Integrated Biological and Behavioral Surveillance (IBBS) Survey among People Who Inject Drugs (PWID-Male) in Pokhara Valley

Round VII

Final Report

Ministry of Health
National Centre for AIDS and STD Control
Teku, Kathmandu
2017

Field Work Conducted by:

The IBBS Surveys are part of the National HIV Surveillance Plan led by NCASC. The fieldwork of the survey was carried out by Intrepid Nepal Thapathali, Kathmandu with quality assurance from National Public Health Laboratory and with technical and financial assistance from the Save the Children.

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Nepal Health Research Council (NHRC) provided a professional review of the survey proposal, which enabled improved survey protocols. We are grateful to them for their support. We acknowledge the support provided by Nepal Police, and District Public Health Office (DPHO) of the survey districts to ensure that the field survey took place safely and in a timely manner.

Furthermore, we highly appreciate members of the Technical Working Group (TWG) and NPHL for their technical inputs. We are grateful to various national and international agencies that supported us directly and indirectly to complete this survey.

We are confident that the findings of this survey will provide crucial evidence regarding the ground realities of HIV/AIDs, HCB/HCV and STIs in Nepal. Furthermore, we believe that the results will aid in framing policies for reducing prevalence of HIV/AIDS and improving HIV/AIDS related prevention stratagem.

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Abbreviation

AIDS	Acquired Immuno Deficiency Syndrome
ART	Anti-Retroviral Therapy
BSS	Behavioral Surveillance Survey
CC	Community Centres
CHBC	Community and Home Based Care
CI	Confidence Interval
CMs	Community Motivators/Mobilisers
DIC	Drop-in Centre
EQA	External Quality Assessment
EQAS	External Quality Assurance Scheme
FSW	Female Sex Worker
GOs	Governmental Organizations
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counselling
IBBS	Integrated Biological and Behavioural Surveillance
IC	Information Centre
ID	Identifier
KAP	Key Affected Population
LSD	Lysergic acid diethylamide
NCASC	National Centre for AIDS and STD Control
NGO	Nongovernmental Organization
NHRC	Nepal Health Research Council
NPHL	National Public Health Laboratory
OE	Outreach Educator
PE	Peer Educator
PHCC	Primary Health Care Centre
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission of HIV
PPS	Probability Proportional to Size
PWID	People Who Inject Drugs
RDT	Rapid Diagnostic Test
RPR	Rapid Plasma Regain
SGS	Second Generation Surveillance

SITWG	Strategic Information Technical Working Group
SPSS	Statistical Package for the Social Sciences
STI	Sexually Transmitted Infection
TPHA	Treponema Pallidum Hemagglutination Assay
TPPA	Treponema Pallidum Particle Agglutination
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNGASS	United Nations General Assembly Special Session
USAID	United States Agency for International Development
WHO	World Health Organization

Table of Contents

List of Tables

List of Figures

Executive Summary

Introduction

HIV in Nepal is characterized as a concentrated epidemic. Nepal is categorized as a country facing concentrated HIV epidemic. IBBS surveys have been successfully conducted in various rounds in Nepal among key populations at higher risk for HIV. This round (seventh) of IBBS surveys among PWID in Pokhara Valley carried out under the leadership of National Center for AIDS and STD control (NCASC) with financial and technical support from Save the Children-Global Fund Programs.

Methodology

This descriptive serial cross-sectional survey was conducted among PWID from Pokhara Valley, For the purpose of this survey, the definition of a PWID was "Male aged 16 years or above who had been injecting drugs for at least three months before the date of the survey".

The sample was 345, and the respondent-driven sampling (RDS) methodology was adopted to recruit potential survey participants. The research was conducted in compliance with both ethical and human rights standards. Nepal Health Research Council permitted ethical approval for this survey. Informed consent was obtained from the PWID in the presence of a witness who signed on their behalf before the interview and collection of blood samples. Survey centers with laboratories/clinics were set up at easily accessible locations. Individual interviews, clinical examinations, and blood collection were carried out in separate rooms at each of the survey centers. In order to avoid the duplication single survey center was set up.

Data analysis was done using the IBM® SPSS® Statistical Package for Social Sciences (SPSS) and Respondent Driven Sampling Analysis Tools (RDSAT) software.

Laboratory Methods

HIV testing was done using Determine HIV 1/2 as the primary method for detecting antibodies against HIV. If the first test presented a negative result, no further tests were conducted. However, if the first test was positive, a second and third test was performed using Uni-Gold and Stat-Pak HIV 1/2. Syphilis was tested using the Rapid Plasma Reagin (RPR) test card and confirmed using the Serodia Treponema Pallidum Particle Agglutination (TPPA) test. Serum samples that tested RPR positive with titer value above or equal to 1:8 were reported as active syphilis; titration less than 1:8 were reported as a case with the history of syphilis. HCV and HBV testing were done using WHO recommended rapid test kits.

Key Findings

Prevalence of HIV and Syphilis

Estimated prevalence of HIV among PWID in Pokhara valley was 4.9 percent ranging between 2.1 to 6.7 at 95% confidence Interval (CI). Syphilis history was estimated among two percentages of PWID ranging between 0.5 to 4.3 at 95% CI, in this round of IBBS. No one tested positive for active Syphilis. HCV and HBV prevalence were found to be 21.2 (15.2 to 26.3 CI) percent and 3.1 (1.2 to 5.9 CI) percent respectively. Furthermore, the HIV prevalence has drastically reduced from 22.0 percent in 2003 to 4.9 percent in 2017. Likewise, the prevalence of syphilis has reached at zero percent from 1.3 percent in 2003

Background Characteristics

The majority of the PWID (81.1%) were below 35 years and literate (99.1%). Slightly more than half of PWID (56.5%) were never married. More than one-third of the PWID (37.4%) were married. Among the married PWID (37.4%), 19.3 percent had married before the age of 19 years. Most of the married PWID (61.2%) were living alone/without a sexual partner. About 39 percent of the PWID (38.8%) belong to relatively advantaged Janajatis. Moreover, most of them were living in Pokhara since birth (78.6%).

Drug Injecting Behavior

Most of the PWID (77.9%) were below 25 years when they had injected drugs for a very first time. Half of the PWID (52.5%) were injecting drugs for more than five years. In the past one week, the majority of the PWID (93.9%) had not shared a needle with anyone while 4 PWID (1.2%) had shared a needle with an unknown person. About 37 percent of the PWID (37.3%) had injected drugs more than once in last day.

Sexual Behaviors of PWID

Most of the PWID (97.4%) were involved in sexual activities, and among them, 87.2 percent had their first sexual intercourse before age 20. In the past 12 months, more than half of the PWID (55.5%) had more than one female sex partner. Likewise, in last 12 months, 40.2 percent of PWID have had sexual intercourse with a non-regular sex partner, and only 3 PWID (0.9%) had anal sex with a male partner.

Consistent Condom Use with Different Partners

Among those PWID who had sex with a regular female partner, the majority of them (70.2%) did not use a condom in the past 12 months. Most of the PWID (79.5%) were not involved in sexual activity with a female sex worker in last 12 months. Moreover, among them who had sexual intercourse with FSW, 52.2 percent used condoms every time. Less than half of the PWID (32.6%) had used condoms with a non-regular female partner in last 12 months.

Comprehensive knowledge on HIV

About 31 percent of PWID correctly identified all three ABC (A. Abstaining from sex; B. Being faithful to one partner/avoiding multiple sex partners; C. Consistent condom use or use of condom during every sex act) as HIV preventive measures. Less than half (48.4%) of PWID correctly identified all five 'BCDEF' (D. A healthy-looking person can be infected with HIV; E. HIV cannot be transmitted through a mosquito bite; F. HIV cannot be transmitted while sharing a meal with an HIV-positive person).

Knowledge of HIV testing centers and undergone HIV testing

Most of the PWID (84.6%) knew about a confidential HIV testing facility in their community. Out of total involved PWID, 63.2 percent have ever had HIV test, and among them, 83.9 percent had done HIV test voluntarily. Among PWID who had HIV test, almost all of them (99.1%) had received the result, and 10 PWID (4.6%) were found to be HIV positive, after taking an HIV test.

Exposure to ongoing HIV Awareness Programs

More than one-fourth of the PWID (27%) had met a Peer Educator/Outreach Educators (PE/OE) in the last 12 months. In addition, most of the PWID (59.4%) had visited a Drop-in Clinic (DIC) in the past year. Among those who had visited a DIC, about 65 percent of them had visited more than twelve times in past 12 months. The majority of PWID (96.5%) had not visited any STI clinic in the last 12 months. Among those PWID who had visited STI clinic,66.7 percent had done blood tested for STI. Likewise, 50.4 percent of PWID had visited HTC center and among them, 1,1 percent had visited those centers for more than 12 times in last 12 months.

Knowledge on PMTCT, ART, Viral Load and CHBC Services

The majority of the PWID (87.8%) hadn't heard about the PMTCT services for pregnant women. Likewise, only 28.4 percent of PWID had heard about antiretroviral therapy (ART) services. Most of the PWID (80.9%) had knowledge of viral load testing services, and among them, 75.4 percent knew where to access these services. Moreover, less than one-fourth of the PWID (23.5%) have heard about CHBC services that are provided for HIV-positive people.

CHAPTER I: Introduction

1.1 Background

In Nepal, the spread of Human Immunodeficiency Virus (HIV) is concentrated among key populations (KPs) comprising of people who inject drugs (PWID), men who have sex with men (MSM), labor migrants, spouses, and Female Sex Workers (FSWs). The transmission of HIV is largely driven by key populations and consequential health risk behaviors. The Integrated Biological and Behavioral Surveillance (IBBS) survey is a descriptive serial cross-sectional survey conducted to monitor trends in HIV and STI prevalence and to explore behavioral information from high-risk groups. Behavioral surveillance is a systematic and ongoing collection of data about risk behaviors related to disease and health conditions, with the purpose of correlating trends in behavior with changes in disease over time. In biological surveillance, biological samples are collected and tested for HIV and other related illnesses. In Nepal, the National Center for AIDS and STD Control (NCASC) aims to track patterns of HIV prevalence, STI-related awareness, and risk behaviors among key populations. A standardized format of the questionnaire is used for each group, which is repeated with relevant modification in the following rounds of the survey to explore behavioral changes over time (NCASC, 2016).

Injection of drugs is strongly linked to HIV because of the higher rate of HIV transmission through needles. Syringe use and needle sharing habits are one of the key behavioral factors that act as the principle driver in the transmission of HIV and other blood borne pathogens. Findings obtained from the previous survey have shown that the prevalence of HIV in PWID ranges from 22 percent in 2003, 21.7 percent in 2005, 6.8 percent in 2007, 3.4 percent in 2009, 4.6 percent in 2011 to 2.8 percent in 2015 in Pokhara valley. Although the prevalence is on a decreasing trend, the current status of HIV among PWID cannot be ignored. Thus the investigation of the prevalence of HIV and social and behavioral correlates of HIV infection among people who inject drugs in Nepal is very essential.

Injecting drug use is one of the major risk behaviors that often triggers the transmission of HIV and AIDS among the population who practice injecting habits. Injection of drugs is strongly linked to HIV because of the higher rate of HIV transmission through needles. Syringe use and needle sharing habits are one of the key behavioral factors that act as the principle driver in the transmission of HIV and other blood-borne pathogens.

IBBS surveys have been successfully conducted in various rounds in Nepal among key populations at higher risk for HIV. Different round of IBBS surveys were successfully carried out under the leadership of NCASC with support from USAID, Global Fund and Pooled Fund. Evidence from different rounds of IBBS surveys carried out in Nepal suggest that HIV prevalence is still high among PWID compared to other key populations such as FSW, MSM and migrants. This is seventh round of IBBS surveys among PWID in Pokhara Valley.

1.2 Objectives of the Survey

The primary objectives are:

- To track the trend in the prevalence of HIV and STI infection among PWID in Pokhara Valley

- To determine the prevalence of Hepatitis B and Hepatitis C among PWID in Pokhara Valley
- To assess the sexual and injecting behaviors related to HIV and STI among the survey populations in the selected survey areas

The secondary objectives are:

- To determine socio-demographic characteristics among PWID in Pokhara Valley
- To estimate the knowledge of HIV/STI as well as sexual and injecting behaviors among PWID in Pokhara valley
- To explore exposure to HIV and AIDS programs among PWID Pokhara Valley
- To estimate the prevalence of STI syndromes among PWID

1.3 Rationale of the Survey

IBBS Surveys are a strong component of HIV surveillance whose findings are widely used in designing HIV response, monitoring HIV prevention, care and treatment programs and estimating and projecting HIV infections throughout the world. These are the major source of information used by donors, policymakers, program designers, implementers, academicians and civil society organizations in order to track the level of HIV epidemic and related risk behaviors in Nepal. As a key component of national HIV surveillance plan of Nepal, IBBS are conducted at a regular interval in Nepal. Data on key National HIV Indicators (outcome and impact), as well as estimation and projection of HIV infections in the country, are heavily based on IBBS survey data. Likewise, IBBS are a major source of information for understanding the HIV dynamics including behavior as well as the prevalence of HIV and STI among key populations. Similarly, key global reporting requirements were also calculated and reported using the IBBS survey data.

IBBS surveys are a major source of information for understanding the HIV dynamics including behavior as well as HIV and STI prevalence among key populations. IBBS survey is a key component of the national HIV surveillance plan of Nepal and is collected at regular intervals. Estimation and projection of HIV infections in the country are also heavily based on IBBS surveys data.

CHAPTER II: Methodology

2.1 Survey design

The survey was descriptive serial cross-sectional in design.

2.2 Survey Population

The survey population of the survey was "*Male aged 16 years or above who had been injecting drugs for at least three months before the date of the survey*."

2.3 Survey Site

This survey was conducted in Pokhara Valley (Kaski district).

Figure 2-1: Map of Nepal showing survey district

2.4 Survey Period

The fieldwork for the survey started on May 20, 2017, and completed on June 9, 2017.

2.5 Sample Design

Respondent driven sampling (RDS) method, a form of a chain-referral sampling; specifically targeted for hard to reach populations like PWID; was used to recruit participants. The RDS, unlike the "snowball" method, attempts to overcome biases such as masking, volunteerism, and oversampling of groups with large networks. Thus, gives rise to unbiased estimates of population parameters (Heckathorn, 1997) and provides more samples that are representative. Since it relies on social networks, RDS has the potential to reach individuals, who were hard to reach such as MSM, PWID. In RDS, the sampling frame was created based on information collected from the participants during the sampling process itself.

