

**Integrated Bio-Behavioral Survey  
(IBBS) Among Male Injecting  
Drug Users (IDUs) in  
Eastern Terai**

**2005**



**INTEGRATED BIO-BEHAVIORAL SURVEY (IBBS)  
AMONG MALE INJECTING DRUG USERS (IDUs) IN  
EASTERN TERAI**

*Submitted To:*

**Family Health International (FHI)  
Gairidhara  
Kathmandu, Nepal**

*Submitted By:*



**New ERA  
P.O. Box 722  
Rudramati Marga, Kalo pul  
Kathmandu, Nepal**



*In Collaboration with*  
**SACTS**

**STD/AIDS Counseling and Training Services  
P.O. Box 7314, Pyukha  
Kathmandu, Nepal**

**2005**



## ACKNOWLEDGEMENTS

We would like to extend our sincere and heartfelt gratitude to Family Health International/Nepal (FHI/Nepal) for entrusting us with such an interesting and vital study.

The study team would like to express special thanks to Ms. Asha Basnyat, Country Director, FHI/Nepal, Ms. Kamala Moktan, Team Leader – Care and Support, FHI/Nepal and Dr. Dimitri Prybylski, Senior Technical Officer – ESR of FHI/Bangkok. Their input proved invaluable throughout the course of this study.

Dr. Laxmi Bilas Acharya, Team Leader – Surveillance, Research, Monitoring and Evaluation, FHI/Nepal deserves credit for his technical inputs through out the study. The suggestions he provided were essential in the shaping of this report.

Furthermore, study team would like to thanks AMDA Nepal, KYC Punarjiban Kendra, Dharan and HELP – Group, Biratnagar for providing counselors for post-test counseling service and test results dissemination to the study participants. Thanks also go to Life Line Help Group, New Hope Foundation and Addiction Recovery Center of Jhapa and Dharan Youth Club of Dharan for their active participation and fruitful suggestions to make the study success. It was heartening to work with group showing such a commitment to the alleviation of human suffering.

Thanks are also due to the various organizations such as Knight Chess Club, National Youth Mobilization Center, Social Awareness Development Group, Punarjiban Sarokar Kendra, and Happy Nepal Wisdom Foundation of Jhapa district, Family Planning Association of Nepal Biratnagar as well as Nepal Red Cross Society Dharan and Biratnagar for providing their valuable suggestions and keen interest to support this study.

Similarly, the study team like to acknowledge to the Nepal Police, National Center for AIDS and STD Control (NCASC) and District Public Health Office and administrative bodies of the study districts for providing necessary administrative support during the study period.

Last, but not least, the study team likes to thank all the study participants who provided their valuable time for the interview and shared their personal experiences to bring the study to this shape.

Study Team  
New ERA



## STUDY TEAM MEMBERS

### Key Team Members

- |                               |   |                            |
|-------------------------------|---|----------------------------|
| 1. Mr. Sidhartha Man Tuladhar | - | Project Director           |
| 2. Mr. Niranjan Dhungel       | - | Project Coordinator        |
| 3. Ms. Sarita Pradhan         | - | Senior Computer Programmer |
| 4. Mr. Narayan Prasad Sitaula | - | Senior Research Assistant  |
| 5. Mr. Ramesh Dangi           | - | Senior Research Assistant  |

### Field Survey Team Members

- |                              |   |                    |
|------------------------------|---|--------------------|
| 1. Mr. Sachin Shrestha       | - | Research Assistant |
| 2. Mr. Alok Koirala          | - | Research Assistant |
| 3. Mr. Pawan K.C             | - | Supervisor         |
| 4. Mr. Janak Chanda B.C      | - | Supervisor         |
| 5. Mr. Mahendra Raj Dulal    | - | Supervisor         |
| 6. Mr. Manoj Kumar Bhattarai | - | Supervisor         |
| 7. Mr. Tirtha Gautam         | - | Supervisor         |
| 8. Mr. Rabindra Udash        | - | Supervisor         |
| 9. Mr. Pancha Maharjan       | - | Supervisor         |
| 10. Mr. Ramji Prasad Devkota | - | Supervisor         |
| 11. Mr. Ram Prasad Yakha     | - | Supervisor         |
| 12. Mr. Nabin Chaudhary      | - | Runner             |
| 13. Mr. Ram Kumar Rijal      | - | Runner             |

### Motivators

- |                          |   |                        |
|--------------------------|---|------------------------|
| 1. Mr. Sabin Dhakal      | - | Motivator (Jhapa)      |
| 2. Mr. Subash Rai        | - | Motivator (Jhapa)      |
| 3. Mr. Robin Tamang      | - | Motivator (Jhapa)      |
| 4. Mr. Kapil Thapa       | - | Motivator (Biratnagar) |
| 5. Mr. Suraj Gopal Joshi | - | Motivator (Biratnagar) |
| 6. Mr. Arun Tiwari       | - | Motivator (Dharan)     |
| 7. Mr. Rajesh Tamang     | - | Motivator (Dharan)     |

### Counselors

- |                              |   |                        |
|------------------------------|---|------------------------|
| 1. Mr. Bhesh Raj Pokharel    | - | Counselor (Jhapa)      |
| 2. Ms. Bina Adhikari         | - | Counselor (Jhapa)      |
| 3. Mr. Ganga Prasad Bhandari | - | Counselor (Biratnagar) |
| 4. Mr. Umad Rai              | - | Counselor (Dharan)     |

### Coding/Data Entry

- |                         |   |                   |
|-------------------------|---|-------------------|
| 1. Mr. Babu Raja Dangol | - | Coder             |
| 2. Ms. Deepa Shakya     | - | Coder             |
| 3. Mr. Rajan Dangol     | - | Data Entry Person |
| 4. Mr. Gehendra Pradhan | - | Data Entry Person |

### **Administration Support**

- |                                |   |                       |
|--------------------------------|---|-----------------------|
| 1. Ms. Geeta Shrestha-Amatya   | - | Senior Word Processor |
| 2. Mr. Sanu Raja Shakya        | - | Senior Word Processor |
| 3. Mr. Rajendra Kumar Shrestha | - | Office Assistant      |

### **Laboratory Team (SACTS)**

- |                               |   |                        |
|-------------------------------|---|------------------------|
| 1. Dr. Vijay Lal Gurubacharya | - | Consultant Pathologist |
| 2. Ms. Jyotsna Shrestha       | - | Micro Biologist        |
| 3. Mr. Janardan Kuinkel       | - | Senior Lab Technician  |
| 4. Mr. Dinesh Bista           | - | Lab Technician         |



# TABLE OF CONTENTS

	<u>Page</u>
<b>ACKNOWLEDGEMENTS</b>	<b>i</b>
<b>STUDY TEAM MEMBERS</b>	<b>ii</b>
<b>TABLE OF CONTENTS</b>	<b>iv</b>
<b>LIST OF TABLES</b>	<b>vi</b>
<b>LIST OF ANNEXES</b>	<b>vii</b>
<b>ABBREVIATION</b>	<b>viii</b>
<b>EXECUTIVE SUMMARY</b>	<b>ix</b>
<b>CHAPTER 1:INTRODUCTION</b>	<b>1</b>
1.1    Background	1
1.2    Objectives of the Study	1
<b>CHAPTER 2:METHODOLOGY</b>	<b>3</b>
2.1    Study Design	3
2.1.1    Sample Size and Sampling Design	3
2.1.2    Informed Consent	4
2.1.3    Blood Sample Collection and HIV Testing	4
2.2    Study Management	5
2.3    Post-Test Counseling and Test Result Distribution	6
2.4    Data Cleaning and Analysis	6
<b>CHAPTER 3:SOCIO-DEMOGRAPHIC CHARACTERISTICS OF IDUs</b>	<b>7</b>
3.1    Demographic Characteristics	7
3.2    Social Characteristics	8
<b>CHAPTER 4:DRUG USE, NEEDLE SHARING AND TREATMENT</b>	<b>9</b>
4.1    Alcohol Consumption and Oral Drug Use among IDUs	9
4.2    Drug Injecting Practice of IDUs	9
4.3    Syringe Use and Sharing Behavior	12
4.4    Drug-Sharing Behavior	13
4.5    Needle/Syringe Cleaning Practice	14
4.6    Knowledge of and Access to New Needles/Syringes	15
4.7    Treatment Practice	15
<b>CHAPTER 5:SEXUAL BEHAVIOR AND CONDOM USE</b>	<b>17</b>
5.1    Sexual Behavior of IDUs	17
5.2    Knowledge and Use of Condom	19
5.3    Source of Condoms	20
5.4    Sources of Information about Condom	21

	<b><u>Page</u></b>
<b>CHAPTER 6: KNOWLEDGE OF STIs AND HIV/AIDS</b>	<b>23</b>
6.1 Knowledge of STIs	23
6.2 Knowledge of HIV/AIDS	24
6.3 Knowledge about HIV Testing Facilities	26
6.4 Source of Knowledge about HIV/AIDS	26
<b>CHAPTER 7: PREVALENCE OF HIV</b>	<b>28</b>
7.1 Relation between Socio-Demographic Characteristics and HIV Infection	28
7.2 Relation between Drug Injection Behavior and HIV	29
7.3 Relation between Sexual Behavior and HIV	29
7.4 Odds Ratio of HIV Infection by Selected Characteristics of IDUs	30
<b>CHAPTER 8: SUMMARY OF THE FINDINGS</b>	<b>31</b>
<b>REFERENCES</b>	<b>34</b>
<b>ANNEXES</b>	<b>35-52</b>

## ***LIST OF TABLES***

	<b><u>Page</u></b>
Table 3.1: Demographic Characteristics of the Sample Population	7
Table 3.2: Social Characteristics of the Sample Population	8
Table 4.1: Consumption of Alcohol and Oral Drug Use among IDUs	9
Table 4.2: Types of Drugs Used Orally by Respondents	10
Table 4.3: Drug Injecting Practice of Respondents	11
Table 4.4: Types of Drugs Injected by Respondents	11
Table 4.5: Behavior of Respondents Regarding Syringe Use and Sharing during the Last Three Injections	12
Table 4.6: Past Week's Syringe Use and Sharing Behavior	13
Table 4.7: Past Week's Drug Sharing Behavior	14
Table 4.8: Injecting Behavior of IDUs in Other Parts of Country and Out of Country	14
Table 4.9: Needle/Syringe Cleaning Practice of Respondents	15
Table 4.10: Knowledge of Sources of New Syringes	15
Table 4.11: Treatment Status of the Respondents	16
Table 5.1: Sexual History	17
Table 5.2: Sexual Intercourse with Regular Female Sex Partners	18
Table 5.3: Sexual Intercourse with Non-Regular Female Sex Partner	18
Table 5.4: Sexual Intercourse with Female Sex worker	19
Table 5.5: Knowledge and Use of Condoms among IDUs	19
Table 5.6: Consistent Use of Condom with Different Female Sexual Partners in the Past Year	20
Table 5.7: Sources of Condom and Time Needed to Obtain It	21
Table 5.8: Sources of Information about Condoms	21
Table 5.9: Exposure to Specific Condom Messages in the Past Year	22
Table 6.1: IDUs Who have Heard about STIs	23
Table 6.2: Symptoms of STIs Cited by Respondents Who have Heard about STIs	23
Table 6.3: Genital Discharge and Genital Ulcers/Sore Blisters Experienced During the Past Year and Currently	24
Table 6.4: Treatment of STI Symptoms by IDUs	24
Table 6.5: Awareness of HIV/AIDS among IDUs	25
Table 6.6: Knowledge of ABC	25
Table 6.7: Respondents' Knowledge of Ways of HIV/AIDS Transmission	25
Table 6.8: Knowledge about HIV Testing Facilities and History of HIV Test	26
Table 6.9: Sources of Knowledge Regarding HIV/AIDS	27
Table 6.10: Information/Materials Received During the Past Year	27
Table 7.1: HIV Status by Districts	28
Table 7.2: Relation between Socio-Demographic Characteristics and HIV Infection	28
Table 7.3: Relation between Drug Injecting Behavior and HIV Infection	29
Table 7.4: Odd Ratios of HIV Infection by Selected Characteristics of IDUs	30

## *LIST OF ANNEXES*

	<b><u>Page</u></b>
ANNEX – 1: Questionnaire	35
ANNEX – 2: Basic Equation Used in Sample Design	52
ANNEX – 3: Seeds	53
ANNEX – 4: Oral Informed Consent	54
ANNEX – 5: Districts and Lab Centers	59
ANNEX – 6: Participation in Post Test Counseling	59
ANNEX – 7: The Reasons for Not Injecting Drugs Yesterday	59
ANNEX – 8: Part of the Body Where Injection is Taken	59
ANNEX – 9: Gathering Place of IDUs to Inject Drugs	60
ANNEX – 10: Combination of Different Drugs Injected by IDUs	61
ANNEX – 11: Switched from one Drug to another and the Reasons for it	62
ANNEX – 12: Cities/District and Countries Where Drugs were Injected by IDUs During Last 12 Months	63
ANNEX – 13: Types of Treatment and Institutions Where Treatment Received	64
ANNEX – 14: Relation between Sexual Behavior and HIV	65
ANNEX – 15: Reasons of Not Using Condom in the Last Sex	66

## ***ABBREVIATIONS***

AIDS	-	Acquired Immuno-Deficiency Syndrome
AMDA	-	Association of Medical Doctors of Asia
FHI	-	Family Health International
FSWs	-	Female Sex Workers
HIV	-	Human Immuno-Deficiency Virus
IBBS	-	Integrated Bio-Behavioral Survey
ID	-	Identification Number
IDUs	-	Injecting Drug Users
IEC	-	Information, Education and Communication
KYCPJK	-	Kirat Yakthum Chumlung Punarjiwan Kendra
LALS	-	Life Giving and Life Saving Society
NCASC	-	National Center for AIDS and STD Control
NGO	-	Non-Governmental Organization
NHRC	-	Nepal Health Research Council
PHSC	-	Protection of Human Subjects Committee
PLWHA	-	People Living with HIV/AIDS
RDS	-	Respondent Driven Sampling
SACTS	-	STD/AIDS Counseling and Training Services
SLC	-	School Leaving Certificate
SPSS	-	Statistical Package for the Social Sciences
STD	-	Sexually Transmitted Disease
STI	-	Sexually Transmitted Infection
SW	-	Sex Worker
USA	-	United States of America
VCT	-	Voluntary Counseling and Testing
WHO	-	World Health Organization



## EXECUTIVE SUMMARY

HIV transmission among drug users is associated with injecting drug use that involves the sharing of needles or syringes. Risky sexual behavior associated with drug use also contributes to the spread of HIV. Injecting drug users function as a “bridging population” for HIV transmission between a core HIV risk group, other high-risk groups and the general population. The main objective of this study was “to estimate the prevalence rate of HIV among injecting drug users (IDUs) and assess their risky behavior”. The study was conducted in among IDUs in the sub metropolitan city and municipalities, and the highway areas of Jhapa, Sunsari and Morang districts of the Eastern Terai. Three hundred and forty five IDUs were sampled using the respondent driven sampling (RDS) methodology. While structured questionnaires were used to collect behavioral data, clinical blood tests were used to determine the rate of HIV infection. The clinical test procedure used involved collecting blood from a subject’s pricked finger and then storing it in 2-4 capillary tubes until tests could be performed. In order to determine a participant's infection status, a rapid test kit algorithm was used in which two rapid tests (Capillus and Determine) were initially conducted with Uni-Gold reserved as a tie-breaker.

In terms of socio-demographic characteristics of the IDUs in the Eastern Terai, the study found that the median age of the IDUs was 25 years. A majority of them were either previously or currently married. The median age at marriage was 20.5. A majority of the IDUs had formal schooling. IDUs from different ethnic groups participated in the study.

The study's finding shows a trend similar to the one that was revealed in the first round of the survey. The duration of the habit of injecting drugs was found to be five years on average. It was seen that about half of the study participants started using injecting drugs before or at the age of 20 years. A majority (56%) of the IDUs were found to be injecting drugs daily at least once a day during the past week. In the first round of the survey, 78.4% of the IDUs were found to be injecting drugs at least once daily in the past week. Combination of different drugs was used popularly by the IDUs participating in the first round of survey, while tidigesic was used by a majority of the IDUs in the first-round survey. Around 58% of the IDUs (74% in the first round of the survey) reported that they had not shared needles/syringes in the past week. However, about two-fifths of the IDUs shared syringes/needles, and the practice was most often limited among two or more friends. Nearly 90% of the IDUs reported having injected drugs in another part of the country or in another country.

Furthermore, we found patterns of behavior among the IDU community that put them at greater risk of contracting HIV/AIDS. Improper cleaning of shared and reused needles/syringes presents a higher risk of HIV infection to the IDUs. The study revealed that while half of the IDUs chose to clean their needles or syringes with plain water, 35.7% cleaned their needles/syringes with saliva. However, almost all could obtain a new syringe from a drug store.

The IDUs were also found to be sexually active. Almost 94% of them had engaged in sexual intercourse. The median age of the IDUs at the time of their first sexual encounter was 17 years. Consistent condom use was very low - with regular partners (it was only 11%) but high (50%) during sex with female sex workers.

The majority of respondents reported that they had sexual intercourse in the last 12 months (68.6%) and, of this group, 36.8% reported having two or more partners. Consistent condom use was very low - with regular partners it was only 11.3%, and with non-regular partners also it was just 24.1%.

The study participants were aware of HIV/AIDS. Even then, this general awareness about the infection does not seem to have motivated a significant change in their behavior. All the participants knew about HIV/AIDS, and 95.1% of the IDUs reported having heard about STD. About 99% of the participants were aware that one could protect oneself from HIV/AIDS by always using a condom. Similarly, almost all (99.4%) the IDUs know that a person could contract HIV by injecting drugs with another's previously used needle. Radio and television were the first and second most common media sources for the dissemination of HIV/AIDS information among the IDUs. HIV infection was found to be higher (31.6%) among the IDUs.

Some changes have been observed in this study in comparison to the first round of the study, especially in syringe-sharing habits and in the use of condoms when sex with sex workers. But the changes are not big.

Study shows that percentage of younger IDUs has increased slightly from 11% in the first round of the survey conducted in 2003 to 14.5% in the second round in 2005. HIV/AIDS awareness and prevention programs for IDUs should be continued in Eastern Terai with more focus on younger IDUs. It has also been recommended that special programs targeting the mobile IDUs should be designed as a majority of the sampled IDUs reported of having injected drugs elsewhere in Nepal or in other countries. Further the need for extending support to rehabilitation and detoxification centers to provide necessary care and support to IDUs has also been recommended.



# **CHAPTER - 1**

## **INTRODUCTION**

### **1.1 Background**

The National Center for AIDS and STD Control (NCASC) has been compiling and publishing cumulative number of HIV cases conformed by laboratory tests in different population subgroups, such as sex workers, clients of sex workers, housewives, persons getting blood transfusion and injecting drug users, and of peri-natal transmission since 1991. As of August 2005, a cumulative total of 5,338 HIV infections, including 907 cases of AIDS and 262 deaths from AIDS, have been reported in Nepal (NCASC, 2005). Since the NCASC data reflects only the reported cases, and, therefore, does not show the complete picture, it is estimated that one-third of all HIV infections are among IDUs. Sharing and reusing needles kept in public places by themselves or others have been a critical factor in the spread of HIV in several developing countries. In response to the growing HIV epidemic, many governments, including Nepal, have begun to develop intervention policies and programs targeting injecting drug users. A major difficulty in developing strategies for HIV prevention is a lack of general knowledge among planners about factors influencing drug use and the spread of HIV (Richman, 1996).

High-risk sexual behavior associated with drug use has also been found to be a major contributing factor in the spread of HIV among the non-injecting population (AIDS in Asia, MAP Report, 2004). Drug users function as a “core HIV risk group in Nepal and they could transmit infection to the general population. In most areas where HIV is prevalent among injecting drug users, they were found to serve as the primary source for HIV transmission in the heterosexual population and in prenatal transmission as well (Jarlais, 1992).

The first cycle of the Integrated Bio-Behavioral Survey (IBBS) among IDUs conducted in 2003 showed about 35.1% HIV prevalence among the male IDUs in the Eastern Terai. Likewise, 34% of the sampled IDUs reported that they had used needles/syringes that had been used by peer IDUs, and the same percentage of IDUs had used needles/syringes kept in public places by themselves or other IDUs during the week prior to the interview. Similarly, the study revealed that 36% of the IDUs had not used a condom during the last sexual encounter with a sex worker, and a high percentage (72%) had not used a condom in the last sexual act with a regular sex partner. The high prevalence of HIV among IDUs and the low use of condoms during sex might increase the risk of HIV transmission among the sexual partners of the IDUs.

