like oral sex, which is significantly associated with alcohol consumption in our study too. The present study also reveals association of alcohol with sex with IDUs, which can again be attributed to deteriorating influence of alcohol on rational decision making.

The current study has several limitations. The study population was first contacted through this NGO thus, selection bias is one of the limitation of this study because of which the results of our study cannot be generalized to all the FSWs of Nepal. Further, we did not include the mobile FSWs and minors who represent a large fraction of this population. The research findings are based on the information given by the FSWs and due to illegal nature of this profession the accuracy of the some of the responses seems questionable.

5. Conclusion

The current study depicts a scenario where in spite of high prevalence of reported condom use, the risk of HIV transmission is still high due to influence of alcohol. Oral sex, sex with IDUs and pregnancy are associated with sexual encounter under alcohol influence. The present study shows large proportion of FSWs involved in HIV high-risk behavior and also experiencing symptoms of STIs. Since 1988, when the first case of HIV was diagnosed in Nepal, many HIV preventive efforts have been taken. Presently, there are numerous governmental and non-governmental agencies working in the field of HIV prevention which provide free testing and treatment services at STI clinics and voluntary counseling and testing (VCT) centers to high-risk groups. They interact with the FSWs and their clients to re-emphasize the importance of safe sexual practices and further appeal them to come for regular visits. However, most of our efforts are focused on use of contraceptives, but there is a need to think about the mental state of FSWs to negotiate condom use, the state which can be largely affected

by alcohol abuse. We need to target our strategies to prevent use of alcohol or drugs before sexual intercourse, which can lead to involvement in high-risk behaviors.

Conflicts of interest

All authors have none to declare.

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Evidence Summaries

The accuracy of the Xpert[®] MTB/RIF assay for detecting pulmonary tuberculosis and rifampicin resistance in adults: Summary of the evidence and implications for public health programmes

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This review demonstrates that Xpert[®] is accurate in diagnosing pulmonary TB as well as detecting rifampicin resistance. None of the studies were done in the primary health care setting where the public health benefits are likely to be maximum. The studies used the older generations of Xpert[®]. It is that the performance of current Xpert G4, will be different. Caution has to be exercised in interpreting the results of rifampicin resistance, as this is influenced by baseline risk of MDR TB in that community & patient's individual risk. Cost will have a bearing on adoption of this test into control programmes.

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