The sampling process began with the selection of a set of people from the target population to serve as 'seeds.' A preliminary community consultation exercise before the field survey was carried out with the help of local NGO partners to help acquaint the survey team with several

PWID, their gathering locations and their networks. This information helped to recruit four PWID as "seeds", each from Bagar, Lakeside, Birauta and Lekhnath of Pokhara.

2.6 Sample Size

The same size of the sample used for previous rounds of IBBS surveys was also used in this round as well. Initially, the sample size was determined by using a statistical formula that estimated a sample size of 345 PWID.

2.7 Seed selections and Recruitment

Based on RDS methodology, the survey team, in consultation with motivators and relevant stakeholders first recruited four PWID as 'seeds.

Selected "seeds" were demographically heterogeneous in age, ethnicity and geographical distribution. Those "seeds" were informed about the survey protocols and procedures and will be encouraged to recruit other eligible individuals from their social networks randomly to participate in the survey.

Local key informants helped in the "seed" recruitment process. After participating in the survey, each "seed" were provided with a maximum of three recruitment coupons, which were used to recruit three subsequent PWID within their networks. This process was repeated with each subsequent survey participant till the required sample size was achieved. The referral coupon consisted of a unique serial number that linked the recruiter to his recruit

When PWID arrived at the survey site center (which was set up at Nagdhunga, Pokhara), the new recruits presented their coupons to the survey team. Those eligible for the survey were further inducted as a new functional "seed". Each uniquely coded coupon was used to monitor recruitment and was also recorded in the questionnaires. Among the six seeds, the maximum and minimum completed waves were eight and two respectively.

The dual incentive was provided to the PWID at two levels. Initially, each participant was provided with an incentive for the participation in the Survey and an additional incentive for each recruited by them.

2.8 Data collection tools and technique

All PWID participated voluntarily and consensually in the survey. An inclusion criterion was developed for participation in the survey. Those who failed to meet the criteria to participate were not enrolled. Data collection tools and techniques

Both biological and behavioral data were collected, including handling of biological data for external quality assurance. The survey used a structured questionnaire to assess background characteristics, injecting drug practices, sexual risk behaviors, use of condoms, knowledge and awareness of HIV/AIDS, HCV/HBV, STIs, exposure to HIV/AIDS programs, stigma and discrimination. The questionnaire was developed concerning the existing questionnaire used in the previous round (VI) of IBBS survey among PWID in the same districts. Modifications were made to the questionnaire based on the pretest. Data collection tools were developed in Nepali, and the interviews were conducted in the Nepali language.

2.8 Study Personnel

The survey team comprised of a team leader, a research officer, a statistician, field researchers, lab technicians, STI clinician, counsellors, community motivators and support staff.

2.9 Training of Field Team and Pretesting

Intrepid Nepal provided the field team with 6 days of training. The experts from NCASC facilitated the training, Save the Children, FHI 360, and Joint United Nations Programme on HIV/AIDS (UNAIDS). The training covered an overview of IBBS, HIV Epidemic and Surveillance System in Nepal, survey design and approaches, sampling approaches, behavioral interviews, interview process, administering informed consent/assent, data collection tools, and role(s) and responsibilities of the team members. The training was followed by mock interview exercises in pairs and large group reflection that involved a discussion of mock exercises. Additionally, experts from PWID networks and organisations also shared their experiences on working with PWID.

With the help of Recovering Nepal (RN), implementing agencies (through their peer educator's/outreach educators), contacted PWID and invited them for the pre test with the inclusion of the survey tools. The pretest was carried out at Kalanki DIC of Sathi Samuha and consent was taken from all the survey participants. A total of four PWID were interviewed during the pretesting. The tools were revised based on the pretest. Information collected during the pretest was not included in the main analysis.

2.10 Fieldwork

The actual fieldwork of the survey started on 20 May 2017. Before the fieldwork, a stakeholder meeting was conducted among representatives from government organizations (GOs) and I/NGOs working with PWID. During the meeting, participants shared their experiences and knowledge about different types of PWID and provided further support for the survey. After the consultation meeting, the survey team contacted the potential community mobilizers and prepared them with required information regarding the target population for the s. The survey team, with the help of CMs, selected four seeds of PWID, heterogeneously, from the Pokhara Valley. The clinic site was centrally located specifically for the convenience of meeting and bringing the PWID to the individual survey sites. The field office had separate rooms for each activity such as welcome and registration, interviews, general physical and STI examinations, drawing blood and laboratory testing of blood, and pretest and posttest counseling. Before the interview, PWID were informally asked a few questions to ensure that they met the eligibility criteria set for the survey. Injecting marks were also observed to screen for injecting behavior (i.e. skin lesions, abbesses, or puncture wounds).

Strict confidentiality was maintained throughout the survey. All interviews were conducted by researchers in a private room. No names were mentioned in the tools or notes. Instead, participants were provided with a unique ID number written on a card. The same number was marked on the medical record, and blood specimen of each respondent. This card was also used for the distribution of the test results. Only those participants who showed their ID card were provided with the HIV, HCV, HBV and syphilis test results along with posttest counseling. The entire work of fieldwork was completed on 7 June 2017.

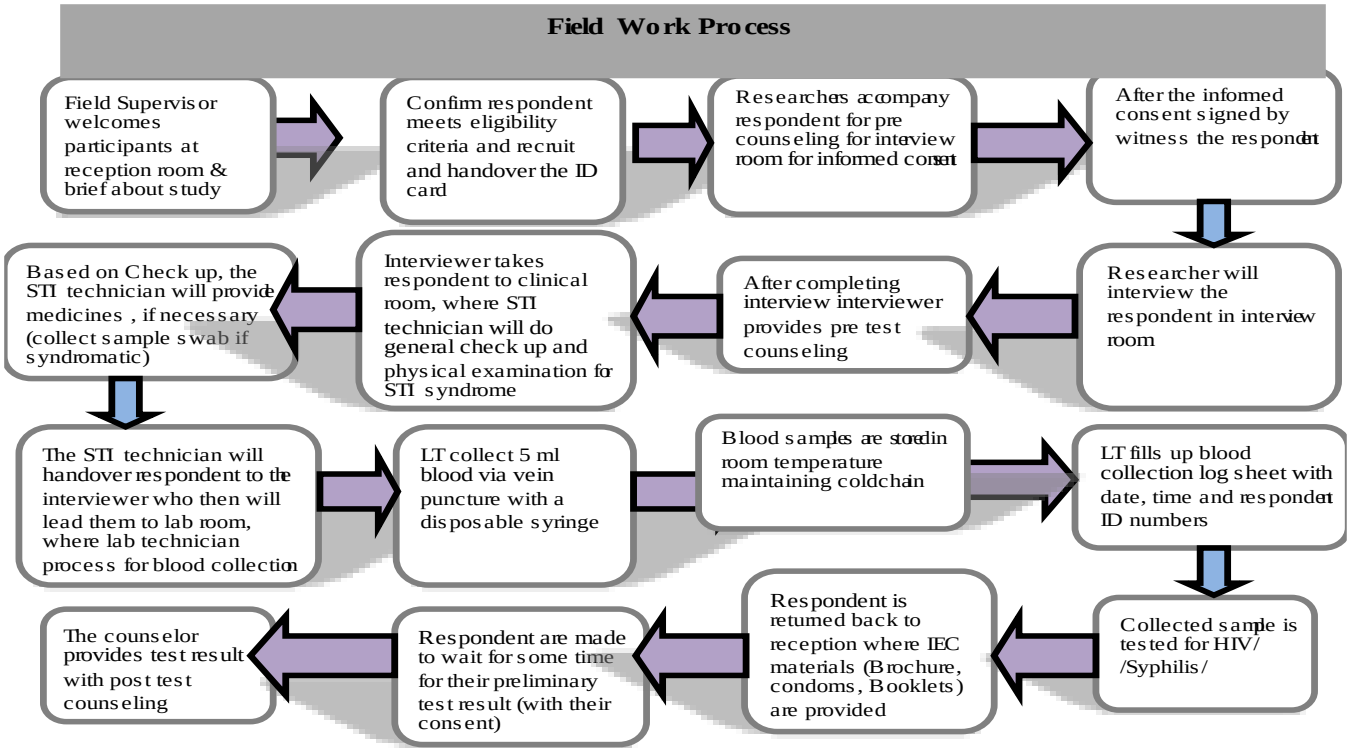

Figure 2-2: Fieldwork Process for IBBS Survey

Control of Duplication

A supervisor screened all PWID with RDS recruitment coupon before enrolling in the survey. Each PWID provided a unique ID number that was intended to identify his medical records, and blood specimen. By maintaining confidentiality, unique ID number was used to each PWID data set and for the dissemination of the test results. After completion, each PWID was informed that the same person would not be able to take part in more than one instance of the survey and thus should avoid recruiting any person who had already received a coupon from others and/or had already participated in the survey or been inducted by another. The participant PWID were asked several questions related to: their experience of having undergone blood tests, the part of the body from where the blood was extracted, their experience with HIV tests (and/or other tests), previous meetings with Intrepid staff and peer educators and; session of ID card with survey number. Apart from that, the single survey site was setup to eliminate duplication

2.11 Refusal

All PWID participated voluntarily in the survey, and none of the PWID approached by the survey team refused to participate in the survey.

2.12 Clinical and Laboratory Procedure

PWID were checked for any clinical symptoms of STIs by a certified health assistant who also filled out a checklist of health information provided by each participant. The clinical examination included a simple health checkup (measuring blood pressure, body temperature, weight, and pulse) and a symptomatic examination for the presence of any STIs followed by

any necessary syndromic treatment (NCASC, National guidelines on Case Management of sexually transmitted infections, 2014). Laboratory service entailed rapid onsite screening of HIV1/2, HVB, HCV and syphilis followed by a confirmation test.

Approximately 5 ml of whole blood was drawn from each of the PWID using a disposable syringe. The blood sample was centrifuged to separate the blood cells from the serum. Each sample was labelled with the unique ID number correlating to an individual PWID. Following collection, a lab technician used the serum to perform a rapid HIV, HBV, HCV test and RPR test. Universal precautions and safe waste management practices were followed properly. For external quality assurance of tests, all positive and 10 percent of negative samples were sent to the National Public Health Laboratory (NPHL) in Kathmandu for HIV and Syphilis.

HIV1/ 2

The HIV screenings of serum samples were performed using rapid test kits following the national HIV testing algorithm. Determine HIV 1/2 (Abbot, Japan), Uni-Gold HIV 1/2 (Trinity Biotech, Ireland), and Stat-Pak HIV 1/2 (Chembio Diagnostics), as per the National Voluntary Counseling Testing (VCT) guidelines developed by NCASC in 2007, were followed. All the kits were based on the immune chromatography principle for detecting antibodies against HIV in serum or blood. A serum that tested reactive with the initial kit was confirmed with the second kit (A2) and Third Kits (A3). Samples that were found reactive on all three (A1, A2 and A3) tests were considered HIV-positive. Samples that were non-reactive on the first test (A1) were considered HIV-negative. Any sample that was reactive on the first (A1), second (A2) test and nonreactive in the third test (A3) then we repeated all the three tests (A1, A2, and A3) with the same individual sample, and if retested result is same (A1, A2 positive and A3 negative) then the sample was considered HIV inconclusive. In that condition, respondent was suggested to repeat the test after 14 days. The internal quality of the assay was assured by the inbuilt control of each kit and external quality was assured by sending all positive cases and 10% of negative cases to reference lab (NPHL).

HIV Rapid Test Algorithm

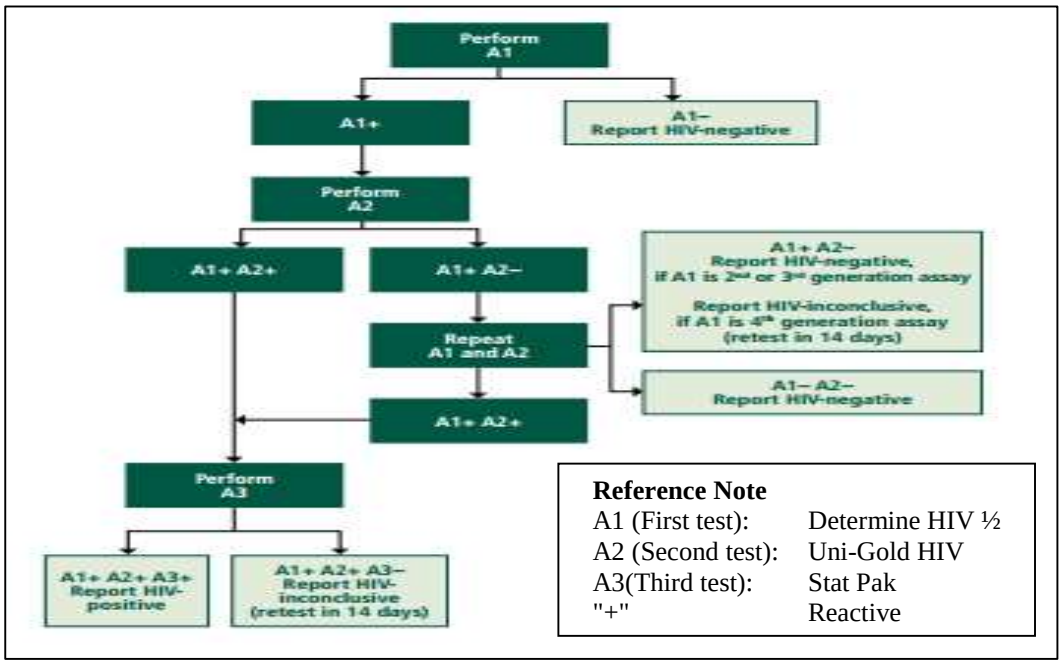

Figure 2-3: HIV Testing Algorithm

Syphilis

The serum was tested for nonspecific and specific treponemal agents. A non-treponemal test, Rapid Plasma Reagin (RPR) [WAMPOLE Impact RPR card test, Alere, was used for both qualitative screening and semi-quantitative titration]. All RPR reactive serum was confirmed using the specific Treponema Pallidum Particle Agglutination (TPPA) test (Fuji Rebio Inc.). Serum samples that tested RPR positive with titer value above or equal to 1:8 were reported as active syphilis; titration less than 1:8 were reported as cases with a history of syphilis. The quality of reagents and test cards of the RPR test kits were assessed on the site daily using a set of strong and moderate positive and negative controls. As part of external quality assurance, internal controls (positive and negative) were used to ensure the kits were working accurately and that all reactive/positive samples and 10% of nonreactive/negative samples were sent to NPHL for retesting.