The National Center for AIDS and STD Control (NCASC), with technical and financial support from FHI, has begun to develop intervention policies and implement programs targeting injecting drug users. Thus the second cycle of the IBBS was done to find out the change in their behavior and HIV prevalence, which is needed for the development of proper HIV prevention and care programs for this group. The IBBS studies were also needed to analyze time trends in HIV prevalence among the target group over time.

### **1.2 Objectives of the Study**

The objective of this second round of the IBBS was to compare and analyze trends against the data from the first round of the IBBS. The data of the second round of the IBBS will also

be used to measure the impact of intervention programs on the targeted risk group - IDUs in the three districts of Jhapa, Morang and Sunsari of the Eastern Terai - and assess their "at risk" behavior. The main objectives of the second cycle of the IBBS were:

- To determine the prevalence of HIV among IDU sub-populations in the Eastern Terai.
- To describe injecting and sexual behaviors among IDU sub-populations in the Eastern Terai.
- To measure the frequency of, and the association between, risk behavior and HIV infection status among IDU sub-populations.
- To measure the proportion of IDU sub-populations that could transmit HIV infection because of their practice of high risk injecting behavior and having sexual links with regular and non-regular partners.

## CHAPTER - 2 METHODOLOGY

### 2.1 Study Design

The study was done among IDUs in the sub-metropolitan city and municipalities and the highway areas of Jhapa, Sunsari and Morang districts of the Eastern Terai. A cross-sectional study was designed to collect both behavioral and clinical data related to HIV. In this study, IDUs are defined as those who have injected drugs during the last three months prior to the date of the interview.

Structured questionnaires were used to collect behavioral data relating to drug injection, syringe/needle sharing and sexual behavior among the IDUs. Additionally, some demographic and social characteristics were collected. Almost all the questions were similar to the ones asked during the first round of the survey. The questionnaires were developed based on the "Guidelines for Repeated Behavioral Surveys in Populations at Risk of HIV" (FHI, 2000) and were finalized after pre-testing (Annex 1).

In this study the inclusion criteria used for IDUs was "current injectors who had been injecting drugs for at least three months prior to the date of survey".

#### 2.1.1 Sample Size and Sampling Design

A sample size of 345 male IDUs was estimated to measure about 15% increase in HIV among IDUs from 35% (HIV prevalence in 2003) in Eastern Nepal based on  $\alpha=0.05$  and statistical power  $(1-\beta)=0.80$  (Annex 2). {this change is necessary because

Traditional probability sampling methods, such as simple random, cluster and stratified sampling used in household surveys, are not suitable for reaching IDUs and such other hidden populations, as a sampling frame is not available and response rates are usually low and lacking in candor (Spreen and Zwaagstra, 1994). Similarly, street-based location sampling methods that have dominated much risk-reduction research (Semaan et. al., 1998), such as targeted sampling (Watters and Biernacki, 1989), exclusively tend to recruit IDUs who spend considerable time on the street, especially older male IDUs. In order to overcome many of the problems generally attributed to chain referral sampling, a form of chain referral *network* sampling, known as respondent driven sampling (RDS), was used in this study.

Theoretically, RDS can also be applied safely in situations where little information on the population size by sites/locations is available by selecting suitable seeds and recruiting the respondents in a sufficient number of waves.

A research team, with the help of local NGO partners, recruited a total of 15 known IDUs from different sites during the study period as "seeds". These "seeds" were recruited from different injecting groups to obtain a more random sample. These seeds were interviewed and then given three referral cards each to bring three more IDU peers to the study sites for the same interview that they had just completed. Each card had a unique identification number. Only those respondents who came with a referral card were recruited for the study and provided three referral cards to recruit three more peer IDUs. The researchers chose the

"seeds" in a way that would tap into networks of both long-term and short-term users. Similarly, attempts were made to choose both old and young injectors as "seeds".

Of the 15 "seeds" recruited, one completed one wave, four completed two waves and nine completed three or more waves. One seed did not come back though he had promised to bring peer IDUs for the study. The recruitment process was completed when the target sample size of 345 IDUs was achieved (Annex 3).

Each respondent was provided Rs. 100 (equivalent to \$ 1.40) to cover local transportation costs needed to visit the interview site only upon completion of the interview and blood collection for a HIV test. Each IDU recruited was provided an incentive of Rs. 50 (equivalent to \$ 0.70) to recruit up to three other IDUs. The participants were provided both incentives for completing the interview and for recruiting three peers for the study.

Before interviewing the study participants, the researcher conducted a verification process to make sure that only genuine IDUs had been recruited for the study. The verification process included an informal discussion regarding the names of drugs, price of the drugs, gathering place, drug preparation process, names of NGOs working for IDUs and injection techniques besides observation of the part of the body where injection was done including recent injection marks.

In order to maintain the confidentiality of the study participants, their names and full addresses were not recorded. Instead, they were provided a unique ID number written on a plastic-coated card. This card was also used for the distribution of the test results. Only those participants who produced the card were provided the HIV test results verbally. The fieldwork started on February 16 and was completed on April 13, 2005.

### 2.1.2 Informed Consent

The research study was conducted in compliance with both ethical and human rights standards. These standards included participant anonymity as well as pre- and post-test counseling. As this study was done with human subjects who are highly stigmatized and injecting drugs is illegal in the country, "ethical" as well as "technical" approvals were obtained from Family Health International's ethical review body, Protection of Human Subject Committee (PHSC), and the Nepal Health Research Council (NHRC) prior to the initiation of the study field work. Prior to the interview and collection of a blood sample, witnessed verbal informed consent was obtained from all the participants. The verbal consent form used in the study is given in Annex 4. All possible precautions were taken in order to maintain participant anonymity (no personal identifiers were collected).

### 2.1.3 Blood Sample Collection and HIV Testing

Blood samples for the HIV test were obtained by minimally invasive finger-prick technique and collecting it in capillary tubes. Two rapid tests, namely, "Capillus" and "Determine", were conducted to determine HIV infection among the study participants. In case of a tie in the first two tests, a third test "Uni-Gold" was performed. Qualified laboratory technicians from the STD/AIDS Counseling and Training Service (SACTS) conducted the tests in a laboratory at the study site. The blood samples collected were kept in a cold chain within one hour of collection and the tests were performed on the same day.

The Abbott Determine HIV-1/2 is a visually read qualitative immunoassay for the detection of HIV-1 and HIV-2 antibodies in human serum, plasma or whole blood. The test is intended to aid in the detection of antibodies to HIV-1/HIV-2 in infected individuals.

The Trinity Biotech Capillus HIV-1/HIV-2 is also a visually read rapid qualitative assay for the detection of human immunodeficiency virus type 1 (HIV-1) and/or human immunodeficiency virus type 2 (HIV-2) antibodies in human whole blood, serum or plasma. This test is primarily used for initial screening at low-volume testing facilities, emergency situations, or in areas where sophisticated equipment is not available.

Trinity Biotech Uni-Gold, used as a tie-breaker in the parallel testing algorithm is a visually read recombinant proteins representing the immunodominant regions of the envelope proteins of HIV-1 and HIV-2 glycoprotein gp41, gp120 (HIV-1) and glycoprotein gp36 (HIV-2) respectively are immobilized at the test region of the nitrocellulose strip. These proteins are also linked to colloidal gold and impregnated below the test region of the device. A narrow band of the nitrocellulose membrane is also sensitized as a control region.– The quality of information provided by the study participants and the collection of clinical specimens was monitored through a log form developed for monitoring the study.

## **2.2 Study Management**

The study team was comprised of a project director, project coordinator, senior research associate (pathology doctor), senior lab technician, lab technicians, lab supervisor, research assistant, field supervisors, interviewers and motivators.

Before data collection was initiated, nine-day training was provided to all the study team members. This training allowed field teams to become familiar with the research instruments, study methodology and information collection techniques. A two-day theory and practical training on pre-test counseling was also provided to the trainees. The team members practiced administering the questionnaires by using both classroom-based role-play exercises and field practice. The field researchers were divided into two teams. These teams each consisted of one research assistant, four researchers and one lab technician.

Centers were established at six different places (two each in Jhapa, Morang and Sunsari) of the study area to interview the participants and collect blood samples. Individual interviews and blood collection activities were carried out in separate rooms after obtaining the participant's informed oral consent. Pre-test counseling was provided to all the study participants before blood samples were collected, which was done by pricking the finger. The blood was then stored in three-four capillary tubes until tests were performed at the study site laboratory. A lab technician from SACTS did the testing.

In order to assure the quality of data collection, New ERA and FHI officials supervised the fieldwork regularly. Field supervisors reviewed all the completed questionnaires on the day the data was collected. Any inconsistencies in the responses were clarified through discussions with the concerned interviewer later that day.

In order to avoid duplication/repetition when recruiting the study participants, a researcher was exchanged between the centers after study activities were completed at one site. Moreover, some basic cross-checking questions were also put to the participants before the

interview to confirm that they had not been interviewed previously. The interview centers are presented in Annex 5.

### **2.3 Post-Test Counseling and Test Result Distribution**

After the blood samples were collected, all the study participants were informed about the location and operating hours of the VCT site where they should go to obtain their test results and requirement that they must bring the ID card issued to them at the time of the interview. They were also pre-informed that the HIV test results would be provided with pre- and post-test counseling by a trained counselor.

Post-test counseling and individual report dissemination was completed between March 3 to 8, 2005 in Jhapa, March 21 to April 13, 2005 in Morang and April 3 to 26, 2005 in Sunsari. Out of the 345 IDUs tested for HIV, only 86 turned up to get their test results (Annex 6). Trained counselors from AMDA in Jhapa, Help Group in Morang (Biratnagar) and Punar Jeevan Kendra/Kirat Yakthun Chamling in Sunsari (Dharan) gave the test results to the participants in a private setting only after they had produced their ID cards. Before opening the sealed envelope, a counselor counseled them about the possibility of a positive or negative result of the blood test. After the test result was revealed to them, they were advised about various aspects of STI and HIV and the measures to be taken whether they had HIV+ or HIV- results. The participants were also referred to AMDA Hospital, Regional and Zonal Hospitals and VCTs for further services.

### **2.4 Data Cleaning and Analysis**

All the questionnaires were collected and transported to the New ERA Kathmandu office after the completion of the fieldwork. The questionnaires were thoroughly checked for any inconsistencies before the data was entered into a computer using FoxPro software. Double entry approach was used to minimize errors during the data entry. Later, the data file was transferred to SPSS files for further analysis.

The analyses presented in this report are preliminary and are not yet adjusted using the RDS software. Simple statistical tools, such as frequency distribution, percentages, range, proportion, mean and median, were used to analyze the results of the survey. Chi-square test values were also calculated to measure the statistical significance of the relationship between cross-tabulated categorical variables. Odds ratios were calculated to measure the relative risk of HIV infection between the categories of the selected explanatory variables. Clinical and behavioral data were merged in order to examine the relationship between HIV status and background characteristics and injecting and sexual behaviors of the participants.

## CHAPTER - 3

### SOCIO-DEMOGRAPHIC CHARACTERISTICS OF IDUs

This chapter discusses the demographic and social characteristics of the 345 male IDUs recruited for the sample from the three districts (Jhapa, Morang and Sunsari) in the Eastern Terai.

#### 3.1 Demographic Characteristics

The demographic characteristics of the IDUs are presented in Table 3.1. The median age of the IDUs was 25 years. Use of injecting drugs among the younger generation has increased a little compared to the first round of the survey. For instance, the number of IDUs below the age of 20 has increased to 14.5% from 11% in 2003. However, the percentage of adolescent and youth IDUs (below the age of 25 years) was the same in both the studies.

Marital status was found to be almost the same in both the studies. A large percentage (53%) of the respondents were never married, and around 47% of the IDUs were ever married. The median age at marriage is almost the same (20 years) and a majority of the respondents (81.4% in 2003 and 79% in 2005) were married between the ages of 15 to 24.

Almost 63% of the IDUs were living without a sexual partner or alone. Of the total currently-married IDUs, 92.6% were living with their spouse. Two of the currently-married IDUs reported their spouse as having another sexual partner (Table 3.1).

**Table 3.1: Demographic Characteristics of the Sample Population**

Characteristics	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Age</b>				
14-19	38	11.0	50	14.5
20-24	119	34.5	107	31.0
25-29	93	27.0	90	26.1
30-34	68	19.7	62	18.0
35-39	23	6.7	30	8.7
40-47	4	1.2	6	1.7
<b>Median age</b>	<b>25</b>		<b>25</b>	
<b>Marital status</b>				
Married	129	37.4	135	39.1
Divorced/Separated	30	8.7	23	6.7
Widower	2	0.6	4	1.2
Never married	184	53.3	183	53.0
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Age at first marriage</b>				
10-14	2	1.2	3	1.9
15-19	57	35.4	54	33.3
20-24	74	46.0	74	45.7
25-29	25	15.5	26	16.0
30-34 (30-33)	3	1.9	5	3.1
<b>Median age</b>	<b>20</b>	<b>-</b>	<b>20.5</b>	<b>-</b>
<b>Total</b>	<b>161</b>	<b>100.0</b>	<b>162</b>	<b>100.0</b>
<b>Currently living with</b>				
Spouse	129	37.4	125	36.2
Female sexual partner			1	0.3
Living without sexual partner/alone	216	62.6	229	63.5
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Other sexual partner of IDU's spouse</b>				
Yes	2	1.5	2	1.6
No	127	98.5	123	97.6
Don't know	0	0.0	1	0.8
<b>Total</b>	<b>129</b>	<b>100.0</b>	<b>126</b>	<b>100.0</b>

### 3.2 Social Characteristics

More than half of the IDUs had secondary schooling and only 5.2% were illiterate. Similarly, one-fifth of the IDUs had attained SLC or above education. There has been some increase in the proportion of respondents attaining primary education (114% in 2003 vs. 22% in 2005). However, in 2003 sample more about four fifth (80.3%) respondents had primary plus education but in 2005 such respondents were less than three fourth (71.3%).

In both 2003 and 2005 samples participants are from various ethnic compositions. IDUs from various ethnic groups participated in the study. In 2005 a majority of them were from the Tamang/Lama/Magar ethnic community followed by Gurung/Rai, Chhetri/Thakuri and Newar.

Around 79% of the participants were born in the three districts of Eastern Nepal. Among the 74 migrant IDUs, about 15% had been living in the region for more than five years (Table 3.2).

**Table 3.2: Social Characteristics of the Sample Population**

Characteristics	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
<b>Education</b>				
Illiterate	15	4.3	18	5.2
Literate only	5	1.4	5	1.4
Primary	48	13.9	76	22.0
Secondary	200	58.0	177	51.3
SLC & above	77	22.3	69	20.0
<b>Ethnicity</b>				
Brahmin	26	7.5	13	3.8
Chhetri/Thakuri	56	16.2	59	17.1
Tamang/Lama/Magar	41	11.9	81	23.5
Newar	27	7.8	48	13.9
Gurung/Rai	120	34.8	62	18.0
Terai caste	16	4.6	23	6.7
Occupational caste	13	3.8	21	6.1
Musalman	12	3.5	7	2.0
Rajbanshi	8	2.3	6	1.7
Chaudhary/Tharu	6	1.7	8	2.3
Giri/Puri/Sanyasi	5	1.4	6	1.7
Mandal	5	1.4	3	0.9
Teli/Shah	4	1.2	3	0.9
Others	6	1.7	5	1.4
<b>Duration of stay in Eastern Region (Jhapa, Morang and Sunsari districts)</b>				
Since birth	278	80.6	271	78.6
Since 5 years	13	3.8	23	6.7
More than 5 years	54	15.6	51	14.8



## CHAPTER - 4

### DRUG USE, NEEDLE SHARING AND TREATMENT

The major reason of HIV transmission among drug users is associated with their needle/syringe-sharing behavior. Therefore, it is important that the behavior of the IDUs be explored in order to help design future programs and intervention strategies. Behavioral information on the IDUs related to alcohol use, drug use, needle sharing and treatment against their drug habit is presented in this chapter.

#### 4.1 Alcohol Consumption and Oral Drug Use among IDUs

The percentage of IDUs reporting never having used alcohol is only about 24%. In the sample of 345 IDUs, about 29% reported daily consumption of alcohol and about 28% reported drinking more than once a week in the past month. Similarly, about 19% of the IDUs reported that they consumed alcohol less than once a week during the past month.

A higher percentage of the IDUs had been using oral drugs for quite a long time. The median duration for oral drug use was eight years. A majority of the IDUs (69.6%) had been using drugs orally for over 60 months, and 27.5% of the IDUs had been using drugs orally since the last 13-60 months (Table 4.1).

**Table 4.1: Consumption of Alcohol and Oral Drug Use among IDUs**

Alcohol and oral drug use acts	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
<b>Alcohol Used during the past month</b>				
Everyday	100	29.0	99	28.7
More than once a week	106	30.7	98	28.4
Less than once a week	62	18.0	65	18.8
Never	77	22.3	83	24.1
<b>Duration of oral drug use</b>				
Up to 12 months	9	2.6	10	2.9
13 – 60 months	123	35.7	95	27.5
More than 60 months	213	61.7	240	69.6
<b>Median years</b>	<b>7</b>		<b>8</b>	
<b>Average duration in years</b>	<b>7.6</b>		<b>8.6</b>	

All the IDUs in the sample were asked about the types of drugs they used orally or inhaled during the past week. About 65% reported using "Ganja" and 42.6% said "Nitrosun". Other drugs taken orally or inhaled that were mentioned by sizeable proportions of the IDUs were phensydyl, brown sugar, proxygin and Nitrovate (Table 4.2).

**Table 4.2: Types of Drugs Used Orally by Respondents**

Types of drugs used orally	Used in last-week			
	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Nitrosun	206	59.7	147	42.6
Ganja	194	56.2	225	65.2
Phensydyl	82	23.8	112	32.5
Brown Sugar	35	10.1	45	13.0
Nitrovate	26	7.5	24	7.0
Proxigin	19	5.5	34	9.9
Velium 10	16	4.6	21	6.1
Calmpose	13	3.8	4	1.2
Codeine	9	2.6	7	2.0
Diazepam	8	2.3	3	0.9
Chares	6	1.7	18	5.2
Effidin	3	0.9	2	0.6
Phenergan	2	0.6	6	1.7
Combination	2	0.6	2	0.6
White Sugar	2	0.6	2	0.6
Cocaine	2	0.6	1	0.3
Lysergic Acid Dithylamidol(LSD)	1	0.3	0	0.0
Lysergic Acid Dithylamidol(LSD)	1	0.3	0	0.0
Lysergic Acid Dithylamidol(LSD)	1	0.3	0	0.0
Others	25	7.2	28	8.1

Note: Because of multiple answers, percentages add up to more than 100.

#### 4.2 Drug Injecting Practice of IDUs

The average duration of using injecting drugs was five years among the IDUs. Almost 39% had been injecting drugs for more than 60 months. The data indicates that 47.5% of the IDUs had been using injecting drugs for a period ranging from 13 to-60 months and that 13.3% had been using injecting drugs from the last 12 months. Around 51% of the sampled IDUs had injected drugs before or when they were 20 years of age. The median age of the IDUs when they began injecting drugs was 20 years.

The survey shows a change in the injecting practice of the IDUs. A large percentage of the respondents (29.3%) reported that they injected drugs once a day, while the figure was 32.5% in the first-round survey. Similarly, 42.3% of the IDUs were injecting drugs at least once a week during the past week compared to 20% in the first-round survey. Moreover, 56% of the IDUs were injecting drugs at least once daily during the past week compared to 78.8% in the first round of the survey. The change in the injecting habit was due to the fact that the survey was conducted during the emergency and the IDUs were facing a shortage of drugs.

The participants were also asked about the frequency of drug injection on the day preceding the interview and/or on the last day. About 14% had injected drugs three or more times on the previous and/or last day, while 60.6% had injected drugs only once. The mean number of drug injections on the previous/last day was 1.6 which was 2 in 2003 (Table 4.2). Alternatively, 89 respondents (25.8%) had not injected drugs the day preceding the interview. For more than a half of the respondents, the main reason for this was lack of money, and for about one-fifth, it was a desire to slowly quit the habit. Other reasons cited were busy in household work and unavailability of drugs (Annex 7).

