

# Violence, HIV risk behaviour and depression among female sex workers of eastern Nepal

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## ABSTRACT

**Objectives:** The primary objective of the study was to estimate the prevalence of depression among female sex workers (FSWs) of eastern Nepal. The secondary objective was to search for an association between depression, violence and HIV risk behaviour.

**Design:** Cross-sectional/observational study.

**Study setting:** This study was carried out in five cities of eastern Nepal (Dharan, Itahari, Biratnagar, Damak and Birtamode). Both restaurant-based and street-based FSWs were recruited in the study.

**Participants:** Women who had been involved in commercial sex activity in the past 6 months and gave informed consent were included in the study.

**Primary outcome measure:** A score of more than or equal to 16 on the Centre for Epidemiological Studies Depression (CESD) scale was considered as depression.

**Methodology:** Face-to-face interviews were conducted with respondents who were sought through a snowball sampling technique. Information regarding their depression status, HIV high-risk behaviour and violence was recorded. The estimated sample size was 210.

**Results:** We interviewed 210 FSWs (both restaurant-based and street-based). The prevalence of depression among respondents was 82.4%. FSWs who had experienced violence were five times more likely to be depressed than those who were not victims of violence. The odds of depression were six times higher among respondents who were involved in any HIV risk behaviour compared with those who were not involved.

**Conclusions:** The present study reports a high prevalence of depression, HIV risk behaviours and violence among FSWs of eastern Nepal. The mental health of FSWs should also be regarded as an important aspect of HIV prevention efforts which can help to promote the overall health of this population.

## INTRODUCTION

Female sex workers (FSWs) represent a marginalised population that faces many occupational hazards.<sup>1</sup> They are at higher risk for violence, contracting sexually transmitted

## ARTICLE SUMMARY

### Article focus

- What is the prevalence of depression among female sex workers (FSWs) of eastern Nepal?
- Is there any association of depression with violence and HIV risk behaviour which are prevalent in this profession?

### Key messages

- Depression is prevalent among the study population, and thus there is a need for future researches in the same direction to cater to the mental health needs of FSWs.
- HIV prevention efforts should also be directed towards mental health issues to promote overall health among this group of vulnerable women.

### Strengths and limitations of this study

- This is one of the first attempts to understand the mental health issues of this population in Nepal.
- We used a standardised questionnaire which was translated and adapted according to the local conditions for recording valid data and making comparisons with other studies.
- The external validity of this study is a concern due to the hidden nature of the sampling frame.
- The temporal association of depression with violence and risk behaviour could not be established due to the cross-sectional study design.
- The statistical power of this study is low, which is evident from the width of CIs.

diseases (STDs), including HIV and stigmatisation.<sup>1 2</sup> A number of studies have concluded that there are various domains which make sex workers a disadvantaged group and which make prostitution a multidimensional issue.<sup>3 4</sup> One of the dimensions is related to the legislative structure of the country in which they operate. In countries like Nepal where commercial sex is illegal, the criminalised status of their work means that commercial sex workers (CSWs) are prone to harassment and violence, are less empowered to negotiate safer sex, and

are less likely to take legal action against violence and abuse.<sup>5</sup> Another dimension relates to CSWs not seeking healthcare from public health services mainly because of their negative experiences in these settings such as being 'refused service' and experiencing 'public humiliation by health workers' or the location of public health facilities and the inconvenience of their hours of operation.<sup>6-8</sup> The poverty-driven phenomenon of 'survival sex' where CSWs accept 'a client who refuses to use a condom' is also an important dimension.<sup>9</sup>

Poor mental health plays a significant role in the involvement of an individual in high-risk behaviours.<sup>10</sup> More specifically, depressed individuals can be involved in unprotected sex, substance abuse and erratic behaviours.<sup>11</sup> On the other hand, the fear of contracting HIV/AIDS could be a serious concern among CSWs as the effectiveness of condoms in preventing HIV and sexually transmitted infections has not been proven to be 100% until now.<sup>12</sup>

Presently, Nepal provides mental health services through 18 outpatient mental health facilities which treat about 300/100 000 general population. This ratio highlights the enormous need for mental health professionals to provide services to the general population. In this scenario, it can be difficult for an individual to be diagnosed and to seek treatment for a mental illness like depression, which is often easily misdiagnosed for a bad or low mood.<sup>13</sup>

Owing to the worldwide concern regarding the spread of HIV/AIDS through this group, most of the time preventive measures are focused on the risks associated with the transmission of HIV/AIDS rather than on the health questions in general or mental health consequences of sex work in particular.<sup>14</sup> As a result, the mental health needs of this population is generally ignored. The vast majority of research, including biobehavioral surveys in Nepal, addresses physical health and safety and highlights condom use among sex workers, but does not discuss their psychosocial needs and need for counselling services. Thus, this is one of the few studies in Nepal which shows interest in mental health, especially among FSWs.

