



**PROFILE, DRUG USE PATTERN,
RISK BEHAVIOR & SELECTED BIO-MARKERS
OF WOMEN DRUG USERS FROM
SEVEN SITES IN NEPAL**



**GOVERNMENT OF NEPAL
MINISTRY OF HOME AFFAIRS**



UNODC

United Nations Office on Drugs and Crime

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GOVERNMENT OF NEPAL
MINISTRY OF HOME AFFAIRS

Singha Durbar
Kathmandu, Nepal.

The HIV epidemic in Nepal is a concentrated epidemic. The two big driving factors are injecting drug use and transmission through sexual networks. Numerous social, economical and cultural factors influence the injecting and sexual behaviours among various groups. Given the nature of the HIV epidemic, the focus of the response has been mostly on programmes directed towards prevention of HIV, by targeting most-at-risk-populations.

The intersection of unsafe drug use and unsafe sexual behaviour are the two significant factors in the increased risk for HIV infection of female drug users (FDUs) and female sex partners (FSP) of male drug users. FDUs and FSPs are not only vulnerable to HIV infection because of unsafe drug use practices; they are also often involved in unsafe sexual activities, which increases their vulnerability to HIV transmission even further. FDUs differ from their male counterparts in terms of their background, their reasons for using drugs, and their psychosocial needs. However, most HIV/AIDS prevention and care programmes are not reaching FDUs and FSPs because services are designed for men. In Nepal, Harm Reduction and Drug Treatment Services started in 1991 and have expanded over the years. However, services for female drug users are very limited. Moreover, this population group is highly vulnerable and stigmatized which makes it more difficult to reach this hidden group.

The Ministry of Home Affairs and the United Nations Office on Drugs and Crime, Regional Office for South Asia is engaged in addressing the issues of Female Drug Users. It is very important that gender concerns are recognized and specific gender sensitive interventions are designed towards addressing the increasing vulnerability of women, drug use and HIV.

This study provides a comprehensive assessment of issues related to women, drug use and HIV. We hope this report will be useful for program planning, policy formulation and prioritizing and designing of interventions for implementation.

I would also like to thank our technical experts for undertaking this assessment and giving us an insight into these complex issues and showing us the way forward on possible interventions which can be developed to address the need of female drug users and HIV.

Mr. Shankar Koirala
Joint Secretary,
Ministry of Home Affairs

FOREWORD

Although the problem of drug use among women is being increasingly recognized, female drug use related problems do not often show up in research publications or while developing responses on drug use and/or for HIV/AIDS prevention programmes for vulnerable groups. This is partly due to their limited numbers sometimes and the largely subordinate position of women users in the drug subculture.

Recent trends however are indicative of the fact that women are likely to suffer worse consequences than men as a result of drug use. It is therefore important to evolve alternate strategies to identify women with problems related to drug use in order to understand its impacts both from the individual as well as from the gender perspective.

More importantly for developing appropriate response, it is prudent to understand the bio behavioural vulnerabilities of female drug users. Female drug users differ from their male counterparts in terms of their background, their reasons for using drugs, and their psychosocial needs. However, most prevention and care programmes for drug users are not reaching the vulnerable female drug users because services are designed for men. Attempts to reach and work with female drug users are limited and, in fact, gender sensitive services addressing the specific needs of female injecting drug users hardly exist in most countries.

In Nepal, like most countries of South Asia, women occupy a unique role in their respective homes and society. Though they have a central role in managing the household, they do not have much say in other affairs. As a result, they are forced to become dependent on their male counterparts in interacting with the outside world and society in general. These disparities are acutely manifested in the case of the women who use drugs and also among the women who are spouses of drug using men.

Recognising this problem, UNODC in partnership with the Ministry of Home Affairs and the National Centre for AIDS and STD Control (Ministry of Health and Population), Government of Nepal joined hands to conduct a study titled "Profile, Drug use pattern, Risk Behavior and selected Bio-markers of women drug users from seven sites in Nepal". This is the only study of its kind in the entire South Asia region and should serve as a basis to conduct similar studies in other countries.

It is indeed a privilege for me to present the study "Profile, Drug use pattern, Risk Behavior and selected Bio-markers of women drug users from seven sites in Nepal" in Nepal. I am confident that the outcomes and recommendations from this study will surely go a long way in better understanding of the issues affecting the female drug users and will act as an effective tool for developing evidence informed interventions.

This study has been conducted as part of the UNODC supported project in Nepal titled 'HIV Prevention, Care and Treatment for Female Injecting Drug Users, Female Prisoners and Women living with HIV and AIDS in Nepal'.



Cristina Albertin
Representative
UNODC, Regional Office for South Asia

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
CBS	Central Bureau of Statistics
CREHPA	Centre for Research on Environment Health and Population Activities
DIC	Drop-In Centre
DU	Drug Users
ELIZA	Enzyme Linked Immuno Sorbent Assay
FDU	Female Drug Users
FIDU	Female Injecting Drug User
FSW	Female Sex Worker
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HPV	Human Papiloma Virus
HIV	Human Immunodeficiency Virus
IBBS	Integrated Bio-Behavioral Survey
ID	Identification Number/Card
IDU	Injecting Drug User
MARP	Most At Risk Population
MMP	Methadone Maintenance Programme
MoHP	Ministry of Health and Population
MSM	Men who have Sex with Men
NCASC	National Centre for AIDS and STD Control
NGO	Non Governmental Organization
NSEP	Needle Syringe Exchange Programme
NRL	National Reference Laboratory
PPS	Probability proportionate to size
RPR	Rapid Plasma Reagin
RSP	Regular Sex Partner
STI	Sexual Transmitted Infections
TPHA	Treponema Pallidum Haemagglutination Assay
UNODC	United Nations Office on Drugs and Crime

TABLE OF CONTENTS

ABBREVIATIONS

Page No.

Chapter 1:	Overview of Issues Related to Women Drug Users	9
Chapter 2:	Study Design and Methodology	13
Chapter 3:	Study Findings	19
Section 1:	Socio-demographic profile of respondents	21
Section 2:	Drug use pattern	27
Section 3 :	Needle and Syringe sharing practices	33
Section 4:	Alcohol Use Pattern	34
Section 5:	Sexual practices	37
Section 6:	Condom use pattern	38
Section 7:	Legal problems	40
Section 8:	Economic costs related to alcohol and drug use	41
Section 9:	Seeking help for alcohol / drug use	42
Section 10:	Knowledge and perception about HIV / AIDS	44
Section 11:	HIV test uptake	45
Section 12:	Substance use by regular sex partner	47
Section 13:	Prevalence of HIV, Hepatitis B & C and Syphilis and symptoms that could signify presence of other STIs	48
Chapter 4 :	Main findings & Programmatic Directions	53

LIST OF TABLES

		Page
Table 1	Geographical location in terms of region and HIV sentinel surveillance zones	14
Table 2	Site-wise estimated numbers of women drug users who inject drugs	16
Table 3	Site wise distribution of DU and FIDU study respondents	20
Table 4	Age, education and marital status of respondents - site wise	21
Table 5	Living arrangements	23
Table 6	Period of living in present location	24
Table 7	Type of occupation	24
Table 8	Regularity in employment	25
Table 9	Commercial sex work - site wise comparison	25
Table 10	Sex work in relationship with selected demographic variables	26
Table 11	Pattern of injection use	27
Table 12	Age of first drug use	27
Table 13	Age of first injection use	27
Table 14	Duration of Injecting Drug Use	28
Table 15	Progression from oral drug use to injection use	28
Table 16	Frequency of injection use	28
Table 17	Site wise frequency of injection use	29
Table 18	Types of drugs used orally	30
Table 19	Type of injecting drugs – ever injected	30
Table 20	Drugs injected over past one month	31
Table 21	Types of drugs injected - site wise	32
Table 22	Sharing Practices	33

Table 23	Injecting setting – alone or in a group	33
Table 24	Age of first alcohol use	34
Table 25	Preferred alcoholic beverage	34
Table 26	Frequency of alcohol use in past one month	35
Table 27	Quantity of alcoholic consumption in a typical day	35
Table 28	Prevalence of problem alcohol use	36
Table 29	Age of sexual debut	37
Table 30	Type of partners in past year	37
Table 31	Use of condoms in last sex act with specific types of partners	38
Table 32	Condom use with regular sex partners and marital status	38
Table 33	Condom use in last sex act in relation to pattern of sex partners	39
Table 34	Arrests related to alcohol / drug use	40
Table 35	Served prison sentence related to alcohol / drug use offences	40
Table 36	Money spent on drugs on a typical day	41
Table 37	Money spent on alcohol on a typical day	41
Table 38	Percentage of income spent on drugs	41
Table 39	Access to risk reduction services among injecting users	42
Table 40	Access to NSEP and duration of injecting use	43
Table 41	Knowledge of HIV / AIDS	44
Table 42	Perception of availability for HIV test	45
Table 43	Perception of HIV risk and HIV test status	45
Table 44	Duration of injection use and HIV test uptake	46
Table 45	Use of alcohol and drugs by regular sex partner	47
Table 46	Violence from RSP under influence of alcohol or drugs	47
Table 47	Prevalence of Symptoms suggestive of STI	48
Table 48	Blood test results for selected infections	49

LIST OF FIGURES

		Page
Figure 1	Map showing sites of data collection	14
Figure 2	Site wise distribution of respondents – drug users and injection users	20
Figure 3	Age distribution of respondents	22
Figure 4	Education level of respondents	22
Figure 5	Marital status of respondents	23
Figure 6	Occupation as reported by respondents	24
Figure 7	Most commonly injected drugs - sitewise	32
Figure 8	Frequency of alcohol use in past one month	35
Figure 9	Quantity of alcohol consumed on a typical day	36
Figure 10	Evidence of problem alcohol use across 7 sites	36
Figure 11	Condom use in last sex act in relation to pattern of sex partners	39
Figure 12	Ulcer and / or growth in anus	48
Figure 13	Prevalence of HIV among respondents engaged and not engaged in sex work	49
Figure 14	Prevalence of HIV in relation to frequency of injecting	49
Figure 15	Hepatitis B (past exposure) among those engaged in sex work not engaged in sex work	50
Figure 16	Hepatitis B (past exposure) in relation to frequency of injecting	50
Figure 17	Hepatitis C prevalence	51
Figure 18	Presence of at least one infection- comparison of HIV zones	51

CHAPTER 1

OVERVIEW OF ISSUES RELATED TO WOMEN DRUG USERS

World Drug Report (2010) estimates that there are 16 to 38 million problem drug users across the world and that about 11 to 21 million inject drugs(1). Based on a desk review, it was estimated that 3.0 million (range 0.8 - 6.6 million) of those who inject drugs might be HIV positive (2).

Drug use is known to affect physical and mental well being; in addition to leading to problems related to work performance and family and social relationships. The link between drug use and crime is also being increasingly recognized. Moreover, injecting drug use has emerged as great cause of concern as it has fuelled the HIV epidemic in many parts of the world.

Ninety five percent of the new infections since 2003 worldwide have been reported from low and middle income countries of which most have low or concentrated HIV epidemics. In these countries, networks of high risk populations play a key role in driving the HIV epidemic. Nepal is one such country. The HIV prevalence in the general population in Nepal is low at 0.5%. However, HIV prevalence in the Most At Risk Population (MARPs) groups is high necessitating focused interventions. Injecting drug users (IDUs), female sex workers (FSWs) and their clients and MSM (Men having Sex with Men) groups have been identified as MARPs. Integrated Bio-Behavioral Surveys conducted in Nepal in 2009 estimated HIV prevalence to be 2.2% among FSWs and among IDUs it varied from 3.4% (in Pokhara) to 20% (in Kathmandu). It was estimated that about 10% of HIV prevalence could be attributed to IDUs (current and ex users), 14.4% to clients of FSWs and 0.7% to FSWs (3). However, among FSWs too, drug use is being increasingly recognized as a cross cutting issue as drug use can drive women to sex work and vice versa. In such a scenario, addressing issues of women drug users takes on great importance.

The Central Bureau of Statistics, Government of Nepal, estimated in 2007 that there were 46,309 current drug users in Nepal of whom 3,356 (7.2%) were female (4). The increase in substance use among Asian women and an increase in involvement of the women injecting drug in sex work have been highlighted by some researchers (5). The UNGASS report (2010) also commented that female drug using population in Nepal may be larger than acknowledged so far and highlighted the need to respond to this group. UNODC in the past few years has been sensitive to issues related to female drug users. Efforts were made to address their needs through DICs and by extending support for free treatment of substance dependence. Yet, women drug users as a category have not been studied and scarcity of epidemiological literature has hampered gender specific interventions. The present study was commissioned in light of these concerns.

DRUG USE AND WOMEN – SPECIAL ISSUES

Drug use is considered as deviant behavior and drug users are stigmatized in many countries including Nepal. When women use drugs the stigma and subsequent social isolation is even more severe than when compared to male drug users. In the Asian setting this is particularly true. Women especially in South Asia (which includes Nepal) often have lesser education, poorer access to health services and do not enjoy parity with men in terms of employment as well as other privileges. Use of drugs weakens her socially disadvantaged position and increases her vulnerability further.

The social setting influences the drug use scene too. Women are more likely to have partners who use substances and are often prompted to use drug by their partners. She is often dependent on the male to buy drugs and other injection paraphernalia. She is at a disadvantage in terms of the power structure and may be unable to exercise her decision not to share injecting equipment. Rapid Assessment Survey in India reported that 75% women drug users interviewed shared needles 'almost always' (6)(7). When injecting in a group, the woman may be the last to use the needle or syringe. Women drug users are also often subjected to violence (physical, verbal or sexual). She may be coerced into selling drugs or sex to support her drug use. In an Indian study two thirds of female drug users reported sex work in exchange for money or drugs (8). All this places her

at high risk for HIV as well as other blood borne infections such as Hepatitis B, Hepatitis C and other STIs (9).

Physiologically too women are at a disadvantage. For use of similar quantities of substances, women are bound to suffer more health problems than men. Women who use alcohol are at higher risk of liver, heart and brain damage compared to men. Drug use affects her menstrual cycle leading to gynecological problems. Drug use also increases the chances of unplanned pregnancies. Use of drugs during pregnancy can lead to poor nutritional status and increased risk of having premature and or low weight babies with health problems. Women substance users are also more prone to anxiety and depression and are more likely to attempt suicide when compared to male drug users. Studies have, in addition shown that the mortality risk is higher among women IDUs when compared to male IDUs. Women also develop greater severity of addiction when compared to male users (10).

In spite of facing problems related to substance use, women do not access help easily and tend to hide and delay seeking help. Stigma, shame and guilt, her socially disadvantaged position and lack of availability of women friendly services are some of the reasons for poor access to services. Lack of support from her family members and inability to make arrangements to care for children can interfere with her decision to access help. Her male partner may dissuade or even forbid her from seeking help. Studies also emphasize that women sometimes use drugs as a coping mechanism to deal with their distress and helplessness arising out of their difficult life situation. In such a situation, she may view drug use as a solution to her problems (10).

RATIONALE FOR THE STUDY

Lack of information about issues related to women drug users in general and Nepal in particular necessitated the present study. Due to their smaller numbers and difficulty in gaining access, women drug users have been overlooked in research studies in the past. Though smaller in number than the male drug using population, it is not possible to generalize findings from male drug user studies to understand issues of female drug users. Moreover, the present understanding of issues related to women drug users in Asian settings are largely based on observations and insights from research studies conducted in developed countries.

Even though the drug user estimation undertaken in Nepal in 2007 (4) estimated that 7.2% of the drug using population were women and it is recognized that their issues differ from male drug users, various issues surrounding the use of drugs by the female population has not been studied in depth. The present study was initiated to understand issues that could help improve interventions for women drug users.