**Table 4.3: Drug Injecting Practice of Respondents**

Drug Injecting practice	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
<b>Duration of drug Injection habit</b>				
Up to 12 months	71	20.6	46	13.3
13-60 months	167	48.4	164	47.5
More than 60 months	107	31.0	135	39.1
<b>Average duration years</b>	<b>4.1</b>		<b>5.0</b>	
<b>Age at first drug injection</b>				
Up to 20 years	158	45.8	176	51.0
21+ years	187	54.2	169	49.0
<b>Median age</b>	<b>21</b>		<b>20</b>	
<b>Frequency of drug injections within the past week</b>				
Not injected	4	1.2	6	1.7
Once a week	4	1.2	25	7.2
2-3 times a week	25	7.2	52	15.1
4-6 times a week	40	11.6	69	20.0
Once a day	112	32.5	101	29.3
2-3 times a day	143	41.4	88	25.5
4 or more times a day	17	4.9	4	1.2
<b>Frequency of drug injections in the last day</b>				
1 time	195	56.5	209	60.6
2 times	98	28.4	87	25.2
3 or more times	52	15.1	49	14.2
<b>Mean</b>	<b>2</b>		<b>1.6</b>	

The upper arms were reported as the most common part of the body used for injecting drugs by about 30% IDUs in the sample. However, around one-fifth of the respondents reported injecting drugs in their forearms and wrists also. Similarly, almost 13% of the respondents were found to be injecting drugs in their thighs also (Annex 8). The most common place for injecting drugs among the respondents was their own room/friend's room or forest/bushes. Other common places included Jogabani (India), Panitanki (India), open ground/town planning area, riverbank/slum area/pond and pool house/swimming pool, etc. (Annex 9).

Table 4.4 shows the types of drugs injected during the past week. The respondents (83.8%) widely used a combination of various drugs. This was followed by brown sugar (20.3%) and tidigesic (13.6%). The most common drug used in the combination was tidigesic with other drugs like Diazepam, Avil, Calmpose, Phenargan, etc. Similarly, it was found that the IDUs also injected a combination of Norphin and other drugs without tidigesic (for types of combinations, see Annex 10). Other drugs injected by a sizeable proportion of the respondents during the last week included Norphin and Proxygin. There is a big shift in the type of drug injected in 2005 compared to 2003. In 2003 about 81% had reported the use of tidigesic but in 2005 it has shifted to the combination of different drugs. Availability and price of the drugs is found to be the main reason for such shift in drug choice.

**Table 4.4: Types of Drugs Injected by Respondents**

Types of drugs	Drug Injected in last-week			
	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Tidigesic	278	80.6	47	13.6
Brown Sugar	39	11.3	70	20.3
Combination	196	56.8	289	83.8
Norphin	3	0.9	33	9.6
Proxygin	0	0.0	24	7.0
Diazepam	0	0.0	9	2.6
Phenergan	0	0.0	5	1.4
Proxyvon	0	0.0	5	1.4
Codeine	0	0.0	3	0.9
LSD	0	0.0	3	0.9
Nitrosun	0	0.0	3	0.9
White Sugar	0	0.0	3	0.9
Calmpose	0	0.0	2	0.6
Others	0	0.0	4	1.2

Note: Because of multiple answers, the percentages may add up to more than 100.

Information was also collected on the drug-switching behavior among the IDUs. The data shows that only five respondents had switched from one drug to another. The common reasons mentioned for switching drugs were to reduce the intake of brown sugar, to slowly give up the drug habit and unavailability of brown sugar (Annex 11).

### 4.3 Syringe Use and Sharing Behavior

The respondents were asked several questions about their needle/syringe use and sharing behavior during the last three injection acts. The data shows that around 22-28% of the IDUs engaged in high-risk behavior when injecting drugs. There is no distinct difference in behavior between the first and second rounds of the survey.

In response to the question how they got the needle/syringe the last time they did drugs, almost 43% of the respondents reported that they used a purchased new syringe, and 29-34% reported using a new syringe provided by NGO staff/volunteers. The percentage of IDUs who used needles/syringes provided by NGO staff/volunteers has increased compared to the first round of the survey. This points to the effectiveness of needle/syringe exchange programs. Around 16-21% reported that they injected drugs with their own previously used syringe during all the last three acts, and around 5-7% of the IDUs used their friends'/relatives' old syringes during all the last three drug injecting acts (Table 4.5).

The participants were asked another question: “When was the last time you injected drugs, were you in a group when you did so, and how many different people in the group do you think used the same needle?” About eight in 10 IDUs reported that they did not share needles/syringes or that they injected drugs alone. While the other two among the 10 IDUs had shared needles/syringes with two or more people during the last three drug injecting acts (Table 4.5).

**Table 4.5: Behavior of Respondents Regarding Syringe Use and Sharing during the Last Three Injections**

Needle/syringe use during recent drug injections	Drug injecting acts N=345					
	Most Recent		Second Most Recent		Third Most Recent	
	First round	Second round	First round	Second round	First round	Second round
	2003	2005	2003	2005	2003	2005
	%	%	%	%	%	%
<b>Low risk injection behavior</b>						
Used a purchased new needle/syringe	56.8	42.0	56.8	42.6	61.2	43.5
Used new needle/syringe given by NGO staff/volunteers	17.4	30.4	14.8	28.7	16.8	33.6
Used new needle/syringe given by friend	0.3	0.6	0.0	0.9	0.0	0.3
<b>Low risk behavior total</b>	<b>74.5</b>	<b>78.4</b>	<b>71.6</b>	<b>72.2</b>	<b>75.8</b>	<b>77.4</b>
<b>High risk injection behavior</b>						
Used own previously used needle/syringe	17.7	20.6	18.5	19.4	13.6	15.7
Used needle/syringe given by friend/relative after their use	6.7	5.5	7.8	7.2	7.5	6.4
Used needle/syringe that had been kept in public place by himself	1.2	0.6	1.7	0.6	0.9	0.6
Used needle/syringe given by unknown sexual partner	0.0	0.0	0.3	0.0	0.0	0.0
Used needle/syringe that had been kept in public place by someone	0.0	0.3	0.0	0.3	0.0	0.0
Others	0.0	0.0	0.0	0.3	0.0	0.0
<b>High risk behavior total</b>	<b>25.5</b>	<b>21.6</b>	<b>28.4</b>	<b>27.8</b>	<b>24.2</b>	<b>22.6</b>
<b>Persons in the group using the same needle/syringe</b>						
2 persons	17.4	9.9	16.5	12.8	15.6	11.3
3 or more persons	4.9	4.3	3.5	3.8	4.1	4.1
None/Alone	77.7	85.8	80.0	83.5	80.3	84.6
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Information on the needle/syringe-sharing behavior of the respondents during the past week was also collected. Not much difference was seen in the proportion of respondents reporting to have never used other people's previously used needles/syringes as around 68% of the IDUs reported so in 2005 as against 65% in 2003. More than one quarter of the IDUs (30.4%) had shared syringes in the past week, and 24.3% of the participants were found to have used syringes kept in a public place during the past week (Table 4.6).

About one-third (31%) of the IDUs had given their used syringes to someone, while 67.2% of the respondents had "never" given away their used syringes. Out of the total IDU population surveyed, more than half (58.3%) reported not sharing syringes with anyone during the past week; the respondent reporting so in 2003 was just 49%. Those who shared syringes did so mostly among friends (39.7%). Additionally, most of the IDUs who shared syringes did so among two or more partners (Table 4.6).

**Table 4.6: Past Week's Syringe Use and Sharing Behavior**

Needle/syringe use throughout the past week	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
<b>Used a needle/syringe that had been used by another</b>				
Every time	2	0.6	7	2.0
Almost every time	31	9.0	16	4.6
Sometimes	83	24.1	82	23.8
Never	225	65.2	234	67.8
Not injected last week	4	1.2	6	1.7
<b>Used a needle/syringe that had been kept in public place</b>				
Every time	1	0.3	4	1.2
Almost every time	30	8.7	20	5.8
Sometimes	50	14.5	60	17.4
Never	260	75.4	255	73.9
Not injected last week	4	1.2	6	1.7
<b>Gave a needle/syringe to someone</b>				
Every time	3	0.9	3	0.9
Almost every time	49	14.2	26	7.5
Sometimes	107	31.0	78	22.6
Never	182	52.7	232	67.2
No injection last week	4	1.2	6	1.7
<b>Number of needle/syringe shared partners</b>				
None	168	48.7	201	58.3
Two partners	85	24.6	76	22.0
Three or more partners	88	25.5	62	18.0
No injection last week	4	1.2	6	1.7
<b>Shared needle/syringe with*</b>				
Friend	167	48.4	137	39.7
Drug seller	4	1.2	2	0.6
Usual sexual partner	2	0.6	2	0.6
Unknown sexual partner	1	0.3	0	0.0
Unknown person	1	0.3	5	1.4
Not shared	168	48.7	201	58.3
No injection last week	4	1.2	6	1.7
Others	2	0.6	0	0.0

\* Note: Because of multiple answers, the percentages may add up to more than 100.

#### 4.4 Drug-Sharing Behavior

Among all the respondents, almost 98% had used injecting drugs during the week prior to the date of the survey. Of the total respondents, 9.3% had injected drugs with pre-filled syringes. Similarly, about 17% of the IDUs had used drugs from a syringe after someone had transferred drugs into it from his previously used syringe. Sharing of materials such as bottles, spoons and cotton among the respondents has increased to 38.5% from 8.4% during the first round of the survey. Similarly, almost half (50.5%) of the respondents had drawn drug solutions from a common container used by others during the past week compared to 71.5% in the first-round survey (Table 4.7).

**Table 4.7: Past Week's Drug Sharing Behavior**

Drug sharing practice during past week	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
<b>Injected with a pre-filled syringe</b>				
Yes	29	8.4	32	9.3
No	312	90.4	307	89.0
<b>No injection</b>	4	1.2	6	1.7
<b>Injected with a syringe after drugs were transferred into it from another's syringe</b>				
Every time	0	0.0	0	0.0
Almost every time	3	0.9	8	2.3
Sometimes	45	13.0	49	14.2
Never	293	84.9	282	81.7
<b>No injection</b>	4	1.2	6	1.7
<b>Shared a bottle, spoon, cooker, vial/container, cotton/filter and rinse water</b>				
Every time	3	0.9	27	7.8
Almost every time	8	2.3	25	7.2
Sometimes	18	5.2	81	23.5
Never	312	90.4	206	59.7
<b>No injection</b>	4	1.2	6	1.7
<b>Drawn drug solution from a common container used by others</b>				
Every time	59	17.1	22	6.4
Almost every time	124	35.9	61	17.7
Sometimes	64	18.5	91	26.4
Never	94	27.2	165	47.8
<b>No injection</b>	4	1.2	6	1.7

Information on the internal and external mobility and injecting practices of the respondents was also collected during this survey. Out of the total 345 respondents, 90.4% were mobile and had injected drugs in other parts of the country or in other countries. Among these mobile groups, almost all the participants had injected drugs in different parts of Nepal and India (Annex 12).

Of the 312 IDUs who had injected drugs in other parts of the country or outside, only 26.6% reported that they had done so with previously used syringes, and about 39.7% said they had given their used syringes to others (Table 4.8).

**Table 4.8: Injecting Behavior of IDUs in Other Parts of Country and Out of Country**

Injecting practice in other parts of the country and out of the country	First round (2003)		Second round (2005)	
	N=292	%	N=312	%
<b>Used a needle/syringe that had been used by another</b>				
Every time	3	1.0	0	0.0
Almost every time	10	3.4	10	3.2
Sometimes	59	20.2	73	23.4
Never	220	75.3	229	73.4
<b>Gave a needle/syringe to someone else after use</b>				
Every time	2	0.7	0	0.0
Almost every time	19	6.5	11	3.5
Sometimes	76	26.0	113	36.2
Never	195	66.8	187	59.9
<b>Don't know</b>	0	0.0	1	0.3

#### 4.5 Needle/Syringe Cleaning Practice

Improper cleaning of shared and reused needles/syringes increases the risk of HIV infection among IDUs. The prescribed method of cleaning a used needle/syringe is to first wash it five times with clean water, then wash it again five times with bleach, and finally wash it five more times with clean water; but the IDUs in Eastern Nepal did not clean their used needles as prescribed. Most of the IDUs reported cleaning used needles/syringes with plain water (50%), saliva (35.7%) and distilled water (27%). Similarly, about 16.8% and 6.1% of the

IDUs reported cleaning used needles with bleach and by boiling in water respectively (Table 4.9).

**Table 4.9: Needle/Syringe Cleaning Practice of Respondents**

Needle/syringe cleaning behavior	First round (2003)		Second round (2005)	
	n	%	n	%
<b>Reused needle/syringe in the past week</b>				
Yes	224	64.9	196	56.8
No	121	35.1	149	43.2
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Ways of cleaning needle/syringe</b>				
Saliva	70	31.2	70	35.7
Distilled water	59	26.3	53	27.0
Plain water	39	17.4	98	50.0
Bleach	22	9.8	33	16.8
Paper	9	4.0	8	4.1
Medicine (Tidigesic, Phenarmine, Algic, Phenargan)	7	3.1	0	0.0
Boiling in water	3	1.3	12	6.1
Urine	2	0.9	6	3.1
Hot water	0	0.0	11	5.6
Heating the needle in fire	0	0.0	2	1.0
Never cleaned	14	6.3	2	1.0
Others	0	0.0	3	1.5
<b>Total</b>	<b>224</b>	<b>*</b>	<b>196</b>	<b>*</b>

\* Note: Because of multiple answers, the percentages may add up to more than 100.

#### 4.6 Knowledge of and Access to New Needles/Syringes

All the respondents reported that they could obtain a new syringe when they needed it. Moreover, almost all the respondents were aware of sources for obtaining new needles/syringes. About 95% cited drugstores as a source of new syringes. About eight in 10 (83.2%) knew about needle exchange programs run by different NGOs which is a positive indicator as only around 5 in 10 (58.5%) had reported so in the first round survey. The percentage of IDUs who knew about obtaining new syringes through syringe exchange programs was 58.5% in the first round of the survey. Other sources of new syringes mentioned by the IDUs were drug sellers (22.6%), drug wholesalers (14.5%), hospitals (13.3%) and friends (12.2%) (Table 4.10).

**Table 4.10: Knowledge of Sources of New Syringes**

Descriptions	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Could obtain new syringe</b>				
Yes	344	99.7	343	99.4
No	1	0.3	2	0.6
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Could obtain syringe from</b>				
Drugstore	328	95.1	326	94.5
Needle exchange program	202	58.5	287	83.2
Drug seller	58	16.8	78	22.6
Friends	11	3.2	42	12.2
Drug wholesaler	10	2.9	50	14.5
Hospital	7	2.0	46	13.3
Other drug users	4	1.2	8	2.3
Other shop	2	0.6	3	0.9
Others	5	1.4	7	2.0
<b>Total</b>	<b>345</b>	<b>*</b>	<b>345</b>	<b>*</b>

\*Note: Because of multiple answers, the percentages may add up to more than 100.

#### 4.7 Treatment Practice

Table 4.11 shows the types and characteristics of IDU-related treatment received by the sampled IDUs. A majority of the respondents (76.2%) had not received any treatment at all.

Only one respondent was under treatment at the time of the survey. About 23% had undergone treatment previously. Out of the 82 ever-treated IDUs, 52.4% had received treatment during the last 12 months.

**Table 4.11: Treatment Status of the Respondents**

Treatment status	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Treatment status</b>				
Currently receiving treatment	2	0.6	1	0.3
Was in treatment but not now	69	20.0	81	23.5
Have not received treatment	274	79.4	263	76.2
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>When treatment was received</b>				
Less than 6 months	12	16.9	20	24.4
6-11 months before	14	19.7	23	28.0
12-23 months before	21	29.6	18	22.0
24-35 months before	5	7.0	6	7.3
36-47 months before	8	11.3	3	3.7
48 or more months before	11	15.5	12	14.6
<b>Total</b>	<b>71</b>	<b>100.0</b>	<b>82</b>	<b>100.0</b>

About 49% of the IDUs who had received treatment were treated at residential rehabilitation centers like Addiction Recovery Center (Damak), Punarjeevan Kendra (Dharan), Lifeline Help Group (Birtamod), Wisdom Happy Nepal (Damak), Sebyan Drug De-addiction Center (India), Asara Sudhar Kendra and Richmond Center (Kathmandu). Around 15% of the IDUs reported that they tried to quit drugs on their own. Only a few respondents mentioned that they had also received treatment at hospitals in the country and in India (Annex 13).



## CHAPTER - 5

### SEXUAL BEHAVIOR AND CONDOM USE

HIV transmission among injecting drug users is most often correlated with needle/syringe-sharing behavior. However, the unsafe sexual behavior of drug users contributes to spreading HIV among the non-injecting population like their spouses, girlfriends and other sex partners. In order to understand the sexual behavior of the IDUs, the respondents were asked a number of questions related to their sexual history, number and type of sexual partners, and knowledge and use of condoms. This chapter discusses the responses provided by the study participants. A comparison has been made with the results of the first round of the study wherever deemed necessary.

#### 5.1 Sexual Behavior of IDUs

Around nine out of 10 respondents (94.2%) reported having had sex with a female. Out of the total respondents, 80.6% had gained their first sexual experience when in their teens. The median age of the respondents at their first sexual encounter was the same in both the surveys, i.e., 17 years. Among the 325 respondents that reported having had sex, 68.6% had done so during the past 12 months also. Of those who had sex during the past year, about two-fifths (36.8%) had two or more female sex partners; the proportion is slightly higher than the first round of survey when 33.5% had reported so. There is no big difference in percentage of respondents having sex in the last 12 months in 2003 and 2005 (Table 5.1).

**Table 5.1: Sexual History**

Sexual behavior	First round (2003)		Second round (2005)	
	N	%	N	%
Had sexual intercourse	321	93.0	325	94.2
Never had sexual intercourse	24	7.0	20	5.8
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Age at first sexual intercourse</b>				
Below 20 years	254	79.1	262	80.6
20 years of age and above	67	20.9	63	19.4
<b>Median Age</b>	<b>17</b>	<b>-</b>	<b>17</b>	<b>-</b>
<b>Sexual intercourse in the past 12 months</b>				
Yes	197	61.4	223	68.6
No	124	38.6	102	31.4
<b>Total</b>	<b>321</b>	<b>100.0</b>	<b>325</b>	<b>100.0</b>
<b>Numbers of different female sexual partners in the past 12 months</b>				
1 partner	131	66.5	141	63.2
2 or more partners	66	33.5	82	36.8
<b>Total</b>	<b>197</b>	<b>100.0</b>	<b>223</b>	<b>100.0</b>

Of the total 325 respondents who had sexual experience, 38.2% had sex with a regular female sex partner during the past 12 months. Regular female sex partner is defined as spouse or any female sexual partner living together with the respondent. Out of the 124 IDUs who had sex with regular female sex partners during the past 12 months, 13 (10.5%) had not had sex with them during the last month. Of the 111 IDUs who had sex during the last month with a regular female sex partner, about two-thirds (64.9%) reported at least five sexual encounters during that period (Table 5.2).

Of the total 124 IDUs who had sex with regular female sex partners in the 12 months, only six (4.8%) reported having anal sex with them.

**Table 5.2: Sexual Intercourse with Regular Female Sex Partners**

Sexual practice	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Sex with a regular female sex partner during the past 12 months</b>				
Yes	123	38.3	124	38.2
No	198	61.7	201	61.8
<b>Total</b>	<b>321</b>	<b>100.0</b>	<b>325</b>	<b>100.0</b>
<b>Regular female sex partner</b>				
1 partner	122	99.2	123	99.2
2 partners	1	0.8	1	0.8
<b>Sex with a regular female sex partner during the last month</b>				
Yes	110	89.4	111	89.5
No	13	10.6	13	10.5
<b>Total</b>	<b>123</b>	<b>100.0</b>	<b>124</b>	<b>100.0</b>
<b>Frequency of sex with a regular female sex partner during the last month</b>				
1-4	33	30.0	39	35.1
5+	77	70.0	72	64.9
<b>Total</b>	<b>110</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>

The IDUs with sexual experience were asked whether they ever had sex with non-regular female sex partners in the past year. "Non-regular female sex partners" were defined as those with whom the participants were not married or living. However, non-regular female sex partners were also defined as being distinct and separate from female sex workers. Table 5.3 shows that around a quarter (24.3%) of the IDUs had sex with non-regular female sex partners. Of them, more than one-third (38%) reported having had two or more non-regular female sex partners. Percentage of IDUs reporting sex with non-regular sex partners has increased from 15.6% in 2003 to 24.3% in 2005. Similarly, out of the 79 respondents who had sex during the past 12 months, 43% had sex with non-regular female sex partners in the past month also. Of those who had sex with non-regular female sex partners in the past month, 76.5% reported having sex one-four times during that period.