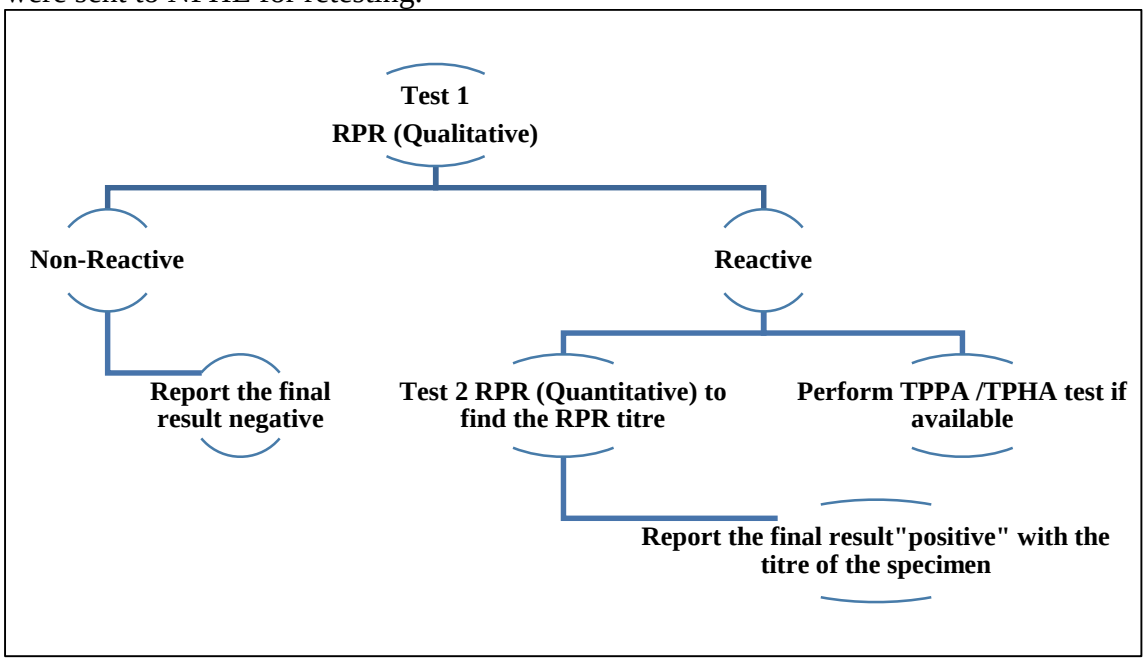

Figure 2-4: Syphilis Testing Algorithm

Syphilis RPR and TPPA test:

The combination of RPR Qualitative, RPR titre and TPPA test results were used for interpretation of the status of syphilis in the clients as follows:

- RPR positive with more than or equal to 1:8 titre value and positive TPPA test confirms active Syphilis cases.
- RPR is positive with less than 1:8 titre values with positive TPPA test confirms the history Syphilis cases.

Hepatitis B and C

The HBV and HCV screenings of serum samples were performed using rapid test kits.

HBV

Hepatitis B virus (HBsAg) testing was done using HEPACARD. HEPACARD is visual, rapid, sensitive and accurate one step immunoassay for the qualitative detection of Hepatitis

B surface antigen (HBsAg) in Human serum or plasma. The assay is intended to be used as an aid in the recognition and diagnosis of acute infections and chronic infectious carriers of the Hepatitis B Virus(HBV).

HCV

Hepatitis C virus (HCV) HIV testing was done using 4th Generation HCV TRI-DOT. The 4th Generation HCV TRI-DOT is a rapid, visual, sensitive and qualitative in vitro diagnostic test for the detection of antibodies to Hepatitis C Virus in serum samples. The 4th Generation HCV TRI-DOT has been developed and designed with increased sensitivity for core and NS3 antibodies using a unique combination of modified HCV antigens. They are for the putative core (structural), protease/helicase NS3 (non-structural), NS4 (nonstructural) and replicase NS5 (non-structural) regions of the virus in the form of two test dots "T1" & "T2" to provide a highly sensitive and specific diagnostic test

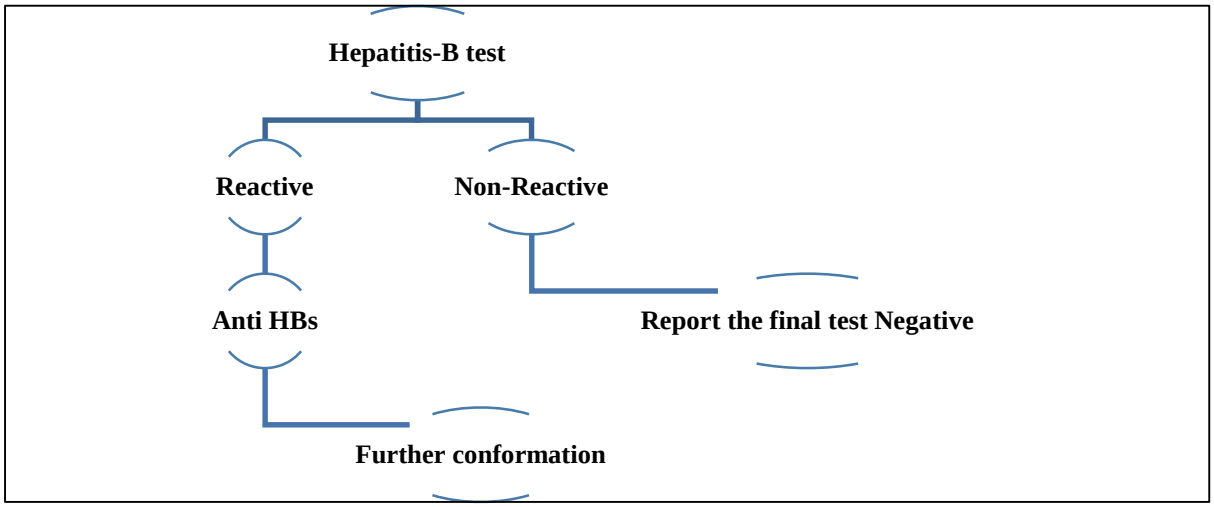

Figure 2-5: Hepatitis B (HBV) Algorithm

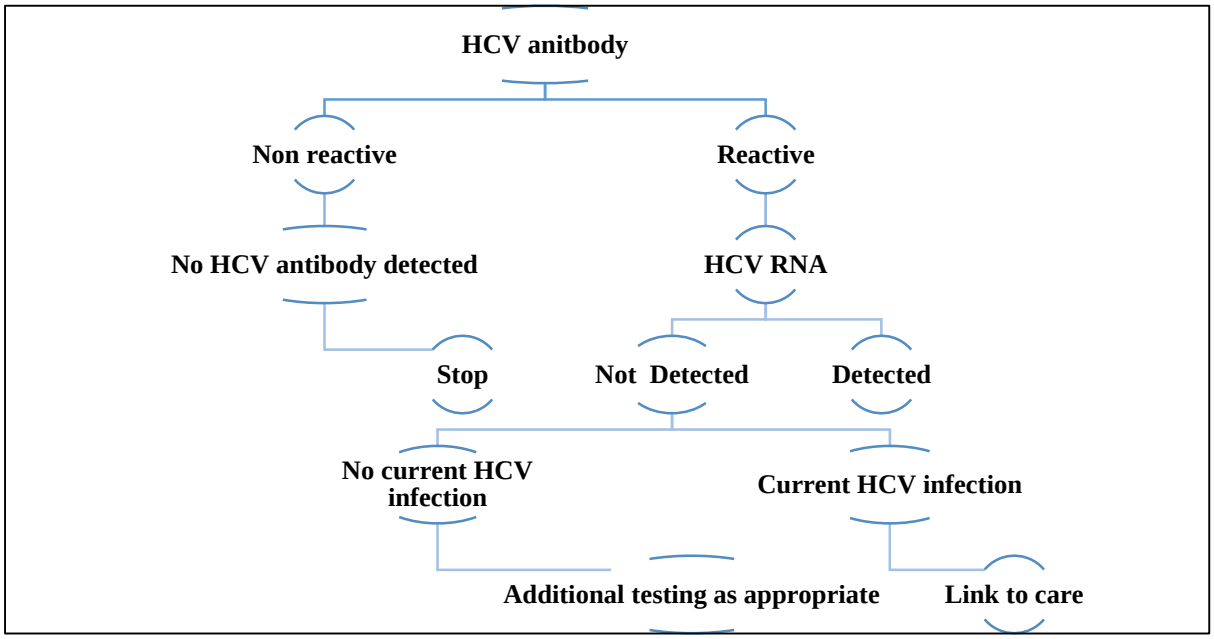

Figure 2-6: Hepatitis C (HCV) Algorithm

2.13 Precautions, Disposal Mechanism and Post-Exposure Management

Universal precautions and post-exposure management were followed as per the recommendations of the Center for Disease Control (CDC, USA) and Nepal's national guidelines. To minimize the possible spread of infection to clinical personnel and the local community, a strict disposal procedure was implemented. Colour coded disposable plastic bags were inserted in a thick leak-proof container with a tight seal. All materials were decontaminated by disinfecting or incinerating before disposal. Contaminated materials including specimens of bodily fluids, cotton gauze, broken glassware, and used needles were decontaminated in 0.5% Sodium Hypochlorite on a daily basis. The plastic material, papers and cotton were incinerated. The used Sodium Hypochlorite was poured down the drain or in a flush toilet.

2.14 Quality Control of Laboratory Tests and External Quality Assurance Scheme

Quality control was strictly maintained throughout the process of specimen collection, as well as during the handling and testing stages. All the tests were performed using internal controls. Built in controls for the Rapid Diagnostic Test (RDT) and known external controls (positive and negative) for RPR and TPPA were used to ensure the validity of the tests. These controls were recorded with all of the laboratory data. For external quality control assurance, all positive, and a 10 percent sample of the negative serum collected were submitted to the NPHL to test for HIV, HBV, HCV and Syphilis. Aliquots of selected serum specimens were prepared in the field and sent to NPHL within a week maintaining cold chain system.

2.15 Fieldwork Supervision and Monitoring

The progress of the fieldwork was closely monitored throughout the survey period. The survey team visited survey sites on an ongoing basis to monitor, supervise, and assist the field staff. A tracking sheet was developed to document the number of interviews conducted per day at each site.

Similarly, quality of the collected data was maintained throughout the survey period. The team leader and research officer were both involved in monitoring controlling quality from the initial stage of the fieldwork. They reviewed forms to ensure that: 1) the correct clusters had been surveyed; 2) the correct number of PWID had been interviewed, and 3) the correct administration of the tablets for data collection had been carried out. External monitors from NCASC, Save the Children and IBBS consultant also monitored the fieldwork.

2.16 Data management

Tablet based data collection forms were used in the survey. The tablet-based data collection form was developed by Pathways. The electronic data was extracted into MS Excel for verification and transferred into Statistical Package for the Social Sciences (SPSS) and RDSAT. A number of quality check mechanisms including range checks, logical checks, and skip instructions were developed to avoid the errors during the data entry stage.

To ensure confidentiality, each PWID was given a unique identity number. The numbers were coded in each questionnaire. The numbers, however, did not correspond to the names,

contact numbers or addresses of the participants of the survey. All entered data was kept secure in encrypted, password protected computers at the Intrepid Nepal to ensure anonymity of the participants.

2.17 Data analysis

Raw data was prepared using SPSS. This included generating new variables and recoding missing values. Datasets were then converted to Microsoft Excel files and then to RDS files (Tab Delimitated Text Format). Prevalence estimates of key indicators were performed in RDSAT. With RDSAT the pull-in outlier option was used to eliminate extremely small and large outliers in the reported network sizes. When the program encountered an individual whose network size was considered to be outside of the specified bounds, their network size was set to the value of the nearest lower or upper bound (by percent) with the help of the pull-in outlier options. RDSAT analysis for this Survey used 5% pull-in outliers of network size. The reported minimum network size was 3 and maximum was 20 while adjusting the pull – in outliers. Based on the reporting, the not adjusted parameters were minimum 2 and maximum 60 pull–in outliers. Simple statistical tools-frequency distribution, percent, range, and proportion, mean and median, were used to analyse the results of the survey. Both clinical and behavioral data were used to examine the relationship between the socio-demographic characteristics, HIV status, and sexual behaviors.
Output values that have been analyzed using RDSAT are the estimated population proportions.

2.18 Ethical Considerations

Nepal Health Research Council (NHRC) approved the protocol of the survey. The survey was conducted in compliance with all human rights and ethical standards required by health researchers conducting studies in human subjects on sensitive issues, such as HIV and AIDS.

Informed consent was obtained from PWID before the interview. The informed consent was taken in the presence of a witness (community motivators or another member of the survey team) who then signed the consent form. The procedure of the survey was designed to protect the privacy of the participants' allowing for anonymous and voluntary participation. Names and personal identifiers were not used during the collection of the required data before the interview, the purpose and benefit of the survey were explained to each participant. They were provided with information about the risks, confidentiality, and compensation. The participants were given the opportunity to ask questions about the survey and to decide whether they would like to participate in the survey. During the consent process, the participants were told that they were free to refuse or decline to participate at any stage during the survey. Although the risk of participating in this survey was minimal, there were some questions that could make the survey subjects uncomfortable. They were clearly informed that in such a situation they were free to decline to answer such questions and could also withdraw from the survey at any time. Best efforts (confidential, free to withdraw form survey any time) were made to minimise risks associated to survey participants. During the analysis and presentation of the survey findings, the names or addresses of the PWID were not mentioned.

2.19 Post-Test Counseling and Distribution of Test Result

All PWID who were tested obtained their test results. All of the, who wanted their test results and showed their ID card, were given access to their HIV, HBV HCV and syphilis test results along with posttest counseling. Posttest counseling and individual report dissemination was conducted for the PWID on the same day of the interview. The counseling session was provided by trained counselors and focused on high-risk behaviors and other aspects related to STIs and HIV. Some PWID were also referred to other health facilities for further services.

2.20 Limitations of the survey

- This survey was conducted in Pokhara Valley in Nepal. The analysis and results presented in this report are, therefore, confined to Pokhara valley, and may not be generalized to other districts or any other parts of the country.

- There may be a possibility of biased response. Survey participants are expected to provide honest responses to the survey questions asked; however, in some circumstances, this assumption may be breached due to factors such as social desirability or recall bias.

CHAPTER III: Socio-Demographic Characteristics

In this survey, the socio-demographic characteristic of PWID in Pokhara valley was assessed, and this chapter analyzes about the same.