Sero-prevalence studies among female sex workers have been undertaken at regular intervals in the past. Though anecdotal evidence about the link between sex work and drug use exist, drug use was not taken into account as a risk factor in the studies conducted with sex workers in Nepal as in other countries. This study was designed to understand the issues related to sex work among the women drug users and review intervention strategies if needed.

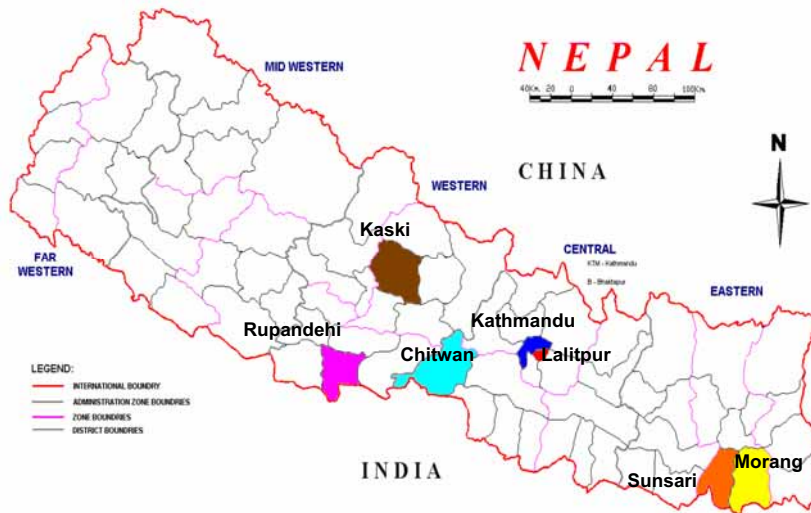
In brief, the present study, which was developed by well realizing the paucity of research related to women drug users in Nepal, generates findings to enhance the effectiveness of intervention for this special population group.

CHAPTER 2

STUDY DESIGN AND METHODOLOGY

The study was carried out in seven sites spread across seven districts in Nepal. The map shows the districts where data was collected. The respondents were interviewed in Drop In Centers (DICs) operated by ten organizations with support from UNODC Nepal.

Figure 1 - Map showing sites of data collection



The geographical location in terms of region and the HIV sentinel surveillance zones as proposed by the Government of Nepal is presented in the table below:

Table 1: Geographical location in terms of region and HIV sentinel surveillance zones

	Sites in districts	No. of DICs contacted	Location of district	Zone
1	Kathmandu	Two	Central	Kathmandu Valley
2	Lalitpur	One		
3	Kaski	Two	West	Highway districts
4	Rupandehi	One	West	
5	Chitwan	One	Central	
6	Sunsari	Two	East	
7	Morang	One	East	

OBJECTIVES OF THE STUDY

The study on women drug users in Nepal aims to:

- Examine drug use patterns (including alcohol use), and the drug use through injection in particular.
- Assess prevalence of risk practices that places the female drug users at high risk for HIV (such as needle and syringe sharing, sexual practices and condom use) as well as level of awareness about HIV and presence of symptoms that could be indicative of sexually transmitted infections.
- Analyse financial costs of substance use, legal problems and intimate partner violence that increase vulnerability .
- Examine prevalence of selected blood borne infections.

OPERATIONAL DEFINITIONS

For the purpose of the study, the following agreed upon definitions between the various stakeholders were used:

Female Drug Users (FDUs): Women who are 18 years or older and have used drugs such as heroin or brown sugar or other medically used drugs for pleasure (for other than medical reasons) or sniffing glue at least 12 months preceding the interview and had used at least once in the past one week prior to the survey. FDUs have also been referred to as 'women drug users' in this report.

Female Injecting Drug Users (FIDUs): Female Drug Users (FDUs) who had injected drugs at least once in the past one month for other than medical reasons.

Daily injectors: Female Injecting Drug Users (FIDUs) who injected drugs at least once a day in the past one month for other than medical reasons.

Problem alcohol users: Women who scored 2 or more on CAGE questionnaire were identified as those with possibility of alcohol dependence and as problem alcohol users.

Commercial sex partners: Partners with whom women drug users had sex with in exchange for money or drugs.

Non-regular sex partners: Partners with whom women drug users had sex with but were not married to and have never lived with them and did not have sex in exchange for money or drugs.

Regular sex partners: Partners with whom women drug users were married to or lived with and did not have sex in exchange for money or drugs.

STUDY DESIGN AND PROCESS FOLLOWED

The study was undertaken as part of the Rapid Situation and Response Assessment commissioned by UNODC, Nepal. The consultants for this effort (Panda.S Thirumagal.V and Roy.T) restructured the interview schedule previously used in a UNODC supported study in Cambodia to suit the Nepal drug scenario and conducted training to NGO service providers involved in the study.

In the first phase of the study, ten NGOs working with women drug users in Nepal were contacted. Based on their experience, the NGO staff provided a 'guesstimate' of the number of injecting women drug users in the cities or towns they operated in. The number of FDUs estimated in each town / city where the NGO was based ranged from 20 (Morang) to 350 (Lalitpur) with a total of about 900. It was decided to draw about 45% of the estimated size in each of the seven sites, making it 400 in all. On the basis of the estimate provided by NGOs, the study aimed to interview 400 women injecting drug users across the seven sites on a 'first-come' basis until the target sample size for that particular site was reached.

However, when the data collection began, in some of the sites, the number of injecting drug users (FIDUs) who could be contacted through the local NGOs was lower than the respective site's targeted sample (Table 2). The target sample size could not be achieved, despite extending the fieldwork duration for additional days in Kathmandu and Lalitpur, while a larger number could be contacted in other sites. As the required number could not be reached, the data collection agency (CREPHA) with approval from UNODC included oral drug users also in the study.

Table 2: Site-wise estimated numbers of FDUs who inject drugs

District site	Kathmandu	Lalitpur	Kaski	Rupandehi	Chitwan	Sunsari	Morang	Total
Estimated no. of FIDU	200	350	100	35	95	70	20	870
Sample size distribution	91	163	46	16	43	32	9	400
Contacted	41	78	55	10	61	54	24	323
City / town in district of data collection	Kathmandu	Patan	Pokhara	Butwal	Narayan ghat	Dharan	Birat nagar	

- **Identifying Injecting Women Drug Users:** A team comprising of three supervisors and seven interviewers, all of whom were women coordinated the data collection efforts and conducted the interviews in each of the seven sites. Peer Educators or Out Reach Workers working in the NGO run DIC which was involved in HIV prevention efforts with FDUs helped the team to meet prospective respondents.

- **Eliciting consent of respondent:** The purpose of the study was explained by the interviewer and respondents were interviewed after they verbally consented to be part of the study. The interviewer affixed her signature on the interview schedule declaring that the information about study was explained and that the respondent agreed to participate in the study. Another person who witnessed this procedure, of providing information, answering queries and gaining consent also signed to state that the consent was gained without coercion. Participants were assured about confidentiality and informed about the process as well as the duration of time that would be needed. Care was taken to ensure privacy during the interview as well as blood collection. Each respondent was paid NPR 150 as transportation costs.

- **One on one Interview:** After seeking consent, respondents were interviewed on a one-on-one basis using a questionnaire made available by UNODC - Nepal. Female interviewers trained to administer the questionnaire interviewed the female drug users. The blood sample was collected on completion of the interview. Of the 393 respondents, 391 consented to provide a blood sample.

- **Pre test counselling:** All respondents were provided pre-test counselling on HIV/AIDS and STIs. Symptomatic treatment of STI was also provided to the respondents free of cost at the research site and some were referred for further diagnosis and treatment. In addition all received health education related to HIV as well as other STIs and safe practices.

- **Drawing blood sample:** After the pre-test counselling, the lab technician briefed the respondents (who had given verbal consent to be tested) about the testing process and drew the blood sample. Blood was drawn in a 10 ml Clot Activator tube which was provided by the National Reference Laboratory (NRL), Govt. of Nepal, Kathmandu. Each sample was marked with the respondent's identification number (ID). After centrifugation in 5000 RPM for 5 minutes, the serum was separated and the tube was stored in a refrigerator until the blood was transported to NRL, Kathmandu for testing of HIV, Hepatitis B, Hepatitis C and Syphilis.

- **Transporting blood sample for testing:** Before being transported to NRL, all the test tubes containing the blood samples were checked for ID number as well as leakage and breakage. Then, the samples were kept in

a foam box along with an ice-pack and tightly wrapped. Arrangements were made with NRL, Kathmandu to receive the samples within 3 - 4 hours after being air lifted from the district site. NRL after receiving the blood samples stored the samples in refrigerator and completed the test within seven days of receiving the sample.

- **Laboratory testing:** Blood samples were tested for selected infections such as:

- a) HIV:** Detection of HIV infection was carried out by HIV I and II antibody detection by 'Microwell ELIZA kit' (Bio-kit, Spain)
- b) Hepatitis B:** Samples were screened for Hepatitis B surface antigen (HBsAg) as well as Hepatitis B Core antibodies (HBcAb). A negative result for both indicates that there is no active or prior Hepatitis B infection. Being reactive (positive) to HBsAg with a negative HBcAg indicates early acute infection. Negative HBsAg and positive HBcAb shows that the acute infection is resolving, while both HBsAg and HBcAb positive indicated that the respondent is in the acute stage of infection (sero-conversion).

HBsAg	HBcAb	Result
Negative	Negative	No active or past Hepatitis B
Positive	Negative	Early acute infection
Negative	Positive	Resolving acute infection
Positive	Positive	Acute infection

- c) Hepatitis C:** Anti HCV tests were carried out to detect the presence of antibodies to the virus. A reactive (positive) antibody test indicated that the person has been infected with Hepatitis C.
- d) Syphilis:** Rapid Plasma Reagin (RPR) and Treponema Pallidum Haemagglutination Assay (TPHA) were carried out. Diagnosis of current syphilis infection was made if the sample is reactive in the RPR test and TPHA tested positive. Past infection to syphilis was diagnosed if RPR was non reactive and TPHA was positive.

- **Procedures for Providing Test Results:** Respondents were issued a card with the identification number (ID card) entered in the blood sample collected as well as a password. The respondents were informed that the test results would be kept confidential and could be collected only on production of the ID card and the password given to them at the time of drawing the blood sample.

Collection of test results was optional and they could make the decision as to whether they wished to collect the results or not. Respondents were also given the option of collecting the test results for some or all the infections screened for. Test results were distributed to the respondents through the NGOs involved in the study after the respondents provided their ID cards and passwords. Post-test counseling was provided by female counselor of the NGO who facilitated the process of data collection at the site.

PERIOD OF STUDY

The fieldwork was completed between 14 February 2010 and 19 March, 2010. The fieldwork was carried out simultaneously in Kathmandu, Lalitpur and Kaski districts. Upon completion of the fieldwork in these three districts, the field team moved to the remaining four districts.

ETHICAL CONSIDERATIONS

The present study received technical and ethical approval from the Nepal Health Research Council (NHRC) – the national ethical body in Nepal. The research study was conducted in compliance with both the ethical and human rights standards. Consent was sought from respondents after informing them about the study objectives and assurance of confidentiality at each phase of the study as described earlier.

EFFORTS TO ENSURE QUALITY DATA COLLECTION

- *Training of field team:*

Five days of training was provided to the field team on HIV/AIDS, issues of FDUs and objectives of the study. Mock interviews were conducted to familiarize them with the interview schedule and build interviewing skills

- *Completeness of data:*

The site supervisor checked each questionnaire immediately after the interview and sought clarification if required from the interviewers before the respondents left the study site.

- *Maintaining cold chain:*

The procedure related to the blood collection was closely monitored and the cold chain maintained until the blood samples were transported to NRL. CREHPA Office in Kathmandu contacted NRL once a week to follow through on the quality of storage of blood samples and test procedures.

DATA MANAGEMENT

The data collection and entry was carried out by CREPHA. The draft report describing the process and preliminary analysis was also presented by CREPHA. The data was further analysed and the present report generated by Thirumagal.V, UNODC consultant. Data analysis was carried out using SPSS version 11.5. Epi-info was also used. Findings based on the analysis are presented in Chapter - 3.



CHAPTER 3

STUDY FINDINGS

Of the total 393 female drug users (FDUs) interviewed, 323 (82.2%) had injected drugs in the past month. Respondents who had injected in the past one month were termed as Female Injecting Drug Users (FIDUs) while the remaining 70 (17.8%) were treated as Non-injecting Female Drug Users (NFDUs). Among these, 70, 59 had never injected while 11 had injected sometime in the past but had not done so in past one month. Among the FIDUs (injected drugs in the past one month), 199 (61.6% of 323) had injected drugs at least once daily in the month preceding the study.

The sample size of FDU drawn from seven sites in Nepal varied widely with 5% being drawn from Rupandehi to 21.9% from Lalitpur. Site segregated data has been presented only where it is considered appropriate. The following table presents the sample size drawn from the different sites:

Table 3 : Site wise distribution of study respondents

Sites	No. of respondents	No. of FIDUs	Daily injectors
	% total	% in site	% of FIDUs in site
Kathmandu	57 (14.5%)	41 (71.9%)	30 (73.2%)
Lalitpur	86 (21.9%)	78 (90.7%)	60 (76.9%)
Kaski	72 (18.3%)	55 (76.4%)	48 (87.3%)
Rupandehi	21 (5.3%)	10 (47.6%)	1 (10%)
Chitwan	70 (17.8%)	61 (87.1%)	8 (13.1%)
Sunsari	56 (14.2%)	54 (96.4%)	42 (77.8%)
Morang	31 (7.9%)	24 (77.4%)	10 (41.7%)
Total	393	323 (82.2%)	199 (61.6%)

The cumulative bar diagram (figure 2) shows the sample distribution across the sites.

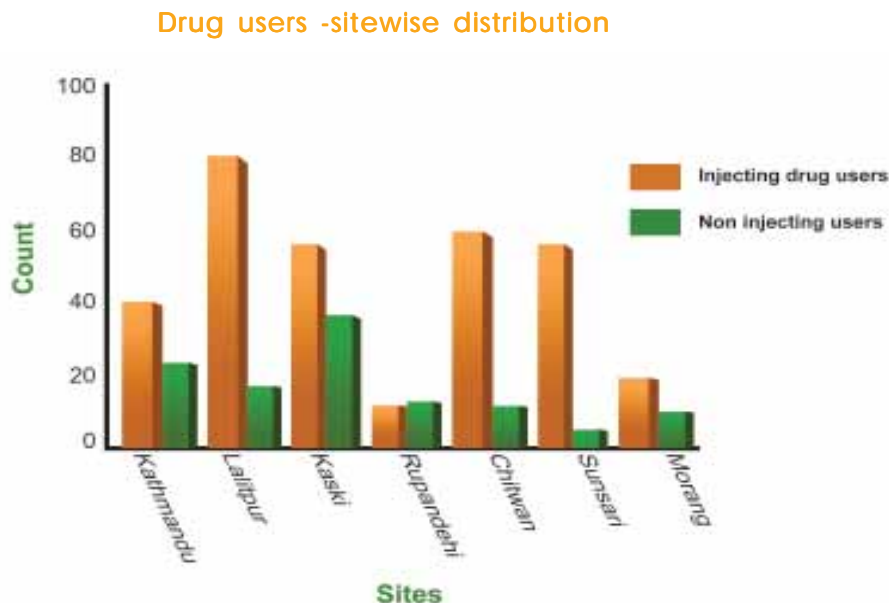


Figure 2

Data related to injecting practices has been examined only for respondents who reported injecting in the past one month. Analysis of other variables was carried out with both the DUs and IDUs unless otherwise indicated in the report. As the sampling was not designed for comparison, these groups were not compared during analysis.