**Table 5.3: Sexual Intercourse with Non-Regular Female Sex Partner**

Sexual practice	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Sex with non-regular female sex partner in the past 12 months</b>				
Yes	50	15.6	79	24.3
No	271	84.4	246	75.7
<b>Total</b>	<b>321</b>	<b>100.0</b>	<b>325</b>	<b>100.0</b>
<b>Non-Regular female sex partner</b>				
1 partner	25	50.0	49	62.0
2 or more partners	25	50.0	30	38.0
<b>Sex with non-regular female sex partner during last one month</b>				
Yes	20	40.0	34	43.0
No	30	60.0	45	57.0
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>
<b>Frequency of sex with non-regular female sex partners during last one month</b>				
1-4	14	70.0	36	76.5
5+	6	30.0	8	23.5
<b>Total</b>	<b>20</b>	<b>100.0</b>	<b>34</b>	<b>100.0</b>

The IDUs were also asked about their sexual relationship with female sex workers during the past year. "Female sex workers" are defined as those who sell sex in exchange for cash, kind or drugs. One-fourth (25.8%) of the respondents reported having sex with female sex workers during the past 12 months. Of the 84 respondents who had sex with female sex workers during the past year, 54.8% reported having such encounters during the last month also. Out of the 46 respondents who had sex during the past month, about 91.3% reported having sex one-four times (Table 5.4). Out of the 84 respondents who had sex with female sex workers during the past year, five (5.9%) had had anal sex with them. Moreover, out of the total 345 respondents, seven (2%) had ever engaged in anal sex with male partners, and only five of them had been involved in such activities in the past 12 months.

**Table 5.4: Sexual Intercourse with Female Sex worker**

Sexual practice	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Sex with female sex worker in the past 12 months</b>				
Yes	70	21.8	84	25.8
No	251	78.2	241	74.2
<b>Total</b>	<b>321</b>	<b>100.0</b>	<b>325</b>	<b>100.0</b>
<b>Number of female sex workers in the past 12 months</b>				
1 partner	33	47.1	35	41.7
2 or more partners	37	52.9	49	58.3
<b>Sex with female sex worker during last one month</b>				
Yes	31	44.3	46	54.8
No	39	55.7	38	45.2
<b>Total</b>	<b>70</b>	<b>100.0</b>	<b>84</b>	<b>100.0</b>
<b>Frequency of sex with a female sex worker during the last month</b>				
1- 4	25	80.6	42	91.3
5+	6	19.4	4	8.7
<b>Total</b>	<b>31</b>	<b>100.0</b>	<b>46</b>	<b>100.0</b>

## 5.2 Knowledge and Use of Condom

All the respondents were asked whether they were aware of condoms, and whether they had used a condom during the last sex act. All the IDUs had heard of condoms. The use of a condom with a regular female sex partner was found to be low when compared to condom use with female sex workers and non-regular female sex partners. A quarter (25%) of the respondents had used a condom with their regular female sex partner and around 42% had used it with non-regular sex partners. The reported condom use with both regular and non regular sex partners was lower in the second round as 27.6% and 42% of the respondents respectively had reported so in the first round of the study. However, the use of condoms with female sex workers was about 71.4% during the last sexual encounter. Condom use during the last sex act with sex workers was 64.3% in the first round of the survey (Table 5.5).

**Table 5.5: Knowledge and Use of Condoms among IDUs**

Knowledge and use of condom in the last sex	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Ever heard of a condom</b>				
Yes	345	100.0	345	100.0
No	0	0.0	0	0.0
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Condom use with regular female sex partner during last sexual intercourse</b>				
Yes	34	27.6	31	25.0
No	89	72.4	93	75.0
<b>Total</b>	<b>123</b>	<b>100.0</b>	<b>124</b>	<b>100.0</b>
<b>Condom use with non-regular female sex partner during last sexual intercourse</b>				
Yes	21	42.0	33	41.8
No	29	58.0	46	58.2
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>
<b>Condom use with female sex worker during last sexual intercourse</b>				
Yes	45	64.3	60	71.4
No	25	35.7	24	28.6
<b>Total</b>	<b>70</b>	<b>100.0</b>	<b>84</b>	<b>100.0</b>

In order to protect oneself from sexually transmitted diseases, a condom must be worn during every sex act. In this context, all the IDUs were asked about the consistent use of condoms with different female sexual partners during the year preceding the survey. Only 11.3% of the respondents reported consistent condom use when they had sex with regular female sex partners. On the other hand about four in 10 (37.1%) had never used condoms with their regular female sex partners. Similarly, about 24% of the respondents also reported that they had been using a condom consistently with non-regular female sex partners. The data shows that safe sex practices during sex with female sex workers has increased, For instance, half of

the respondents reported consistent use of condoms with female sex workers during the last 12 months against 41.4% in the first round of the survey. About 13% of the IDUs never used a condom with sex workers during the last 12 months (Table 5.6).

**Table 5.6: Consistent Use of Condom with Different Female Sexual Partners in the Past Year**

Consistent use of condom	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Use of condom with regular female sex partners during past 12 months</b>				
Every time	15	12.2	14	11.3
Almost every time	16	13.0	12	9.7
Sometimes	31	25.2	52	41.9
Never	61	49.6	46	37.1
<b>Total</b>	<b>123</b>	<b>100.0</b>	<b>124</b>	<b>100.0</b>
<b>Use of condom with non-regular female sex partners during past 12 months</b>				
Every time	14	28.0	19	24.1
Almost every time	7	14.0	13	16.5
Sometimes	12	24.0	16	20.3
Never	17	34.0	31	39.2
<b>Total</b>	<b>50</b>	<b>100.0</b>	<b>79</b>	<b>100.0</b>
<b>Use of condom with female sex workers during past 12 months</b>				
Every time	29	41.4	42	50.0
Almost every time	17	24.3	16	19.0
Sometimes	10	14.3	15	17.9
Never	14	20.0	11	13.1
<b>Total</b>	<b>70</b>	<b>100.0</b>	<b>84</b>	<b>100.0</b>

A majority of them reported that they did not perceive it as necessary or that they did not like it. About 15% of the respondents having sex with a regular female sex partner reported that they were using other means of contraception as the reason for not using a condom. A majority (66.7%) of the respondents who did not use a condom with female sex workers said that a condom was not available at the time (Annex 15).

### 5.3 Source of Condoms

The respondents who had heard about or used condoms were asked about the sources of condoms. An overwhelming percentage of respondents (94.2%) mentioned pharmacies as a source of condoms. Shops, followed by hospitals, *paan* shops, Punarjivan Sarokar Kendra, peer educators and Help Group Nepal were other major sources. Percentage of IDUs reporting availability of condom from peer educators has decreased in 2005 from the level of 2003 (Table 5.7). It is worth mentioning here that the availability of condoms in shops and *paan pasals* has increased remarkably from the previous study. Almost all the respondents reported that condoms were available within a 30-minute walking distance.

**Table 5.7: Sources of Condom and Time Needed to Obtain It**

Sources of condom and time to obtain it	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Place/person from where condom could be obtained</b>				
Pharmacy	333	96.5	325	94.2
Peer Educator	176	51.0	68	19.7
Shop	137	39.7	257	74.5
Health worker/Health Post	37	10.7	27	7.8
Hospital	33	9.6	112	32.5
Family Planning Center	28	8.1	24	7.0
Punarjivan Sarokar Kendra	16	4.6	79	22.9
Help Group Nepal	11	3.2	59	17.1
Clinic	11	3.2	48	13.9
SAD	4	1.2	0	0.0
Friends	4	1.2	17	4.9
Night Chess Club	3	0.9	16	4.6
Paan shop	0	0.0	112	32.5
Bar/Guesthouse/Hotel	0	0.0	28	8.1
AMDA	0	0.0	5	1.4
Others	7	2.0	13	3.8
Don't know	2	0.6	0	0.0
<b>Total</b>	<b>345</b>	<b>*</b>	<b>345</b>	<b>*</b>
<b>Time taken to obtain condom</b>				
Less than 30 minutes	336	98.0	343	99.4
More than 30 minutes	7	2.0	2	0.6
<b>Total</b>	<b>343</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>

\*Note: Because of multiple answers, the percentages may add up to more than 100.

## 5.4 Sources of Information about Condom

As discussed above, all the respondents had heard about condoms. Those who had heard of them were then asked about their sources of information. The respondents had heard about condoms from different sources. The most common sources of information reported were radio, billboards/signboards, pharmacies, television, newspapers/posters, friends/neighbors, NGOs, hospitals and cinema halls (Table 5.8).

**Table 5.8: Sources of Information about Condoms**

Sources of information about condom	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Bill board/sign board	341	98.8	325	97.1
Radio	340	98.5	343	99.4
Pharmacy	334	96.8	335	97.1
Television	329	95.4	329	95.4
Newspapers/posters	325	94.2	325	94.2
Friends/neighbors	320	92.2	319	92.5
Hospital	305	88.4	307	89.0
NGO people	298	86.4	317	91.9
Cinema hall	257	74.5	278	80.6
Health workers/volunteers	240	69.6	252	73.0
Health Post	227	65.8	271	78.6
Health Center	191	55.4	242	70.1
Comic books	150	43.4	122	35.4
Street drama	136	39.4	216	62.6
Community worker	122	35.4	103	29.9
Video van	61	17.7	118	34.2
Community event/training	45	13.0	125	36.2
Others	1	0.3	1	0.3

Note: Because of multiple answers, the percentages may add up to more than 100.

As part of a strong effort to inform the target group about condoms, the National Health Education Information and Communication Center (NHEIC) has been running radio and TV programs with technical assistance from various sources. The survey asked the respondents whether they had heard specific messages about condoms and HIV/STI broadcast over the radio and TV. More than 90% of them reported hearing or seeing specific programs such as,

*Condom bata surakchhya youn swastha ko rakchhya, Yon rog ra AIDS bata bachnalai rakhnu parchha sarbatra paine condom lai, HIV/AIDS bare aajai dekhi kura garau, Condom kinna ma bhaya hunna ra, Jhilk dai chha chhaina condom and Ramro sanga prayog gare jokhim huna dinna bharpardo chhu santosh dinchhu jhanjhat manna hunna.* Questions about messages that were publicized during the time of the first round of the study, like *Condom Lagaun AIDS Bhagaun, Use condom for protection from HIV/AIDS, Gurujee Ra Antare and Dhale Dai*, were not asked during this round as these messages have not been aired since the past year. While messages which were publicized during the time of this round of the survey, like *Condom kinna ma bhaya hunna ra, Yon rog ra AIDS bata bachnalai rakhnu parchha sarbatra paine condom lai and Ramro sanga prayog gare jokhim huna dinna bharpardo chhu santosh dinchhu jhanjhat manna hunna*, were heard by more than 90%. The data indicates that these radio and TV programs have been largely successful in disseminating new messages to the target groups about using condoms to prevent HIV/STI.

**Table 5.9: Exposure to Specific Condom Messages in the Past Year**

Specific messages	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Condom Lagaun AIDS Bhagaun	339	98.3	0	0.0
Jhilke Dai Chha Chhaina Condom	338	98.0	320	92.8
Use Condom for the protection from HIV/AIDS	337	98.0	0	0.0
Condom Bata Surakchhya Youn Swastha ko Rakchhya	336	97.4	326	94.5
HIV/AIDS Bare Aaji Dekhi Kura Garaun	325	94.2	322	93.3
Gurujee Ra Antare	259	75.1	0	0.0
Dhale Dai	255	73.9	0	0.0
Condom Kina Ma Bhaya Hunna Ra	0	0.0	322	93.3
Youn Rog Ra AIDS Bata Bachnalai Rakhnu Parchha Sarbatra Paine Condom Lai	0	0.0	324	93.9
Ramro Sanga Prayog Gare Jokhim Huna DinnaBharpardo Chhu Santosh Dinchhu Jhanjhat Manna Hunna	0	0.0	320	92.8
Others	2	0.6	23	6.7

Note: Because of multiple answers, the percentages may add up to more than 100.

## CHAPTER - 6

### KNOWLEDGE OF STIs AND HIV/AIDS

A series of questions were asked pertaining to the respondents' general level of consciousness about STIs and HIV/AIDS, their specific knowledge about how such diseases were contracted and their knowledge of the availability of testing facilities. The results are discussed below.

#### 6.1 Knowledge of STIs

Out of the 345 respondents, almost all (95.1%) had heard about STIs.

**Table 6.1: IDUs Who have Heard about STIs**

Heard of STIs	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Yes	333	96.5	328	95.1
No	12	3.5	17	4.9

Those who expressed a general awareness about STIs were also asked about the symptoms. The most commonly cited STI symptoms in females as reported by the male respondents included genital ulcers/sore blisters, genital discharge, foul-smelling discharge and itching around the genital area. Similarly, the common symptoms of STIs among male IDUs were genital ulcers/sore blisters, genital discharge, burning pain during urination, itching around the genital area and swelling in the groin area. About two-fifths and one-third of the respondents had no idea about the symptoms of STIs in females and males respectively. The data shows that knowledge about the symptoms of STIs has increased among the respondents compared to the first round of the study (Table 6.2).

**Table 6.2: Symptoms of STIs Cited by Respondents Who have Heard about STIs**

Symptoms of STIs	Respondents who had heard of STIs							
	First round (2003)				Second round (2005)			
	n=333				n=328			
	Among Females	%	Among Males	%	Among Females	%	Among Males	%
Genital ulcer/sore blisters	91	27.3	142	42.6	167	50.9	203	69.1
Genital discharge	67	20.1	122	36.6	123	37.5	162	49.4
Foul-smelling discharge	56	16.8	0	0.0	97	29.6	0	0.0
Itching	33	9.9	28	8.4	94	28.7	67	20.4
Burning/pain during urination	29	8.7	60	18.0	55	16.8	101	30.8
Abdominal pain	14	4.2	0	0.0	28	8.5	0	0.0
Swelling in groin area	16	4.8	37	11.1	15	4.6	33	10.1
Don't know	219	65.8	175	52.5	129	39.3	106	32.3
Bleeding	0	0.0	0	0.0	1	0.3	0	0.0
Becoming thinner	0	0.0	0	0.0	4	1.2	4	1.2
Others	0	0.0	0	0.0	2	0.6	6	1.8

Note: Because of multiple answers, the percentages may add up to more than 100.

Only about 6% of the respondents reported having genital discharge, and an equal percentage reported having genital ulcer/sore blister during the past year. However, percentage of respondents reporting genital discharge and ulcer/sore blister in past 12 months has increased from about two percent in 2003 to about six percent in 2005. Among them, about 29% had genital discharge and 59% had genital ulcer/sore blister at the time of the 2005 survey. The STI infection rate is high compared to the previous study (Table 6.3).

**Table 6.3: Genital Discharge and Genital Ulcers/Sore Blisters Experienced During the Past Year and Currently**

STI symptoms	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Had a genital discharge in the past year</b>				
Yes	8	2.3	21	6.1
No	337	97.7	324	93.9
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Have such genital discharge currently</b>				
Yes	2	25.0	6	28.6
No	6	75.0	15	71.4
<b>Total</b>	<b>8</b>	<b>100.0</b>	<b>21</b>	<b>100.0</b>
<b>Had a genital ulcer/sore blister in the past year</b>				
Yes	5	1.4	22	6.4
No	340	98.5	323	93.6
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Have such genital ulcer/sore blister currently</b>				
Yes	0	0.0	13	59.1
No	5	100.0	9	40.9
<b>Total</b>	<b>5</b>	<b>100.0</b>	<b>22</b>	<b>100.0</b>

Out of the 345 respondents, about 83.8% reported not having any STI symptoms. Among the 56 who had experienced such symptoms, a majority (46.4%) did not seek any treatment and 35.7% received treatment from private doctors. Percentage of respondents seeking treatment from private doctors has decreased in 2005 compared to 2003 percentages. Consequently who did not seek treatment for STI symptoms has increased from 9.4% in 2003 to 46.4% in 2005. The percentage of respondents seeking treatment from hospitals/health posts and others was about 14%. Around 4% received treatment from Help Group, an NGO (Table 6.4).

**Table 6.4: Treatment of STI Symptoms by IDUs**

Treatment received	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Never had STI symptoms	292	84.6	289	83.8
Ever had some symptoms	53	15.4	56	16.2
<b>Source of treatment</b>	<b>n=53</b>	<b>%</b>	<b>n=56</b>	<b>%</b>
Private Doctor	40	75.5	20	35.7
Hospital/Health Post	8	15.1	4	7.1
Help Group	0	0.0	2	3.6
Others	0	0.0	4	7.1
Did not seek treatment	5	9.4	26	46.4

## 6.2 Knowledge of HIV/AIDS

HIV/AIDS awareness/knowledge was also virtually universal among the IDUs. All the respondents in the sample had heard of the infectious disease. Seven out of 10 (70.4%) reported knowing a person who had died from HIV/AIDS. A majority (47.7%) of the respondents said that those who had died were not relatives and 45.3% reported that they were close friends (Table 6.5). Increase in the percentage of respondents who know people died from HIV/AIDS in 2005 from 2003 (Table 6.5) indicates increase in deaths of IDUs in the recent past.



**Table 6.5: Awareness of HIV/AIDS among IDUs**

Knowledge on HIV/AIDS	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Heard about HIV/AIDS</b>				
Yes	345	100.0	345	100.0
No	0	0.0	0	0.0
<b>Know anyone who died due to AIDS</b>				
Yes	190	55.1	243	70.4
No	144	41.7	97	28.1
Don't know	11	3.2	5	1.4
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Nature of relationship to the deceased</b>				
Close friend	97	51.1	110	45.3
No relation	84	44.2	116	47.7
Close relative	9	4.7	17	7.0
<b>Total</b>	<b>190</b>	<b>100.0</b>	<b>243</b>	<b>100.0</b>

The respondents were asked several separate questions to understand their conception about HIV/AIDS prevention. Almost all (98.6%) of the respondents opined that a person could avoid HIV/AIDS by consistent use of condoms, and 85.2% of the IDUs cited monogamous sexual relationship as a means of protection. Compared to the first round of the study, there is increased knowledge about protection against HIV infection through monogamous sexual relation (85.2% in 2005 vs. 74.8% in 2003) and through consistent condom use (98.6% in 2005 vs. 85.8% in 2003). About 63% mentioned abstinence from sex as a way of preventing HIV/AIDS (Table 6.6).

**Table 6.6: Knowledge of ABC**

Methods of protection against HIV/AIDS	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
<b>A</b> Can protect themselves through abstinence from sexual contact	250	72.5	219	63.5
<b>B</b> Can protect themselves through monogamous sexual relations	258	74.8	294	85.2
<b>C</b> Can protect themselves through condom use every time during sex	296	85.8	340	98.6

Almost all the respondents (99.4%) knew that a person could get HIV by using another's previously used needle. About 91% of the respondents were aware that sharing a meal with an HIV positive person could not transmit HIV/AIDS, and more than three-fourths (78.8%) opined that switching from injecting to non-injecting drugs could protect them against HIV/AIDS. However, 35.4% of the respondents believed that HIV/AIDS could be transmitted through mosquito bite (Table 6.7).

**Table 6.7: Respondents' Knowledge of Ways of HIV/AIDS Transmission**

Statements related to HIV/AIDS and pregnant women	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Can get HIV/AIDS by sharing needles	332	96.2	343	99.4
Cannot get HIV/AIDS by sharing meal with HIV+ person	308	89.3	318	90.7
Can protect themselves from HIV/AIDS by switching to non-injecting drugs	253	73.3	272	78.8
Can get HIV/AIDS from a mosquito bite	138	40.0	122	35.4
A pregnant woman infected with HIV/AIDS can transmit the virus to her unborn child	319	92.5	317	91.9
A woman with HIV/AIDS can transmit the virus to her child through breast-feeding	168	48.7	197	57.1
<b>A pregnant woman with HIV/AIDS can reduce risk of transmission to her unborn child by:</b>				
Taking medicine	35	10.1	20	5.8
Treatment/consultation with doctor	0	0.0	13	3.8
Others	1	0.3	1	0.3
Don't know	309	89.6	311	90.1

A large majority (91.9%) of the respondents were aware that a pregnant woman infected with HIV could transmit the virus to her unborn child. A relatively lower percentage of the respondents, nearly 57%, stated that a woman with HIV could transmit the virus to her

newborn child through breast-feeding. However, a majority did not know what actions a pregnant woman could take to reduce the risk of transmitting HIV/AIDS to her unborn child (Table 6.7).