We designed this study to assess the present depressive status of FSWs and further explore its association with violence and HIV risk behaviour, which are commonly experienced by women in the sex trade. The shortage of health workers, ignorance regarding mental diseases and the stigma attached to prostitution compelled us to go to the workplace of FSWs and enquire about depression. We believe that identifying depression and its associations will help in developing prevention strategies which may reduce HIV risk behaviour, support behaviour change and even improve health outcomes.

## MATERIAL AND METHODS

An observational study was conducted in three districts of eastern Nepal. FSWs who had been involved in commercial sex activity in the past 6 months and who gave

informed consent were included. The sample size was derived from a similar study which revealed the prevalence of depression diagnosed through the Centre for Epidemiological Studies Depression (CESD) scale among FSWs to be 70%.<sup>11</sup> By using the formula for sample size calculation:

$$\text{Sample size (n)} = (1.96)^2 PQ/L^2$$

P is the prevalence of depression from reference study, Q is the complement of P, ie,  $Q=100-P$ , L is precision/allowable error, which is taken to be 10% of P in this study

$$\begin{aligned} &= (1.96 \times 1.96 \times 70 \times 30)/7 \times 7 \\ &= 164.64 \dots 165(\text{approx.}) \end{aligned}$$

Thus, amplifying by 10% for possible non-response, the final sample size is  $165+16.5=171.5$  or 172, that is, at least 58 from each district. We planned to interview 210 FSWs, 70 from each district. The sex workers were contacted through snowball sampling; the first few respondents were traced with the help of a non-government organisation—Sahara Nepal—which works for the cause of HIV prevention in the study area. Depressive symptomatology was recorded using the CESD scale, which is a 20-item scale in which a cut-off point of 16 is considered to be appropriate to differentiate respondents with depression.<sup>15 16</sup> Questions regarding HIV risk behaviour were adapted from the Family Health International—HIV/AIDS/STD Behavioural Surveillance Surveys: for use with FSWs.<sup>17</sup> A positive history of (1) syringe exchange, (2) sex with an intravenous drug user, (3) sex under the influence of alcohol or drugs, (4) oral sex, (5) anal sex, (6) non-usage of condoms during every sexual encounter and (7) pregnancy after joining the sex trade was considered as being involved in HIV high-risk behaviour. Questions regarding work-related violence were adapted from a questionnaire developed during the WHO multicountry study on women's health and domestic violence against women.<sup>18</sup> The questions for recording psychological violence were:

- Has anyone insulted you or made you feel bad about yourself?
- Has anyone belittled or humiliated you in front of other people?
- Has anyone done things to scare or intimidate you on purpose?
- Has anyone threatened to hurt you or someone you care about?

The questions for recording physical violence were:

- Has anyone pushed or shoved you?
- Have you ever been physically assaulted (hitting, beating, etc)?

The questions for recording sexual violence were:

- Have you ever been raped or sexually assaulted?
- Has anyone attempted to rape or sexually assault you?

A positive response to any one of the above eight questions was regarded as suffering from violence in the workplace. Women who had suffered from any form of violence and been involved in HIV risk behaviour in the past 6 months at their workplace (street/restaurant) after joining the sex trade were included.

The questions were originally prepared in English and later translated into Nepali for collection of data according to standard translation guidelines. Only completed questionnaires without any missing data were included in the study as it would have been difficult to repeat interviews due to the high mobility of the study population.

Data were analysed using the Statistical Package for Social Sciences (SPSS) V.12.0 (SPSS Inc, Chicago, Illinois, USA). ORs were calculated to assess the association of depression with variables of HIV high-risk behaviour and violence. Significant variables from the bivariate analysis ( $p < 0.05$ ) were then entered into the binary logistic regression model with backward elimination. Ethical approval was taken from the Institutional Ethical Review Board, B P Koirala Institute of Health Sciences (BPKIHS). Informed consent was taken from each respondent. Confidentiality and anonymity were assured and maintained.

## RESULTS

A total of 210 FSWs were interviewed, of which 173 respondents fell in the higher depressive category, making the prevalence of depression among FSWs of eastern Nepal to be 82.4%. FSWs who had been insulted were three times more likely to report depressive symptoms than those who had not (OR 3.28, 95% CI 1.50 to 7.20), as shown in table 1. The respondents who were humiliated in front of others were twice as likely to be having depression (OR 2.46, 95% CI 1.06 to 5.70). The risk of depression was about seven times higher among FSWs who gave a positive history of suffering from any form of violence (OR 6.96, 95% CI 3.21 to 15.08). Table 2 shows that the distribution of the proportion of individual HIV high-risk behaviours was not largely different for depression. Among the 210 sex workers, no one gave a history of syringe exchange. However, the percentage of women who were involved in at least one mentioned behaviour and depressed was high (85%). The risk of depression was three times higher in FSWs who had been involved in any one of the mentioned high-risk behaviours (OR 3.20, 95% CI 1.44 to 7.11).