While examining some variables, it was noted that the data was not available for all respondents either due to unwillingness to respond or due to other reasons. In such situations, the analysis was carried out with the data available.

SECTION 1: SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS

Table 4: Age, Education and marital status of respondents - site wise

Sites	Kathmandu	Lalitpur	Kaski	Rupandehi	Chitwan	Sunsari	Morang	Total
Age in years								
18-21	28 (49.1%)	49 (57%)	44 (61.1%)	4 (19%)	56 (80%)	44 (78.6%)	10 (32.3%)	235 (59.8%)
22-25	13 (22.8%)	19 (22%)	18 (25%)	3 (14.3%)	8 (11.4%)	7 (12.5%)	7 (22.6%)	75 (19.1%)
26-29	8 14%	7 (8.1%)	4 (5.6%)	4 (19%)	3 (4.3%)	2 (3.6%)	8 (25.8%)	36 (9.2%)
30 and above	8 14%	11 (12.8%)	6 (8.3%)	10 (47.6%)	3 (4.3%)	3 (5.4%)	6 (19.4%)	47 (12%)
Media age	22.0	20.5	20.0	29.0	20.0	19.0	25.0	20.0
Education Level								
Never went to school	8 (14%)	14 (16.3%)	11 (15.3%)	8 (38.1%)	9 (12.9%)	1 (1.8%)	16 (51.6%)	67 (17%)
Not completed primary school	12 (21.1%)	14 (16.3%)	4 (5.6%)	7 (33.3%)	4 (5.7%)	3 (5.4%)	6 (19.4%)	50 (12.7%)
Completed primary	24 (42.1%)	28 (32.6%)	39 (54.2%)	2 (9.5%)	28 (40%)	16 (28.6%)	7 (22.6%)	144 (36.6%)
Completed high school	11 (19.3%)	27 (31.4%)	16 (22.2%)	4 (19%)	23 (32.9%)	33 (59.9%)	2 (6.5%)	116 (29.5%)
Completed Intermediate	2 (3.5%)	3 (3.5%)	2 (2.8%)	0	6 (8.6%)	3 (5.4%)	0	16 (4.1%)
Marital Status								
Unmarried	25 (43.9%)	46 (53.5%)	36 (50%)	4 (19%)	50 (71.4%)	41 (73.2%)	7 (22.6%)	209 (53.2%)
Currently married	20 (35.1%)	31 (36%)	33 (45.8%)	11 (52.4%)	18 (25.7%)	10 (17.9%)	19 (61.3%)	142 (36.1%)
Separated /divorced /widowed	12 (21.1%)	9 (10.5%)	3 (4.2%)	6 (28.6%)	2 (2.6%)	5 (8.9%)	5 (16.1%)	42 (10.7%)
TOTAL	57	86	72	21	70	56	31	393

1.1 Age: The median age of the 393 FDUs is 20 years and ranged from 18 to 55 years. More than half the FDUs were in the group 18 to 21 years (59.8%) while 12% (47) were 30 years or older. Figure 3 diagrammatically shows the age distribution.

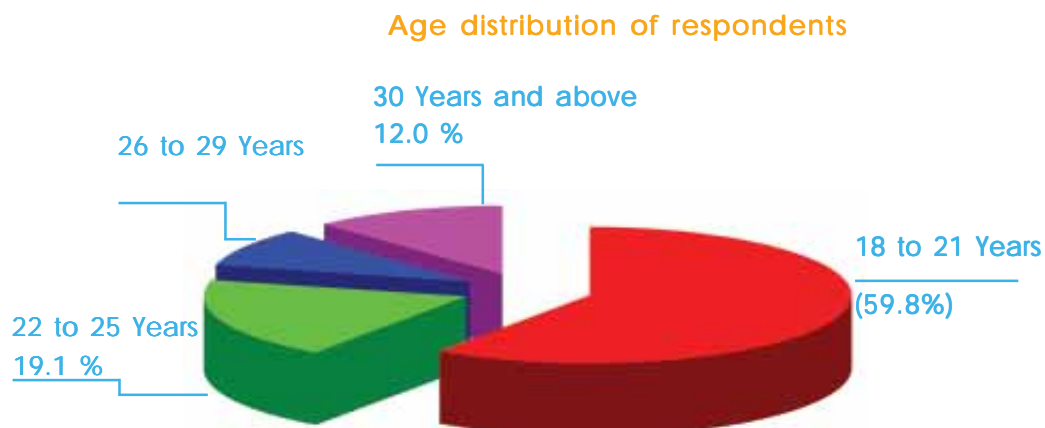


Figure 3

Comparing the age distribution among sites, majority of respondents from Chitwan (80%) and Sunsari (78.6%) were 21 years or younger. On the other hand in Rupandehi nearly half were 30 years or older (47.6%).

1.2 Education:

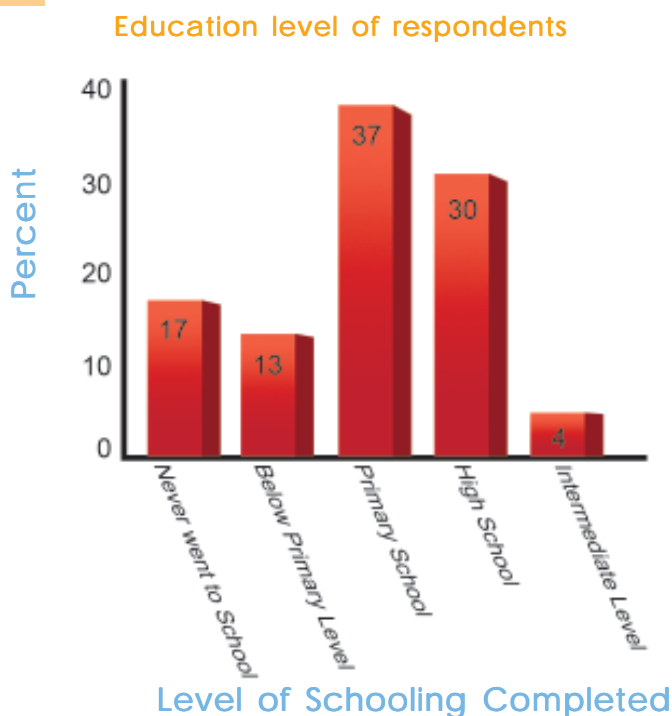


Figure 4

Sixty seven respondents (17%) had never attended school, while 50 respondents (12.7%) had dropped out of school even before completing the primary level (5th std.). Only 16 respondents (4.1%) had completed the intermediate level (12th std.). Among the sites, most respondents in Sunsari (36, 64.3%) had completed at least high school (10th std.). On the other hand in Morang and Rupandehi, about

70% had not even completed primary school. The bar diagram in Figure 4 presents distribution of respondents in terms of the level of education.

1.3 Marital Status: More than half of FDUs (53.2%, 209/393) were unmarried, while 36.1% (42) were married and the remaining 10% were separated, divorced or widowed. Among the sites, in Chitwan (50/70) and Sunsari (41/56) about 70% were unmarried (Figure 5). Among those who were married 26.8% (38/142) reported that their husbands worked far away from home.

Marital Status - sitewise distribution

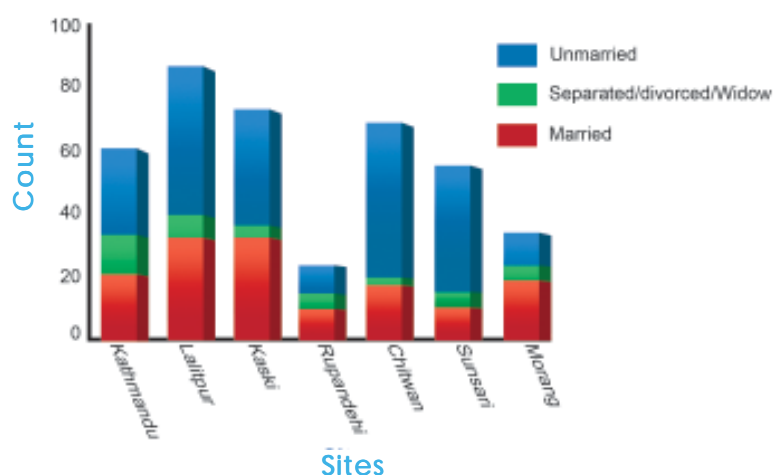


Figure 5

1.4 Living arrangements: Most of the respondents lived with their parents, spouse, children or other family members (78.1%, 307 / 393). About 15% (60) lived alone and a small percentage (6.6%) lived with their friends. Among those who were married 64.1% lived with their husbands while 20.42% (29/142) lived with their parents or other family members (Table 5).

Table 5: Living Arrangements

Live with	No. of respondents
Parents	133 (33.8%)
Husband	94 (23.9)
Other family members (aunt, children etc.)	80 (20.4%)
Friends	26 (6.6%)
Alone	60 (15.3%)
Total	393

1.5 Period of living in present location: About one fifth (18.1%, 71) had lived in the same area since birth, while a similar number (78, 19.8%) had lived there for a year or lesser period (Table 6).

Table 6: Period of Living in Present Location

Duration of domicile in present location	No. of respondents
1 year or lesser	78 (19.8%)
2 – 4 years	90 (22.9%)
5 – 7 years	50 (12.7%)
8 – 10 years	44 (11.2%)
11 years and more	60 (15.3%)
Since birth	71 (18.1%)

1.6 Type of Occupation: Nearly three-fourths of respondents were not employed in a specific occupation. With more than half being (53.5%, 128 of 393) being unemployed or students, about one fifth being engaged as sex workers, a tenth being unskilled or skilled workers, it appears that women drug users are a marginalized group in terms of employment too. (Table 7, Figure 6).

Table 7: Type of Occupation

Occupation Status	Type
Not employed	292 (74.3%)
Unemployed(128,43.8%)	
Student (82, 28.1%)	
Engaged in Sex work(73, 25%)	
Engaged in drug peddling/ pick pocketing (9, 3.1%)	
Employed	101 (34.6%)
Unskilled / skilled laborers (38, 37.6%)	
Service / others (29, 27.4%)	
Cabin girl (disco massage) (21, 20.8%)	
Business (13, 12.9%)	

Occupation as reported by respondents

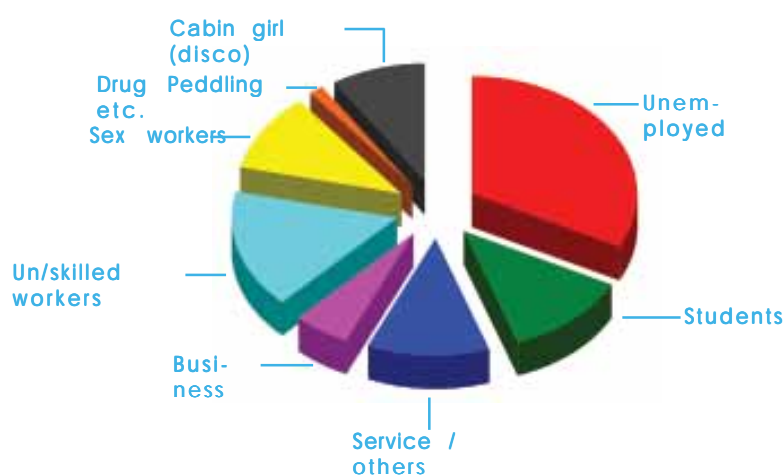


Figure 6

1.7 Regularity in employment: Among the 101 who were employed in different types of jobs, 77(77% of 101) worked almost all the days. Irrespective of what they did for a living, only about a third of the 393 respondents (34.4%, 134 of 390) were gainfully employed for almost all the days (Table 8).

Table 8: Regularity at work

	Almost all days	Most days 10 (10%)	About half days or lesser	Total
Employed	77 (77%)	15 (18.8%)	13 (13%)	100
Engaged in sex work, drug peddling /pick pocketing	57 (71.3%)		8 (10%)	80

Examining the respondents who were not gainfully employed based on the sites it was found that majority of respondents from sites in Sunsari (52 / 56, 92.8%) and Chitwan (54/70, 77.1%) were unemployed or students.

1.8 Engagement in commercial sex work: Of the 106 who were engaged in sex work, for 73 respondents this was the sole means of making a living, while 33 engaged in sex work over and above other sources of income. In all 27% (106 of 393) respondents engaged in sex work.

1.9 Commercial sex work - site wise comparison: Comparing across the sites, none of the respondents from Sunsari were engaged in sex work. Though a large percentage of respondents from Morang (27 of 31, 87.1%) and Rupandehi (13 of 21, 61.9%), were found to be engaged in sex work, as the sample size from these two districts were very small, this finding needs to be interpreted carefully (Table 9).

Table 9: Commercial sex work - site wise comparison

S.No	Sites	Engagement in commercial sex work	
		Yes (No. & % of respondents in site)	No
1	Kathmandu	12 (21.1%)	45
2	Lalitpur	14 (16.3 %)	72
3	Kaski	32 (44.4 %)	40
4	Rupandehi	13 (61.9 %)	08
5	Chitwan	08 (11.4%)	62
6	Sunsari	0 (0 %)	56
7	Morang	27 (87.1%)	04
	Total	106 (27 %)	287

1.10 Sex work in relationship with selected demographic variables: Respondents engaged in commercial sex work were compared on the basis of duration of living in the particular site, living arrangements and education to examine their socio demographic profile (Table 10).

Table 10: Sex work in relationship with selected demographic variables

S.No.	Variables	Sex work	
		Yes	No
Period of stay			
1.	Lives here one year or lesser	36	70
2.	Two years or more	42	245
Lives with			
1.	Friends or alone	56	30
2.	Parents, husband or other family members	50	257
Education			
1.	Not completed primary school	61	56
2.	Completed primary	45	231

Women drug users who are engaged in sex work are 5.6 times more likely to have not completed primary school education than women drug users who are not engaged in sex work (OR = 5.59, 3.35 <OR> 9.34, p= 0.0001 level, 95% CI).

Women who are engaged in sex work are nine times more likely to be living alone or with friends rather than with families when compared to women drug users who are not involved in sex work (OR = 9.54, 5.43 <OR> 17.04, p= 0.0001 level, 95% CI).

Odds ratio shows that women drug users engaged in sex work are 3 times more likely to have moved into the present place of stay in the recent past of one year or lesser when compared to other drug users (OR =3, 1.73 <OR>5.20, p= 0.0001 level, 95% CI).

It is thus seen that women drug users who engage in sex work are more likely to have not completed primary school education, more likely to have moved recently into the community where they were currently residing and more likely to be living without her family.