### 6.3 Knowledge about HIV Testing Facilities

All the study participants were asked if they knew whether confidential HIV testing facilities were currently available, and whether they had ever been tested for HIV. The data presented in Table 6.8 indicates that a majority (84.1%) of the respondents were aware of confidential HIV testing facilities in their area and this is a significant increase from 2003 (53%). Among the respondents, 29% had their blood tested for HIV as a requirement, about 14% had done it voluntarily, and the remaining 57.1% had never been tested. A little more than three-fourths (76.4%) of the respondents who were tested for HIV had received the results of their test. Among the respondents who had been tested, 35.8% had been tested during the past year. Knowledge about possible confidential HIV testing and testing for HIV, whether required or voluntary, has increased among the IDUs compared to the first round of the study. However, the percentage of respondents receiving the test results has decreased.

**Table 6.8: Knowledge about HIV Testing Facilities and History of HIV Test**

Description	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Is it possible for someone to get a confidential HIV test?</b>				
Yes	183	53.0	290	84.1
No	150	43.5	44	12.8
Don't know	12	3.5	11	3.2
<b>Type of test taken</b>				
Required HIV test	58	16.8	100	29.0
Voluntary HIV test	22	6.4	48	13.9
Not tested	265	76.8	197	57.1
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Test result received</b>				
Yes	73	91.2	113	76.4
No	7	8.7	35	23.6
<b>Timing of last HIV test</b>				
Within the past year	25	31.2	53	35.8
1-2 years ago	20	25.0	53	35.8
2-4 years ago	20	25.0	30	20.3
More than 4 years ago	15	18.7	12	8.1
<b>Total</b>	<b>80</b>	<b>100.0</b>	<b>148</b>	<b>100.0</b>

### 6.4 Source of Knowledge about HIV/AIDS

More than 90% of the respondents reported radio, billboards/signboards, television, friends/relatives, pamphlets/posters and NGO workers as their sources of knowledge about HIV/AIDS. Similarly, newspapers/magazines (86.7%), cinema halls (80.9%) and health workers/volunteers (75.7%) were also common sources of information. This finding has program implications (Table 6.9).

**Table 6.9: Sources of Knowledge Regarding HIV/AIDS**

Sources of knowledge of HIV/AIDS	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
Radio	340	98.5	343	99.4
Billboard/signboard	339	98.3	339	98.3
Television	333	96.5	333	96.5
Friends/Relatives	333	96.5	330	95.7
Pamphlets/Posters	332	96.2	327	94.8
Newspapers/Magazines	299	86.7	299	86.7
NGO workers	298	86.4	321	93.0
Cinema halls	274	79.4	279	80.9
Health workers/Volunteers	253	73.3	261	75.7
Comic books	161	46.7	146	42.3
Street drama	161	46.7	254	73.6
School/Teachers	141	40.9	213	61.7
Workplace	152	44.1	177	51.3
Community workers	128	37.1	118	34.2
Video van	77	22.3	141	40.9
Community events or training	44	12.7	137	39.7
Others	1	0.3	1	0.3

Note: Because of multiple answers, the percentages may add up to more than 100.

The percentage of respondents reporting to have received information on condom and HIV/AIDS had increased by few percent since 2003. About three-quarters of the respondents reported that they were given materials regarding HIV/AIDS, such as brochures/booklets/pamphlets, condoms or/and any specific information about HIV/AIDS during the past year. For instance, 75.7% had received information about condoms, similar number had received printed materials related to HIV/AIDS and about 88% of the respondents had received information about HIV/AIDS. In 2003, 71.9 % had reportedly received information on condoms, about 75.6% had received brochures/booklets/pamphlets on HIV/AIDS and 85.5% had reported to have received information on HIV/AIDS (Table 6.10).

**Table 6.10: Information/Materials Received During the Past Year**

Informative materials received	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
<b>Received information on condom</b>				
Yes	248	71.9	261	75.7
No	97	28.1	84	24.3
<b>Brochure/booklets/pamphlets on HIV/AIDS</b>				
Yes	261	75.6	261	75.7
No	84	24.3	84	24.3
<b>Received Information on HIV/AIDS</b>				
Yes	295	85.5	304	88.1
No	50	14.5	41	11.9
<b>Others information</b>				
Yes	3	0.9	6	1.7
No	342	99.1	339	98.3

## CHAPTER - 7 PREVALENCE OF HIV

HIV status was derived from two rapid HIV tests (Capillus and Determine). Uni-Gold was reserved as a 'tie-breaker' rapid test kit in the parallel testing algorithm which was used in very few cases. . The clinical test results indicate an alarming situation among injecting drug users.

HIV infection status was derived from two rapid tests "Capillus" and "Determine" done on the blood samples collected by pricking the finger of the study participants. In case of a tie in the first two test results, a third confirmatory test known as "Uni-Gold TM" was performed. Out of the 345 blood samples of the IDUs participating in the study, 109 (31.6%) tested positive for HIV compared to 35.1% in the first round of the survey.

**Table 7.1: HIV Status by Districts**

District	First round (2003)			Second round (2005)		
	Total sample	HIV+	%	Total sample	HIV+	%
<b>Interviewed Districts</b>						
Morang	135	70	51.8	135	56	41.5
Sunsari	135	45	33.3	135	45	33.3
Jhapa	75	6	8.0	75	8	10.7
<b>Total</b>	<b>345</b>	<b>121</b>	<b>35.1</b>	<b>345</b>	<b>109</b>	<b>31.6</b>

Prevalence of HIV varies by district. While it was higher in Morang (41.5%), it was much lower (10.7%) in Jhapa. Compared with the findings of the first round of the study, HIV has decreased by 10.3% in Morang; remained constant (33.3%) in Sunsari and increased by 2.7% in Jhapa (Table 7.1).

### 7.1 Relation between Socio-Demographic Characteristics and HIV Infection

The incidence of HIV was found to be significantly ( $p < 0.01$ ) higher among the older IDUs in the both round study. For instance, about 35.3% of the IDUs aged 20 years and above tested positive, whereas the infection rate was only 10% among IDUs less than 20 years of age. The incidence of HIV also differs significantly ( $p < 0.05$ ) in both the study with marital status. Prevalence is higher among formerly and currently married IDUs compared to those who were never married or were currently married. Literacy has no strong association with HIV infection in both the study. Although the percentage of HIV +ves is slightly lower among literate IDUs, the relation is not statistically significant ( $p > 0.05$ ).

**Table 7.2: Relation between Socio-Demographic Characteristics and HIV Infection**

Characteristics	First round (2003)				Second round (2005)			
	Total	HIV+	%	P Value	Total	HIV+	%	P Value
<b>Age</b>								
Below 20 years	38	7	18.4	< 0.01	50	5	10.0	< 0.01
20 years and Above	307	114	37.1		295	104	35.3	
<b>Marital status</b>								
Currently married	129	56	43.4	< 0.01	135	48	35.6	< 0.05
Formerly married	32	18	56.2		27	13	48.1	
Never married	184	47	25.5		183	48	26.2	
<b>Literacy</b>								
Illiterate	15	6	40.0	> 0.05	18	5	27.8	> 0.05
Literate/formal school	330	115	34.8		327	104	31.8	
<b>Total</b>	<b>345</b>	<b>121</b>	<b>35.1</b>		<b>345</b>	<b>109</b>	<b>31.6</b>	

## 7.2 Relation between Drug Injection Behavior and HIV

Literature on HIV/AIDS shows that HIV infection is typically associated with the drug-injecting behavior of IDUs. In this study, information on various injecting behaviors such as duration of the habit of injecting drugs, frequency of injecting drugs during the past week, use of publicly-discarded syringes and use of another's previously-used syringe was collected.

As shown in Table 7.3, those who have been injecting drugs for a long period have a greater rate of HIV infection. Among those males who have been injecting drugs for more than five years, 54.8% were HIV +ve. The HIV infection rate dropped to 19% as the duration of injecting drugs declined to one to five years from more than five years. Among the IDUs with a history of less than one year of injecting drugs, only 3.2% tested HIV positive.

Frequency of injection during the past week was found to have a positive association with HIV infection ( $p < 0.01$ ). In the first round of the study, it was a negative association. Those who had not injected drugs during the past week had a higher rate of HIV infection. Moreover, those who injected drugs daily during the past week had higher rates of HIV infection compared to those who did so two-three times a day during the last week. The data indicates that sharing syringes puts the IDUs at a higher risk of getting HIV. Use of needles/syringes previously used by others does not show a strong association with HIV infection (Table 7.3). Likewise, the IDUs who had used a syringe kept in a public place during the past week were at a greater risk of being infected than those who avoided such syringes, but the relation is not significant ( $p > 0.05$ ).

**Table 7.3: Relation between Drug Injecting Behavior and HIV Infection**

Drug injecting behavior	First round (2003)				Second round (2005)			
	Total	HIV+	%	P value	Total	HIV+	%	P value
<b>Injecting drugs since</b>								
Less than 1 year	44	5	11.4	< 0.01	31	1	3.2	< 0.01
1-5 Years	194	57	29.4		179	34	19.0	
More than 5 years	107	59	55.1		135	74	54.8	
<b>Frequency of injecting drugs in the past week</b>								
Not Injected	4	0	0.0	>0.05	6	3	50.0	< 0.01
1-3 times a week	29	8	27.6		77	22	28.6	
4 -6 times a week	40	16	40.0		69	11	15.9	
Everyday	112	40	35.7		101	41	40.6	
2-3 times a day	143	51	35.7		88	31	35.2	
4 or more times a day	17	6	35.3		4	1	25.0	
<b>Used another's previously used needle/syringe during the past week</b>								
Not injected/Never	229	87	38.0	> 0.05	240	77	32.1	>0.05
Every time/Almost every time	33	9	27.3		23	5	21.7	
Sometimes	83	25	30.1		82	27	32.9	
<b>Used a needle/syringe kept in public place during the past week</b>								
Not injected/Never	264	87	32.9	> 0.05	261	82	31.4	>0.05
Every time/ Almost every time	31	15	48.4		24	8	33.3	
Sometimes	50	19	38.0		60	19	31.7	
<b>Total</b>	<b>345</b>	<b>121</b>	<b>35.1</b>		<b>345</b>	<b>109</b>	<b>31.6</b>	

## 7.3 Relation between Sexual Behavior and HIV

Caution is needed when examining the association between HIV infection status (i.e. HIV prevalence) and risk behavior. Current behaviors may not be related to HIV status because participants may have been infected many years ago and then subsequently changed their behavior. The relation between sexual behavior of the IDUs and HIV infection does not seem

to be as anticipated. For instance, the IDUs having sex with female sex workers have a low rate of HIV infection compared to their counterparts. The IDUs having sex with sex workers and other regular and non-regular sex partners seem to have less chances of contracting HIV. Similarly, the higher the number of sex partners during the last 12 months, the lower seems to be the rate of HIV infection (Annex 14).

#### 7.4 Odds Ratio of HIV Infection by Selected Characteristics of IDUs

Unadjusted or gross odds ratio of HIV risk by selected characteristics of the IDUs was calculated. Table 7.4 shows that the risk of HIV infection is about 4.9 times higher among IDUs aged 20 years and above compared to IDUs under 20 years of age. Age was significant in both round of the study. Although literate people are almost 1.2 times more likely to contract HIV, the association is statistically insignificant in both round of the survey. The range of 95% confidence interval for estimated for odds ratio is 0.39-4.01. Ever-married IDUs are at a greater risk of HIV infection compared to those who have never married. For instance, the odds ratio is about 1.7 for ever-married IDUs compared to those who were never married. This odds ratios are statistically significant in 2003 and 2005. In this sample, the injecting behavior of the IDUs does not have a statistically significant association with HIV infection. An IDU who uses a needle/syringe kept in a public place is almost 1.03 times more likely to contract HIV than those who do not. However, the estimated risk varies between 0.59 and 1.81, indicating that the relation is not statistically significant. The risk of HIV infection is significantly higher for IDUs who have previously injected drugs in other parts of the country or in other countries (Table 7.4). These IDUs had about 1.50 times higher odds ratio of HIV infection compared to their counterparts, and the odds ratio is insignificant compared to 2003.

**Table 7.4: Odd Ratios of HIV Infection by Selected Characteristics of IDUs**

Characteristics	First round (2003)			Second round (2005)		
	Odd Ratio	# cases (N)	95% Confidence Interval	Odd Ratio	# cases (N)	95% Confidence Interval
<b>Age</b>						
<20 years	-	38	(1.06, 6.75)	-	50	(1.79, 14.50)
= >20 years	2.62	307		4.90	295	
<b>Education</b>						
Illiterate	1.25	15	(0.38, 3.95)	-	18	(0.39, 4.01)
Literate	-	330		1.21	327	
<b>Marital status</b>						
Never married	-	184	(1.54, 4.01)	-	183	(1.05, 2.76)
Ever married	2.48	161		1.70	162	
<b>Injecting behavior</b>						
Injected with another's previously used syringe during past week						
Yes	-	116	(0.89, 2.46)	-	105	(0.64, 1.83)
No	1.48	229		1.08	240	
Injected with a syringe kept in public place						
Yes	1.47	81	(0.86, 2.53)	1.03	84	(0.59, 1.81)
No	-	264		-	261	
Injected with a pre-filled syringe						
Yes	-	29	(1.18, 12.79)	1.78	32	(0.80, 3.96)
No	3.67	316		-	313	
Injected in another part of the country or in another country						
Yes	3.55	292	(1.54, 8.49)	1.50	312	(0.62, 3.75)
No	-	53		-	33	

## **CHAPTER - 8**

### **SUMMARY OF THE FINDINGS**

The main objective of this study was to measure the prevalence of HIV among IDUs and assess their risk behaviors and compare the results with the findings of the first round of the survey.

Structured questionnaires were used to collect behavioral data. Blood samples obtained by pricking the finger and collected in capillary tubes were used for HIV testing. A parallel testing algorithm based on 3 rapid test kits was used to assess HIV status. Respondent driven sampling (RDS), a form of chain referral network sampling, was used to recruit 345 study participants from the Eastern terai region in a probability-based manner.

#### **Main Results**

##### *Socio-Demographic Characteristics*

Overall, the median age of the respondents was the same as in the first round of the survey, i.e., 25 years. About half (53%) of the respondents had never been married. Out of the total 345 respondents, 135 were currently married and 125 of them were living with their spouse. A majority of the study participants (94.8%) had formal schooling.

##### *Injecting Practice*

Among the 345 participants, around 47% had been injecting drugs from the last two-five years. Almost half of the participants got into the habit before or at the age of 20. About 56% were injecting drugs at least once daily. A large majority of the IDUs (84%) reported using a combination of different drugs. Tidigestic was used by a majority of the IDUs in the first round of the survey. About one-third (30.4%) of the IDUs reported using syringes previously used by others during the past week. The percentage of IDUs reporting using a syringe kept in a public place during the past week was 24.4%.

About 90% of the IDUs were found to be mobile and had injected drugs in other parts of the country or in another country. Almost all the IDUs knew about sources for new/unused needles. A great majority (83.2%) reported that they received new syringes through local needle exchange programs.

Of the total 345 respondents, 23.8% had received some kind of treatment in the past against their drug habit. About 49% of those who underwent such treatment received it at residential rehabilitation centers.

##### *Sexual Risk Behavior and Use of Condom*

In the sample of 345 IDUs, 94.2% had had sex, and all had heard about condoms. Out of the 84 respondents who had engaged in sex with a female sex worker during the last 12 months, half reported consistent use of a condom. This represents an increase of around 9% compared to the first round of the survey. However, only 11.3% and 24.1% of the IDUs reported consistent use of a condom with regular and non-regular sex partners respectively. The figure has decreased slightly compared to the first round of the survey.

### *Knowledge of HIV*

Almost all the respondents had heard about HIV/AIDS. Of the total sample population, 98.6% thought that wearing a condom every time during sex could prevent HIV. Similarly, 99.4% of the respondents knew that a person could get HIV by using somebody else's previously-used needle. About 78.8% of the respondents claimed that IDUs could protect themselves from HIV by switching to non-injecting drugs.

### *HIV Prevalence*

Out of the 345 IDUs in the sample, 109 (31.6%) were found to be HIV positive, which is less by 3.5% compared to the finding of the first round of the survey. Old ( $\geq 20$  years) and ever-married IDUs and those who have done drugs in other places or other countries have a significantly higher risk of HIV infection compared to their counterparts who did not do so. The risk of HIV infection among needle-sharing IDUs is higher compared to those not sharing needles, however the difference in risk is not statistically significant.

### **Recommendations**

Based on the findings of this study, a few specific recommendations have been made. They are as follows:

- HIV/AIDS awareness and prevention programs for IDUs should be continued in Eastern Terai with more focus on younger groups as a significant percentage of young IDUs (14.5%) are in drug use.
- More than one-half of the IDUs reported of having used previously used needle/syringe or those left in public places in the last week preceding the survey. Education programs should emphasize the increased risk of HIV transmission due to such "risky" behaviors.
- Special strategies should be designed to cover mobile IDUs under HIV/AIDS awareness campaign, as a majority of the IDUs (90.4%) in Eastern Terai were mobile sub-groups who had injected drugs elsewhere in Nepal or in other countries.
- About eight in 10 (83.2%) IDUs knew about needle exchange programs currently in operation in Eastern Terai. Such programs should be continued with proper counseling for detoxification for the IDUs.
- There is an urgent need to educate the IDUs in Eastern Terai region on the risk of HIV transmission even through the use of common container for drawing drugs, as almost half (50.5%) of the respondents had drawn drug solutions from a common container used by others in the week preceding the survey.
- Among the sampled IDUs, 80.6% had gained their first sexual experience at the age of less than 20 years. Workshops, interaction programs, training sessions should be conducted for adolescents both in schools and community to impart proper sex education and awareness on HIV/AIDS.
- The use of a condom with a regular female sex partner was found to be low when compared to condom use with sex workers and non-regular partners. IDUs should be made aware on the need to use condom consistently with all kinds of sex partners.
- More target group specific IEC materials should be designed and distributed in the valley. Radio and television programs which have been very successful in disseminating information related to condoms and HIV/AIDS should be continued.



- The STI infection rate was high compared to the previous study in Eastern Terai. Among the respondents who had experienced one or the other symptoms of STIs, 46.4% had not sought any treatment for their problems. Client friendly STI treatment and HIV test facilities should be made available to the target population to encourage more IDUs to voluntarily come forward for such services.
- A majority of the respondents (76.2%) had not received any treatment to break their drug taking habits. Rehabilitation and detoxification centers should be supported for providing necessary assistance to the IDUs especially to those from economically deprived families.
- Monitoring and evaluation of HIV prevalence and risk behaviors of IDUs is needed at regular time intervals.

## REFERENCES

- Des Jarlais, D. C., S. R. Friedman, K. Choopanya, S. Vanichseni, and T. Ward. 1992. **“International Epidemiology of HIV and AIDS among Injecting Drug Users.”** AIDS. 6: 1053-1068
- FHI, 2000. **“Behavioral Surveillance Surveys: Guidelines for Repeated Behavioral Surveys in Populations at Risk of HIV”**. FHI Implementing AIDS Prevention and Care Project. USA.
- FHI/New ERA/SACTS 2003. **“Behavioral and Sero Prevalence Survey among IDUs in Eastern Nepal”**.
- Heckathron, D. D, Updated July 2003. **“Snowball and Respondent – Driven – Sampling ” An Overview.**
- National Center for AIDS and STD Control. **“Cumulative HIV/AIDS Situation of Nepal”** August 30, 2005.
- Richman, K. 1996. **“Injecting Drug Use and AIDS in Developing Countries, Determinants and Issues for Policy Consideration”**.
- Semaan S, Desjarlais D, Sogalow E, Ramirez G, Sweat M, Narman L and Needle R. 1998. **“Meta-analysis of the Impact of HIV Risk Reduction Interventions on Safer Sex Behavior of Drug Users”** Paper presented at the 12<sup>th</sup> World AIDS Conference in Geneva, Switzerland. June 30, 1998.
- Spreen, M. and Zwaagstra, R. 1994. **“Personal Network Sampling, Out Degree Analysis and Multilevel Analysis: Introducing the Network Concept in Studies of Hidden Population”**. International Sociology.
- United States Bureau of the Census. 1995. **“HIV/AIDS Surveillance Data Base”**.
- Watters, J., and Biernecki, P. 1989. **“Targeted Sampling Options for the Study of Hidden Populations”**. Social Problems.