Logistic regression analyses revealed that women who had experienced any form of violence in the last 6 months had a more than five times higher chance of being in the depressive category than respondents who had not (adjusted OR (AOR) 5.89, 95% CI 2.22 to 15.63), as shown in table 3. Similarly, FSWs who were involved in at least one mentioned HIV risk behaviour were six times more likely to be in a higher depressive category (AOR 6.03, 95% CI 2.09 to 17.36). Thus, our

study shows that violence and HIV risk behaviour are significantly associated with depression.

## DISCUSSION

In our study, the prevalence of depression among FSWs was 82.4%. There are no national data with which we can compare our figure. However, different studies conducted among sex workers reveal fluctuating figures. A study conducted in China revealed that approximately 30% of the sex workers had elevated depressive symptoms (with a CESD score  $\geq 16$ ), 8% had suicidal ideation, and 9% had made a suicidal attempt.<sup>19</sup> An Indian study reported that a majority of the sample (86%) had depression for more than 3 days a week and approximately 30% of the sample reported that they had tried to kill themselves.<sup>20</sup> These data were comparable with our data, which can also be attributed to the fact that we have open borders and similar sociocultural characteristics. Comparable findings were seen in another study conducted by Alegria *et al*<sup>10</sup> on 127 Puerto Rican sex workers in which 70% of the sex workers fell into the highly depressive category, which was diagnosed through the same CESD questionnaire. A Nigerian study concluded that in comparison with women of other occupational groups, FSWs were at greater risk of screening positive across many forms of psychopathology. The prevalence ranged from 11.2% (speech disorder) to 32% (general psychopathology) among the sex workers, and from 3.2% (sleep disorder) to 17.6% (general psychopathology) among the control group.<sup>14</sup>

In accordance with the previous studies, the women who experienced violence were more likely to be depressed compared with those who did not in the current study too. An Indian study concluded that FSWs who experienced higher violence at work and at home had a higher measure of depression.<sup>20</sup> Harris *et al*<sup>21</sup> conducted a qualitative study to address the experiences of FSWs in urban Australia. They had been diagnosed with bipolar disorder, and mentally abused by a former partner. Similarly, a study was conducted to examine the association of sexual coercion with HIV-related risk behaviours and suicidal thoughts and attempts among FSWs (FSWs) in Guangxi, China. Multivariate logistic regression analyses indicate that sexual coercion was significantly associated with suicidal thoughts and suicide attempts.<sup>22</sup>

In the current study, FSWs being involved in HIV risk behaviour were six times more likely to be depressed (95% CI 2.09 to 17.36). Several studies have linked HIV high-risk behaviour with the mental status of a person. A study conducted on 127 Puerto Rican sex workers found that sex workers who had unprotected intercourse with clients were more likely to report high rates of depressive symptoms. Injected drug users were about seven times more likely than those who did not inject drugs to reach high levels of depressive symptoms.<sup>10</sup> Hutton *et al*<sup>11</sup> found that depressed patients were more

**Table 1** Percentage distribution and OR estimates of work-related violence by depression (n=210)

Work-related violence	Depression		OR	95% CI	Significant values
	Absent (%)	Present (%)			
Insulted or made to feel bad					
Yes	9.6	90.4	3.28	1.50 to 7.20	<i>0.001*</i>
No	17.4	72.6			
Humiliated in front of others					
Yes	9.7	90.3	2.46	1.06 to 5.70	<i>0.007*</i>
No	23.9	76.1			
Intimidated on purpose					
Yes	9.4	90.6	2.25	0.82 to 6.12	0.070
No	20.4	79.6			
Threatened to hurt loved ones					
Yes	17.9	82.1	0.98	0.34 to 2.77	0.972
No	17.6	82.4			
Pushed or shoved					
Yes	21.4	78.6	0.75	0.28 to 2.01	0.570
No	17.0	83.0			
History of physical assault					
Yes	15.2	84.8	1.23	0.44 to 3.44	0.685
No	18.1	81.9			
Raped or sexually assaulted					
Yes	20.0	80.0	0.84	0.26 to 2.67	0.760
No	17.4	82.6			
Attempt to rape					
Yes	17.6	82.4	0.99	0.43 to 2.28	0.995
No	17.6	82.4			
Suffered from any form of violence					
Yes	10.3	89.7	6.96	3.21 to 15.08	<i>&lt;0.001*</i>
No	44.4	55.6			

\*Statistically significant (in italics).