2.1 Patterns of injection use: Among the 393 women drug users, 323 (82.2%) had injected drugs in the last one month and were treated as Female Injecting Drug Users (FIDUs). Daily injection use was reported by half of the respondents (50.6%) (Table 11)

Table 11: Pattern of injection use

S.No	Injection use pattern	No. of respondents	
		Yes	No
1	Ever injected drugs	334 (85%)	59(15%)
2	Injected in past one month	323 (82.2%)	70(17.8%)
3	Injecting drug in past one week	305 (77.6%)	88(22.4%)
4	Daily injection use	199 (50.6%)	
	Total respondents	393	

2.2 Age of First Drug Use: The median age of first drug use among the 393 respondents was 17 years and ranged from 10 to 43 years. More than half of the respondents had started using drugs during 14 to 17 years of age and 59% had used drugs by the time they were 18 years of age. (Table 12)

Table 12: Age of First Drug Use

Age of first drug use	No. of respondents
10 - 13 yrs	20 (5.1%)
14 - 17 yrs	212 (53.9%)
18 - 21 yrs	111 (28.2%)
22 yrs and above	50 (12.7%)
Total	393

2.3 Age of first injection use: The median age of initiation of injection use among FIDUs (injected in last month) was 18 and 73.4 % (237of 323) of the FIDUs had injected drugs before they were 20 years old. (Table 13)

Table 13: Age of first injection use

Age of first injection use	No. of respondents
12 - 15 years	20 (6.2%)
16 - 19 years	217 (67.2%)
20 - 23 years	54 (16.7%)
24 years and above	32 (9.9%)
Total	323

2.4 Duration of Injecting Drug Use: About 40% of the FIDUs, had been injecting for a year or lesser. Most (84.2%) of injecting users reported injecting over the past 4 years or less (Table 14)

Table 14: Duration of Injecting Drug Use

S.No.	Duration of injecting drug use	No. of respondents
1	1 year or lesser	126 (38.7%)
2	2 – 4 years	147 (45.5%)
3	5 – 7 years	36 (11.1%)
4	8 – 10 years	6 (1.9%)
5	11 years and more	8 (2.5%)
	Total	323

2.5 Progression from drug use to injection use: Seventy eight percent of the respondents had started injecting drugs within two years of initiation of oral drug use. (Table15).

Table 15: Progression from oral drug use to injection use

Period between drug use and injection use	No. of respondents
IV drug use within two years of oral drug use	254(78.8%)
IV drug use three years or after oral drug use	66 (20.5%)
IV prior to oral drug use	2 (0.6%)
Total	322

2.6 Frequency of injection use: Among the women injecting drug users who injected in the last one month, frequency of injecting varied from once a month to daily injecting. More than half of FIDUs (61.6%) injected daily while about a tenth injected 1-3 times a month (Table 16).

Table 16: Frequency of injection use

Occupation	No. of respondents
At least once a day	199 (61.8%)
About 5-6 days a week	21(6.5%)
About 3-4 days a week	28 (8.4%)
About 1-2 days a week	44 (13.7%)
1 to 3 times a month	31 (9.6%)

2.7 Site wise frequency of injection use: Of the 199 who inject daily, most were from Lalitpur, Kaski and Sunsari. In Chitwan about half the respondents (54.3%, 38 of 70) injected once a week or less frequently. (Table17)

Table 17: Site wise frequency of injection use

S.No	Sites	Frequency of injecting drugs (% of total respondents)				Total
		Daily (No. & % of 199)	3 - 6 days a week	1-2 days a week or lesser	Not in past month or never	
1	Kathmandu	30(15.1%)	8	3	16	57
2	Lalitpur	60(30.2%)	7	11	8	86
3	Kaski	48(24.1%)	2	5	17	72
4	Rupandehi	1 (0.5%)	0	9	11	21
5	Chitwan	8 (4%)	15	38 (54.3%)	9	70
6	Sunsari	42(21.1%)	5	7	2	56
7	Morang	10 (5%)	12	2	7	31
	Total= 393	199 (50.6%)	49 (12.5%)	75 (19.1%)	70 (17.8%)	

2.8 Types of drugs used orally: Cannabis has been smoked by almost all respondents (95.7%) sometime in the past. This is not surprising as cannabis grows widely in Nepal and the World Drug Report (2010) estimates that 4% cannabis resin globally used comes from Nepal.

Cannabis followed by benzodiazepine tablets and heroin/brown sugar are the most common orally used drugs among the respondents both in terms of both ever used as well as use in the past one month (Table 18).

Apart from Cannabis, most (74.8%, 294 of 393) used benzodiazepines such as nitrazepam and diazepam in the past one month indicating that benzodiazepine use is quite widespread among women drug users. About half of the respondents had used (57.8%, 227) heroin/brown sugar by smoking. Dextropropoxyphene had been used by 45.8% (180) of the respondents.

Table 18: Types of drugs used orally

S.no	Types of drugs used orally	Ever used	Used in past month
1	Cannabis	376 (95.7%)	331(84.2%)
2	Cannabis and alcohol	208(52.9%)	174(44.3%)
3	Heroin or Brown sugar by smoking	319 (81.2%)	227(57.8%)
4	Codine based cough syrup	276 (70.2%)	175(44.5%)
5	Nitrozapam / diazapam tablets	353 (89.8%)	294(74.8%)
6	Dextropropoxyphene	275 (70%)	180(45.8%)
7	Anti histamine tablets	125(31.8%)	67(17%)
8	Volatile solvents (glue, thinner etc)	125(31.8%)	61(15.5%)
9	Amphetamines types substances (ATS - yaba ice etc)	18(4.6%)	03(0.8%)
10	Hallucinogenic drug (magic mushroom)	19(4.8%)	4(1%)

2.9 Types of drugs ever injected: Buprenorphine, Dextropropoxyphene and heroin/brown sugar were the most commonly injected drugs in the past. Cross tabulating those who reported having used buprenorphine with and without being mixed with other drugs, it was found that almost all FIDUs (99.1%, 320 of 323) had injected buprenorphine in the past (Table 19).

Table 19: Type of drugs ever injected

S.no.	Types of drug injected (N=323)	Ever injected
1	Heroin or Brown sugar	99 (30.7%)
2	Heroin or Brown sugar mixed with other drugs	64(19.8%)
3	Buprenorphine	315 (97.5%)
4	Buprenorphine mixed with other drugs	307 (95%)
5	Other synthetic narcotics such as pentacozine	24(7.4%)
6	Dextropropoxyphene	127(39.3%)
7	Anti histamines	83(25.7%)
8	Diazepam	123(38.1%)

2.10 Drugs injected by individual respondents over the past one month: In all buprenorphine was the most injected drug with 98.1% (317 of 323) reporting use in past one month with or without other drugs. Heroin had been injected by 26% (84) and dextropropoxyphene use was reported by 22.6% (73 of 323).

Only 3.4% (11 of 323) had used a single type of injecting drug in the past month, showing that majority of women injecting drug users in Nepal injected more than one drug. Among the buprenorphine

injectors, most (94.6%, 300 of 317) had injected it by combining it with benzodiazepines and anti-histaminic preparations.

Table 20: Drugs injected over the past one month

S.No	Types of drug injected (N=323)	No. of respondents
1.	Buprenorphine with and without being mixing with diazepam, anti histamine etc.	169(52.3%)
2.	Buprenorphine and heroin	60(18.6%)
3.	Buprenorphine and Dextropropoxyphene,	48 (14.9%)
4.	Buprenorphine, Dextropropoxyphene and heroin.	22(6.8%)
5	Buprenorphine and other opiate drugs	07 (2.2%)
6	Only buprenorphine	05(1.5%)
7	Only buprenorphine with diazepam, anti histamine etc.	06(1.9%)
8	Only dextropropoxyphene	03(0.9%)
9	Only heroin	02(0.6%)
10	Only diazepam	01(0.3%)
		323

Pattern of use of the three most common drugs namely buprenorphine, heroin and dextropropoxyphene were examined. A little more than half (57.9%, 187 of 323) injected buprenorphine and did not use the other two drugs, 18.6% (60) injected heroin as well as buprenorphine and 14.9% (48) used dextropropoxyphene in addition to buprenorphine and 6.8% had used all the three drugs (Table 20).

2.11 Types of drugs injected - Site wise pattern: In four of the seven sites namely, Kathmandu, Lalitpur, Sunsari and Morang, more than 70% reported buprenorphine use (with or without diazepam etc.)

Heroin use was most reported from Chitwan with 51.4% (36) of respondents reporting injecting heroin.

Dextropropoxyphene was the most commonly injected drug in Kaski in comparison to other drugs, and the highest when compared with other sites too with 28 of 55 IDUs (50.6%) respondents from Kaski reporting dextropropoxyphene use (Table 21).

Table 21: Types of drugs injected - Site wise pattern

S.No	Sites	Three most common injecting drugs reported			Total in site
		Buprenorphine	Heroin and buprenorphine	Dextropropoxyphene, and buprenorphine	
1	Kathmandu	31 (75.6%)	07 (17.1%)	02 (4.9%)	41
2	Lalitpur	62 (79.5%)	12(15.4%)	0	78
3	Kaski	14(30.5%)	0	28 (50.9%)	55
4	Rupandehi	02 (20.0%)	05 (50%)	0	10
5	Chitwan	12 (19.7%)	37 (60.7%)	5 (8.2%)	61
6	Sunsari	39 (72.3%)	0	13 (24.1%)	54
7	Morang	20(95.8%)	0	0	24
	Total	180 (56.7%)	61(18.9%)	48(14.9%)	323

Most common drugs - site wise

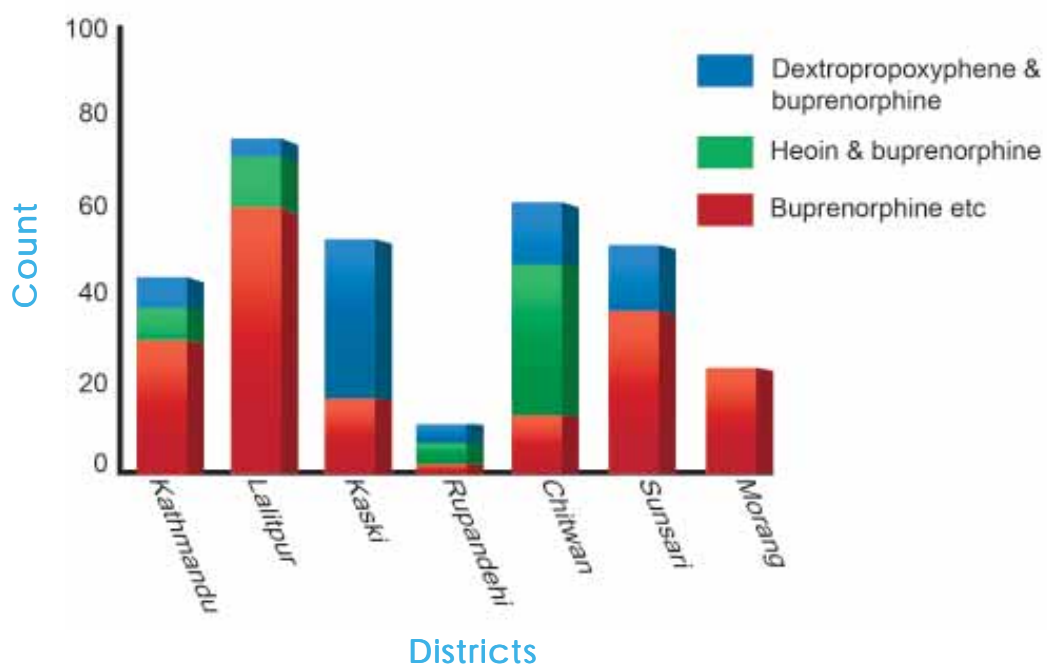


Figure 7

SECTION 3: NEEDLE AND SYRINGE SHARING PRACTICES

3.1 Sharing during the last injection use: Of the 284 FIDUs who provided details about the last injection use, 44 (15.5%) had used needle or syringe previously used by someone else.

3.2 Sharing syringes ever: Respondents were asked if they had ever used syringes used by others, and if the syringe used by them was used by others. Of the 282 who responded, 64% (181) reported that they refrained from using the syringe that has been used by others. More than a fourth (82, 29.1%) of respondents reported having used syringes previously used by others (Table 22).

Table 22: Sharing Practice

Sharing practice	No. of respondents
Reports that others use their syringe	19 (6.7%)
Reports using other's syringe	9 (3.2%)
Reports both using others and others using their syringe	73 (25.9%)
Does not use others or others use theirs	181 (64.2%)
Total	282

3.3 Cleaning used needles during last injection: Of the 44 who reported using previously used needle and syringe, 35 reported how they cleaned the syringe and needle. Using water (cold, hot or boiling) was most commonly reported. About one fifth (8, 22.8%) reported having used bleach. Saliva, distilled water, alcohol, blowing and wiping with cotton were other methods used to clean needles and syringes.

3.4 Injecting setting: Majority of respondents (92.8%) report injecting in a group setting (Table 23). Forty four percent (142 of 323) reported injecting in drug selling place. The finding that injecting drugs generally takes place in a group setting and that sharing in the past was reported by more than a fourth of the respondents indicate the level of risk of transmission of blood borne infections through unsafe injecting practices.

Table 23: Injecting setting

Sharing practice	No. of respondents
Injects alone	22 (7.2%)
Injects in a group	222(72.8%)
Sometimes alone and sometimes alone	61 (20.0 %)
Total	305

4.1 Prevalence of alcohol use: Consumption of alcoholic beverages among respondents is wide spread with 94.7% (372 of 393) having ever used alcohol. Among those who had used alcohol 95.16% (354 / 372) had used alcohol in past one month.

4.2 Age of first alcohol use: The age at which alcohol was first consumed ranged from 10 to 40 years, and the median age was 16 years. While 70.5% (277 of 372) had first used alcohol before they were 18 years old, about half (55.7%, 219 of 371) were in the age group 14 to 17 years. (Table 24)

Table 24: Age of first alcohol use

Age of first alcohol use	No. of respondents	Percentage
10 – 13 years	58	14.8%
14 – 17 years	219	55.7%
18 – 21 years	71	18.1%
22 years or older	24	6.1%
Never used alcohol	21	5.3%
Total	393	

4.3 Preferred alcoholic beverage: Raksi, a locally brewed distilled spirit made of grains and unre fined sugar (containing 34 to 80% ethyl alcohol), was the most preferred alcoholic beverage (Table 25). Beer (containing 5 - 6% ethyl alcohol) was the next popular beverage. Jaad / Chhyang which are fermented home brews (made from rice, millet, wheat or maize) and, reported to have percentage of ethyl alcohol similar to beer was used by 6.5% of alcohol using women drug users.

Table 25: Preferred alcoholic beverage

Preferred beverage	No. of respondents	Percentage of alcohol users
Raksi	138	37.1%
Beer	113	30.4 %
Jaad / Chhyang	24	6.5%
Whisky /rum / brandy/vodka / gin	73	19.6%
Wine	24	6.5%
Total no. of alcohol users	372	

4.4 Frequency of alcohol use in past one month: Of the 372 alcohol users, 141 (35.9%) reported that they had consumed alcohol daily (at least once a day) in the past one month preceding the survey (Figure 8). Among the rest, 45% (177) used alcohol at least once a week. The frequency of alcohol use among the FIDUs (who injected in the past one month) was also similar (Table 26).

Table 26: Frequency of alcohol use in past one month

Frequency of alcohol use	Total no. of respondents(n=372)	FIDUs (injected last month) (n=323)
Daily	141 (37.9%)	106 (32.8%)
5 - 6 days a week	28 (7.5%)	22 (6.8%)
3 - 4 days a week	70 (18.8%)	59 (18.3%)
1 - 2 days a week	79(21.2%)	68 (21.1%)
1 – 3 times a month	36 (9.7%)	33 (10.2%)
Not in past month	18 (4.8%)	14 (4.3%)

Frequency of alcohol use in past month

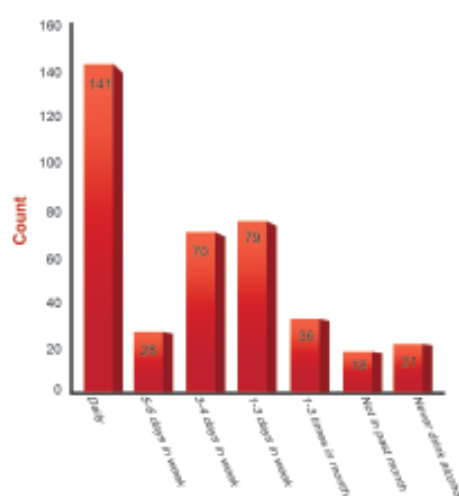


Figure 8

4.5 Quantity of alcohol consumption on a typical day: Based on the type of alcoholic beverage usually consumed and the percentage of ethyl alcohol present, quantity of consumption on a typical drinking day was converted to units to facilitate comparison. Consumption of more than three units of alcohol in a day is considered as being beyond the safe level of drinking. It is of concern that 61% (227) of the FIDUs who had ever used alcohol consumed more than three units, with 36.3% (135/372) drinking seven units or more on a typical day. It is pertinent to note that consumption of more than seven units in a week and more than three units a day is considered as hazardous level of drinking warranting intervention (Table 27).