3.1 Demographic Characteristics

The median age of the PWID was 27 years, with the age group of 20-24 years (27.8%), 25-29 years (24.3%) and 30-34 years (20.3%) having the highest representation. Likewise, out of total PWID, more than half of them i.e. 56.5 percent were never married while 37.4 percent were married. As for their age at first marriage, most of them (42.7%) reported getting married within the age group of 20-24 years, followed by 38.0 percent who got married at the age group of "25 years and above". The rest of the PWID (19.3%) revealed their age at first marriage as below 19 Years (Table 3-1).

Furthermore, the survey also explored with whom the PWID were currently living with and the results obtained show that most of them (61.2 %) were living without sexual partner/alone while 37.2 percent reported they were living with other sexual partners. Only 1.6 percent was reported to be living with their wife (Table 3-1).

Table 3-1: Demographic Characteristics

	N=345	%
Age		
16-19 Years	30	8.7
20-24 Years	96	27.8
25-29 Years	84	24.3
30-34 Years	70	20.3
35 Years and above	65	18.8
Median Age (Range)	**27 (17 – 56)**	
Mean Age ± Std.Dev.	**28.16 ± 7.34**	
Marital Status		
Never married	195	56.5
Married	129	37.4
Divorce/Permanently separated	21	6.1
Age at First Marriage (n=150)		
<=19 Years	29	19.3
20-24 Years	64	42.7
25 Years and above	57	38.0
Median Age (Range)	**23 (10 – 45)**	
Mean Age ± Std.Dev.	**23.5 ± 5.66**	
Married PWID Living With (n=129)		
Wife	2	1.6
With Other Sexual Partner	48	37.2
Without Sexual Partner/Alone	79	61.2

3.2 Social Characteristics

Analysis of the social characteristic explored that, out of total PWID who were enrolled in this study, majority of them (68.4 %) had completed secondary level education followed by 20.9 percent who had completed their SLC or above and 7.5 percent with primary level of education. As for their caste/ethnic representation, about 38.8 percent belonged to relatively

advantaged Janajatis, 27.8 percent belonged to upper caste groups, 19.1 percent belonged to disadvantaged Janajatis and 13.3 percent belonged to Dalits. Likewise, a large proportion of PWID (78.6 %) were found to living in Pokhara since birth and 15 percent were living at Pokhara for more than five years. The rest of the PWID were staying at Pokhara since the time duration of less than five years only (Table 3-2).

Table 3-2: Social Characteristics

	N=345	%
Education		
Illiterate	3	0.9
Literate, no schooling	8	2.3
Primary	26	7.5
Secondary	236	68.4
SLC and above	72	20.9
Ethnicity		
Dalits	46	13.3
Disadvantage Janajatis	66	19.1
Disadvantage non-Dalit Terai cast groups	2	0.6
Religious Minorities	1	0.3
Relatively advantaged Janajatis	134	38.8
Upper caste groups	96	27.8
Duration of stay in Pokhara		
Since birth	271	78.6
<= 5 years	22	6.4
More than 5 years	52	15.

3.3 History of Imprisonment

The table shows the results on history of imprisonment of the PWID. Majority of the PWID (65.8 percent) had such history of imprisonment or were detained for some reason. Out of those 227 PWID, 32.6 percent reported the occurrence of such event of imprisonment/detention within the past one year. In the same way, out of those who were imprisoned in the past one year, 55.4 percent were imprisoned because of drugs, while the rest 44.6 percent were not. The study also explored the frequency of imprisonment of the PWID, and the findings show that 82.9 percent were imprisoned only once whereas the rest 12.2 percent were imprisoned twice. In addition, 9.8 percent were found to be injecting drugs during the imprisonment.

	N=345	%
Imprisoned or detained for any reason		
Yes	227	65.8
No	118	34.2
Imprisoned or detained for any reason in the past year (n=227)		
Yes	74	32.6
No	153	67.4
Jailed/imprisoned in the past one year because of drugs (n=74)		
Yes	41	55.4
No	33	44.6

Frequency of jailed/imprisoned in the past one year because of drugs (n=41)		
Once	34	82.9
Twice	5	12.2
Three and more	2	4.9
Injected drugs during the jailed /imprisoned		
Yes	4	9.8
No	37	90.2

CHAPTER IV: Prevalence of Biological Tests

The results comprised of biological and behavioral components. The biological components include the prevalence of HIV, Syphilis, HCV, and HBV. The behavioral component consists of background characteristics, drug injecting behaviors, sexual behaviors, condom used with different partners, knowledge of HIV, exposure to HIV programs, stigma and discrimination among PWID.

4.1 Prevalence of HIV, Syphilis, HCV and HBV

The table below shows the results regarding the biological components of the PWID. Based on the data collected, 4.9 percent of PWID are estimated to be HIV-positive, 21.1 percent are estimated to have Hepatitis C, and 3.1 percent are estimated to have Hepatitis B. Likewise, the prevalence of HIV and HCV co-infection was calculated to be 3.4 percent, followed by the prevalence of HCV and HBV co-infection (2.2%) (Table 4-1).

Table 4-1: Prevalence of HIV, Syphilis, HCV and HBV

	N=345	Estimated proportion *	CI
HIV	17	4.9	2.1 – 6.7
Hepatitis C (HCV)	77	21.1	15.2 – 26.3
Hepatitis B (HBV)	9	3.1	1.2 – 5.9
Active Syphilis	0	0.0	-
History Syphilis	6	2.0	0.5 – 4.3
HIV and HCV (Co-infection)	13	3.4	1.3 – 4.6
HIV and HBV (Co-infection)	2	1.8	**
HCV and HBV (Co-infection)	3	2.2	0.3 – 3.5
HIV, HCV and HBV (Multiple Infection)	1	1.0	0.0 – 1.0

** Estimated weighted values using RDSAT; ** Confidence Interval (Level=0.95); Cannot be Calculated*

4.2 Relation between Socio-Demographic Characteristics and Infection of HIV, HCV and HBV

The table below shows the relationship between socio-demographic characteristics and infection of HIV, HCV and HBV. HIV and HCV infection were not found in the age group of <20 years, whereas, HIV infection was found to be 5.4 percent in the age group of -20 years and above. At the same time, the prevalence HBV was calculated 3.3 percent in the age group <20 years and 24.4 percent and 2.5 percent in the age group of 20 years and above (Table 4-2).

Likewise, the prevalence of HIV, HCV and HBV in the "Illiterate/ Literate but no formal school" group was found to be 9.1 percent, 54.5 percent and 0.0 percent. Moreover, the prevalence in "Formal schooling" group of PWID was 4.8 percent, 21.3 percent and 2.7 percent respectively (Table 4-2).

The prevalence of HIV, HCV and HBV among unmarried PWID was 2.6 percent, 11.8 percent and 2.6 percent. However, the prevalence in married PWID was 8.0 percent, 36.0 percent and 2.7 percent respectively (Table 4-2).

Table 4-2: Relation between Socio-Demographic Characteristics and Infection of HIV, HCV and HBV

	n (%)			N
	HIV	HCV	HBV	
Age				
<20 years	0 (0.0)	0 (0.0)	1 (3.3)	30
20 years and above	17 (5.4)	77 (24.4)	8 (2.5)	315
Literacy				
Illiterate/Literate but no formal school	1 (9.1)	6 (54.5)	0 (0.0)	11
Formal schooling	16 (4.8)	71 (21.3)	9 (2.7)	334
Marital Status				
Never married	5 (2.6)	23 (11.8)	5 (2.6)	195
Ever married	12 (8.0)	54 (36.0)	4 (2.7)	150

4.3 Relation between Injecting Behavior and Infection of HIV, HCV and HBV

The prevalence of HIV was found as 5.3 percent among the PWID who hadn't injected drug in the last month while the prevalence was 4.9 percent in PWID who had injected drugs last month. Likewise, in case of HCV, the prevalence in the injecting groups (23.0 percent) whereas in HBV, the prevalence was 5.3 percent in non-injecting group (Table 4-3).

Similarly, the prevalence of HIV, HCV, and HBV in PWID who had injected pre-used and non-sterile syringe in last month was calculated as 0.0 percent, 17.6 percent and 0.0 percent. And the prevalence in people lacking such injecting practice was 5.5 percent, 23.6 percent and 2.7 percent. Besides that, the group who hadn't injected in last month exhibited the prevalence as 5.3 percent, 10.5 percent and 5.3 percent respectively (Table 4-3).

Similarly, the prevalence of the HIV was observed as 6.3 percent, and 3.3 percent in the group who had injected dugs once and twice. In the same way, the prevalence of HCV was calculated 24.0 percent, 22.0 percent and 11.8 percent in the PWID who had injected drugs once, twice and 3 or more times respectively. And the prevalence of HBV in the PWID who had injected only once was 2.7 percent, and 3.3 percent in PWID who had injected twice (Table 4-3).

Moreover, the PWID with high-risk behavior exhibited prevalence of HIV, HCV and HBV as 4.2 percent, 24.7 percent and 2.3 percent. In addition, the study also assessed the relationship between the number of person present during last injection and the prevalence of HIV, HCV and HBV and the prevalence calculated was 5.0 percent, 23.1 percent and 2.8 percent in PWID who injected alone (Table 4-3).

Table 4-3: Relation between Injecting Behavior and Infection of HIV, HCV and HBV

	n (%)			N
	HIV	HCV	HBV	
Inject drug in the last month				
Yes	16 (4.9)	75 (23.0)	8 (2.5)	326
No	1 (5.3)	2 (10.5)	1 (5.3)	19
Injected pre-used and non-sterile syringe in the last month				

	n (%)			N
	HIV	HCV	HBV	
Yes	0 (0.0)	6 (17.6)	0 (0.0)	34
No	16 (5.5)	69 (23.6)	8 (2.7)	292
Not injected in the last month	1 (5.3)	2 (10.5)	1 (5.3)	19
Frequency of drug injection in the last day				
Once	14 (6.3)	53 (24.0)	6 (2.7)	221
Twice	3 (3.3)	20 (22.2)	3 (3.3)	90
3 or more times	0 (0.0)	4 (11.8)	0 (0.0)	34
Needle/syringe used; Most recent				
High risk behavior*	9 (4.2)	53 (24.7)	5 (2.3)	215
Low risk behavior**	8 (6.2)	24 (18.5)	4 (3.1)	130
Number of person during last injection				
Alone	16 (5.0)	74 (23.1)	9 (2.8)	321
1-2 Persons	0 (0.0)	0 (0.0)	0 (0.0)	14
3-5 Persons	1 (10.0)	3 (30.0)	0 (0.0)	10

** Use of previously used syringes, use of needles and syringes given by friends, use of needles and syringes by self or others that are kept in public places | ** Use of new needles and new syringes obtained from different places*

4.4 Relation between sexual behavior and Infection of HIV, HCV and HBV

The table below, (Table 4-4), highlights the findings regarding the relationship between sexual and condom using behavior in the past 12 months and Infection of HIV, HCV and HBV. The prevalence of HIV, HCV and HBV in PWID who had sex with regular sex partner was calculated as 6.9 percent, 29.8 percent and 3.7 percent whereas the prevalence in the group who denied having sex with regular sex partner exhibited the prevalence of HIV, HCV and HBV as 1.7 percent, 10.2 percent and 0.8 percent respectively.

In the same way, the prevalence of HIV, HCV and HBV in the group who had used condom consistently with their regular sex partner exhibited prevalence of the infections as zero percent, 50.0 percent and zero percent. However, in those groups who responded "Not sure" to that particular question had the prevalence as 7.1 percent (HIV), 29.2 percent (HCV) and 3.8 percent (HBV) (Table 4-4).

Likewise, the PWID who had sexual intercourse with a FSW revealed the HIV as 8.7 percent, HCV as 27.5 percent and HBV as 4.3 percent. Furthermore, the prevalence of HIV, HCV and HBV in the group who had sex with FSW multiple times was reported as zero percent, 33.3 percent and 11.1 percent respectively (Table 4-4).

The groups of PWID who reported using condom consistently with FSW had the prevalence of HIV, HCV and HBV as 5.6 percent, 22.2 percent and 8.3 percent whereas the rest who were not sure about using condom showed the prevalence as 12.1 percent, 33.3 percent and zero percent. At the same time, the prevalence of HIV, HCV and HBV in the group of PWID who had sexual intercourse with non-regular sex partner was 5.2 percent, 22.2 percent and 8.3 percent. In addition, the prevalence of HIV, HCV and HBV in the group who had used

condom during sexual intercourse with non-regular sex partner was calculated as 4.5 percent, 20.5 percent and zero percent (Table 4-4).

Table 4-4: Relation between sexual and condom using behavior in the past 12 months and Infection of HIV, HCV and HBV

	n (%)			
	HIV	**HCV**	**HBV**	**N**
Sex with regular female partner				
Yes	15 (6.9)	65 (29.8)	8 (3.7)	218
No	2 (1.7)	12 (10.2)	1 (0.8)	118
Consistent condom use with regular female sex partner				
Yes	0 (0.0)	3 (50.0)	0 (0.0)	6
No/not sure	15 (7.1)	62 (29.2)	8 (3.8)	212
Sexual intercourse with an FSW				
Yes	6 (8.7)	19 (27.5)	3 (4.3)	69
No	11 (4.1)	58 (21.7)	6 (2.2)	267
Sex with FSW in the last one month				
None	5 (9.8)	15 (29.4)	2 (3.9)	51
Single	1 (11.1)	1 (11.1)	0 (0.0)	9
Multiple	0 (0.0)	3 (33.3)	1 (11.1)	9
Consistent condom use with FSW				
Yes	2 (5.6)	8 (22.2)	3 (8.3)	36
No/not sure	4 (12.1)	11 (33.3)	0 (0.0)	33
Sexual intercourse with a female non-regular sex partner				
Yes	7 (5.2)	30 (22.2)	2 (1.5)	135
No	10 (5.0)	47 (23.4)	7 (3.5)	201
Consistent condom use with non-regular female sex partner				
Yes	2 (4.5)	9 (20.5)	0 (0.0)	44
No/not sure	5 (5.5)	21 (23.1)	2 (2.2)	91

CHAPTER V: Injecting Behavior

5.1 Injecting History

The study also assessed the injecting history of the PWID. The results obtained shows that more than half of the PWID had been injecting drugs for more than 61 months, followed by 20.6 percent who had been injecting drugs for 25-60 months. Furthermore, most of them i.e. 73.3 percent were found to have started injecting drugs at the age group of 16-24 years followed by age group 25 years and above (22%). About 4.6 percent of the PWID had started injecting drugs before the age of 16 years. The mean age and standard deviation at first injection drugs was calculated as 21.26 ± 5.2. The study also assessed the frequency of drug injection in the last day and the findings shows more than half (64.1%) had injected only once, while the rest i.e. 26.1 percent had injected twice and 9.9 percent had injected 3 or more times (Table 5-1).