## ANNEX – 1

**Confidential**

### **Integrated Bio- Behavioral Survey (IBBS) among Injecting Drug Users in Eastern Terai FHI/New ERA/SACTS - 2005**

Namaste! My name is... I am here from New ERA to collect data for a research study. During this data collection, I will ask you some personal questions that will be about sexual behavior, use of condoms, HIV/AIDS and use of needle/syringe when taking drugs. You may feel uneasy responding to some personal questions. But it is important that you answer truthfully. The information given by you will be strictly treated as confidential and not shared with any one. Also we collect a few drops of blood for laboratory testing for HIV. You do not need to worry. Nobody will know whatever we talk about because your name will not be mentioned on this form. All the mentioned information will be used only for the study purpose. This survey will take about 40 to 60 minutes.

It depends on your wish to participate in this survey or not. You do not have to answer those questions that you do not want to answer, and you may end this interview at any time you want to. But I hope you will participate in this survey and make it a success by providing correct answers to all the questions.

Would you be willing to participate? 1. Yes 2. No

Signature of the interviewer: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/2061

#### **Operational Definition of Respondent:**

**Injecting Drug User (IDU):** Person who injects various drugs in muscles or in veins for intoxication purposes. Please note that people who inject drugs as part of medical treatment are not included in IDUs. The respondent must be a current injecting drug user who has started injecting at least 3 months before the interview date. Those who have started injection within last three months are not eligible for interview.

Men under the age of 16 will be excluded.

#### **Code Respondents:**

Seed: 1. Yes 2. No

IDENTIFICATION NUMBER (Coupon Number): \_\_\_\_\_ (*Write '0' for seed*)

Coupon number given: 1) \_\_\_\_\_ 2) \_\_\_\_\_ 3) \_\_\_\_\_

Did the interviewee abandon the interview?

1. Yes (Precise the number of the last question completed: Q \_\_\_\_)

2. No

Interviewer Name: \_\_\_\_\_ Code Interviewer: \_\_\_\_\_

Date Interview: \_\_\_\_/\_\_\_\_/2061

Checked by the supervisor: Signature: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/2061

Data Entry # 1: Clerk's name: \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/2061

Data Entry # 2: Clerk's name: \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/2061



Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
106	What is your marital status?	Never married ..... 1 Married ..... 2 Divorced/Permanently separated ... 3 Widow..... 4 Other (Specify) ..... 96	108
107	How old were you when you first married?	Age ..... <input type="text"/> <input type="text"/> <i>(Write the completed years)</i>	
108	With whom you are living now?	Living with wife..... 1 Living with female sexual partner . 2 Living without sexual partner ..... 3 Others (Specify) ..... 96 No response ..... 99	110
109	Do you think your wife/female sexual partner has any other sexual partners?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	110
10 9.1	If yes, what is the sex of the partner?	Male ..... 1 Female..... 2	
110	During the past one-month how often have you had drinks containing alcohol? <i>(Such as beer, local beer etc.)</i>	Every day ..... 1 More than once a week ..... 2 Less than once a week..... 3 Never drink ..... 4 Others (Specify) ..... 96 No response..... 99	

## 2.0 DRUG USE

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
201.	How long have you been using drugs? <i>(Drug means medicine not used for treatment purpose rather used for Intoxication)</i>	Years ..... <input type="text"/> <input type="text"/> Months ..... <input type="text"/> <input type="text"/> No response ..... 99	
202.	How old were you when you first injected drugs? <i>(Include self-injection or injection by another)</i>	Years ..... <input type="text"/> <input type="text"/> <i>(Write the completed years)</i>	
203	How long have you been injecting drugs? <i>(Include self-injection or injection by another)</i>	Years ..... <input type="text"/> <input type="text"/> Months ..... <input type="text"/> <input type="text"/> No response ..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.						
204.	Which of the following types of drugs have you used and/or injected in the past one-week? (Read the list, multiple answer possible)								
	Description	Used in Last-Week				Injected in Last-Week			
		YES	NO	DK	NR	YES	NO	DK	NR
	1. Tidigesic	1	2	98	99	1	2	98	99
	2. Brown Sugar	1	2	98	99	1	2	98	99
	3. Nitrosun	1	2	98	99	1	2	98	99
	4. Ganja	1	2	98	99	1	2	98	99
	5. Chares	1	2	98	99	1	2	98	99
	6. White Sugar	1	2	98	99	1	2	98	99
	7. Phensydyl	1	2	98	99	1	2	98	99
	8. Calmpose	1	2	98	99	1	2	98	99
	9. Diazepam	1	2	98	99	1	2	98	99
	10. Codeine	1	2	98	99	1	2	98	99
	11. Phenergan	1	2	98	99	1	2	98	99
	12. Cocaine	1	2	98	99	1	2	98	99
	13. Proxygin	1	2	98	99	1	2	98	99
	14. Effidin	1	2	98	99	1	2	98	99
	15. Velium 10	1	2	98	99	1	2	98	99
	16. Lysergic Acid Dithylamide(LSD)	1	2	98	99	1	2	98	99
17. Nitrovate	1	2	98	99	1	2	98	99	
18. Combination (Specify)	1	2	98	99	1	2	98	99	
96. Others (Specify)_____	1	2	98	99	1	2	98	99	
204.1	Did you switch in the last month from one drug to another?	Yes ..... 1 No ..... 2	→ 205						
204.1.1	If yes	From _____ drug To _____ drug							
204.1.2	What is the reason for switching?	_____ _____							
205.	How many times would you say you injected drugs yesterday?	Times ..... <input type="text"/> Not injected..... 0	→ 209						
206.	Would you like to tell me why you did not injected yesterday?	_____ _____							
207.	How many days ago did you get injected?	Days ago ..... <input type="text"/> <input type="text"/>							
208.	How many times would you say you injected drugs on the last day?	Times ..... <input type="text"/> <input type="text"/>							
209.	During the past one-week how often would you say you injected drugs?	Once a week ..... 1 2-3 times a week ..... 2 4-6 times a week ..... 3 Once a day ..... 4 2-3 times a day ..... 5 4 or more times a day ..... 6 Not injected in the last week ..... 7 Don't know ..... 98 No response..... 99							

### 3.0 NEEDLE SHARING BEHAVIORS

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
301.	Think about the times, you have injected drugs yesterday/last day. How many times did you inject drugs that day? <i>(Fill the number from answer to Q. 205 or 208 and verify by asking the respondent)</i>	Times ..... <input type="text"/> <input type="text"/>	
302.	The last time you injected, how did you get that syringe/needle?  <i>(+ Public place means the place where they keep syringe other than his home)</i>	My friend/relative gave it to me after his use ..... 1 Unknown person gave it to me ..... 2 I picked it up from a public place which was left there by others <sup>+</sup> ..... 3 I picked it up from a public place which was left there by myself <sup>+</sup> .... 4 I used a new needle/syringe given by NGO staff/volunteer ..... 5 I used a needle/syringe which I purchased ..... 6 I reused my own needle/syringe ..... 7 Others (Specify) ..... 96 Don't know ..... 98 No response ..... 99	
302.1	The last time you injected, If you were in a group while injecting, how many different people in the group do you think used the same needle?	Nos. .... <input type="text"/> <input type="text"/> Injected alone ..... 96	
303.	Think about the time before the last time you injected, how did you get that syringe/needle?  <i>(+ Public place means the place where they keep syringe other than his home)</i>	My friend/relative gave it to me after his use ..... 1 Unknown person gave it to me ..... 2 I picked it up from a public place which was left there by others <sup>+</sup> ..... 3 I picked it up from a public place which was left there by myself <sup>+</sup> .... 4 I used a new needle/syringe given by NGO staff/volunteer ..... 5 I used a needle/syringe which I purchased ..... 6 I reused my own needle/syringe ..... 7 Others (Specify) ..... 96 Don't know ..... 98 No response ..... 99	
303.1	That time, If you were in a group, how many different people in the group do you think used the same needle?	Nos. .... <input type="text"/> <input type="text"/> Injected alone ..... 96	
304.	Now think about the time before <b>(before Q. 303)</b> , how did you get that syringe/needle ?  <i>(+ Public place means the place where they keep syringe other than his home)</i>	My friend/relative gave it to me after his use ..... 1 Unknown person gave it to me ..... 2 I picked it up from a public place which was left there by others <sup>+</sup> ..... 3 I picked it up from a public place which was left there by myself <sup>+</sup> .... 4 I used a new needle/syringe given by NGO staff/volunteer ..... 5 I used a needle/syringe which I purchased ..... 6 I reused my own needle/sy ..... 7 Others (Specify) ..... 96 Don't know ..... 98 No response ..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
304.1	That time If you were in a group, how many different people in the group do you think used the same needle?	Nos..... <input type="text"/> <input type="text"/> Injected alone..... 96	
305.	Think about the times, you have injected drugs during the past one-week. How often was it with a needle or syringe that had previously been used by someone else?	Every times ..... 1 Almost every-times ..... 2 Sometimes..... 3 Never used ..... 4 Not injected in the last week ..... 5 Don't know ..... 98 No response..... 99	→ 314
305.1	When you injected drug during the past week, how often did you use a syringe/needle that had been left in public place?  <i>(Public place means the place where they keep syringe other than his home)</i>	Every times ..... 1 Almost every-times ..... 2 Sometimes..... 3 Never..... 4 Don't know ..... 98 No response..... 99	
306.	In the past one-week, did you ever share needles and syringes with any of the following? <b>Read out list. Multiple answers possible</b>		
		<b>Yes</b> <b>No</b> <b>DK</b> <b>NR</b>	
	1. Your usual sexual partner	1    2    98    99	
	2. A sexual partner who you did not know	1    2    98    99	
	3. A friend	1    2    98    99	
	4. A drugs seller	1    2    98    99	
	5. Unknown Person	1    2    98    99	
	96. Other (Specify) _____	1    2    98    99	
307.	With how many different injecting partners did you share needles or syringes in the past one-week?  <i>(Count everyone who injected from the same syringe)</i>	Number of partners ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response..... 99	
308.	In the past one-week, how often did you give a needle or syringe to someone else, after you had already used it?	Every times ..... 1 Almost every-times ..... 2 Sometimes..... 3 Never..... 4 Don't know ..... 98 No response..... 99	
309.	In the past-week, did you ever inject with a pre-filled syringe? <i>(By that I mean a syringe that was filled without your witnessing it)</i>	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	
310.	In the past one-week, how often did you inject drugs using a syringe after someone else had squirted drugs into it from his/her used syringe?  <i>(front-loading/back-loading/ splitting)</i>	Every times ..... 1 Almost every-times ..... 2 Sometimes..... 3 Never..... 4 Don't know ..... 98 No response..... 99	
311.	In the past one-week, when you injected drugs, how often did you share a cooker/ vial/container, cotton/filter, or rise water?	Every times ..... 1 Almost every-times ..... 2 Sometimes..... 3 Never..... 4 Don't know ..... 98 No response..... 99	
312.	In the past one-week, how often you draw up your drug solution from a common container used by others?	Every times ..... 1 Almost every-times ..... 2 Sometimes..... 3 Never..... 4 Don't know ..... 98 No response..... 99	



Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
313.	In the past one-week, when you injected with needles or syringes that had previously been used, how often did you clean them first?	Every time..... 1 Almost every-times..... 2 Sometimes..... 3 Never..... 4 Never reused ..... 5 Others (Specify)..... 96 Don't know..... 98 No response..... 99	} 314
313.1	If cleaned, how did you usually clean them?	With water ..... 1 With urine ..... 2 With saliva ..... 3 Boil the syringe in water..... 4 With bleach..... 5 Burning the needle with matchstick ..... 6 Others (Specify)..... 96 Don't know ..... 98 No response..... 99	
314.	Can you obtain new, unused needles and syringes when you need them?	Yes..... 1 No ..... 2 Don't know ..... 98 No response..... 99	} 316
315.	Where can you obtain new unused needles and syringes?  <i>(Do not read out list. Multiple answers possible. Probe only with "Anywhere Else?" )</i>	Drugstore ..... 1 Other shop..... 2 Health worker ..... 3 Hospital..... 4 Drug wholesaler/drug agency ..... 5 Family/relatives ..... 6 Sexual partner ..... 7 Friends ..... 8 Other drugs users ..... 9 Drugs seller..... 10 Needle exchange program of ..... 11 Theft from legitimate source..... 12 Buy on streets..... 13 Other (Specify) .. 96	
316.	In the past one-year, did you ever inject drug in another city/district?	Yes..... 1 No ..... 2 Don't remember ..... 98 No response..... 99	} 317
316.1	If yes, in which other cities/districts did you inject, including cities in other countries?	Cities _____ Districts _____ Country _____	
316.2	Think about the times you injected drugs in another city/district (including abroad) how often was it with a syringe/needle that had previously been used by someone else?	Every times ..... 1 Almost every-times..... 2 Sometimes..... 3 Never..... 4 Don't know ..... 98 No response..... 99	
316.3	When you injected drugs in another city, how often did you gave a syringe/needle to some one else?	Every times ..... 1 Almost every-times..... 2 Sometimes..... 3 Never..... 4 Don't know ..... 98 No response..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
317.	Are you currently under treatment (or receiving help) or have you ever received treatment (or help) because of your drug use?	Currently under treatment ..... 1 Was in treatment but not now ..... 2 Have never received treatment ..... 3 No response..... 99	} 401
318.	How many months ago did you last receive treatment or help for your drug use?	Months ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response..... 99	
319.	What kind of treatment or help have you received? <i>(Do not read out the responses, probe asking, "Are there any other kinds of treatment that you've received?" Multiple Answers Possible.)</i> <b>Types of Treatments</b>	<b>Name of Institutions</b>	
	1. Outpatient counseling		
	2. Self-help groups		
	3. Detoxification w/methadone		
	4. Maintenance w/methadone		
	5. Detoxification w/other drugs		
	6. Detoxification with no drug		
	7. Residential rehabilitation		
	8. Helped to quite <i>cold turkey</i>		
	9. Forced to quite <i>cold turkey</i>		
	96. Other (Specify) _____		
	99. No response		

#### 4.0 SEXUAL HISTORY

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
401.	How old were you at your first sexual intercourse?	Years old ..... <input type="text"/> <input type="text"/> <i>(Write completed years)</i> Never had sexual intercourse..... 2 Don't know ..... 98 No response..... 99	→ 601
402.	Have you had sexual intercourse in the last 12 months	Yes ..... 1 No ..... 2 No response..... 99	→ 404
403.	In total, how many different female sexual partners have you had sex in the last 12 months?	Total Number ..... <input type="text"/> <input type="text"/>	
403.1	How many were female "regular partners"? <i>(Your wife or live-in sexual partners)</i>	Number ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response..... 99	
403.2	How many were female "sex worker"? <i>(Partners to whom you bought or sold sex in exchange for money or drug)</i>	Number ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
403.3	How many were female "non-regular partners"?  <i>(Sexual partners, you are not married to and have never lived with and did not have sex in exchange for money)</i>	Number ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response..... 99	
404.	Have you just talked about your female sexual partners. Have you ever had any male sexual partners also?	Yes ..... 1 No ..... 2 No response..... 99	→ 501
404.1	If yes, have you had anal sex with any of your male partners in the last 12 months?	Yes ..... 1 No ..... 2 No response ..... 99	→ 501
404.2	With how many different male partners have you had anal sex in the last 12 months?	Number ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response..... 99	
404.3	The last time you had anal sex with a male sex partner did you and your partner use a condom?	Yes ..... 1 No ..... 2 Don't Know ..... 98 No response ..... 99	
404.4	How often have you used a condom in an anal sex with male sex partner in the past 12 months	Every Times ..... 1 Almost Every Times ..... 2 Some Times ..... 3 Never Used ..... 4 Don't Know ..... 98 No response ..... 99	

**5.0 NUMBERS AND TYPES OF PARTNERS**  
*(Check Q. 403.1 and circle the response of Q.501)*

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
501.	Did you have sex with female regular partner during last 12 months?	Yes ..... 1 No ..... 2	→ 502
501.1	Think about your most recent female regular sexual partner. How many times did you have sex with her during last one-month?	Times ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response..... 99	
501.2	The last time you had sex with a female regular partner did you and your partner use a condom?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	→ 501.4 → 501.4
501.3	Why did not you or your partner use a condom that time?  <i>(Do not read the possible answers, multiple answer possible)</i>	Not available ..... 1 Too expensive ..... 2 Partner objected ..... 3 Don't like them ..... 4 Used other contraceptive..... 5 Didn't think it was necessary..... 6 Didn't think of it..... 7 Other (Specify) ..... 96 Don't know ..... 98 No response..... 99	
501.4	How often have you used a condom with female regular partners in the past year?	Every times ..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never used ..... 4 Don't know ..... 98 No response..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
501.5	Did your female regular partner also inject drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
501.6	Have you had ever-anal sex with your female regular partners?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	→ 502
501.7	The last time you had anal-sex with a female regular partner did you and your partner use a condom?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
501.8	How often have you used a condom in an anal-sex with female regular partners in the past 12 months?	Every times ..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never used ..... 4 Don't know ..... 98 No response ..... 99	
502.	Did you have a sexual intercourse with a female sex worker in last 12 months? <i>(Check 403.2 and circle the response of Q. 502)</i>	Yes ..... 1 No ..... 2	→ 503
502.1.	<b>Think about the female sex workers that you have had sex in the past one-month. In total how many were:</b> Number of female sex workers, to whom you sold sex in exchange for money or drugs.	Nos. .... <input type="text"/> <input type="text"/> Don't know ..... 98 No response ..... 99	
502.1.1	Number of female sex workers, to whom you bought sex in exchange for money or drugs.	Nos. .... <input type="text"/> <input type="text"/> Don't know ..... 98 No response ..... 99	
502.2	Think about your most recent female sex worker. How many times did you have sexual intercourse with her in the past one-month?	Times ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response ..... 99	
502.3	The last time you had sex with a female sex worker did you and your partner use a condom?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	→ 502.5 → 502.5
502.4	Why did not you and your partner use a condom that time?  <i>(Do not read the possible answers, multiple answer possible)</i>	Not available ..... 1 Too expensive ..... 2 Partner objected ..... 3 Don't like them ..... 4 Used other contraceptive ..... 5 Didn't think it was necessary ..... 6 Didn't think of it ..... 7 Other (Specify) ..... 96 Don't know ..... 98 No response ..... 99	
502.5	How often have you used a condom with female sex workers in the past year?	Every times ..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never used ..... 4 Don't know ..... 98 No response ..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
502.6	Do you know whether your female sex worker also inject drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
502.7	Have you had ever-anal sex with your female sex workers?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	→ 503
502.8	The last time you had a anal-sex with a female sex worker did you and your partner use a condom?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
502.9	How often have you used a condom in an anal sex with female sex workers in the past 12 months?	Every times ..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never used ..... 4 Don't know ..... 98 No response ..... 99	
503.	Did you have a sexual intercourse with a female non-regular sex partner during last 12 months? <i>(Check 403.3 and circle the response of Q. 503)</i>	Yes ..... 1 No ..... 2	→ 601
503.1	Think about your most recent female non-regular sexual partner. How many times did you have sexual intercourse with her over the past one-month?	Times ..... <input type="text"/> <input type="text"/> Don't know ..... 98 No response ..... 99	
503.2	The last time you had a sex with a female non-regular partner did you and your partner use a condom?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	→ 503.4 → 503.4
503.3	Why did not you and your partner use a condom that time?  <i>(Don't read the possible answers, multiple answer possible)</i>	Not available ..... 1 Too expensive ..... 2 Partner objected ..... 3 Don't like them ..... 4 Used other contraceptive ..... 5 Didn't think it was necessary ..... 6 Didn't think of it ..... 7 Other (Specify) ..... 96 Don't know ..... 98 No response ..... 99	
503.4	How often have you used a condom with a female non-regular partner in the past year?	Every times ..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never used ..... 4 Don't know ..... 98 No response ..... 99	
503.5	Did you know whether your female non-regular partners also inject drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
503.6	Have you had ever-anal sex with your female non-regular partners?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	→ 601
503.7	The last time you had an anal sex with a female non-regular partner, did you and your partner use a condom?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
503.8	How often have you used a condom in an anal-sex with female non-regular partners in the past year?	Every times ..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never used ..... 4 Don't know ..... 98 No response ..... 99	