Table 27: Quantity of alcohol consumption in a typical day

No. of units consumed in a typical day	No. of respondents	Percentage
3 units or less	145	39%
4 – 6 units	92	24.7%
7 units and more	135	36.3%
Total	372	



Figure 9

4.6 Prevalence of problem alcohol use: All FDUs who reported alcohol use were screened using the CAGE questionnaire during the one-on-one interview. (CAGE is a four statement alcohol screening test which has been used widely in screening general populations for problem alcohol use). Sixty eight percent (68.3%, 254 / 372) of the FDUs who reported alcohol use and 69.1% of FIDUs scored two or more in the CAGE questionnaire indicating possibility of alcohol dependence. The prevalence of problem alcohol use on the whole among the 393 respondents was 64.6% (254 of 393) (Table 28).

With the exception of Kathmandu, more than half of respondents in the other sites were identified as problem alcohol users. These findings underscore the need to address alcohol use among the FDUs population in Nepal.

Table 28: Prevalence of problem alcohol use across sites

S.No.	Sites	Possibility of problem alcohol use	Percentage
1	Kathmandu	23	44.2%
2	Lalitpur	69	87.3%
3	Kaski	49	70.0%
4	Rupandehi	19	95.0%
5	Chitwan	36	55.4%
6	Sunsari	36	65.5%
7	Morang	22	71%
	Total	254	68.3%

Evidence of problem alcohol use across seven sites

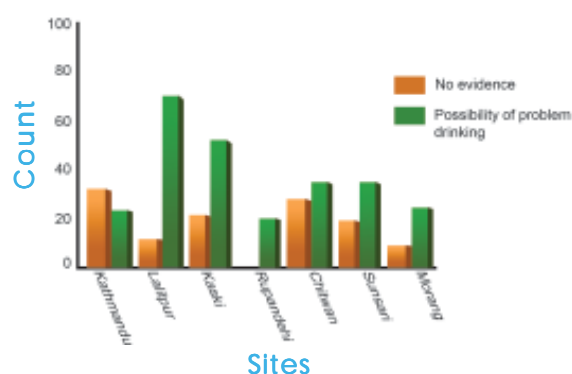


Figure 10

5.1 Age of sexual debut: About half of the respondents had their sexual debut between 15 to 18 years of age, while about one fifth had never had sex. The median age of sexual debut was 16 years (Table 29).

Table 29: Age of sexual debut

Age category	No. of respondents	
	Total respondents	FIDUs
11 to 14 years	59 (15%)	49 (15.2%)
15 to 18 years	214(54.5%)	171 (52.9%)
19 years and above	44 (11.2%)	32 (9.6%)
Has never had sex	76 (19.3%)	71 (22.3%)
Total	393	323

5.2 Sexual activity: Among the respondents who had ever had sex (317 of 393), about 10% (31) had not had sex in the past one year, while 72.8% (286) of the respondents had sex in the past one year, and thus are sexually active. Among the FIDUs, 69.3% (224 of 323) had sex in the past year.

5.3 Presence of regular sex partner: Of the 286 (of 393) sexually active women drug users, 90.9% (260) had a regular sex partner (RSP). Among the FIDUs, 206 of 224 (92%) had a regular sex partner.

5.4 Sex with non-regular and commercial sex partners: Among the sexually active respondents who provided details, about a third (32.9%, 94 of 286) reported having sex with a non-regular sex partner and 37.1% (106 of 286) reported having a commercial sex partner in the past one year. Of the 224 FIDUs, 77 (34.4%) engaged in commercial sex work and 72 (32.1%) had non regular sex partners in the last one year.

5.5 Types of partners in past year: Of the sexually active group, more than half 56.3% (161 of 286) reported sexual activity only with regular sex partners (Table 30). About one third (34.6%, 99 of 286) had sex with regular (RSP) as well as non regular or commercial sex partners and 9% (26) reported having sex only with non regular and commercial sex partners.

Table 30: Type of partners in past year

Type of partners	No. of respondents	FIDU
Regular sex partner only	161 (56.3%)	128 (57.1%)
Regular and non regular sex partners	17 (5.9%)	17 (7.6%)
Regular and commercial sex partners	22 (7.7%)	18 (8%)
Regular, non-regular and commercial sex partners	60 (15.3%)	43 (19.2%)
Non regular partners only	2 (0.7%)	2 (0.8%)
Non regular and commercial sex partners	15 (5.2%)	10 (4.5%)
Commercial sex partners only	9 (3.1%)	6 (2.7%)
	286	224

6.1 Condom use in last sex act: Of the 286 respondents who reported having sex in the past year, 53.1% (152) reported using condoms in the last sex act. Similarly, among FIDUs, 121 of the 224 (54%) reported condom use.

6.2 Use of condoms in last sex act with specific types of partners: In addition to the general question about condom use in the last sex act, respondents were queried about condom use with different types of partners. Condom use was high with nearly 90% with commercial and non-regular sex partners and lesser than half with regular sex partners (Table 31).

Table 31: Use of condoms in last sex act with specific types of partners

Type of partner	Condom use in last sex act	
	Total respondents	FIDUs
Regular sex partner	115 of 260 (44.2%)	91 of 206 (48%)
Non-regular sex partner	83 of 94 (88.3%)	64 of 72 (88.9%)
Commercial sex partner	95 of 106 (89.6%)	69 of 77 (89.6%)

6.3 Condom use with regular sex partners and marital status: Condom use with RSPs seems higher among those not currently married when compared to those who were. However no significant relationship was established between marital status and condom use with RSP in last sex act. (Table 32)

Table 32: Condom use with regular sex partners and marital status

Marital status	Condom use in last sex act with RSP	
	Total respondents	FIDUs
Married	50 of 134 (37.3%)	36 of 98 (36.7%)
Unmarried	49 of 102 (48%)	48 of 92 (52.1%)
Separated/ divorced/widowed	12 of 24 (50%)	7 of 16 (43.8%)
Total	286	224

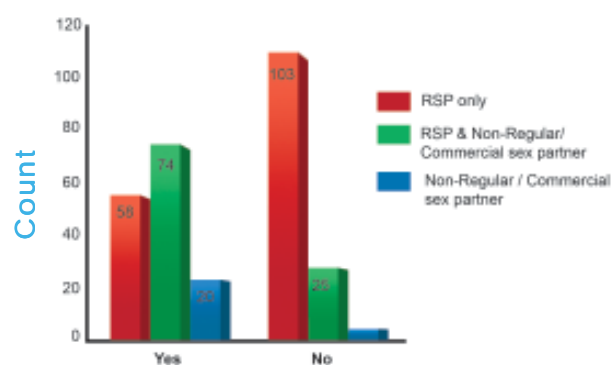
6.4 Use of condoms in last sex act with specific types of partners: Condom use was examined based on the different types of sex partners with whom they had sex with in the last year. Condom use was not consistent with different partners even with the same individual (Table 33).

Table 33: Condom use in last sex act in relation to pattern of sex partners

Type of partners	Condom usage in last sex act	Total respondents	FIDUs
Regular sex partner only	Used	58 of 161 = 36%	49 of 128 = 38.3%
Regular and casual / commercial sex partners	-Used with all	57 of 99 = 57.6%	42 of 78 = 53.8%
	-Used with none-	7 of 99 = 7.1%	6 of 78 = 7.7%
	Used with others but not RSP	35 of 99 = 35.4%	30 of 78 = 38.5%
Casual and / or commercial sex partners	-Used with all	21 of 26 = 80.8%	16 of 18 = 88.9%
	-Not used with one or both	5 of 26 = 19.2%	2 of 18 = 11.1%
		286	224

Among those who had sex with only regular sex partners (RSPs), little more than a third had used condoms during the last sex act. It is however important to note that among the 260 with RSPs, 102 (48%) were unmarried and about one third were engaged in sex work (82 of 260, 31.5%). Among the FIDUs with RSPs also, about half were unmarried (48 of 92, 52.1%) and 29.6% (61 of 206) were engaged in sex work.

Among those who had sex with regular as well as non regular / commercial partners, 57.6% reported condom use with all types of partners; while 35.4% had used condoms with non regular / commercial partners but not with RSPs. Seven (7.1%) had not used condoms with any of the partners. Among the FIDUs a similar situation prevailed.

Condom use in last sex act and types of sex partners**Condom use in last sex act****Figure 11**

Irrespective of the types of sex partners condom usage with regular sex partners is lesser when compared with commercial and non regular sex partners. This underscores the need strengthen messages that emphasize condom use with regular sex partners (RSPs).

7.1 Arrests related to alcohol / drug use: One-third of female drug users have been arrested in relation to alcohol or drug use related offences (Table 34).

Table 34: Arrests related to alcohol / drug use

Arrested	No. of respondents	Percentage
Alcohol related offenses	13 of 372	3.3%
Drugs related offenses	73 of 393	18.5%
Both alcohol and drug related	42	10.6%
Total	128	32.57%

7.2 Served prison sentence related to alcohol / drug use offences: Nearly a tenth of women users have served prison sentences due to substance use related problems. While 4.1% (16) had served sentences related to alcohol use, 7.4% (29) served sentences related to drugs (Table 35).

Table 35: Served prison sentence related to alcohol / drug use offences

Sentenced	No. of respondents	Percentage
Alcohol	7	1.8%
Drugs	20	5.1%
Both alcohol and drugs	9	2.3%
Total	36	9.1%

Both these findings describe the extent of legal problems faced by women drug users, bringing into focus one more problem they have to deal with, in addition to other problems they face. From the point of intervention, this indicates the need to network with the law enforcement agencies and strengthen prison based interventions, including the prison based prevention programme which have been introduced by UNODC in 2003.

8.1 Money spent on drugs in a typical day: Sixty percent of the drug users spend more than 500 NPR on drugs. Among women who injected drugs daily 135 of the 199 (87.1%) spent more than NPR 500 on a typical day on drugs (Table 36).

Table 36: Money spent on drugs in a typical day

Money spent on a typical day	No. of respondents	Percentage
150 NPR or lesser	48	12.2%
150 to 300 NPR	70	17.8%
More than 300 NPR to 500 NPR	39	9.9%
More than 500 NPR	236	60.1%
Total	393	

8.2 Money spent on alcohol in a typical day: About a third of the women drug users (35.9%), who have ever used alcohol, spend more than 150 NPR on days when alcohol is consumed (Table 35).

Table 37: Money spent on alcohol in a typical day

Money spent on a typical day	No. of respondents	Percentage
150 NPR or lesser	238	64%
150 to 300 NPR	96	25.8%
More than 500 NPR	38	10.2%
Total	372	100

8.3 Percentage of income spent on drugs: Eighty six percent (86.5%) of the respondents spend half or more of their money on drugs indicating the economic drain on their resources (Table 37).

Table 38: Percentage of income spent on drugs

Percentage spent on a typical day	No. of respondents	Percentage
Almost all of it	199	50.6%
About half of it	141	35.9%
About 25% of it	21	5.3 %
Less than 25%	26	6.6%
Don't know	6	1.5%
Total	393	100%

9.1 Access of risk reduction services among injecting users: Among the FIDUs, about half (52.4%) had accessed needle exchange services. Among those who injected everyday, 64.8% (129 of 199) had accessed services from the needle syringe exchange unit (Table 38).

Table 39: Access of risk reduction services among injecting users

Type of service	No. of respondents	Percentage
Ever injected group	175 (of 334)	52.4%
FIDUs (injected last month)	172 (323)	52.3%
Daily injectors	129 (of 199)	64.8%

Type of service	No. of FIDUs (injected last month)	No. daily injectors
Needle syringe exchange programme (NSEP) only	159 (49.2%)	118 (of 199) (52.4%)
Oral Buprenorphine Substitution (OBS) and / or Methadone Maintenance Programme (MMP)	10 (3.1%)	5 (of 199) (2.5%)
NSEP and OBS and / or MMP	13 (4%)	11 (of 199) (5.5%)
None of the three accessed	141 (43.7%)	65 (32.7%)
	323	199

About half (56.3%, 182 of 323) of the injecting drug users and 67.3% (134 of 199) of those who injected everyday, had accessed at least one of three services - needle syringe exchange (NSEP), buprenorphine substitution (OBS) or methadone maintenance programme (MMP).

The finding that about half of the ever injected population has accessed NSEP and that 67.3% of daily injectors have accessed at least one of the three services is encouraging. But it must be remembered that the study respondents were drawn through the DICs providing services for women drug users.

9.2 Access of NSEP and duration of injection use: Accessing NSEP services and duration of injecting among FIDUs was significantly related at 0.01 level. Those who reported injecting for five years or more were nearly three times more likely to have accessed NSEP services when compared to those who were injecting for a lesser duration (OR = 2.91, 1.42 < OR > 6.05, p = 0.001, 95% CI).

Table 40: Access of NSEP and duration of Injection use

Duration of IV use	FIDUs who accessed NSEP	Percentage
1 year or lesser	59 (of 126)	46.8%
2 to 4 years	76 (of 147)	51.7%
5 years or more	37 (of 50)	74.0%
	172 (of 323)	53.3%

9.3 Efforts to address drug dependence: Fourteen percent (58 of 393) had ever accessed help to quit drugs. Treatment for substance use has been shown to be effective in reducing harm related to substance use in addition to being cost effective. The finding that very few have accessed treatment services needs to be explored further to identify the reasons.

9.4 Efforts to address alcohol use: Though 68% of the 372 alcohol using respondents had a possibility of alcohol dependence (as identified through CAGE questionnaire), none reported that they had accessed help for handling alcohol use related problems. As 14% (36 of 254) of problem drinkers, had accessed treatment for drug related problems, it is not clear whether alcohol use related issues were addressed during the course of treatment of drug dependence.

10.1 Knowledge of HIV / AIDS:**Table 41: No. of correct responses to questions about HIV**

Issues	No. of right responses	Percentage
Heard about HIV / AIDS	393	100%
Know someone who is infected with HIV or has died of AIDS	290	73.8%
Correct use of condom can protect one from HIV	191	48.6%
Mosquitoes cannot transmit HIV	93	23.7%
Sharing a meal with HIV infected person cannot transmit HIV	350	89.1%
Using a needle or syringe used by someone else can transmit HIV	367	93.4%

It is encouraging that all respondents had heard of HIV / AIDS. About three fourth, had known some one infected with HIV indicating that women drug users knew that HIV existed in their community.

About half the respondents (48.6%) did not know that correct condom use could offer protection from HIV. The risk of sharing needles or syringes was however known to almost all (93.4%) indicating that awareness about risk through injecting practices was higher when compared to the risk through sexual route.

Less than a quarter (23.7%) were aware that mosquitoes cannot transmit HIV raising doubts about the clarity of understanding of respondents. The fact that most understand that sharing a meal with a HIV positive person does not place one at risk reflects the understanding that works against stigma and discrimination associated with HIV.

11.1 Level of HIV test uptake: Little lesser than half (176/392, 44.8%) had been tested previously for HIV reflecting a low level of HIV uptake.

11.2 Perception of availability for HIV test: Nearly half (45.3%, 178) were not sure if they had access to confidential HIV testing (Table 41).