Table 5-1: Injecting History

	N=345	%
Duration of drug injection (Months)		
Up to 11 months	31	9.0
12-24 months	62	18.0
25-60 months	71	20.6
61 + months	181	52.5
Mean ± Std.Dev.	**83.97 ± 65.96**	
Median (Range)	**72 (4 – 300)**	
Age at first injected (years)		
Below 16 Years	16	4.6
16 - 24 Years	253	73.3
25 Years and above	76	22.0
Mean ± Std.Dev.	**21.26 ± 5.2**	
Median (Range)	**20 (11 – 56)**	
Frequency of drug injection in the last day		
Once	221	64.1
Twice	90	26.1
3 or more times	34	9.9
Mean ± Std.Dev.	**1.5 ± 0.82**	
Median (Range)	**1 (1 – 6)**	

5.2 Injecting practice in the past month and last injection

In the following table, (Table 5-2), the results regarding injecting practice of the PWID in the past month and last injection has been shown. Majority of the PWID (94.5 percent), were found to have injected drug in the last month. In addition, an estimated proportion of 12.5 percent were found to have injected pre-used and non-sterile syringe in the last month whereas the rest 87.5 percent did not. Likewise, an estimated proportion of 62.7 percent had injected only once in the last day, 29.3 percent had injected twice and the remaining 8.0 percent had injected three or more times.

Furthermore, 62.8 percent PWID showed high-risk behavior while the remaining 37.2 percent showed low risk behavior. Majority of the PWID (92.0 percent) reported injecting the drug alone during the last injection, followed by 4.7 percent and 3.3 percent who were accompanied with 1-2 people and 3-5 people respectively (Table 5-2).

Table 5-2: Injecting practice in the past month and last injection

	N=345	%	Estimated Proportion *	CI
Inject drug in the last month				
Yes	326	94.5		
No	19	5.5		
Injected pre-used and non-sterile syringe in the last month (n=326)				
Yes	34		12.5	6.4 – 15.4
No	292		87.5	84.6 – 93.6
Frequency of drug injection in the last day				
Once	221		62.7	59.1 – 72.0
Twice	90		29.3	20.1 – 33.1
3 or more times	34		8.0	4.7 – 11.5
Needle/syringe used; Most recent				
High risk behavior**	215		62.8	56.2 – 68.6
Low risk behavior***	130		37.2	31.4 – 43.8
Number of person during last injection				
Alone	321		92.0	90.2 – 96.1
1-2 Persons	14		4.7	2.0 – 7.5
3-5 Persons	10		3.3	0.8 – 3.9

** Calculated using RDSAT | **Use of previously used syringes, use of needles and syringes given by friends, use of needles and syringes by self or others that are kept in public places | ***Use of new needles and new syringes obtained from different places*

5.3 Injecting behavior in the past one week

The following table, (Table 5-3), highlights the results obtained regarding Injecting behavior in the past one week. Out of total PWID, 93.5 percent had not shared needle with anyone while 5.4 percent had shared needle with friend and 1.1 percent had shared with an unknown person. Likewise, 97.0 percent of PWID reported that they had never given the needle to someone after injecting while 3.0 percent responded as almost every time or sometime.

The PWID were also asked if they had ever injected with pre-filled syringe, and an estimated proportion of 8.1 percent responded positively towards the question while the rest 91.8 percent responded "No" and 0.2 percent responded "Don't Know". At the same time, a high majority i.e. 95.9 percent denied injecting drugs using a syringe after someone else had squirted into it from his/her used syringe whereas the rest 4.1 percent had done that sometimes. Likewise, majority of the PWID (95.9 percent) had never shared a cooker/ vial/container, cotton/filter, or rise water while the rest had such experiences sometimes (3.8%) and almost every time (0.3%) (Table 5-3).

Table 5-3: Injecting behavior in the past one week

	N=345	%	Estimated Proportion*	CI
Last week shared needle with				
None	324		93.5	82.6 – 98.7
Friend	17		5.4	2.6 – 7.7
Unknown person	4		1.1	0.2 – 1.7

	N=345	%	Estimated Proportion*	CI
Last week gave the needle to someone after injecting				
Almost every time/sometimes	12		3.0	1.2 – 5.4
Never	333		97.0	94.6 – 98.8
Ever inject with pre-filled syringe				
Yes	27		8.1	4.8 – 11.0
No	316		91.8	88.8 – 95.0
Do not know	2		0.2	0.0 – 0.6
Inject Drugs using a syringe after someone else had squirted drugs in to it from his/her used syringe				
Sometimes	16		4.1	2.0 – 6.5
Never	329		95.9	93.5 – 98.0
Share a cooker/ vial/container, cotton/filter, or rise water				
Almost every-times	1	0.3		
Sometimes	13	3.8		
Never	331	95.9		

** Estimated weighted values using RDSAT*

CHAPTER VI: Sexual Behavior and Condom Use

6.1 Sexual History

The sexual history of PWID is a very important indicator for assessing the risk of HIV, HCV and HBV. Out of total PWID, a very high majority (97.4%) had sexual intercourse while the rest did not. The study also assessed the age at first sexual intercourse and the mean age was calculated as 16.88±3.0 with majority (87.2 %) in the age group of 'Below 20 years'. Furthermore, most of the PWID (83%) reported having sexual intercourse in the past 12 months. And out of those most of them i.e. 44.4 percent had sexual intercourse with only 1 partner followed by 30.5 percent (2-3%), 16.8 percent (4-6%) and 8.2 percent (seven and more partners) respectively (Table 6-1).

Table 6-1: Sexual History

	N=345	%
Ever had sexual intercourse		
Yes	336	97.4
No	9	2.6
Age at first sexual intercourse (n=336)		
Below 20 Years	293	87.2
20 Years and above	43	12.8
Median Age (Range)	**16 (10 – 46)**	
Mean Age ± Std.Dev.	**16.88 ± 3.0**	
Sexual intercourse in the past 12 months		
Yes	279	83.0
No	57	17.0
Numbers of female sexual partners in the past 12 months(n=279)		
1 partner	124	44.4
2–3 partners	85	30.5
4–6 partners	47	16.8
Seven and more partners	23	8.2
Median number (Range)	**2 (1 – 40)**	
Mean number ± Std.Dev.	**2.82 ± 3.26**	

6.2 Sexual Behavior with regular female sex partner

The survey also explored the sexual behavior of PWID with their regular female sex partner. Out of total PWID more than half (64.9 %) had sexual intercourse with regular partner in the last 12 months. Likewise, 31.1 percent of PWID were found to be using condom during the last sex. The study also assessed whether the PWID used condom with female regular partner in the past 12 months where the findings shows only 2.8 percent used it every time, 3.7 percent used almost every time, while 70.2 percent never used condom (Table 6-2).

Table 6-2: Sexual behavior with regular female sex partner

	N=336	%	Estimated Proportion*	CI
Sex with Regular Partner in the last 12 months				
Yes	218	64.9		
No	118	35.1		

	N=336	%	Estimated Proportion*	CI
Use condom in the last sex with regular partner(n=218)				
Yes	62		31.1	21.2 – 37.0
No	155		63.3	58.4 – 73.4
Do not know	1		5.6	1.9 – 9.6
Use a condom with female regular partner in the past 12 month				
Every time	6	2.8		
Almost every-times	8	3.7		
Sometimes	30	13.8		
Never used	153	70.2		
Do not know	2	0.9		
No response	19	8.7		

** Estimated weighted values using RDSAT*

6.3 Sexual Behavior with Female Sex Worker (FSW)

In the table below, (Table 6-3), the findings related to sexual behavior of PWID with FSW has been shown. Out of total PWID, 20.5 percent had sexual intercourse with a FSW in last 12 months while in the last one month; only 13.0 percent reported having sex with FSW.

Likewise, most of them (72.7%) reported using a condom in the last sex with FSW and while assessing the frequency of condom use, more than half of them i.e. 52.2 percent reported using it every time whereas 11.6 percent even reported never using it (Table 6-3).

Table 6-3: Sexual behavior with FSW

	N=336	%	Estimated Proportion*	CI
Sexual intercourse with a female sex worker in last 12 months				
Yes	69	20.5		
No	267	79.5		
Sex with female sex worker in the last one month(n=69)				
None	51	74.0		
Single	9	13.0		
Multiple	9	13.0		
Use of condom in the last sex with sex worker(n=69)				
Yes	49		72.7	43.0 – 88.0
No	20		27.3	12.0 – 57.0
Used a condom with female sex workers in the past year				
Every times	36	52.2		
Almost every-times	13	18.8		
Sometimes	12	17.4		
Never used	8	11.6		

** Estimated weighted values using RDSAT*

6.4 Sexual behavior with Non-regular female sex partner

Regarding sexual behavior of PWID with non-regular female sex partner, more than half of the PWID (59.8%) never had sexual intercourse with a female non-regular sex partner during the last 12 months and out of those who had sexual intercourse, about 62.3 percent reported using a condom. The frequency of condom use was also assessed and the results show that about 32.6 percent used it every time, 23.0 percent used it almost every time, 23.7 percent used it sometime and 20.7 percent never used it (Table 6-4).

Table 6-4: Sexual behavior with non-regular female sex partner

	N=336	%	Estimated Proportion*	CI
Sexual intercourse with a female non-regular sex partner during last 12 months				
Yes	135	40.2		
No	201	59.8		
Last time you had sex with a female non-regular partner did you or your partner use a condom(n=135)				
Yes	75		62.3	40.5 – 69
No	59		36.4	30.4 – 59.2
Do not know	1		1.3	0.0 – 1.7
Used a condom with a female non-regular partner in the past year				
Every times	44	32.6		
Almost every-times	31	23.0		
Sometimes	32	23.7		
Never used	28	20.7		

** Estimated weighted values using RDSAT*

6.5 Sexual behavior with male sex partner

The following table highlights the findings regarding the PWID sexual behavior with male sex partner. Out of total PWID, 1.1 percent of PWID reported having anal sex with a male partner in the past one year and out of those 33.3 percent used condom while the rest 66.7 percent did not (Table 6-5).

Table 6-5: Sexual behavior with male sex partner

	N=336	%	Estimated Proportion*	CI
Anal sex with a male partner in the past one year				
Yes	3		1.1	0.2 – 1.7
No	333		98.9	98.3 – 99.8
Anal sex with him did you use condom (n=3)				
Yes	1	33.3	**	-
No	2	66.7	**	-
Reason for not using condom (n=2)				
Not available	2	100.0	**	-

** Estimated weighted values using RDSAT | **Estimates cannot be generated by RDSAT, due to a group recruited exclusively from within its own group*

6.6 Last Sexual behavior with different sex partners

The findings showed the last sexual behavior with different sex partner in the past one year-. Out of 279 PWID, most of them (70.6%) revealed their last sexual encounter was with their regular partner, followed by 23.3 percent with other female friend and 5.7 percent with FSW. About 0.4 percent also reported their last sexual encounter was with Male friend. Furthermore, about 34.4 percent were found to have used condom during the last sexual intercourse whereas the rest 65.6 percent did not used condom (Table 6-6).

Table 6-6: Last Sexual behavior with different sex partner in the past one year

	N=279	%
Last sexual intercourse with		
FSW	16	5.7
Regular partner	197	70.6
Other female friend	65	23.3
Male friend	1	0.4
Use condom in the last sexual intercourse		
Yes	96	34.4
No	183	65.6

6.7 Use of condom and availability

The table below depicts the findings regarding condom use and its availability. Out of total PWID, 73.6 percent revealed that they have used condom while the rest 26.4 percent revealed that they have never used condom. The PWID were also asked if they knew any place or person from where condom could be obtained, and majority (98.3%) responded positively towards it. The places that they listed includes; pharmacy (94.1%), Clinic (64.6 %), Hospital (62.2%), Shop (34.8%) and Health worker (25.7%). Likewise, 32.7 percent reported that they were given condom by any organization in the last 12 months free of cost while 66.1 percent responded as "No". Only 18.9 percent were found to be carrying condom with them (Table 6-7).

Table 6-7: Use of condom and availability

	N=345	%
Ever used condom		
Yes	254	73.6
No	91	26.4
Place or person from which you can obtain condom		
Yes	339	98.3
No	6	1.7
Condom can be obtained from * (n=339)		
Pharmacy	319	94.1
Clinic	219	64.6
Hospital	211	62.2
Shop	118	34.8
Health worker	87	25.7
Bar/Guesthouse/Hotel	47	13.9
Peer Educator/Outreach	14	4.1
Family planning center	9	2.7
Friend	7	2.1

	N=345	%
Any organization gave you condom in the last12 months		
Yes, free of cost	111	32.7
Yes, by taking money	4	1.2
No	224	66.1
Usually carry condom with you		
Yes	64	18.9
No	275	81.1

CHAPTER VII: Knowledge about HIV, HCV, HBV and STI

7.1 HIV Testing Facilities and History of HIV Test

The findings regarding the PWID knowledge about HIV testing facilities and history of HIV test, out of total PWID, 84.6 percent were aware about the fact that "A confidential HIV testing facility available in the community" while the rest 12.5 percent didn't know about this. Besides that, more than half of them (63.2%) had done HIV test before and out of those the test taken was done voluntarily by 83.9 percent while the rest 16.1 percent did it only because of necessity (Table 7-1).

Furthermore, the PWID were also asked about the timing of last HIV test and nearly half of them (45.9%) had done the test within the last 12 months whereas about 24.3 percent had done between 13-24 months and 16.5 percent within 25-48 months. Among those who had tested, 82.0 percent had done the test only once, 15.0 percent had tested 2-5 times and about 1.0 percent had tested it more than 5 times. A large majority (99.1%) had received their test result and out of those 4.6 percent were tested positive. Furthermore, the study also assessed whether the PWID had visited any HTC centers or not and the results shows that 60.0 percent did visit HTC centers and the rest 40 percent didn't and the major reason behind it was listed as "Felt I was healthy" (Table 7-1).