**Table 2** Percentage distribution and OR estimates of HIV high-risk behaviour by depression (n=210)

HIV high-risk behaviour	Depression		OR	95% CI	Significant values
	Absent (%)	Present (%)			
Sexual intercourse under influence					
Yes	14.6	85.4	1.48	0.71 to 3.06	0.439
No	20.2	79.8			
Sex with an intravenous drug user					
Yes	14.3	85.7	1.31	0.36 to 4.72	0.673
No	18.0	82.0			
History of anal sex					
Yes	14.8	85.2	0.12	0.05 to 0.31	0.060
No	12.9	87.1			
History of oral sex					
Yes	34.8	65.2	0.34	0.13 to 0.88	0.923
No	15.5	84.5			
Condom usage during every sexual encounter					
Yes	20.3	79.7	0.77	0.36 to 1.67	0.518
No	16.6	83.4			
History of pregnancy after joining the sex trade					
Yes	12.4	87.6	1.94	0.90 to 4.17	0.085
No	21.5	78.5			
Presence of any one HIV risk behaviour					
Yes	14.0	86.0	3.20	1.44 to 7.11	<i>0.020*</i>
No	34.2	65.8			

\*Statistically significant (in italics).

**Table 3** Association of violence and HIV risk behaviour with depression—logistic regression

Significant variables	Significant values	Adjusted OR	95% CI	
			Lower	Upper
Experienced any one form of violence	<0.001	5.89	2.22	15.63
Involved in at least one risky behaviour	0.001	6.03	2.09	17.36

likely than non-depressed patients to have sex for money or drugs, to have had sex with an intravenous drug user, to have sex when 'high' on alcohol or drugs, to have a greater number of lifetime sex partners, and to abuse alcohol or drugs. In a study conducted in Australia, logistic regression analyses showed that a history of injecting drug use, an early age at the time of leaving home and wanting to leave the sex industry were independent predictors of poor mental health. Distressed sex workers reported fewer sexual health examinations and less consistent condom use with their clients than those who were not distressed.<sup>21</sup>

Our study concludes that there is a high prevalence of depression among FSWs of eastern Nepal. It also infers a significant association of HIV risk behaviour and violence with depression.

There are several limitations of the current cross-sectional study. To start with, owing to the cross-sectional study design, the temporal association cannot be proved. We can neither say that depression caused violence and HIV risk behaviour nor that the presence of violence and indulgence in risky behaviour made FSWs depressed. However, this study has provided us a good basis to initiate future longitudinal studies to address the present concern of temporality. ORs suggest that women who suffered from psychological violence were more likely to be depressed, but the percentage distribution shows that the proportion of women who did not suffer from psychological violence also had high depressive scores. Similarly, women who were not involved in the individual HIV risk factor also showed high depressive scores. This disables us from knowing how much of the variance in depression is caused by these variables. The information regarding the frequency and severity of violence and risk behaviour was not recorded, which is also an important limitation of the current study. Although we tried to include FSWs of major cities of eastern Nepal where prostitution is rampant, the hidden group, women working during the last few months or mobile FSWs, might have been missed. The lack of a detailed history on substance abuse (possible confounder of depression) is another limitation of the study. The external validity of the study is questionable due to the hidden nature of the sampling frame.

In conclusion, we need to design our HIV prevention strategies in such a way that they address the mental health issues prevalent in this profession. The various agencies working with FSWs can start psychosocial counselling services, spread knowledge regarding mental

health importance and highlight the taboos associated with it. Psychiatric evaluation of FSWs can be coupled with their routine blood tests and clinical examinations at voluntary counselling and testing centres. FSWs are scared of the law and thus are less hesitant to practice their right to say 'NO' to their clients. We need to help them realise that their clients are also equally answerable to the law and nobody can make them do anything without their consent. Most importantly, there is a need on the part of policymakers to acknowledge the presence of an ever-growing sex industry in Nepal and they should implement ways to address the issues of this population.

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**Ethics approval** Institutional Ethical Review Board (IERB).

**Contributors** RS was involved in the conception and design of the study, along with data collection and writing of the drafts. SB was involved in concept refining, developing the questionnaire, writing the drafts and critiquing them. BA helped in translation of the questionnaire, diagnosis of depression and inputs in writing drafts. DB was instrumental in designing the study, and contributed to the statistical analysis and drafting of the results. DKV was involved in a critical analysis of the earlier drafts. PKP was responsible for concept refinement and a critical analysis of the earlier drafts. All the authors have read and approved the final version of the manuscript for scientific publication.

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