Table 42: Perception of availability for HIV test

Facilities for confidential HIV testing	No. of respondents	Percentage
Available in the community	215	54.7%
Not available	87	22.1%
Don't know	91	23.2%
	393	

11.3 Perception of HIV risk and HIV test status: About half of the women drug users saw themselves at risk of contracting HIV (227, 57.8%) and yet among them only about half (117 of 227, 51.5%) had tested for HIV prior to the study (Table 42).

Table 43: Perception of HIV risk and HIV test status

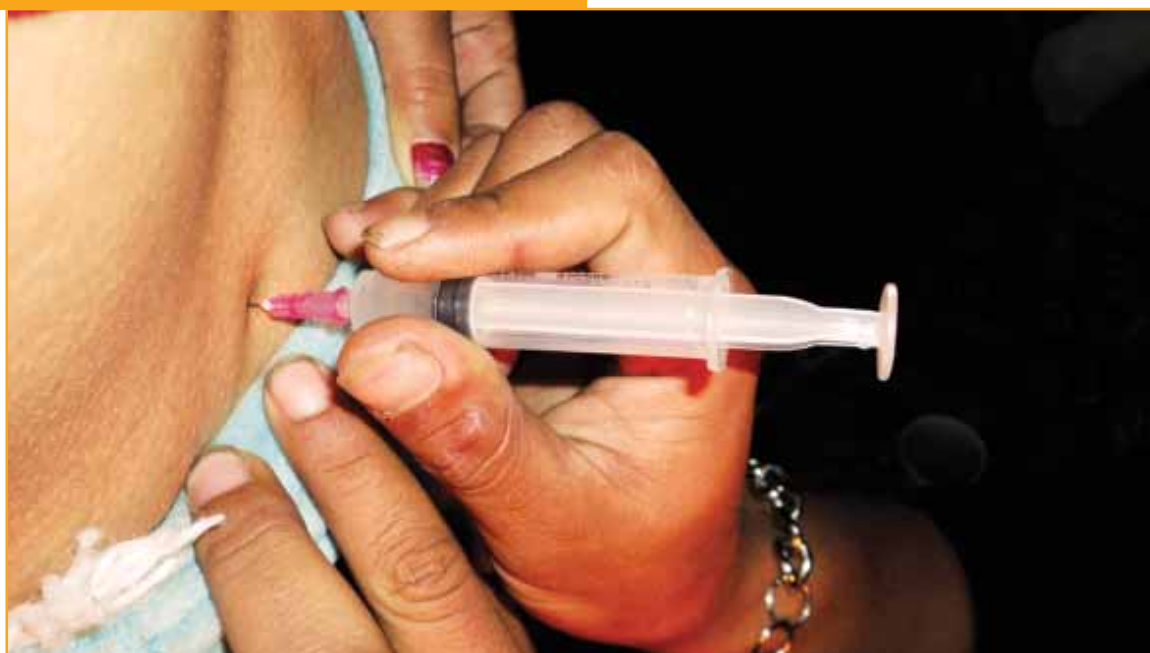
	Perception of HIV risk and HIV testing	No. of respondents	Percentage
1	Perceives risk and has been tested	117	29.85%
2	No risk perception but tested	59	15.05%
3	Perceives risk and not been tested	110	37.67%
4	Does not perceive risk and not tested	106	27%
	Total	392	

Odds ratio indicated that perception of risk was related to HIV test uptake. Respondents who perceived themselves at risk were 1.9 times more likely to have had a HIV test (OR = 1.91, 1.24 < OR > 2.95, p = 0.001, 95% CI) than those who did not see themselves at risk. This underscores the need for HIV education to help drug users recognize the risk of contracting HIV and at the same time make known and ensure easy access to HIV testing facilities.

11.4 Duration of injecting drug use and HIV test uptake: The duration of injection use and having taken HIV test prior to study are significantly related at 0.01 level. Among FIDUs, those who were injecting for 5 years or more were 5 times more likely to have had a HIV test previously (OR = 5.40, 2.50 < OR > 11.79, p = 0.0001, 95% CI) when compared to those who have been injecting for a year or lesser and 3 times more likely when compared to those injecting for 2 to 4 years. (OR = 2.91, 1.39 < OR > 6.13, p = 0.001, 95% CI) (Table 43).

Table 44: Duration of injecting drug use and HIV test uptake

	Duration of IV use	No. of respondents		Percentage
		Tested	Total	
1	One year or less	38	126	30.2%
2	2 – 4 years	65	146	44.5%
3	5 years or more	35	50	70%



SECTION 12: SUBSTANCE USE BY REGULAR SEX PARTNER

12.1 Use of alcohol and drugs by regular sex partner: Among the 262 respondents with RSPs, 88.2% (231 of 262) of the RSPs use alcohol or drugs.

Table 45: Use of alcohol and drugs by regular sex partner

Substance use among RSPs	No. of respondents	
	Total respondents (n=262) ¹	FIDUs (n=209)
Uses alcohol	224 (85.5%)	176 (84.2%)
Uses drugs	168 (64.1%)	144 (68.9%)
No alcohol and no drugs	22 (8.4%)	17 (8.1%)
Don't know about drug use	09 (3.4%)	6 (2.9%)

12.2 Violence from RSP under influence of alcohol or drugs: Substance use is known to increase risk of intimate partner violence; about a third reported being subjected to physical violence when the RSP is under influence of substances while about half experience verbal abuse (Table 45).

Table 46: Violence from RSP under influence of alcohol or drugs

Substance induced violence (N=262) (alcohol or drugs)	No. of respondents	Percentage
Physical violence	88	33.6%
Verbal violence	142	54.2%

Substance use of partners	No. of respondents	Physical violence	Verbal violence
Uses alcohol only	63	12 (19%)	25 (39.7%)
Uses drugs only	15	4 (26.7%)	5 (53.3%)
Both alcohol and drugs	153	70 (45.8%)	100 (65.4%)
None	22	1 (4.5%)	5 (22.7%)
	253		

Cross tabulating incidence of physical violence with substance use pattern of RSPs, showed that women with partners who used alcohol as well as drugs were four times more likely to face physical violence when compared to those with partners who used either drugs or alcohol alone or none. (OR = 4.12, 2.15 < OR > 7.96, p = 0.0001).

¹ Of the 262 women with RSP, 260 are sexually active.

SECTION 13: PREVALENCE OF HIV, HEPATITIS B & C AND SYPHILIS
AND SYMPTOMS THAT COULD SIGNIFY PRESENCE OF OTHER STIS

13.1 Prevalence of symptoms suggestive of sexually transmitted infections (STI): Lower abdominal pain, burning sensation during urination and pus like discharge can indicate pelvic inflammatory diseases or gonorrhoeal or chlamydial infections. With prevalence of burning sensation while passing urine among 20.3% (58 of 286) of the sexually active group, the need for screening for other sexually transmitted infections like Gonorrhoea and Chlamydia or offering presumptive treatment for the same appears an important need.

Table 47: Prevalence of symptoms suggestive of STI

Symptoms reported past six months	No. of respondents	% among in sexually active group (n=286)
Lower abdominal pain	124	43.4%
Ulcer (genitals)	33	11.5%
Ulcer (anus)	21	7.3%
Small cauliflower growth (genitals)	37	12.9%
Small cauliflower growth (anus)	23	8.0%
Burning sensation while passing urine	58	20.3%
White vaginal discharge	145	50.7%

Presence of genital ulcers in 11.5% (33 of 286) of respondents raises concerns as ulcers can facilitate transmission of HIV as well as other STIs and lead to a 10 fold increase in infection rates.

Sixteen percent (46 of 286) reported growth in genital area or anus which could indicate infection by the Human Papilloma Virus (HPV). As HPV is a leading cause of cervical cancer and infection remains life long, this finding needs to be investigated and responded to appropriately.

About 8% reported ulcers or cauliflower-like-growth in anus. This could indicate prevalence of anal sex among respondents. Apart from Rupandehi (n=18), presence of ulcers or growth in anus was reported in all the sites as shown in Figure 12 below.

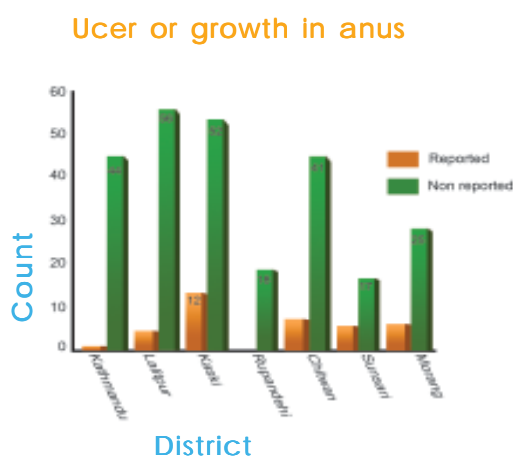


Figure 12

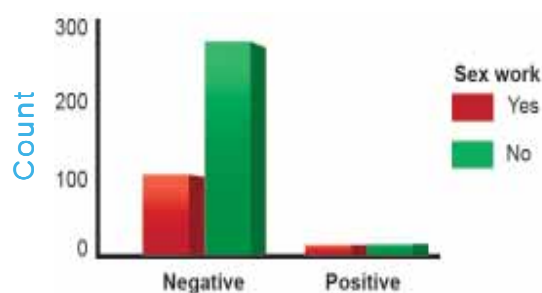
13.2 Blood test results for selected infections

Table 48: Blood test results for selected infections – HIV, Hepatitis B, Hepatitis C and Syphilis

	No. tested positive (n= 391)	Injecting drug users (n=321)	Daily injectors (n=198)	Injectors in sex work (n=76)	Daily injectors in sex work (n=47)
HIV	13 (3.3%)	13 (4%)	12 (6.1%)	6 (7.9%)	5 (10.6%)
Hepatitis B - surface antigen	1 (0.3%)	1 (0.3%)	1 (0.5%)	0	0
Hepatitis B - core antibodies (past exposure)	44 (11.2%)	43 (13.4%)	38 (19.2%)	8 (10.5%)	8 (17%)
Hepatitis B - Surface and core antibodies	2 (0.5%)	2 (0.6%)	2 (1%)	1 (1.3%)	1 (2.1%)
Hepatitis C	59 (15%) 4 (1.3%)	49 (15.2%)	35 (17.6%)	15 (19.7%)	10 (21.3%)
Treponema Pallidum Heamagglutination Assay (TPHA) only	3 (0.8%)	2 (0.6%)	1 (0.5%)	1 (1.3%)	0
Rapid Plasma Reagin (RPR) and TPHA	19 (4.8%)	12 (3.7%)	8 (4%)	8 (10.5%)	5 (10.6%)

13.3 HIV prevalence: While the overall HIV prevalence among women drug users was 3.3%, HIV prevalence was higher when sub-groups were created. The prevalence among FIDUs (injected last month) was 4%, while among FIDUs who engaged in sex work, the prevalence almost doubled (7.9%) (Table 47). Figures 13 and 14 below show HIV prevalence in relation to the variables namely sex work involvement and daily injection use.

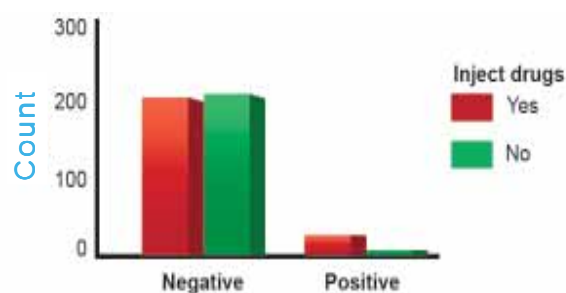
HIV status and sex work



HIV status

Figure 13

HIV status and injecting fre-



HIV status

Figure 14

HIV prevalence was 5 times higher in respondents from Zone 1 (Kathmandu and Lalitpur) when compared to Zone 2 (rest of the sites - Highway Districts). (OR = 5.91, 1.65 < OR > 21.12, p=0.002, 95% CI).

The Integrated Bio-Behavioural Survey findings reported in UNGASS report (3) also reflect similar differences in HIV prevalence rates among male IDUs which range from 3.4% in Pokhara (in Zone 2) to 20% in Kathmandu (in Zone 1).

Few indicators were examined to throw light on the marked difference in prevalence between the Zones. It was found that while 62.9% (90 of 143) FIDUs from Zone 1 were daily injectors, 43.6% (109 of 250) from Zone 2 were daily injectors. Moreover, 26.9% (32 of 117) FIDUs from Zone 1 were injecting for 5 years or more while only 8.8% (18 of 214) FIDUs from Zone 2 were injecting for this period. In terms of sex work however, the percentage of respondents engaged in sex work was lesser in Zone 1 (18.2%, 26 of 143) when compared to Zone 2 (32%, 80 of 250).

13.4 Hepatitis B: Eleven percent of the respondents had been exposed to Hepatitis B in the past indicated by the positive test results on the core anti body test. The prevalence of active Hepatitis B infection was lesser than 1% (Table 47). Respondents from Zone 1 (Kathmandu and Lalitpur) were 5 times more likely to have been exposed or infected with Hepatitis B when compared to those from Zone 2 (rest of the sites). (OR = 5.15, 2.54 < OR > 10.59 p=0.000, 95% CI). The charts in Figures 15 and 16 highlight the number of respondents who tested positive on the Hepatitis B - core antibodies test in terms of engagement in sex work and daily injection use.

Hepatitis B - past exposure & sex work

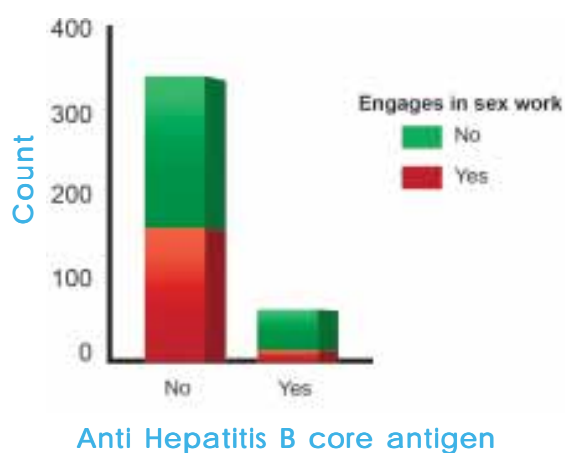


Figure 15

Hepatitis B - past exposure & injecting drug use frequency

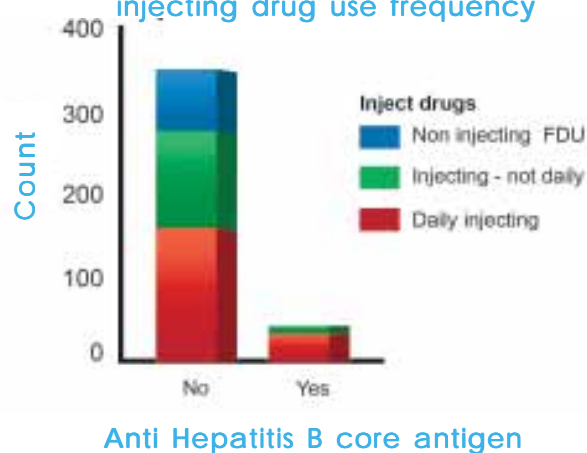


Figure 16

13.5 Hepatitis C: Fifteen percent of the study respondents tested positive for Hepatitis C. The prevalence was highest at 21.3% among daily injectors who were also engaged in sex work (Table 47). Hepatitis C prevalence was 3.4 times higher in those from Zone 1 (Kathmandu and Lalitpur) when compared to Zone 2 (rest of the sites). (OR = 3.42, 1.86 < OR > 6.31, p=0.001, 95% CI).