Table 7-1: HIV Testing Facilities and History of HIV Test

	N=345	%
A confidential HIV testing facility available in the community		
Yes	292	84.6
No	43	12.5
Don't know	10	2.9
Ever had HIV test		
Yes	218	63.2
No	127	36.8
Types of test taken(n=218)		
Voluntary	183	83.9
Required	35	16.1
Timing of last HIV test		
Within the past 12 months	100	45.9
Between13-24 months	53	24.3
Between 25-48 months	36	16.5
More than 48 months	29	13.3
Times undergone for HIV test within the last 12 months (n=100)		
1 time	82	82.0
2 to 5 times	15	15.0
More than 5 times	1	1.0
Don't know/remember	2	2.0
Test result received (n=218)		
Yes	216	99.1
No	2	.9
Result of last test (n=216)		
Positive	10	4.6
Negative	206	95.4
Visited HTC for HIV care service (n=10)		
Went	6	60.0

	N=345	%
Did not go	4	40.0
Reasons for not visiting HTC for HIV care service (n=4)		
Felt I was healthy	3	75.0
Others might know	1	25.0

7.2 Knowledge about STI Symptoms

The survey also assessed the knowledge of PWID about STI problems. More than half i.e. 53.9% had never heard about STI. And when asked about female STI problems, the responses recorded are; Foul smelling (45.9%), Genital Ulcers (37.7%), Genital Discharge (34.0%), Itching (13.8%) and lower abdominal pain (16.4%). About 45.3 percent also responded 'Do not know' to this particular question. Furthermore, they were also asked about the Male STI symptoms and the responses recorded are; Genital ulcers/sore blister (71.7%), Genital discharge (56.0%), Burning pain on urination (48.4%) and Swellings in groin area (30.8%). 25.8 percent responded as "Do not know" to this particular question (Table 7-2).

Table 7-2: Knowledge about STI symptoms

	N=345	%
Ever heard about STI		
Yes	159	46.1
No	186	53.9
Female STI Symptoms*(n=159)		
Foul-smelling	73	45.9
Do not know	72	45.3
Genital ulcers/sore	60	37.7
Genital discharge	54	34.0
Lower abdominal pain	26	16.4
Itching	22	13.8
Burning pain on urination	18	11.3
Swelling In groin area	16	10.1
Male STI Symptoms*		
Genital ulcers/sore blister	114	71.7
Genital discharge	89	56.0
Burning pain on urination	77	48.4
Swellings in groin area	49	30.8
Itching	3	1.9
Do not know	41	25.8

**Percent total may exceed 100 due to multiple responses*

7.3 Experience of STI Symptoms and Treatment

In this survey, the PWID were also asked about the STI symptoms/experiences in the past year. Few of them (9.3%) had reported genital discharge in the past year and 31.3 percent had genital ulcers in the past year. Few of them (10.1%) also reported having the genital discharge currently and more than half (51.4%) had experienced genital ulcers/sore blisters as well (Table 7-3).

Table 7-3: STI Symptom/s Experienced in the Past Year

	N=345	%
Had genital discharge in the past year		
Yes	32	9.3
No	311	90.1
Do not know	2	0.6
Currently had genital discharge (n=32)		
Yes	10	31.3
No	22	68.8
Had genital ulcer/sore blister in the past year		
Yes	35	10.1
No	308	89.3
Do not know	2	0.6
Currently Had genital ulcer/sore blister (n=35)		
Yes	18	51.4
No	17	48.6

In the table below, the findings regarding STI symptoms experienced and treatment sought by the PWID in the past year has been illustrated. Most of them (84.2%) had not faced any STI experiences in the past year while the rest 15.9 percent did. Moreover, in case of treatment, about 41.8 percent did sought treatment for STI in the past year. The sources of treatment reported are Private Doctor (69.6%) and Hospital (30.4%). In addition, the PWID were also asked about the source of treatment during last STI symptoms and the responses recorded include "With Private doctor (6.7%), "In hospital (3.2) and "Did not seek treatment (7.8%) (Table 7-4).

Table 7-4: STI Symptom Experienced and Treatment Sought

	N=345	%
STI experienced in the past year		
Yes	55	15.9
No	290	84.1
STI treatment sought in the past year(n=55)		
Yes	23	41.8
No	32	58.2
Source of treatment in the past year(n=23)		
Private Doctor	16	69.6
Hospital	7	30.4
Source of treatment during last STI symptoms experienced		
Did not seek treatment	27	7.8
With private doctor	23	6.7
In hospital	11	3.2
Never had such symptoms	283	82.0
Others	1	.3

7.4 Comprehensive knowledge

The table below illustrates the findings regarding the PWID knowledge on major ways of avoiding HIV/AIDS. An estimated proportion of 34.9 percent were aware about the indicator A(Abstinence from sex), 74.4 percent of B (Being faithful to one partner), 96.9 percent of C (Condom use during each sexual contact), 90.4 percent of D (A healthy-looking person can be infected with HIV), 73.3 percent of E (A person cannot get the HIV virus from mosquito bite) and 93.1 percent of F (Sharing a meal with an HIV infected person do not transmit

HIV). Likewise, about 30.0 percent of PWID had knowledge of all three ABC's and 49.3 percent had knowledge of all five BCDEF (Table 7-5).

Table 7-5: Knowledge of major ways of avoiding HIV/AIDS

	N=345	Estimated Proportion*	CI
[A] Abstinence from sexual contact	126	34.9	30.3 – 42.3
[B] Being faithful to one partner	257	74.4	67.5 – 78.6
[C] Condom use during each sexual contact	333	96.9	93.7 – 98.6
[D] A healthy-looking person can be infected with HIV	312	90.4	88.3 – 94.6
[E] A person cannot get the HIV virus from mosquito bite	259	73.3	68.7 – 79.7
[F] Sharing a meal with an HIV infected person do not transmit HIV	319	93.1	89.1 – 95.8
Knowledge of all three **ABC**	108	30.0	25.1 – 36.1
Knowledge of all five **BCDEF**	167	49.3	41.5 – 54.9

** Estimated weighted values using RDSAT*

7.5 Knowledge of HCV

In the table below, (Table 7-6), PWID knowledge of HCV has been presented. Most of them (73.6 %) had heard about Hepatitis C. Likewise, more than half i.e. 51.6 percent responded positively towards the statement, "Hepatitis C can be transmitted through sex". The response of PWID towards the statement "Condoms protect you against hepatitis C" was recorded on which about 61.4 percent responded positively while 30.7 percent responded negatively and 7.9 percent responded as "Do not know".

Besides that, most of the PWID (93.8 percent) responded as "No" towards the statement "Hepatitis C only occur if you have HIV" and about 96.8 percent responded positively towards the statement "Hepatitis C be transmitted by sharing needles". The study also assessed the PWID knowledge regarding the medical treatment for Hepatitis C and 85.4 percent responded "yes" while 9.1 percent responded "No" and 5.5 percent responded, "Do not know" (Table 7-6).

As listed in the table, more than half 61.8 percent had never tested for HCV and out of those who had tested; 46.4 percent received positive result, 49.5 percent received negative result and 2.1 percent did not know anything about their result (Table 7-6).

Table 7-6: Knowledge of HCV

	N=345	%
Heard about Hepatitis C		
Yes	254	73.6
No	91	26.4
Hepatitis C be transmitted through sex(n=254)		
Yes	131	51.6
No	103	40.6
Do not know	20	7.8
Condoms protect you against hepatitis C		
Yes	156	61.4
No	78	30.7

	N=345	%
Do not know	20	7.9
Hepatitis C only occur if you have HIV		
Yes	8	3.1
No	238	93.8
Do not know	8	3.1
Hepatitis C be transmitted by sharing needles		
Yes	246	96.8
No	5	2.0
Do not know	3	1.2
Hepatitis C be transmitted through tattooing		
Yes	190	74.8
No	51	20.1
Do not know	13	5.1
Medical treatment for hepatitis C		
Yes	217	85.4
No	23	9.1
Do not know	14	5.5
Herbal remedies cure hepatitis C		
Yes	40	15.7
No	146	57.5
Do not know	68	26.8
Go for HCV test		
Yes	97	38.2
No	157	61.8
Result of HCV test(n=97)		
Positive	45	46.4
Negative	48	49.5
Unclear	1	1.0
Result not received	1	1.0
Don't know	2	2.1

The PWID enrolled in this study were asked a series of questionnaire for assessing their attitude toward HIV and AIDS. Most of the PWID (89.3%) responded no any kind of objection in buying food from HIV infected shopkeeper. At the same time, they were also asked about their opinion on the statement "HIV infected students can study together in the class with other uninfected students" and majority responded positively (96.5%), 2.9 percent responded negatively and the remaining 0.6 percent responded as "Don't know" (Table 7-7).

Table 7-7: Attitude towards HIV and AIDS

	N=345	%
Willing to buy food from HIV infected shopkeeper		
Yes	308	89.3
No	37	10.7
HIV infected students can study together in the class with other uninfected students		
Yes	333	96.5
No	10	2.9
Don't know	2	.6

CHAPTER VIII: Program Exposure

8.1 Meeting with PE/OE

The exposure of PWID in the ongoing HIV/AIDS awareness programs is very important in bringing changes in the behavioral aspects. The PWID enrolled in this study were asked a series of questions to analyze their participation on those activities.

In the last 12 months, 26.9 percent of PWID discussed with PE/OE/CM/CE. The activities carried out with the OE/PE was also explored and activities listed are as; Discussion on how HIV/AIDS is/isn't transmitted (73.1%), Discussion on safe injecting behavior (63.4%), Discussion on how Hepatitis is/isn't transmitted (44.1%), Discussion on how STI is/isn't transmitted (33.3%) and other several reasons. Likewise, 44.1 percent met those PE/OE/CM/CE 2-3 times in the last 12 months, 16.1 percent met them 7-12 times and 21.5 percent met them more than 12 times (Table 8-1).

Table 8-1: Meeting with Peer Educators and Outreach Educators

	N=345	%	Estimated Proportion*	CI
Discussed with PE/OE/CM/CE in the last 12 months				
Yes	93		26.9	20.3 – 32.1
No	252		73.1	67.9 – 79.7
Activities carried out with OE/PE (n=93)**				
Discussion on how HIV/AIDS is/isn't transmitted	68	73.1		
Discussion on safe injecting behavior	59	63.4		
Discussion on how Hepatitis is/isn't transmitted	41	44.1		
Discussion on how STI is/isn't transmitted	31	33.3		
OST service	15	16.1		
Regular/non-regular use of condom	14	15.1		
Demonstration on using condom correctly	12	12.9		
About the medicine of Hepatitis C	2	2.2		
About how to get rid from drug	2	2.2		
About the TB	1	1.1		
Rehab	1	1.1		
Times have these PE/OE/CM/CE met you in the last 12 months				
Once	9	9.7		
2-3 times	41	44.1		
4-6 times	15	16.1		
7-12 times	8	8.6		
More than 12 times	20	21.5		

** Estimated weighted values using RDSAT | ** Percent total may exceed 100 due to multiple responses*

8.2 Visiting DIC

The table below, (Table 8-2), shows the DIC visiting practices of PWID in the last 12 months. Majority of PWID (57.9%) reported that they had visited the outreach centers (DIC, IC or CC). The major participated activities that has been outlined includes; went to have new syringe (94.1%), Went to learn about the safe injecting behavior (13.7%), Participated in discussion on HIV transmission (12.2%) and Went to collect condoms (7.3%). About 0.5 percent of PWID also went there for HIV test. The frequency of PWID visit to outreach

center was also assessed and more than half of them (64.9%) have been there for more than twelve times, 12.7 percent for 4-6 times, 11.2 percent for 2-3 times, 9.3 percent for 7-12 times and 2.0 percent have been there only once (Table 8-2).

Table 8-2: DIC Visiting Practices in the Last 12 Months

	N=345	%	Estimated Proportion*	CI
Visited to outreach center (DIC, IC or CC) in the last 12 months				
Yes	205		57.9	50.8 – 62.6
No	140		42.1	37.4 – 49.2
Participated activities at DIC/IC/CC (n=205)**				
Went to have new syringe	193	94.1		
Went to learn about the safe injecting behavior	28	13.7		
Participated in discussion on HIV transmission	25	12.2		
Went to collect condoms	15	7.3		
Went to learn the correct way of using condom	13	6.3		
Went to watch film on HIV and AIDS	9	4.4		
Blood Test	3	1.5		
To Take Alcohol Pad	2	1.0		
HIV Test	1	.5		
visited outreach center (DIC, IC or CC) in the last12 months				
Once	4	2.0		
2-3times	23	11.2		
4-6times	26	12.7		
7-12times	19	9.3		
Morethan12times	133	64.9		

** Estimated weighted values using RDSAT | ** Percent total may exceed 100 due to multiple responses*

8.3 Visiting STI clinic

Table 8.3 shows STI clinic visiting practices of the PWID in the last 12 months. Only 4.9 percent of PWID reported about their visit to any STI clinics. The major activity that was carried out at STI clinic was "Blood test for STI" by 66.7 percent followed by 58.3 percent reporting "Physical examination conducted for STI identification" as the major activity. The frequency of visiting STI clinic was also assessed and the results obtained shows that exactly half of the PWID have been there only once, followed by 41.7 percent who have been there 2-3 times and remaining 8.3 percent went there 4-6 times (Table 8-3).

Table 8-3: STI Clinic Visiting Practices in the Last 12 Months

	N=345	%	Estimated Proportion*	CI
Visited any STI clinic in the last 12 months				
Yes	12		4.9	1.4 – 6.5
No	333		95.1	93.5 – 98.6
Activities carried out at STI clinic (n=12)**				
Blood tested for STI	8	66.7		
Physical examination conducted for STI identification	7	58.3		
Discussion on safe injecting behavior	2	16.7		

	N=345	%	Estimated Proportion*	CI
Times have you visited STI clinic in the last 12 months				
Once	6	50.0		
2-3times	5	41.7		
4-6times	1	8.3		

** Estimated weighted values using RDSAT | ** Percent total may exceed 100 due to multiple responses*

8.4 Visiting HTC

About 4.4 percent of PWID had visited any HTC centers and among them the major activity that was carried out at HTC includes; Received pre-HIV/AIDS test counseling (58.8%), Blood sample taken for HIV test (52.9%), Received HIV test result (41.2%), and Received information on safe injecting behavior (41.2%). Likewise, 52.5 percent had visited the HTC centers once and 45.9 percent of them had visited 2-3 times while 1.1 percent reported visiting the HTC centers for more than 12 times (Table 8-4).

Table 8-4: HTC Visiting Practices in the Last 12 Months

	N=345	%	Estimated Proportion*	CI
Visited any HTC				
Yes	185		50.4	44.4 – 57.5
No	160		49.6	42.5 – 55.6
Activities carried out at HTC (n=17)**				
Received pre HIV test counseling	10	58.8		
Blood sample taken for HIV test	9	52.9		
Received HIV test result	7	41.2		
Received information on safe injecting behavior	7	41.2		
Received post HIV test counseling	6	35.3		
Received counseling on using condom correctly in each sexual intercourse	3	17.6		
Took a friend with me	2	11.8		
Received information on HIV window period	2	11.8		
Times have you visited HTC in the last12 months				
Once	97	52.4		
2-3times	85	45.9		
4-6times	1	0.5		
Morethan12times	2	1.1		

** Estimated weighted values using RDSAT | ** Percent total may exceed 100 due to multiple responses*

8.5 Knowledge of PMTCT ART and CHBC

This survey also analyzed the knowledge of PWID regarding Prevention of Mother to Child Transmission services for pregnant women (PMTCT). About 12 percent of PWID reported having heard about PMTCT for pregnant women and about 28.4 percent had heard about

ART services for HIV positive individuals. Along with that, about 75.5 percent had knowledge on ART services for HIV positive individuals. In addition to that, only 18.8 percent of PWID had heard about viral load testing service for HIV positive individuals and out of those, 75.4 percent knew about the sites for getting those services. Similarly, about 23.5 percent of PWID have heard about the CHBC services that are provided for HIV positive people.