## 6.0 USE AND AVAILABILITY OF CONDOM

(Don't ask Q601 and 602 Check Q. 501.2, 501.4, 502.3, 502.5, 503.2, 503.4 and tick accordingly)

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
601.	Have you ever heard of a male condom?  (Show picture or sample of condom)	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	701
602.	Have you ever used a condom?	Yes ..... 1 No ..... 2	
603.	Do you know of any place or person from which you can obtain condom?	Yes ..... 1 Don't know ..... 98 No response ..... 99	701
604.	From which place or people, you can obtain condoms?  (Multiple answer possible. Don't read the list but should probe)	Shop ..... 1 Pharmacy ..... 2 Clinic ..... 3 Hospital ..... 4 Family planning center ..... 5 Bar/Guest house/Hotel ..... 6 Health worker ..... 7 Peer Educator/outreach educator ..... 8 Friend ..... 9 Others (Specify) ..... 96 No response ..... 99	
605.	How long would it take (from your house or the place where you work) to obtain a condom?	Less than 30 minutes ..... 1 More than 30 minutes ..... 2 Don't know ..... 98 No response ..... 99	

## 7.0 STIs

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
701.	Have you ever heard of diseases that can be transmitted through sexual intercourse?	Yes ..... 1 No ..... 2 No response ..... 99	704
702.	Can you describe any symptoms of STIs in women?  (Do not read possible answers, multiple answers possible.)	Abdominal pain ..... 1 Genital discharge ..... 2 Foul smelling ..... 3 Burning pain on urination ..... 4 Genital ulcers/sore ..... 5 Swelling in groin area ..... 6 Itching ..... 7 Other (Specify) ..... 96 Don't know ..... 98 No response ..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
703.	Can you describe any symptoms of STIs in men? <i>(Do not read possible answers, multiple answer possible)</i>	Genital discharge ..... 1 Burning pain on urination ..... 2 Genital ulcers/sore blister ..... 3 Swellings in groin area..... 4 Others (Specify) _____ 96 Don't know ..... 98 No response..... 99	
704.	Have you had a genital discharge/burning urination during the last 12 months?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	} 705
704.1	Currently, do you have a genital discharge/burning urination problem?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	
705	Have you had a genital ulcer/sore blister during the last 12 months?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	} 706
705.1	Currently, do you have a genital ulcer/sore blister problem?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	
706.	Last time you had a genital discharge/ burning urination or a genital ulcer/sore blister, where did you go for treatment?	Did not seek treatment ..... 1 With private doctor ..... 2 In hospital ..... 3 No Symptoms ..... 4 Others (Specify) ..... 96	

## 8.0 KNOWLEDGE, OPINIONS AND ATTITUDES

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
801.	Have you ever heard of HIV or the disease called AIDS?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	
802.	Do you know anyone who is infected with HIV or who has died of AIDS?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	} 804
803.	Do you have close relative or close friend who is infected with HIV or has died of AIDS?	Yes, a close relative ..... 1 Yes, a close friend ..... 2 No ..... 3 Don't know ..... 98 No response..... 99	
804.	Can people protect themselves from HIV, the virus that causes AIDS, by using a condom correctly every time they have sex?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	
805.	Can a person get HIV, from mosquito bites?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	
806.	Can people protect themselves from HIV, by having one uninfected faithful sex partner?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response..... 99	

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
807.	Can people protect themselves from HIV, by abstaining from sexual intercourse?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
808.	Can a person get HIV, by sharing a meal with someone who is infected?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
809.	Can a person get HIV, by getting injections with a needle that was already used by someone else?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
810.	Can people who inject drugs protect themselves from HIV, the virus that causes AIDS, by switching to non-injecting drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
811.	Can a pregnant woman infected with HIV transmit the virus to her unborn child?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	} 813
812.	What can a pregnant woman do to reduce the risk of transmission of HIV to her unborn child? <i>(Do not read the possible answers, multiple answer possible)</i>	Take medication (Antiretrovirals) . 1 Others (Specify) ..... 96 Don't know ..... 98 No response ..... 99	
813.	Can women with HIV transmit the virus to her newborn child through breast-feeding?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
814.	Is it possible in your community for someone to get a confidential test to find out if they are infected with HIV? <i>(By confidential, I mean that no one will know the result if you don't want him or her to know it.)</i>	Yes ..... 1 No ..... 2 Don't know ..... 98 No response ..... 99	
15	I don't want to know the result, but have you ever had an HIV test?	Yes ..... 1 No ..... 2 No response ..... 99	} 901
816.	Did you voluntarily undergo the HIV test, or were you required to have the test?	Voluntary ..... 1 Required ..... 2 No response ..... 99	
817.	Please do not tell me the result, but did you find out the result of your HIV test?	Yes ..... 1 No ..... 2 No response ..... 99	
818.	When did you have your most recent HIV test?	Within the past 12 months ..... 1 Between 13-24 months ..... 2 Between 25-48 months ..... 3 More than 49 months ..... 4 Don't know ..... 98 No response ..... 99	



**9.0 AWARENESS OF HIV/AIDS**  
*(If answer to Q. 801 "No", Go to Q. 902)*

Q. N.	Questions and Filters	Coding Categories		Skip to Q.N.
901.	Of the following sources of information, from which sources have you learned about HIV/AIDS? <i>(Read the following list, multiple answers possible)</i>			
	<b>Source of Information</b>	<b>Yes</b>	<b>No</b>	
	1. Radio	1	2	
	2. Television	1	2	
	3. Newspapers/Magazines	1	2	
	4. Pamphlets/Posters	1	2	
	5. School/Teachers	1	2	
	6. Health Worker/Volunteer	1	2	
	7. Friends/Relatives	1	2	
	8. Work Place	1	2	
	9. People from NGO	1	2	
	10. Video Van	1	2	
	11. Street Drama	1	2	
	12. Cinema Hall	1	2	
	13. Community Event/Training	1	2	
	14. Bill Board/Sign Board	1	2	
	15. Comic Book	1	2	
16. Community Workers	1	2		
96. Others (Specify) _____	1	2		
902.	Has anyone give you following information or items in the past year? <i>(Multiple answer possible, read the list)</i>			
	<b>Items</b>	<b>Yes</b>	<b>No</b>	
	1. Condom	1	2	
	2. Brochure/Booklets/Pamphlets about HIV/AIDS	1	2	
	3. Information about HIV/AIDS	1	2	
96. Others (Specify) _____	1	2		

**10.0 PROMOTION OF CONDOM**  
*(If answer to Q. 601 "No" Go to Q. 1004)*

Q. N.	Questions and Filters	Coding Categories		Skip to Q.N.
1001.	In the past one-year have you seen, read or heard any advertisements about condoms from the following sources? <i>(Read the following list, multiple answer possible)</i>			
	<b>Sources</b>	<b>Yes</b>	<b>No</b>	
	1. Radio	1	2	
	2. Television	1	2	
	3. Pharmacy	1	2	
	4. Health Post	1	2	
	5. Health Center	1	2	
	6. Hospital	1	2	
	7. Health Workers/Volunteers	1	2	
	8. Friends/Neighbors	1	2	
	9. NGOs	1	2	
	10. Newspapers/Posters	1	2	
11. Video Van	1	2		

Q. N.	Questions and Filters	Coding Categories		Skip to Q.N.
	12. Street Drama	1	2	
	13. Cinema Hall	1	2	
	14. Community Event/Training	1	2	
	15. Bill Board/Sign Board	1	2	
	16. Comic Book	1	2	
	17. Community Workers	1	2	
	96. Others (Specify) _____	1	2	
1002.	Have you ever seen, heard or read following messages/characters during past one year? <i>(Multiple answer possible)</i>			
	<b>Message/characters</b>	<b>Yes</b>	<b>No</b>	
	1. Jhilke Dai Chha Chhaina Condom	1	2	
	2. Condom Kina Ma Bhaya Hunna Ra	1	2	
	3. Youn Rog Ra AIDS Bata Bachnalai Rakhnu Parchha Sarbatra Paine Condom Lai	1	2	
	4 Ramro Sanga Prayog Gare Jokhim Huna Dinna Bharpardo Chhu Santosh Dinchhu Jhanjhat Manna Hunna	1	2	
	5. Condom Bata Surakchhya, Youn Swasthya Ko Rakchhya AIDS Ra Younrog Bata Bachna Sadhai Condom Ko Prayog Garau	1	2	
	6. HIV/AIDS Bare Aajai Dekhee Kura Garau	1	2	
	96. Others (Specify) _____	1	2	
1003.	Have you ever heard/seen or read messages or materials other than mentioned above?	Yes ..... 1	No ..... 2	→ 1004
1003.1	What?	_____	_____	
1004.	Generally, where do you gather to inject drug?	_____	_____	
1005	How many IDUs do you know and also know you?  <i>Knowing someone is defined as being able to contact them, and having had contact with them in the past 12 months – knowing each other</i>	Total _____  Don't know ..... 98 No response ..... 99		
1005.1	Among them persons how many are male and female?	Male _____ Female _____ Don't know ..... 98 No response ..... 99		
1006	Among those persons, please try to estimate the number of people by range of age:	Less than 15 years old [ ] 15-19 years old [ ] 20-24 years old [ ] 25-29 years old [ ] 30-40 years old [ ] > 40 years old [ ] Don't know ..... 98 No response ..... 99 Not applicable ..... 97		

Q. N.	Questions and Filters	Coding Categories	Skip to Q.N.
1007	Again, among those guys, please try to estimate the number of people by religion:	Hindu [ ] Buddhist [ ] Muslim [ ] Christian [ ] Others (Specify) _____ [ ] Don't know ..... 98 No response ..... 99 Not applicable ..... 97	
1008	With regard to the person who gives you the coupon to come here, was he....	A close friend..... 1 A friend ..... 2 Your sexual partner ..... 3 A relative ..... 4 A stranger..... 5 Others (Specify) _____ . 96 Don't know ..... 98 No response ..... 99	

## ANNEX - 2

Basic equation used in sample design

$$n = \frac{D [(Z_{\alpha} + Z_{\beta})^2 * (P_1 (1 - P_1) + P_2 (1 - P_2))]}{(P_2 - P_1)^2}$$

n = required minimum sample size per survey round or comparison groups

D = design effect (assumed in the following equations to be the default value of 2)

P<sub>1</sub> = the estimated number of an indicator measured as a proportion at the time of the first survey or for the control area

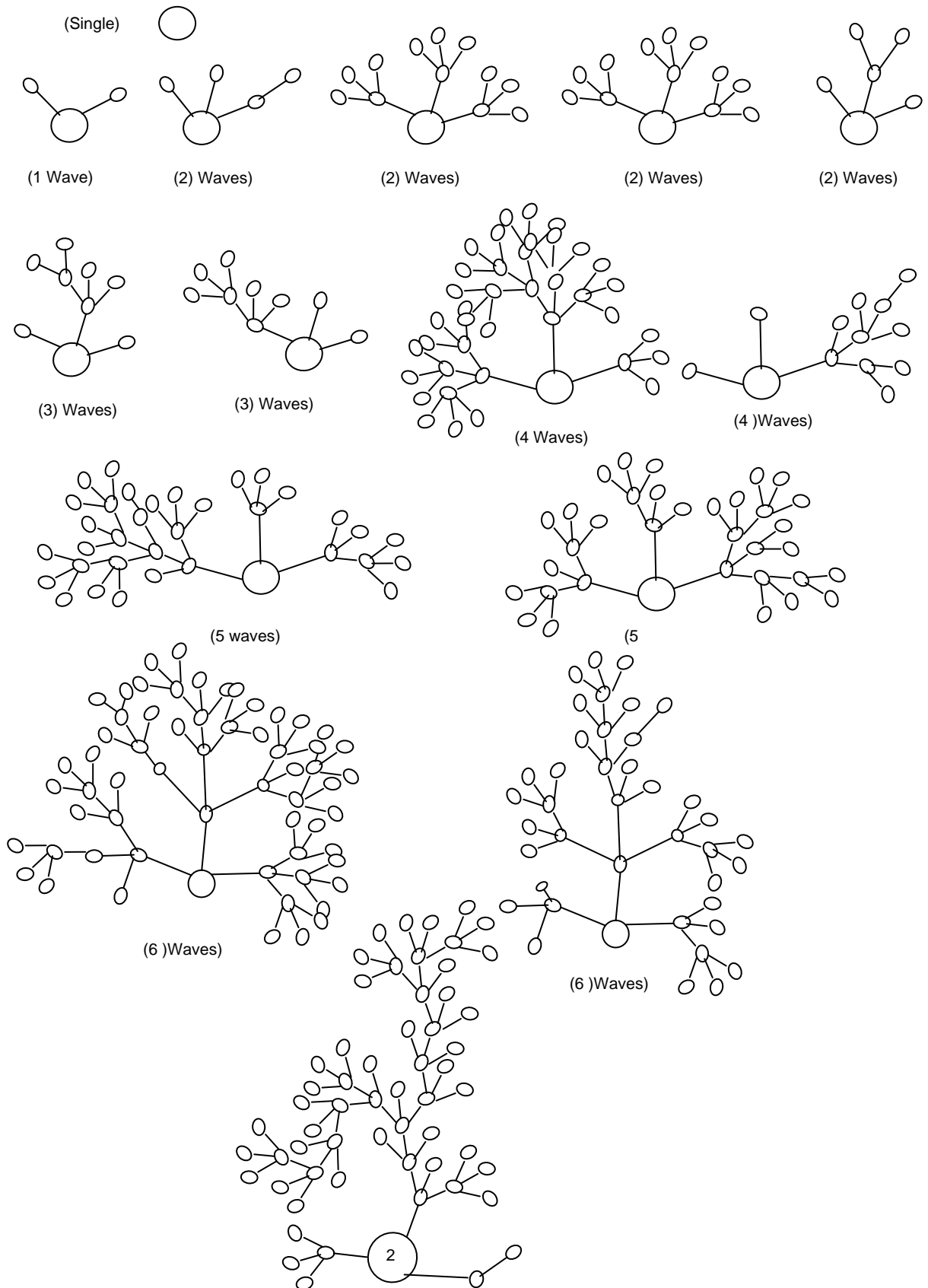
P<sub>2</sub> = the expected level of the indicator either at some future date or for the project area such that the quantity (P<sub>2</sub>-P<sub>1</sub>) is the size of the magnitude of change it is desired to be able to detect

Z<sub>α</sub> = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size (P<sub>2</sub>-P<sub>1</sub>) would not have occurred by chance (α – the level of statistical significance), and

Z<sub>β</sub> = the Z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size (P<sub>1</sub>-P<sub>2</sub>) if one actually occurred (β – statistical power).

# ANNEX – 3

## Respondent Driven Sample of IDUs in Eastern Terai



## ANNEX - 4

### FAMILY HEALTH INTERNATIONAL (FHI), NEPAL Oral Informed Consent

- Name of Research Study** : Behavioral and Sero Prevalence Survey among male Injection Drug Users (IDUs) in Selected Sites of Nepal.
- Principal Investigators** : Asha Basnyat, FHI/Nepal  
: Laxmi Bilas Acharya, PhD, FHI/Nepal
- Co- Investigators** : Dimitri Prybylski, PhD, FHI/APDThailand  
: Siddhartha Tuladhar, New ERA, Nepal  
: Niranjana Dhungel, New ERA, Nepal  
: Dr. Vijayalal Guruvacharya, SACTS, Nepal

#### Introduction

This Consent Form contains information about the research named above. In order to be sure that you are informed about being in this research study, we are asking you to read (or have read to you) this Consent Form. You will be asked to say out loud in front of two persons whether you agree to be part of the study or not. The Protection of Human Subject Committee (PHSC) of Family Health International (FHI) and Nepal Health Research Council (NHRC) have approved this study. We will give you a copy of this form if you would like. This consent form might contain some words that are unfamiliar to you. Please ask us to explain anything you may not understand.

#### Reason for the Research

You are being asked to be in a research study to find out the prevalence of HIV, the virus that causes AIDS as well as risk behaviors among injection drug users who live in the Kathmandu Valley /Pokhara Valley /Eastern Terai/Western to Far Western Terai. The His Majesty's Government of Nepal and local groups will use the results of this study to help prevent such infections among the target groups.

#### General Information about the Research Methods

If you agree to be in this research we will not take your name. We will ask you some questions and take few drops of blood from finger prick in small capillary tubes.

If we think you might have skin abscesses from injecting drugs, you will be informed of the probable place where you will be given treatment if you desire.

#### Your Part in the Research

Your part in the research will take about **60** minutes. About **1245** male IDUs will take part in this research in Kathmandu Valley/Pokhara Valley/Eastern Terai/Western to Far Western Terai.

If you agree to be in the research, you will be asked some questions about your age, education and ethnicity. We will ask you about your injection behaviors, sexual history and any symptoms related to sexually transmitted infections. We will ask you about drug and alcohol use. You will also be counseled about sexual infections and the HIV. You will be told about what the lab tests mean and the treatments or care available to you. We will then take a blood sample from your fingertips with the help of small capillary tube.

We will not record your name on any of the questions or the lab tests. They will only be labeled with a code number. The blood sample will be tested for HIV infection.

We will be able to give you the results of the lab tests for the HIV infections after 7 days from the date of blood sample collection. At the time of blood sample collection the study team members will give you the detail address of the place and the exact dates where you can go to receive your result of HIV test. Test result will be given by a qualified counselor with pre and post test counseling. Test results can only be obtained by presenting the study ID card with your code number on it. If you do not have the ID card when you return for the test results we cannot give you the results because we will not be able to recognize you without the study ID card. We will refer you to places where you can go for treatment of any other sexual health problems if you would like to do so. If you are HIV positive you will be counseled for further precautions and will be referred to available care and support services in and around your place.

### **Possible Risks and Benefits**

You will feel uncomfortable while taking blood from your fingertips but it does not harm you and increase the risk of any other problems. There is a chance that some of the questions asked may make you feel ill at ease. At any time, you may refuse to answer any question or withdraw from the study.

You may be scared or feel sad by learning your blood test results. If you decide to come in for the results, you will be provided with HIV counseling. You will be given the names of places where you can go for more help. We will not take your name so no one will learn of your test results unless you tell them.

There may be some risk that people may see you associated with the study, either now or when you return for your results.

You will be helped by this study because we will inform you about the places where you can get treatment for some kind of wounds on your skin while injecting drugs. We will teach you how to avoid infections in the future. We will give you your HIV test result. You will also learn about sexual infections and HIV, and ways to prevent these infections. We will not treat you for HIV but will inform you about the places for follow-up. The information we obtain from this study will also help us to design programs in this area to slow down the spread of HIV infections and AIDS.

### **If you decide not to be in the Research**

You are free to refuse to be in this research and it will not affect the health care you would normally receive from the study.

### **Confidentiality**

We will protect information about you and your taking part in this research to the best of our ability. Your name will not be recorded anywhere. Blood specimens will be labeled with a study code number. You will be given a card with your code number. This will allow you to obtain your HIV infection test results if you wish. We will not be able to identify you and give you your test results without the study ID card.

If the results of this research were published, your name would not be shown because we will not have your name. However, the officials of International Health Center may sometimes look at records of those who take part in the research study. These will not have your name. A court of law could order research records shown to other people, but that is unlikely.

**Compensation**

We will provide you a fixed amount of Nepalese Rupees (NRs.) 100.00 (approximately, US\$ 1.50) after completing the study requirements as a compensation for local transportation costs and an additional NRs. 50.0 (US\$ 0.70) for successful referral each peer for the study. You may refer up to three peers or friends. We will also give you condoms and IEC materials to compensate you for your time.

**Leaving the Research Study**

You may leave the research study at any time and refuse to answer any questions. If you decide to leave the study you will be asked for the reason to do so.

**Contact for Questions**

We will give you a separate sheet with contact information, should you have any questions or problems about this research, questions about your rights as a study participant, or have a problem that you think might be related to the research.



## VOLUNTEER AGREEMENT

**Study ID number:** \_\_\_\_\_

If you understand what is being asked of you for this research project, the person explaining the research to you will read the following paragraph and sign this consent form.