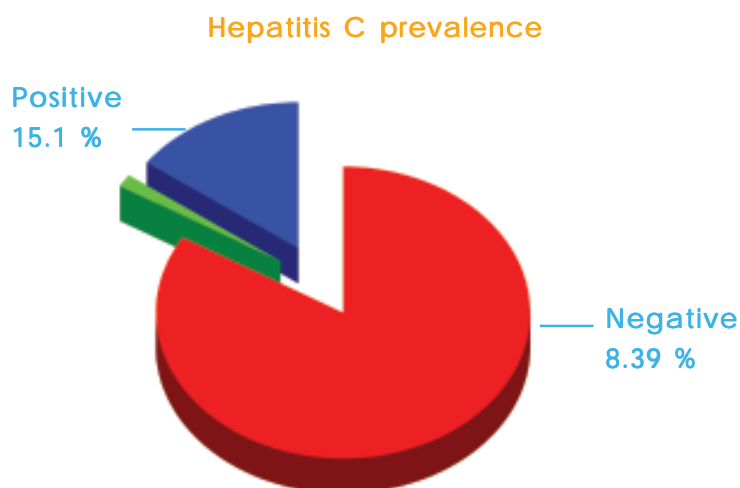


Figure 17

13.6 Syphilis: Among the 286 sexually active respondents, 6% were positive on RPR and TPHA test indicating current infection as well as past exposure to syphilis. The prevalence was 10.5% among the FIDUs who engaged in sex work. When using past as well as present infection rates, women drug users in HIV Zone 1 (Kathmandu and Lalitpur) were four times more likely to be infected than those from Zone 2 (OR = 4.18, 1.55 < OR > 11.66, p=0.0001, 95% CI).

13.7 Presence of at least one infection: Seventy seven (19.7%) of the respondents were infected with at least one of the four infections screened for – HIV, Syphilis, Hepatitis B or Hepatitis C. Presence of at least one infection was higher in respondents from Zone 1 (49 of 141, 34.8%) when compared to Zone 2 (11.2%, 28 of 250).

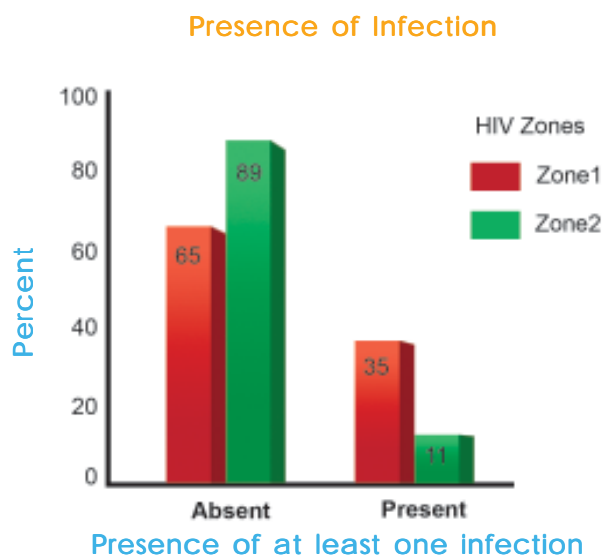


Figure 18

Among the FIDUs, those who had been injecting drugs in the past 2 to 4 years were nearly 5 times more likely to have at least one infection (OR = 4.58, 1.72 < OR > 12.86, p = 0.0001) when compared to those who had started injecting in past one year or lesser. Similarly, those who had been injecting for five years or more were 5 times more likely to be infected when compared to those injecting for past 2 to 4 years (OR = 5.13, 2.42 < OR > 10.94, p = 0.0001, 95% CI). These findings emphasized the need to intervene as early as possible to prevent transmission of the blood borne infections such as HIV, Hepatitis B and C, and syphilis.

CHAPTER 4

MAIN FINDINGS AND PROGRAMMATIC DIRECTIONS

Programme managers involved in HIV prevention have been concerned about women drug users and the challenges involved in reaching out to them. Yet, the paucity of data related to them has hampered the programme development. This study on women drug users drew respondents from across seven sites in Nepal namely Kathmandu, Lalitpur, Kaski, Rupandehi, Chitwan, Sunsari and Morang. These seven sites were spread across two designated HIV epidemic zones in Nepal². The study aimed to understand the profile, substance use pattern and risk behaviours of women drug users based on one-to-one interviews and on selected bio markers related to STIs, including HIV.

'Guesstimates' of the number of women injecting drug users were arrived at, based on discussion with Drop-in-Centre (DIC) service providers at the sites of data collection. The size of the women injecting drug using population in the seven sites was estimated to be about 900 and a sample size for the study was fixed at 400 (45% of the estimated number of female injecting drug users in each site). Staff at the DICs for female drug users in the seven sites made it possible to reach out and seek verbal consent from the respondents to participate in this effort. However, in three of the sites, about half of the estimated sample size only could be reached (Kathmandu, Lalitpur and Rupandehi). At this stage, some non injecting drug users were also included in the study. In all, of the 400 sample size planned for, 393 women drug users only could be interviewed in spite of extending the data collection period. Of the 393 interviewed, 323 were FIDUs and 391 agreed to provide blood samples.

For the purpose of the study, women who injected drugs in the past one month were defined as Female Injecting Drug Users (FIDUs). Of the 393 respondents, 323 were FIDUs and among the FIDUs, 199 were daily injectors who injected at least once a day in the past one month. In addition to the FIDUs, data from 70 other women drug users who used drugs orally or had not injected in the past one month was also collected making the total number of respondents 393. Data related to injecting practices have been examined only for the 323 FIDUs and data from the other 70 respondents have been included when studying other variables.

The number of respondents as well as injecting pattern varied widely between the seven sites which were spread across seven districts in Nepal. While 10 of the 21 (47.6%) respondents drawn from Rupandehi had injected last month, only one injected daily (4.8%). On the other hand, 78 of the 86 (90.7%) from Lalitpur had injected last month and 60 (69.8%) were daily injectors.

In conclusion, a well designed size estimation effort could be carried out to aid appropriate resource allocation and facilitate effective utilization of resources.

a. Profile of study respondents - women drug users

The median age of the respondents was 20; with 60% being in the age group of 18 to 21 years (235) and 19.1% were 22 to 25 years old. Seventeen percent (17%, 67 of 393) had never been to school, 12.7% (50) had been to school but dropped out before completing the primary level, and only a third (33.6%, 132 of 393) had completed high school. Majority of women drug users lived with their family members (307, 78.1%), while 15% (60 of 393) lived alone.

² In 2003, Nepal was divided into 4 epidemic zones in order to understand and respond to the HIV epidemic based. Two of the seven sites were in the Kathmandu Valley Zone (Kathmandu and Lalitpur) referred to as Zone 1, while the remaining five were situated in the Highway District Zone which is termed as Zone 2.

About a third of the respondents were married (36.1%, 142 of 393) and 10.7% were separated, divorced or widowed. About a half were unmarried (209 of 393, 53.2%) and among the unmarried group, 56% (117 of 209) had sex in the past one year (sexually active) and 48.8% (102 of 209) had regular sex partners (RSP).

About half of the 393 respondents (53.5%, 210) were unemployed or students. Seventy three (18.6%) were engaged in sex work as the sole means of making a living. Among the rest, a tenth (9.7%, 38) were skilled or unskilled workers, of whom 12 engaged in sex work at times, 7.4% (29) were in service occupations, 3.3% (13) in business and 5.3% (21) worked in massage parlours or discotheques of whom half (10) engaged in commercial sex work. A small number (2.3%, 9) peddled drugs or picked pockets. In all, about a fourth, (27%, 106) engaged in sex work, with some doing so only at times (8.4%, 33). Women drug users engaged in sex work were more likely to have not even completed primary school education, living without family members and likely to have moved into the community they are presently residing within the past one year when compared to others not engaged in sex work³. On the whole, about a third (34.1%, 134) of the respondents worked on almost all the days and the rest were partly or fully unemployed.

Vulnerability of women drug users arising out of their socio economic status as profiled above is further compounded by expenditure related to alcohol and drug use. While 70% (275 of 393) of respondents spend more than 300 NPR (approx.US\$12) on drugs on a typical day, 36% (134 of 372) of alcohol users spend more than 150 NPR (approx. US \$6) on alcohol on a typical day. Most reported spending half of or almost all their money on drugs (86.5%, 340 of 393). These findings highlight the enormous economic drain due to alcohol / drug use.

Among the respondents with a regular sex partner (RSP), 88.2% (231 of 262) had partners who used alcohol or drugs or both. Among them, a third (33.6%, 88 of 231) faced physical violence when the partners were under the influence of alcohol or drugs. Women with partners who used alcohol as well as drugs were found to be four times more likely to face physical violence when compared to those with partners who used either drugs or alcohol alone or none⁴. The finding brings into focus yet another facet of vulnerability of women drug users – wherein they faced violence from their regular sex partners.

The socio economic profile portrays the many facets of vulnerability of women drug users. Most women drug users in this study are young, less educated and unemployed, with only about a third reporting employment for almost all the days in the past month. Spending almost all their money to buy substances and violence from their intimate partners compounded their vulnerability. The need to provide access to free services to this marginalized population who are at a social disadvantage in terms of their gender, drug use as well as in terms of the socio economic profile is evident.

³ Completed primary school: OR = 5.59, 3.35 <OR> 9.34, p= 0.0001, 95% CI.

Living without family: OR = 9.54, 5.43 <OR> 17.04, p= 0.0001 level, 95% CI.

Moved into present community: OR =3, 1.73 <OR>5.20, p= 0.0001 level, 95% CI.

⁴ OR = 4.12, 2.15< OR > 7.96, p =0.0001, 95% CI.

i) Oral drug use: Cannabis and benzodiazepines were the most commonly orally used drugs among women drug users in Nepal in terms of ever used as well as drugs used in the past one month, followed by heroin (smoking or chasing) and dextropropoxyphene. Almost all (95.7%) respondents had used cannabis in the past, and 84.2% had used cannabis in the previous month. About three fourth had used benzodiazepine tablets such as diazepam and nitrazepam (74.8%, 294 of 393), about half (57.8%, 227) had used heroin/brown sugar by smoking and 45.1% (180) had used dextropropoxyphene tablets during the past month.

ii) Injecting drugs: Buprenorphine, heroin and dextropropoxyphene were the three most commonly injected drugs both in terms of ever used as well as in the past one month. In the past one month almost all FIDUs (98.1%, 317 of 323) had injected Buprenorphine while heroin and dextropropoxyphene was injected by 26% (84) and 22.9% (74) respectively. Almost all buprenorphine injectors (94.6%, 292 of 317) reported use of buprenorphine in combination with antihistamines such as promethazine or pheniramine, and benzodiazepines such as diazepam or nitrazepam.

Only 3.1% of FIDUs (10 of 323) had used a single type of injecting drug in the past month, showing that almost all women drug users in Nepal inject more than one type of drug. About half 55.7% (175 of 323) injected buprenorphine (with or without being mixed with diazepam etc.) while 18.6% (60) used buprenorphine as well as heroin, 14.9% (48) injected buprenorphine as well as dextropropoxyphene and 6.5% (22) reported injecting all three drugs (i.e buprenorphine, heroin as well dextropropoxyphene) in the past one month.

Comparing the sites, use of buprenorphine was the most commonly injected drug in four of the seven sites namely - Kathmandu (31, 75.6%), Lalitpur (62, 76.5%), Sunsari (39, 72.3%) and Morang (20, 95.8%). About half of the respondents from Kaski reported dextropropoxyphene use as well as buprenorphine (28, 50.9%) while those from Chitwan (37, 60.7%) reported heroin use in addition to buprenorphine. Among the sites, dextropropoxyphene use was highest in Kaski and largest number of heroin injectors was from Chitwan when compared to the other study sites.

With buprenorphine and heroin being used interchangeably or in combination, there is a high potential for developing dependence and risk of overdose. Dextropropoxyphene injection use can, in particular, cause vein damage due to poor solubility of the drug. Reviewing the service components and providing training to staff to address these aspects would be essential.

Advocacy with drug control agencies and pharmaceutical outlets about risks involved in easy availability of medically used drugs with high addiction potential and increasing awareness in the community level about abuse potential of medically used drugs needs to be considered.

iii) Alcohol use: Alcohol use is widely prevalent with 94.7% women drug users having ever used alcohol (372/393) and 84.7% (333/393) reporting alcohol use in past one month with 35.9% (141 of 393) reporting daily use. Raksi (a locally made distilled spirit made of grains and unrefined sugar containing 34%-80% alcohol) and beer were the most widely used alcoholic beverages.

In terms of quantity of alcohol consumption on a typical day, 61% (227/372) drank 4 units or more which is above the safe limit of alcohol use. Sixty eight percent of those who used alcohol the previous month (254/372) were identified as having possibility of alcohol dependence based on CAGE

questionnaire. A similar high prevalence level of 69.5% was noted among the FIDUs. This prevalence of 64.6% (254/393) among women drug users is much higher than 15.7% reported in a general population survey in Dharan, Nepal using the CAGE questionnaire (11).

Widespread alcohol abuse as indicated by the CAGE score as well in terms of the heavy quantity of drinking reported on a typical day indicates the need for addressing alcohol use problems. As alcohol use affects women more than men, and as heavy alcohol use increases the likelihood of engaging in risk behaviour, developing alcohol related interventions emerges as an urgent need.

c. Risk practices

i) Awareness and risk behaviour: Awareness about risk of contracting HIV through sharing needles or syringes was higher (93.4%) when compared to the number of respondents who knew that correct condom use could offer protection from HIV (48.6%). This finding is in line with behaviour practices wherein 15% used injecting equipment previously used by others during the last injecting episode while about half did not use condoms in the last sex act.

ii) Needle/syringe sharing practices: While 15.5% (44 of 284) reported using injecting equipment previously used by others during the last injection use, 35.8% (101 of 282) respondents reported having ever used needles and syringes previously used by others. This finding that 84.5% had used sterile equipment during the last injecting episode is lesser than the 99.1% level reported among male IDUs in Nepal as cited in the UNGASS, 2010 report. Among daily injectors, 17.1% (34 of 184) reported using unsterile equipment in last injecting episode. Moreover, as most respondents always inject drugs in a group setting (222, 72.8%) and 20% do so at times the risk of getting infected with blood borne infections appears quite high.

Use of previously used injecting equipment during the last injecting episode is more prevalent among women IDUs when compared to male IDUs in Nepal. Reviewing quality of intervention components to identify areas that can be strengthened or scaled up will help reduce sharing practices among the women injecting drug users.

iii) Sexual activity and condom use: The median age of sexual debut was 16 years, and 69.5% (273 of 393) had sex by the time they were 18 years. Of the 393 respondents, 72.8% (286) had sex in past year.

Among the 323 women injectors (FIDUs) in the sample, 69.3% (224 of 323) had sex in the past one year and 54% (121 of 224) reported condom use in the last sex act. This level of condom use is similar to the 50.8% level reported with the male IDUs in Nepal (3).

Condom use with regular sex partners (RSP) was consistently lower when compared to use with other partners. Condom use was high with non regular sex partners (88.9%, 64 of 72) and commercial sex partners (89.6%, 69 of 77) while lesser than half (48%, 91 of 206) used condoms with the RSP. Condom use by FIDUs in this study with commercial sex partners is higher when compared to the 75% condom use with the last client reported by female sex workers in Nepal (3).

Condom use with regular sex partners was examined in detail:

- About half of the sexually active women injectors (57.1%, 128 of 224) had sex with only their RSP in the past year and 38.3% (49 of 128) reported condom use in the last sex act.
- Among respondents who had sex with RSP as well as non regular and / or commercial sex

partners, about half (53.8%, 42 of 78) used condoms with RSPs while 92.3% (72 of 78) had used condoms with other partners in the last sex act.