Table 8-5: Knowledge of PMTCT

	N=345	%
Ever heard about PMTCT for pregnant women		
Yes	42	12.2
No	303	87.8
Heard about ART services for HIV positive individuals		
Yes	98	28.4
No	246	71.3
Do not know	1	.3
Knowledge on ART services for HIV positive individuals (n=98)		
Yes	74	75.5
No	19	19.4
Do not know	5	5.1
Heard of viral load testing services for HIV positive individuals		
Yes	65	18.8
No	279	80.9
Do not know	1	.3
HIV positive individuals can get viral load testing services (n=65)		
Yes	49	75.4
No	14	21.5
Do not know	2	3.1
Heard of any CHBC services that are provided for HIV positive people		
Yes	81	23.5
No	264	76.5

CHAPTER IX: Comparative Analysis

9.1 Socio-Demographic Analysis

As seen in figure 1, the percent of PWID less than 25 years old has decreased to 36.5 percent from 68.7 percent in the year 2003. Likewise, the number of PWID who were either literate/illiterate but no schooling has also decreased from 7.3 percent in 2003 to 3.2 percent in the year 2017. However, the percent of ever-married PWID is on slight rise i.e. 27.3 percent (2003) to 43.5 percent (2017) (Figure 9-1).

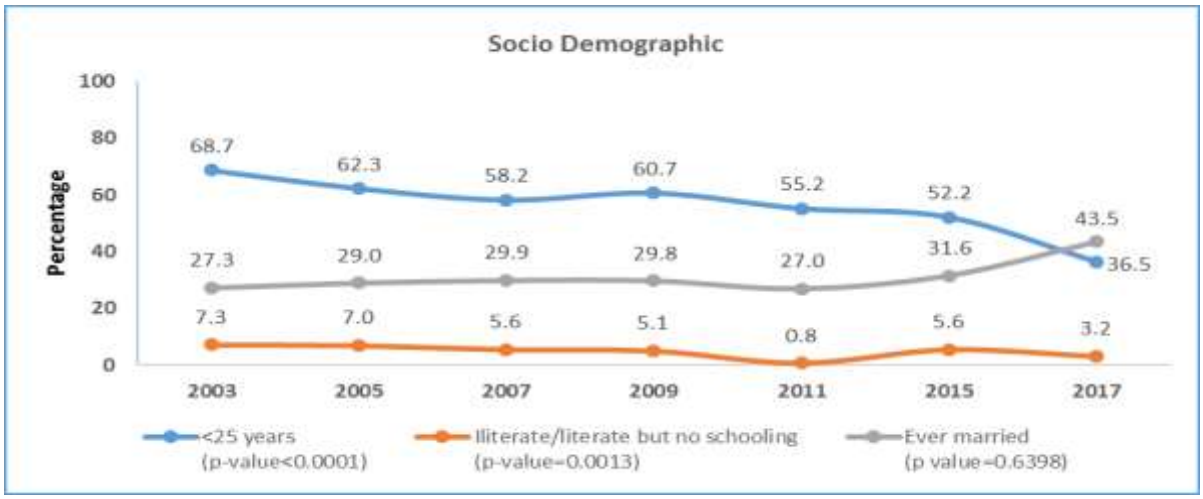

Figure 9-1: Socio-Demographic Characteristic

9.2 Drug Injecting Behavior

The figure below shows the mean years of duration of drug injection and median age at first injection of the PWID. The mean duration of injection has been observed to be on an increasing trend in comparison to the previous years, i.e. from 3.7 years in the year 2003 to 6.9 in the year 2017. Similarly, the median age at first injection was recorded as 19 years in the year 2003 which has changed to 20 in the year 2017 (Figure 9-2).

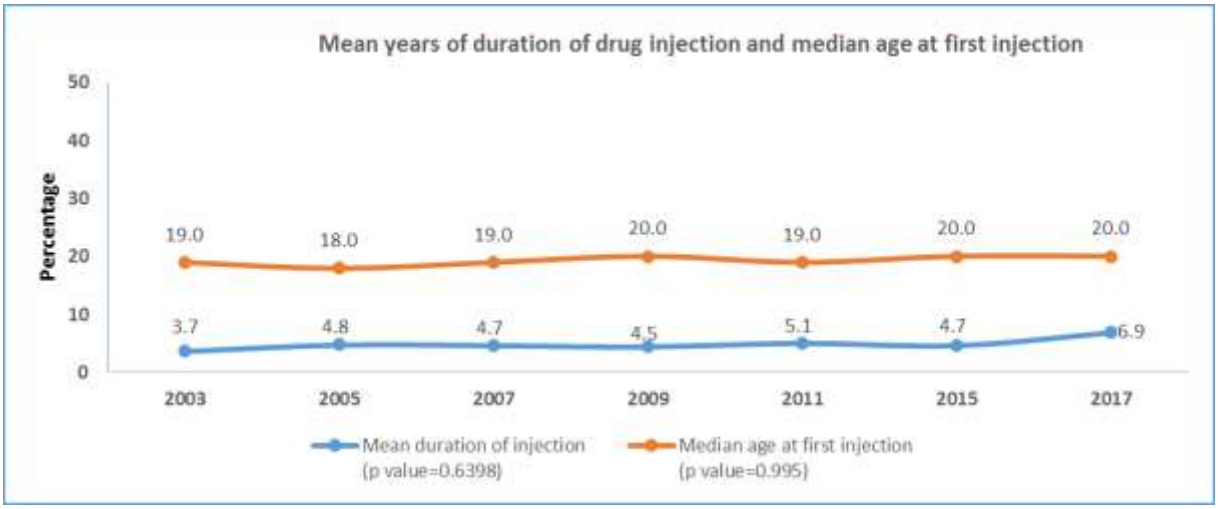

Figure 9-2: Mean years of duration of drug injection and median age at first injection

9.3 Injecting History

The table below illustrates the injecting history of PWID. PWID who have been injecting drugs since 2 or less years has increased by one percent i.e. 26.0 percent in 2003 to 27.0 percent in the year 2017. Besides that, the figure below also represents the percent of PWID who started injecting drugs at age 20 years or earlier and the percent of such groups has however reduced from 64.0 percent in 2003 to 52.5 percent in 2017 (Figure 9-3).

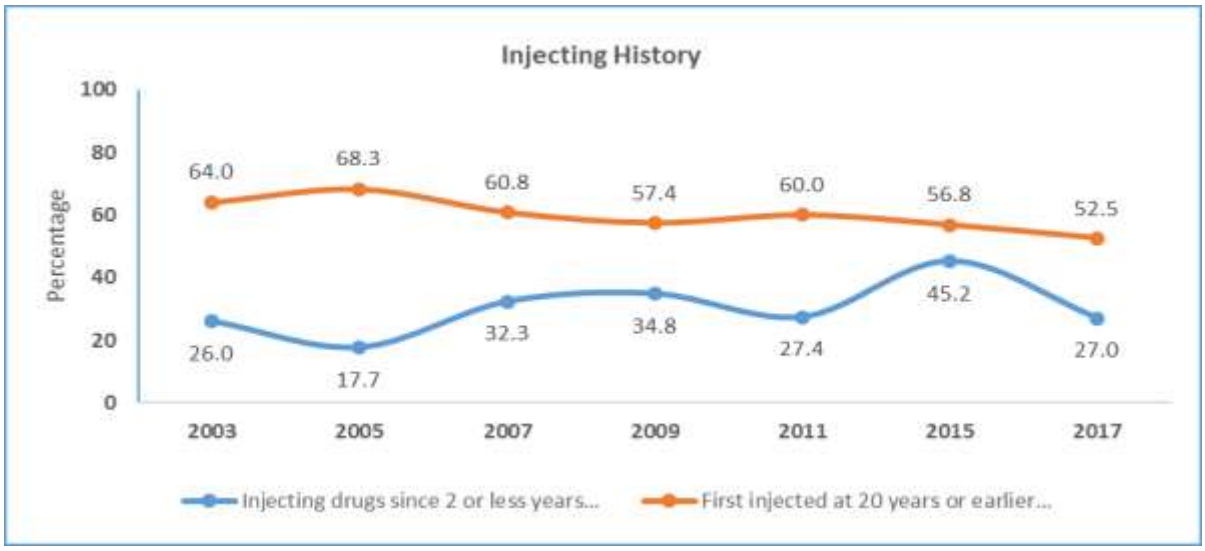

Figure 9-3: Injecting History

9.4 Injecting Behavior in Past Week

The graph below indicates the comparative findings regarding the injecting behavior of PWID throughout the years. The PWID who shared needle/syringe has reduced from 32.0 percent (2003) to 6.5 percent (2017). Along with that, the proportion of PWID who used pre-used syringe/needles has also reduced from 45.5 percent (2003) to 7.8 percent (2017). Moreover, the PWID who used needle/syringe kept in public place had reduced to zero percent (2017) from 31.7 percent in the year 2003 (Figure 9-4).

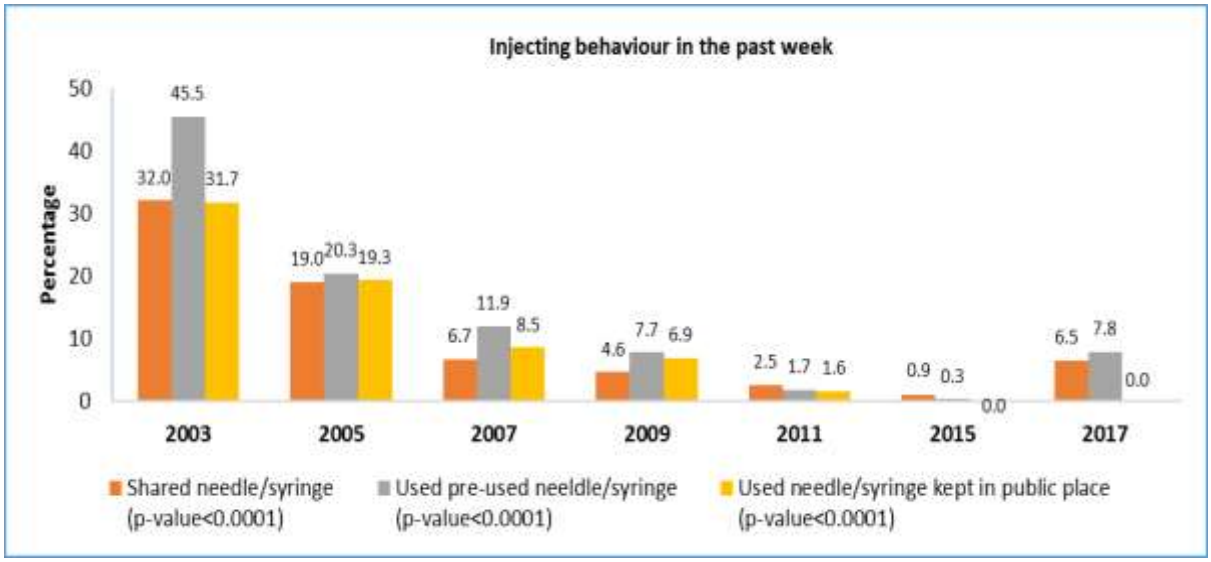

Figure 9-4: Needle/syringe use behavior and sharing practice of the past week

9.5 Consistent Condom Use with Different Partners

The graph below indicates the findings regarding condom use by the PWID. The result showed there has been a drop in condom use with regular female sex partners and FSW as compared to previous rounds i.e. 9.3 percent (2003) to 2.4 percent (2017) and 59.6 percent (2003) to 52.2 percent (2017). However, the use of condom with non-regular female sex partners has increased from 29.9 percent in 2003 to 32.6 percent in 2017 (Figure 9-5).

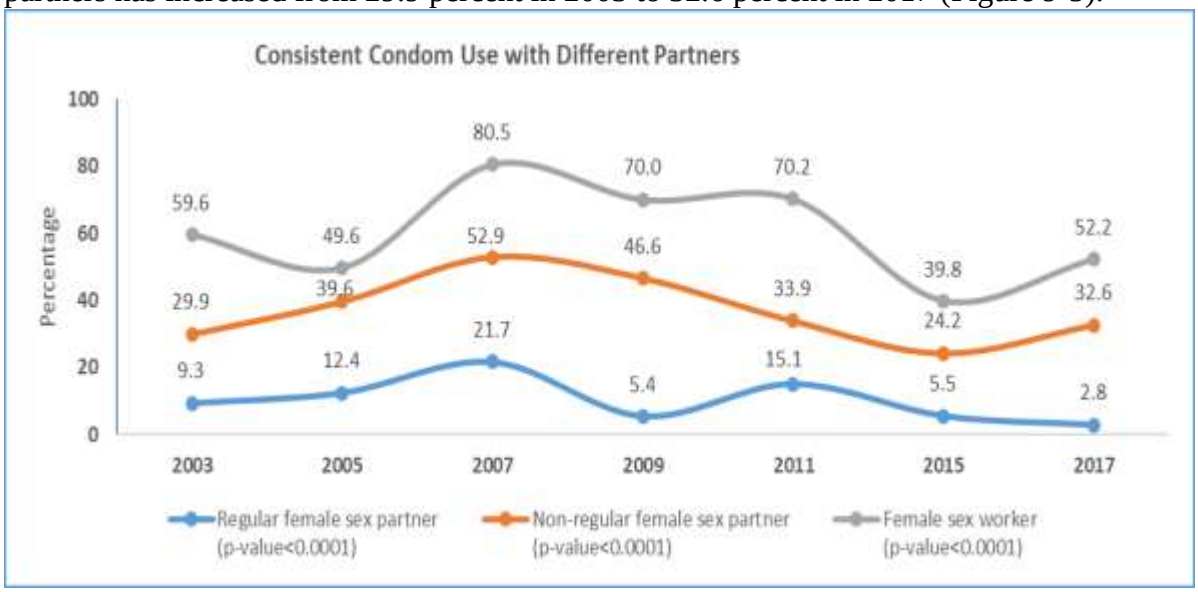

Figure 9-5: Consistent Condom Use with Different Partners in the Past Year

9.6 HIV, Syphilis Prevalence

The figure below depicts the prevalence of HIV and Syphilis among the PWID throughout the years. The data indicates that the HIV prevalence has drastically reduced from 22.0 percent in 2003 to 4.9 percent in 2017. Likewise, the prevalence of syphilis has reached at zero percent from 1.3 percent in 2003 (Figure 9-6).