"I have read and explained this informed consent form to the study recruit. He has explained the study activities back to me and I am convinced he understands the activities that will occur. He has not been coerced, and he has given his oral consent to participate in all the aspects of this study".

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of person who obtained consent**

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Signature of Witness**

**CONTACT INFORMATION (to be given to the participant)**

If you have any questions or problems about this research, please contact

**Asha Basnyat**  
**Country Director FHI Nepal**  
GPO Box 8803, Gairidhara, Kathmandu, Nepal  
Tel: +977 1 443 7173; Fax: +977 1 441 4063

**Laxmi Bilas Acharya**  
**Technical Officer - Research and Surveillance, FHI Nepal**  
GPO Box 8803, Gairidhara, Kathmandu, Nepal  
Tel: +977 1 443 7173; Fax: +977 1 441 4063

**Siddhartha Man Tuladhar**  
*New ERA, Kalopool, Kathmandu, Nepal: Pnone: 1 413603. Asha Basnyat, Family Health International (FHI), Gairidhara, Kathmandu, Phone: 4427540*

If you have any questions about your rights while you are in the research, you may contact

**Asha Basnyat**  
**Country Director FHI Nepal**  
GPO Box 8803, Gairidhara, Kathmandu, Nepal  
Tel: +977 1 443 7173; Fax: +977 1 441 4063

**ANNEX - 5**  
**Districts and Lab Centers**

District	Lab Centers	No. of Centers	Sample Covered	Total
Jhapa	Damak	1	35	75
	Birtamod	1	40	
Morang	Biratnagar	2	135	135
Sunsari	Dharan	2	135	135
<b>Total</b>		<b>6</b>	<b>345</b>	<b>345</b>

**ANNEX - 6**  
**Participation in Post Test Counseling**

Date	Counseling Center	Expected Client	Client Counseled		Client with HIV+	Client with HIV-
			N	%		
March 03-08, 2005	Damak & Birtamod	75	18	24.0	3	15
March 21-April 13, 2005	Biratnagar	135	49	36.3	19	30
April 03-26, 2005	Dharan	135	19	14.1	2	17
<b>Total</b>		<b>345</b>	<b>86</b>	<b>24.9</b>	<b>24</b>	<b>62</b>

**ANNEX - 7**  
**The Reasons for Not Injecting Drugs Yesterday**

Injecting practice	First round (2003)		Second round	
	2003		2005	
	n=50	%	n=89	%
<b>Reasons for not injecting yesterday</b>				
Lack of money	17	34.0	51	57.3
To quite slowly	17	34.0	15	16.9
Unavailability/lack of drugs	6	12.0	6	6.7
Busy in house work	5	10.0	7	7.9
Due to illness	0	0.0	3	3.3
Trying other medicines	0	0.0	3	3.3
Others	7	14.0	6	6.7

Note: Because of multiple answers, percentages add up to more than 100.

**ANNEX 8**  
**Part of the Body Where Injection is Taken**

Typical injection points	First round (2003)		Second round (2005)	
	N=345	%	N=345	%
In upper arms	141	40.9	104	30.1
In wrists	107	31.0	73	21.2
In forearms	43	12.5	76	22.0
In the back of palm	24	7.0	16	4.6
In calves	14	4.1	3	0.9
In thigh	9	2.6	46	13.3
In armpit	0	0.0	13	3.8
In arch	0	0.0	4	1.2
Others	7	2.0	10	2.9

**ANNEX – 9**  
**Gathering Place of IDUs to Inject Drugs**

S.N.	Gathering places of IDUs to inject drugs	First round (2003)		Second round (2005)	
		N=345	%	N=345	%
1.	Own room/friends room	115	33.3	36	10.4
2.	Jogbani (India)	70	20.3	136	39.4
3.	Forest/Bushes	70	20.3	98	28.4
4.	Open ground/town planning area /open places	35	10.1	0	0.0
5.	River bank/Slum area/Pond/bridge area	16	4.6	42	12.2
6.	Garage/Junk store	12	3.5	6	1.7
7.	Pani Tanki (India)	7	2.0	7	2.0
8.	Temple area	5	1.4	0	0.0
9.	Shop	5	1.4	0	0.0
10.	Vacant house	4	1.2	0	0.0
11.	Galgaliya (India)	3	0.9	0	0.0
12.	Pool house/Swimming pool	2	0.6	0	0.0
13.	Toilet/Public toilet	1	0.3	6	1.7
14.	Road/Railway lick	0	0.0	8	2.3
15.	Naxalbadi (India)	0	0.0	2	0.6
16.	Around campus/school	0	0.0	2	0.6
17.	Others	0	0.0	2	0.6

**ANNEX – 10**  
**Combination of Different Drugs Injected by IDUs**

S.N.	Drugs Combination	First round (2003)	Second round (2005)
		N	N
1.	Tidigesic + Calmpose	118	0
2.	Tidigesic + Avil	102	22
3.	Tidigesic + Algic	44	0
4.	Tidigesic + Saipam	39	0
5.	Tidigesic + Diazepam	14	2
6.	Tidigesic + Phenargan	12	3
7.	Tidigesic + Espomas Proxyvon	8	0
8.	Tidigesic + Fortwin	7	0
9.	Tidigesic + Norphin	6	1
10.	Tidigesic + Proxyvon	6	0
11.	Tidigesic + Cyclopam	4	0
12.	Brown Sugar + Vitamin C	3	0
13.	Tidigesic + Phoding	1	0
14.	Tidigesic + Paczam	1	0
15.	Norphin + Avil + Diazepam	0	170
16.	Norphin + Diazepam	0	25
17.	Norphin + Avil + Diazepam + Phenargan	0	14
18.	Norphin + Avil	0	11
19.	Norphin + Avil + Calmpose	0	5
20.	Norphin + Calmpose	0	4
21.	Norphin + Avil + Diazepam+ Calmpose	0	3
22.	Norphin + Phenargan	0	3
23.	Tidigesic + Lubrigesic	0	2
24.	Norphin + Proxyvon	0	2
25.	Norphin + Diazepam + Phenargan	0	2
26.	Norphin + Diazepam + Calmpose	0	2
27.	Avil + Tidigesic + Phenargan	0	1
28.	Calmpose + Fortwin	0	1
29.	Norphin + Avil + Diazepam + Codiene	0	1
30.	Norphin + Algic	0	1
31.	Norphin + Saipam	0	1
32.	Norphin + Avil + Diazepam + Phenargan + Calmpose	0	1
33.	Avil + Phenargan	0	1
34.	Norphin + Avil + Phenargon+ Calmpose	0	1
35.	Proxigin + Spasminadan + Activate	0	1
36.	Avil + Diazepam + Phenargon	0	1
37.	Proxigin + Spasminadan	0	1
38.	Norphin + Avil + Diazepam + Spasminadan	0	1
39.	Avil + Diazepam + Tidigesic	0	1
40.	Norphin + Avil + Diazepam + Phenargon + Proxyvon	0	1
41.	Norphin + Avil + Diazepam + Calmpose + Proxyvon	0	1
42.	Norphin + Avil + Diazepam + Phenargon + Fortwin	0	1
43.	Norphin +Diazepam + Phenargon + Codeine	0	1
44.	Norphin + Avil + Diazepam + Kalading	0	1
<b>Total</b>		<b>365</b>	<b>289</b>

Note: Because of multiple answers, numbers may add up to more than 100.

**ANNEX – 11**  
**Switched from one Drug to another and the Reasons for it**

Drug switching behavior of IDUs	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Switched from one drugs to another drugs in past month</b>				
Yes	8	2.3	5	1.4
No	337	97.7	340	98.6
<b>Total</b>	<b>345</b>	<b>100.0</b>	<b>345</b>	<b>100.0</b>
<b>Switched From</b>				
Brown sugar to Tidigesic	8	100.0	1	20.0
Brown sugar to Proxyvon	0	0.0	1	20.0
Brown sugar to Norphin + Diazepam	0	0.0	1	20.0
Norphin + Nitrovate to Avil	0	0.0	1	20.0
Norphin + Diazepam + Avil to Alcohol + Phensydole	0	0.0	1	20.0
<b>Reasons for switching</b>	0	0.0	0	0.0
Not access of brown sugar	5	62.5	0	0.0
To reduce brown sugar/Leave slowly	3	37.5	0	0.0
Unavailability/Scarcity of drug	0	0.0	3	60.0
Lack of money	0	0.0	2	40.0
<b>Total</b>	<b>8</b>	<b>100.0</b>	<b>5</b>	<b>100.0</b>

## ANNEX – 12

### Cities/District and Countries Where Drugs were Injected by IDUs During Last 12 Months

City	District	Country	First round (2003)		Second round (2005)	
			n=292	%	n=312	%
Kathmandu	Kathmandu	Nepal	45	15.4	26	8.3
Biratnagar	Morang	Nepal	9	3.1	7	2.2
Dharan	Sunsari	Nepal	9	3.1	8	2.6
Belbari	Morang	Nepal	8	2.7	4	1.3
Birtamod	Jhapa	Nepal	6	2.0	0	0.0
Damak	Jhapa	Nepal	5	1.7	8	2.6
Vantabari	Sunsari	Nepal	3	1.0	0	0.0
Lalitpur	Lalitpur	Nepal	2	0.7	1	0.3
Pokhara	Kaski	Nepal	2	0.7	0	0.0
Ilam	Ilam	Nepal	2	0.7	1	0.3
Kerkha	Jhapa	Nepal	1	0.3	0	0.0
Rampur	Udayapur	Nepal	1	0.3	0	0.0
Kakarvitta	Jhapa	Nepal	1	0.3	2	0.6
Urlabari	Morang	Nepal	1	0.3	5	1.6
Charaali	Jhapa	Nepal	1	0.3	0	0.0
Jhiljhile	Jhapa	Nepal	1	0.3	0	0.0
Malangewa	Sarlahi	Nepal	1	0.3	0	0.0
Hamfagu	Taplejung	Nepal	1	0.3	0	0.0
Rabi	Panchthar	Nepal	1	0.3	0	0.0
Rajarani	Dhankutta	Nepal	1	0.3	0	0.0
Pakharibas	Dhankutta	Nepal	1	0.3	0	0.0
Siruwani	Dhankutta	Nepal	1	0.3	0	0.0
Okhaldhunga	Okhaldhunga	Nepal	1	0.3	0	0.0
Halesithan	Khotang	Nepal	1	0.3	0	0.0
Khadbari	Sankhuwasabha	Nepal	1	0.3	0	0.0
Dhankutta	Dhankutta	Nepal	1	0.3	6	1.9
Butwal	Rupandehi	Nepal	1	0.3	0	0.0
Kerabari	Morang	Nepal	1	0.3	1	0.3
Bhadrapur	Jhapa	Nepal	0	0.0	3	1.0
Gauradaha	Jhapa	Nepal	0	0.0	1	0.3
Paligaon	Morang	Nepal	0	0.0	1	0.3
Hariipur	Sunsari	Nepal	0	0.0	13	4.2
Itahari	Sunsari	Nepal	0	0.0	3	1.0
Triyuga	Udayapur	Nepal	0	0.0	1	0.3
Rajbiraj	Saptari	Nepal	0	0.0	2	0.6
Lahan	Siraha	Nepal	0	0.0	2	0.6
Janakpur	Dhanusha	Nepal	0	0.0	1	0.3
Birgunj	Parsa	Nepal	0	0.0	3	1.0
Jogbani	Arariya	India	212	72.6	256	82.1
Pani Tanki	Darjeeling	India	23	7.9	34	10.9
Galgaliya	Purniya	India	12	4.1	7	2.2
Thakurgunj		India	6	2.0	0	0.0
Silgudi		India	6	2.0	3	1.0
Delhi		India	5	1.7	6	1.9
Naxalbadi		India	5	1.7	10	3.2
Pharbisgunj		India	5	1.7	0	0.0
Birpur		India	3	1.0	0	0.0
Batase		India	2	0.7	0	0.0
Bombay		India	2	0.7	0	0.0
Rakshaul		India	1	0.3	2	0.6
Gorkhapur		India	1	0.3	1	0.3
Darjeeling	Darjeeling	India	1	0.3	0	0.0
Sippole		India	1	0.3	0	0.0
Dagijyot		India	1	0.3	0	0.0
Katihar		India	1	0.3	0	0.0
Devigunj		India	1	0.3	0	0.0
Calcutta		India	1	0.3	0	0.0
Nagaland		India	1	0.3	0	0.0
Sikkim		India	1	0.3	1	0.3
Bhagalpur		India	1	0.3	0	0.0
Tijpur		India	1	0.3	0	0.0
Babadham		India	1	0.3	0	0.0
Purniya	Purniya	India	1	0.3	0	0.0
Uttar Pradesh		India	1	0.3	0	0.0
Bhatparani		India	1	0.3	0	0.0
Kharsang		India	1	0.3	0	0.0
Himanchal Pradesh		India	1	0.3	0	0.0
Bagdohara		India	0	0.0	1	0.3
Sundarmod		India	0	0.0	1	0.3
Birpur		India	0	0.0	1	0.3
Bhagalpur		India	0	0.0	1	0.3
Hongkong		Hongkong	0	0.0	1	0.3

Note: Because of multiple answer, percentage and number may add up to more than the actual figure.

## ANNEX - 13

### Types of Treatment and Institutions Where Treatment Received

Types of Treatments  Types of Institutions	Resident -ial rehabilit ation		Out patient counseli ng		Forced to quit		Helped to quit		Without drug		With other drug		Mainten ance with Method one		Total	
	First round	Second round	First round	Second round	First round	Second round	First round	Second round	First round	Second round	First round	Second round	First round	Second round	First round	Second round
	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Punarjivan Kendra	16.9	9.8	1.4	-	-	-	-	-	-	1.2	-	-	-	-	18.3	10.8
Sebyan Drug De-addiction Center	8.4	1.2	-	-	-	-	-	-	-	-	2.8	-	-	-	11.2	1.2
Aashra Sudhar Kendra	5.6	1.2	-	-	-	-	-	-	-	1.2	-	-	-	-	5.6	2.4
Richmond Fellowship Center	2.8	1.2	-	1.2	-	-	-	-	-	-	-	-	-	-	2.8	2.4
Freedom Center	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-
SPYM – Darjeeling	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-
Doctor	1.4	-	-	-	-	-	-	1.2	-	-	5.6	-	-	-	7.0	1.2
Naulo Ghumti	1.4	1.2	-	-	-	-	-	-	-	-	-	-	-	-	1.4	1.2
Youth Vision	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-
Knight Chess Clup	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-
Kripa – Darjeeling	1.4	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-
BP Memorial Hospital	-	-	-	-	-	-	-	-	-	-	8.4	6.1	-	-	8.4	6.1
Self Tried	-	-	-	-	4.2	1.2	1.4	4.9	12.7	14.6	2.8	2.4	-	2.4	21.1	25.6
Addiction Recovery Center	-	12.2	-	-	-	-	-	1.2	-	2.4	-	-	-	-	-	15.8
Lifeline Help Group	-	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1
Wisdom Happy Nepal	-	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6
New Hope Foundation	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
Masina Punarsthapana	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
Dharan Youth Club	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
Western Treatment Center	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2
Family Members	-	-	-	-	-	-	-	7.3	-	4.9	-	-	-	-	-	12.2
AMDA-Nepal	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	1.2
Psychologist	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	1.2
Teaching Hospital	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	1.4	-
Private Clinic	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	1.4	-
Dota Ayurvedic	-	-	-	-	-	-	-	-	-	-	2.8	-	-	-	2.8	-
Sardar Hospital, Silgudi	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	1.4	-
R.K. Homiopathic Clinic	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	1.4	-
Nursing Home	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	1.4	-
Koshi Anchal Holpital	-	-	-	-	-	-	-	-	-	-	2.8	-	-	-	2.8	-
Nepal Medical College	-	-	-	-	-	-	-	-	-	-	1.4	-	-	-	1.4	-
Don't Know	-	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3
<b>Total</b>	<b>46.3</b>	<b>48.8</b>	<b>1.4</b>	<b>1.2</b>	<b>4.2</b>	<b>8.5</b>	<b>1.4</b>	<b>14.6</b>	<b>12.7</b>	<b>19.5</b>	<b>33.6</b>	<b>8.5</b>		<b>2.4</b>	<b>100.0</b>	<b>100.0</b>

Note: Because of multiple answers percentages may add up to more than 100.



**ANNEX - 14**  
**Relation between Sexual Behavior and HIV**

Sex with different partners in the past 12 months	First round (2003)				Second round (2005)			
	Total	HIV+	%	P value	Total	HIV+	%	P value
<b>With regular female sex partner</b>				> 0.05				>0.05
Yes	123	53	43.1		124	40	32.3	
No	74	12	16.2		201	63	31.3	
Never had sexual experience	148	56	37.8		20	6	30.0	
<b>With Non-regular female sex partners</b>				< 0.01				< 0.01
Yes	50	7	14.0		79	14	17.7	
No	147	58	39.5		246	89	36.2	
Never had sexual experience	148	56	37.8		20	6	30.0	
<b>With female sex worker</b>				< 0.01				< 0.01
Yes	70	11	15.7		84	13	15.5	
No	127	54	42.5		241	90	37.3	
Never had sexual experience	148	56	37.8		20	6	30.0	
<b>Number of female partners in the past 12 months</b>				<0.01				>0.05
<b>Number of Regular female sex partner in the past 12 months</b>								
0 Partner	222	68	30.6		221	69	31.2	
1 partner	122	53	43.4		123	40	32.5	
2 partners	1	0	0.0	1	0	0.0		
<b>Number of Non-Regular female sex partner in the past 12 months</b>				< 0.01				< 0.01
0 Partner	295	114	38.6		266	95	35.7	
1 partner	25	4	16.0		49	12	24.5	
2 or more partners	25	3	12.0		30	2	6.7	
<b>Number of female sex workers in the past 12 months</b>				<0.01				< 0.01
0 Partners	275	110	40.0		261	96	36.8	
1 sex worker	33	6	18.2		35	8	22.9	
2 or more sex workers	37	5	13.5		49	5	10.2	
<b>Total</b>	<b>345</b>	<b>121</b>	<b>35.1</b>		<b>345</b>	<b>109</b>	<b>31.6</b>	

**ANNEX - 15**  
**Reasons of not Using Condom in the Last Sex**

Reasons of not using condom	First round (2003)		Second round (2005)	
	N	%	N	%
<b>Reasons of not using condom with regular partner in the last sexual intercourse</b>				
Not available	1	1.1	8	8.6
Partner objected	7	7.9	2	2.2
Don't like them	17	20.2	23	24.7
Used other contraceptive	13	14.6	14	15.1
Didn't think it was necessary	68	76.4	60	64.5
Didn't think of it	1	1.1	1	1.1
Willing to have baby	0	0.0	3	3.2
Trust on partner	0	0.0	5	5.4
<b>Total</b>	<b>89</b>	<b>*</b>	<b>93</b>	<b>*</b>
<b>Reasons of not using condom with sex worker in the last sexual intercourse</b>				
Not available	14	56.0	16	66.7
Partner objected	3	12.0	1	4.2
Don't like them	4	16.0	7	29.2
Didn't think it was necessary	3	12.0	0	0.0
Didn't think of it	3	12.0	5	20.8
Others	1	4.0	0	0.0
<b>Total</b>	<b>25</b>		<b>24</b>	<b>*</b>
<b>Reasons of not using condom with non-regular partner in the last sexual intercourse</b>				
Not available	6	20.7	19	41.3
Partner objected	3	10.3	2	4.3
Don't like them	5	17.2	14	30.4
Used other contraceptive	1	3.4	2	4.3
Didn't think it was necessary	13	44.8	11	23.9
Didn't think of it	5	17.2	1	2.2
Trust on partner	0	0.0	1	2.2
Sexual dissatisfaction	0	0.0	3	6.5
Others	3	10.3	2	4.3
<b>Total</b>	<b>29</b>		<b>46</b>	<b>*</b>

\* Because of multiple answers percentages may add up to more than 100.

Family Health International  
HIV/AIDS Prevention, Control and Care Program  
Nepal Country Office  
PO Box 8803, Gairidhara, Kathmandu, Nepal  
Tel: 977-1-4427540, 4437173, Fax: 977-1-414063  
E-mail: [fhinepal@fhi.org.np](mailto:fhinepal@fhi.org.np), Web: [www.fhi.org](http://www.fhi.org)