- Lesser than one tenth did not have RSP (8%, 18 of 224) and had sex only with non regular or commercial sex partners in the past year. Of them, 88.9% reported condom use in last sex act.

The finding that condom use with regular sex partners is about 50% is a cause of concern in light of other study findings:

- With 92% (206 of 224) FIDUs engaging in sexual activity with RSPs and only about half reporting condom use in the last sex act, the number of FIDUs engaging in un protected sex is high.
- More than a third of women injectors with RSP (37.9%, 78 of 206) had sex with commercial and/or non regular sex partners and 10% did not use condoms in the last sex act.
- Sixty three percent (141 of 206) of male RSPs of FIDUs use drugs, while 88% (183 of 206) use either alcohol or drugs or both. Moreover, one third of FIDUs (35%, 72 of 206) also reported substance induced violence of the male partner. Substance use of the male partner increases the possibility of him engaging in risk behaviour and substance induced violence can make condom negotiation a difficult proposition for the women drug users. Both these aspects indirectly place the woman drug user at increased risk of blood borne infections through unprotected sexual activity with RSPs.
- The presence of STIs in FIDUs who reported having sex with only the RSP highlights the risk of unprotected sex with RSPs. Three of the 12 FIDUs with active syphilis infection, reported having sex only with their RSPs in the past one year. Of the 11 FIDUs who were HIV positive, 5 had sex with RSPs only in the past year. Moreover, 23 of the 35 who tested positive for different phases of Hepatitis B infection reported having sex with only their RSPs, and 14 of the 23 had reported that no condoms were used in the last sex act with RSPs. Detection of sexually transmitted infections in those who report sexual activity only with the RSPs highlights the risk of unprotected sex with the RSPs.

Irrespective of the type of partners the woman drug user had sex with in the past year, condom use with RSPs remains lesser than 50% while with commercial and non regular sex partners it was more than 80%. Continuing efforts to encourage condom use with commercial as well as non regular partners and emphasizing condom use with RSPs is important.

d. Issues related to service provision and access to services

i) Transition to injection use and initiation of intervention: The median age of first use of alcohol was 16, the first non injection drug use was 17 years and first injection use was 18 years. Before they were 18 years of age, 70.5% (277 of 372) had used alcohol, 59% (232 of 393) had used drugs in the form of tablets or smoking and 32.7% (128 of 322) had injected drugs for the first time.

Among the respondents who injected in the past month (FIDUs), most (78.6%, 323) had started injecting drugs within two years of initiation of oral drug use. Among those who injected daily, 39.2% (78 of 199) had been injecting for a year or lesser.

Early onset of oral drug use and transition to injecting drug use within two years of onset of oral drug use underlines the need to launch interventions as early as possible. Examining intervention options for oral drug users as well as for those who are at various stages of transiting from occasional to daily injecting use appears important.

NSEP and HIV testing services are more likely to have been accessed by women drug users who were injecting for a longer period of time. Those who were injecting for 5 years or more were nearly three times more likely to have used NSEP services⁵ and 3 to 5 times more likely to have had a HIV test previously⁶ when compared to those injecting for lesser duration.

The likelihood of being infected with at least one of the infections examined in the present study (HIV, Hepatitis B, Hepatitis C or Syphilis) appeared to be higher among those injecting drugs for a longer duration. Those injecting for five years or more were 5 times more likely to be infected when compared to those injecting for past 2 to 4 years³ and they in turn were also 5 times more likely to have one of these infections in comparison to those injecting for one year or lesser⁸.

Programmatically making efforts to reach out to injecting drug users who have transited to injection use as early as possible and providing access to NSEP, HIV testing as well as other services as soon as possible in their drug using careers would be crucial in reducing the risk of blood borne infections.

ii) Coverage of risk reduction and HIV testing services: Nepal introduced Needle Syringe Exchange Programme (NSEP) in 1991, Opioid Substitution Therapy with Buprenorphine in 2007 and with Methadone in 2009. About half (56.3%, 182 of 323) of the injecting drug users and 67.3% (134 of 199) of those who injected everyday, had accessed at least one of the above-mentioned services. Though the coverage sounds encouraging, it must be borne in mind that the study respondents were contacted through service providers who were operating DICs for injecting drug users.

Though more than half of the respondents accessed NSEP or OST services with either buprenorphine or methadone, efforts need to be scaled up to achieve service coverage of 80% of IDUs as envisaged by the National Action Plan of Nepal (2008 to 2011).

Lesser than half (176/392, 44.8%) had previously been tested for HIV. Though this can be considered as being inadequate, it should be noted that HIV test uptake is higher among the women drug users covered in this study when compared to 21.5% among the male IDUs and 32.4% with female sex workers as reported in the UNGASS report 2010.

The low level of HIV testing needs to be examined in light of other findings:

- All respondents had heard about HIV/AIDS and most (73.8%) knew of someone affected by it indicating a high level of awareness.
- Of 393 respondents, nearly half (45.3%) were not sure if facilities for confidential HIV testing was available in the community
- Even among those who considered themselves at risk of contracting HIV (58%, 227 of 392), only about half had tested for HIV prior to the study (51.5%, 117 of 227).

Increasing awareness about facilities for confidential HIV testing facilities in the community and increasing HIV test uptake is of crucial importance.

⁵ OR = 2.91, 1.42 < OR > 6.05, p = 0.001, 95% C.I

⁶ OR = 3.23, 1.49 < OR > 7.11, p = 0.001; OR = 5.40, 2.50 < OR > 11.79, p = 0.0001, 95% C.I.

⁷ OR = 5.13, 2.42 < OR > 10.94, p = 0.0001, 95% C.I

⁸ OR = 4.58, 1.72 < OR > 12.86, p = 0.0001, 95% C.I

iii) Access of addiction treatment services: Addiction treatment services are an essential component of the comprehensive service package for drug users. The rationale of providing addiction treatment in terms of cost effectiveness as well as the positive outcomes related to reducing harm caused by substance use has also been highlighted by UNODC in the past (14). Yet, only 14% (58 of 393) of respondents had ever accessed help to quit drugs.

Almost all addiction treatment centres in Nepal offer programmes of three months or more in duration, and the centres receive no financial support from Government, making addiction treatment an expensive option. This has often been highlighted in the past. The Needs Assessment study in Nepal (2009) identified 'free or affordable treatment' as one of the most important services for drug users and particularly emphasized the need for treatment facilities for female drug users (13). The Summary Report of the Survey on Hard Drug Users in Nepal, by the Central Bureau of Statistics, Government of Nepal (2007) reported that 40% of drug users had cited availability of free treatment facilities as an important need (4). Responding to this expressed need, UNODC commissioned an assessment study of addiction centres in Nepal that identified areas that need to be strengthened to improve the quality and effectiveness of addiction treatment in 2010 (15).

With only 14% of respondents having ever accessed treatment, ensuring access to quality addiction treatment services is an urgent need.

About a third (128, 32.5%) of the respondents had been arrested in the past, while lesser than one tenth (9.1%, 36) had served prison sentence for offenses related to alcohol / drug use. Strengthening the prison based interventions aimed at HIV prevention that were launched in Nepal in 2003 and exploring possibilities of offering interventions related to addiction in prison settings can be explored.

e. Prevalence of selected sexually transmitted infections

Almost all (391 of 393) respondents consented to be tested after the interview and were screened for infections such as HIV, Hepatitis B, Hepatitis C and syphilis. Presence of at least one infection in 77 (19.7%) of 391 respondents with at least one of the four infections screened for – HIV, Syphilis, Hepatitis B or Hepatitis C gives an indication of the disease burden associated with the women drug using population.

i) HIV infection: Of the 321 women injecting drug users, 13 (4%) were found to be HIV positive. Of the 13, 12 were daily injectors and of these 12 HIV positive daily injectors, five were also engaged in commercial sex work.

Among the daily injectors, the HIV prevalence was 6.1% (12 of 198), and among daily injectors who were also engaged in sex work, the prevalence was 10.6% (5 of 47).

Respondents from the Kathmandu valley zone (Kathmandu and Lalitpur) were 5 times more likely to be HIV positive when compared to rest of the sites in the Highway districts (rest of the sites - Highway Districts)⁹. These variations were also noted among male IDUs (from 3.4% in Pokhara to 20.7% in Kathmandu) in the IBBS study in 2009 (3).

HIV prevalence at 4% among women injecting drug users and 6.1% among daily injectors makes the women drug using population another most at risk population. HIV prevalence among women

injecting users is comparable to that of the male IDUs and higher when compared to the 2.2% prevalence among FSWs in Nepal in 2009. As issues concerning women injectors vary from that of the male IDUs, ensuring quality services to address the special needs of this high risk population is essential.

ii) Hepatitis B: Past exposure to Hepatitis B (based on core anti body test.) was identified in 13.4% (43 of 321) of those who injected in the past month and in 19.2% (38 of 198) of daily injectors. Acute Hepatitis B infection (with positive test result on both HBsAg and HBeAg) was identified in 2 of the 391 respondents (0.5%).

Considering that 13.4% had been previously exposed to Hepatitis B infection and that majority of respondents are sexually active, increasing awareness about Hepatitis B is essential.

iii) Hepatitis C: Fifteen percent of the 391 study respondents tested positive for Hepatitis C. The prevalence among daily injectors was 17.6% (35 of 199) and 21.3% (10 of 47) among daily injectors who were also engaged in sex work.

Compared to the 3.3% prevalence of Hepatitis C in the general population world wide, a prevalence of 15.4% of Hepatitis C in this group indicates a high Hepatitis C prevalence rate (16). As Hepatitis C can lead to chronic liver disease, including cirrhosis and liver carcinoma, as well as transmission of the infection to others, creating awareness and halting injection sharing practices is important. Moreover, heavy alcohol use amongs the women drug users would further escalate harm caused to the liver and service providers need to address this risk.

iv) Syphilis: Around 2.5% (7 of 284) of sexually active respondents were positive on both RPR and TPHA test indicating current infection of syphilis. The prevalence was higher at 10.5% (8 of 76) among injecting drug users who engaged in sex work.

Prevalence of other STI related symptoms:

- Reports of burning sensation while passing urine among 20.3% may indicate presence of other STIs such as Gonorrhoea and Chlamydia.
- Wart like growth in genital area in 12.9% (37 of 286), could indicate presence of Human Papilloma Virus which is a life long infection and a leading cause of cervical cancer.
- Presence of genital ulcers in 11.5% (33 of 286) of respondents needs to be addressed as it can accelerate transmission rates.
- As 11.5% (33 of 286) of respondents reported either or both, ulcers or growth in anus, it alerts one to the possibility of prevalence of anal sex activity.

Screening for STI infections such as Gonorrhoea and Chlamydia, and offering treatment for the same presumptively may be undertaken.

Screening women semi-annually for ulcers, discharges and warts can be considered.

As presence of ulcers among sexually active group can accelerate transmission of HIV and other STIs, service providers need to be alerted to this finding.

⁹ OR = 5.91, 1.65 < OR > 21.12, p=0.002, 95% CI.

Sensitizing FDUs about risks involved in anal sex and collecting information about anal sex activity when assessing risk behaviour needs to be emphasized upon.

Closing remarks:

The current service provision indicators for women drug users in Nepal are encouraging and ensuring continuity of service to this marginalized population is crucial. The following aspects can make services more comprehensive and effective:

- Improving coverage to reach out to the women drug users as early as possible in the drug using history.
- Expand intervention components for women drug users to address oral drug use and alcohol use.
- Ensure easy access to addiction treatment services.
- Strengthening service provisions such as HIV test uptake and STI treatment services in light of the study findings.
- Review and improve behaviour change strategies to improve condom use especially with regular sex partners and work towards 'zero' sharing of injecting equipment.
- Ensure adequate training to staff to carry forward directions identified in the study.



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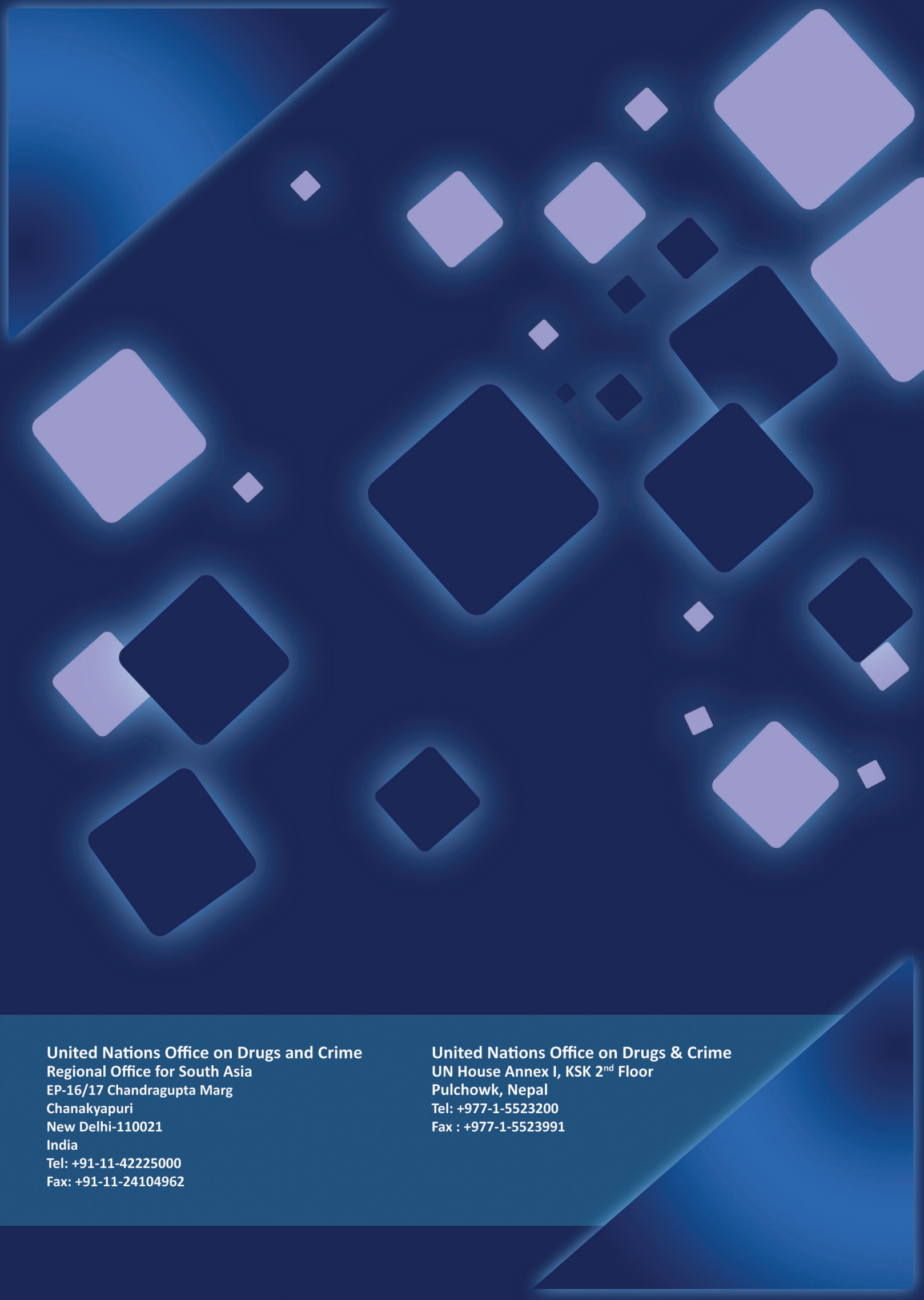
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