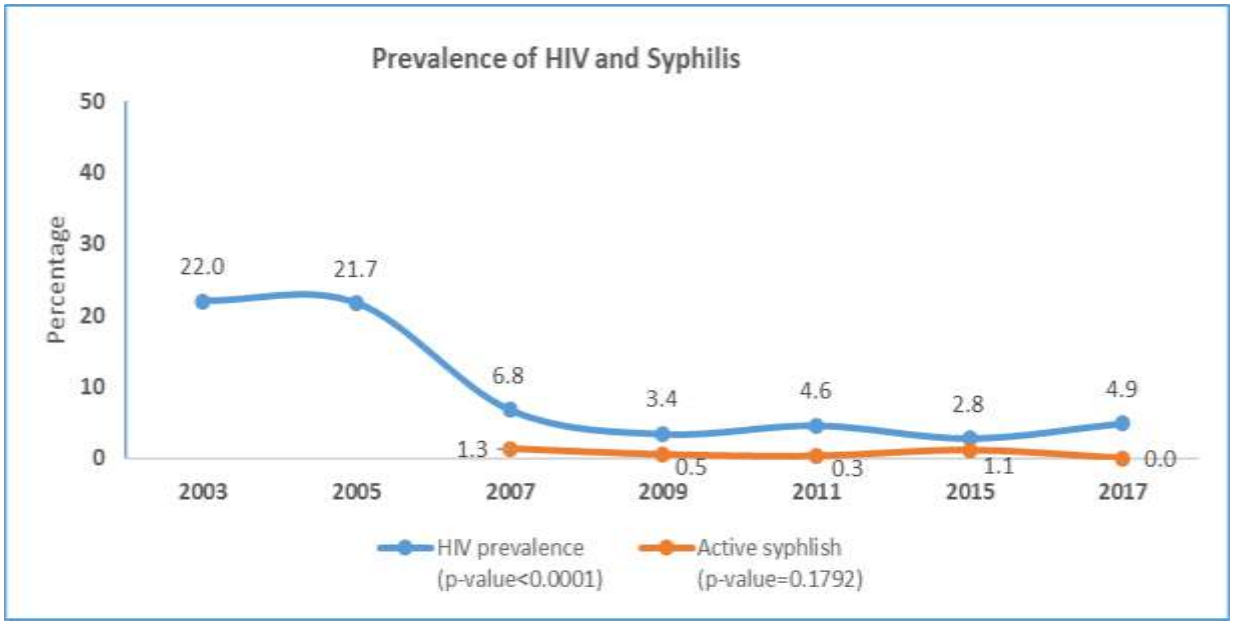

Figure 9-6: Prevalence of HIV and Syphilis

9.7 HCV and HBV Prevalence

The prevalence of HCV and HBV has been compared in the graph below. The data indicates that the prevalence of HCV has increased from 13.1 percent to 21.1 percent in 2017. Likewise, the prevalence of HBV has also increased from 1.8 percent in 2015 to 3.1 percent in 2017 (Figure 9-7).

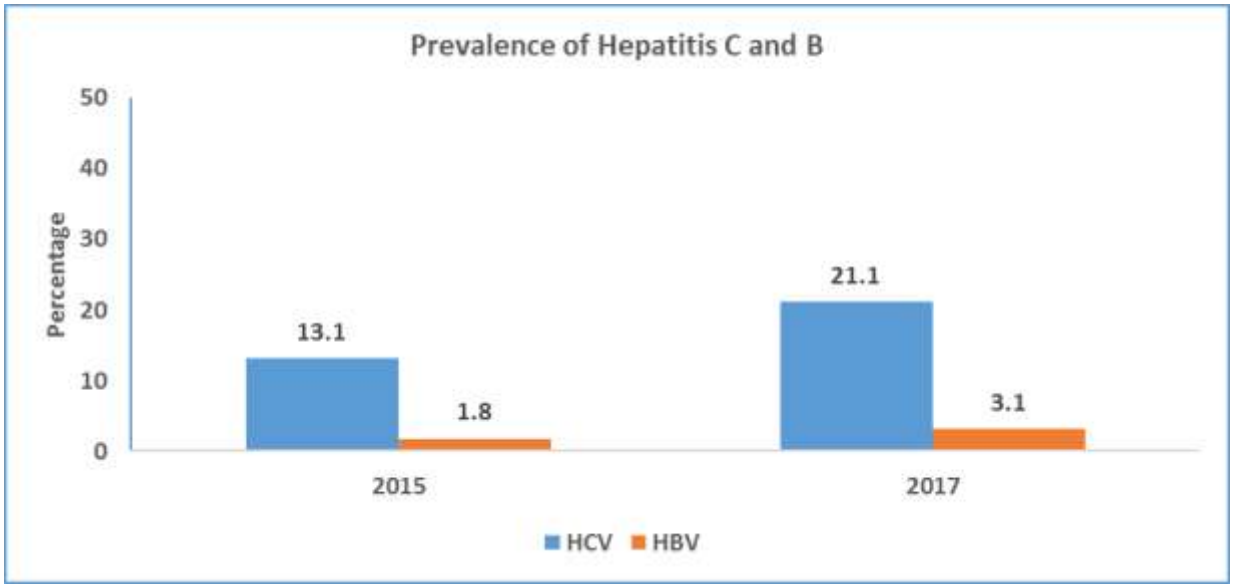

Figure 9-7: Prevalence of HCV and HBV

9.8 Comprehensive Knowledge of HIV

The data below indicates the findings regarding comprehensive knowledge of HIV. The percent of PWID who have knowledge about all three ABC's has decreased from 56.7 percent in the year 2003 to 49.3 percent to 30.0 percent in the year 2017. Likewise, the proportion of PWID who had knowledge about all five BCDEF has also reduced from 73.4 percent (2003) to 49.3 percent (2017) (**Figure 9-8**).

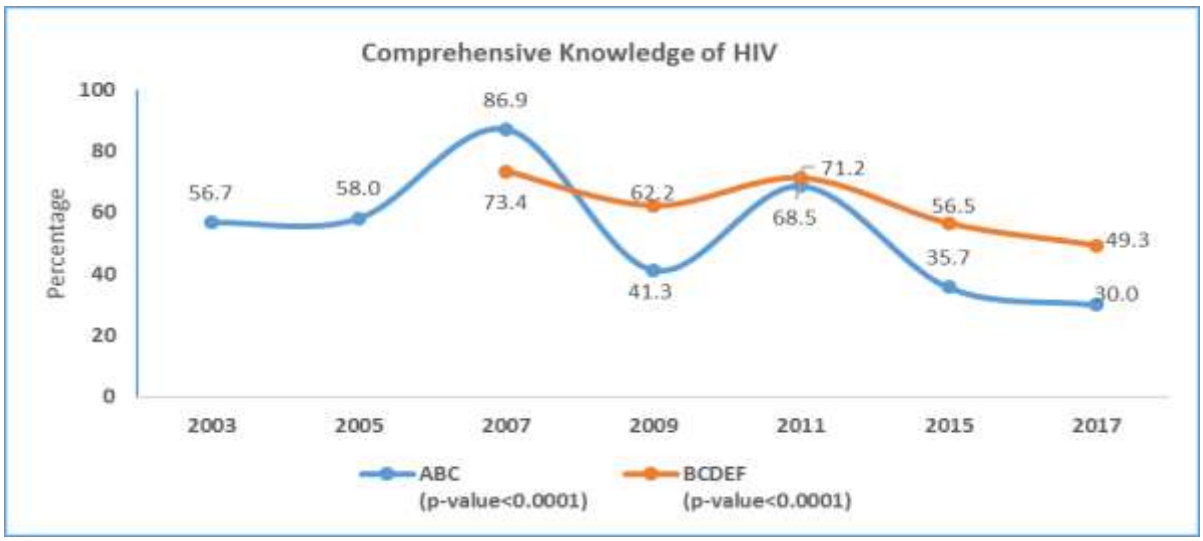

Figure 9-8: Comprehensive Knowledge of HIV

9.9 Knowledge of HIV Testing Facility

The graph below represents comparative findings regarding the knowledge of HIV testing facilities. PWID that have knowledge about confidential HIV testing facilities is on an increasing trend i.e. from 57.0 percent in the year 2003 to 84.6 percent in 2017. Similarly, the number of PWID who had HIV tested as well as results received is also observed to be on an increasing trend (Figure 9-9).

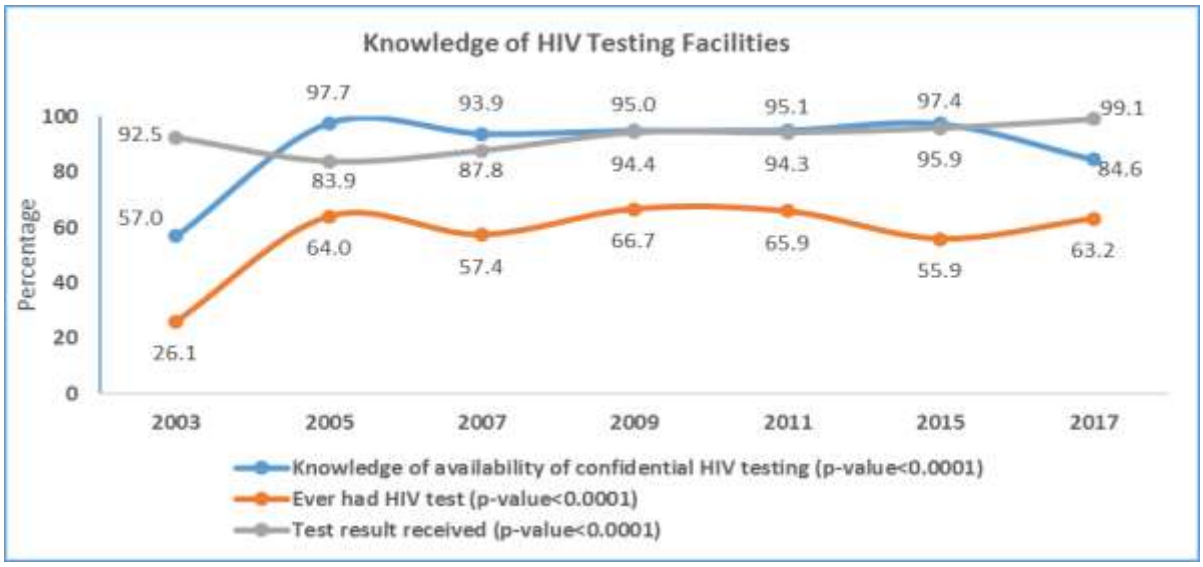

Figure 9-9: Knowledge of HIV Testing Facilities

9.10 Program Exposure

The table below depicts the findings regarding the program exposure aspects of PWID. Here, we can see that, in all the three indicators the trend is however on a declining state from 2007 to 2015, with increase in 2017. PWID who either met/discussed/interacted with OE/PE decreased from 66.7 percent in 2003 to 26.9 percent in 2017. Along with that the number of PWID who visited DIC/IC/CC has also reduced from 86.6 percent in 2007 to 57.9 percent in 2017. And the PWID who visited any HTC centers have also reduced from 38.3 percent in 2003 to 4.4 percent in 2017 (Figure 9-10).

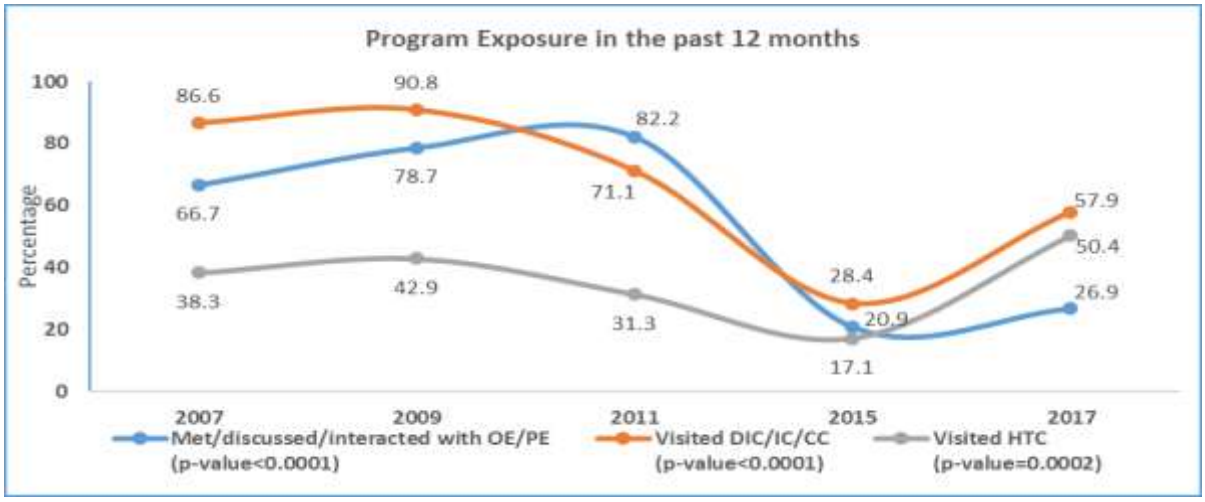

Figure 9-10: Program Exposure in the past 12 months

Conclusions and Recommendations

Based on the findings from this survey, the following program implications and recommendations are mentioned as below.

- HIV prevalence among PWIDs is stable over time but slightly increased in comparison to the last survey. To maintain a low level of HIV prevalence, the program should promote safe injecting and sexual behaviours.

- The prevalence of exposure to the program is decreasing over time. However, exposure to the program is increased in comparison to the last survey. Innovative approaches to identify hotspots and other changing dynamics need to be regularly monitored.

- Consistent condom use with different partners is considerably low. *Programs should focus on the promotion of consistent condom use with all types of partners.*

- Comprehensive knowledge of HIV and AIDS is considerably low (50%). *Therefore, comprehensive knowledge, education, and awareness regarding HIV and AIDS should be promoted through multiple channels including social media.*

- *Co-infection with HIV and HCV is 3.4 percent. Therefore, awareness regarding HCV should be promoted through multiple channels including social media and also should be integrated into care and support program*

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Annexes

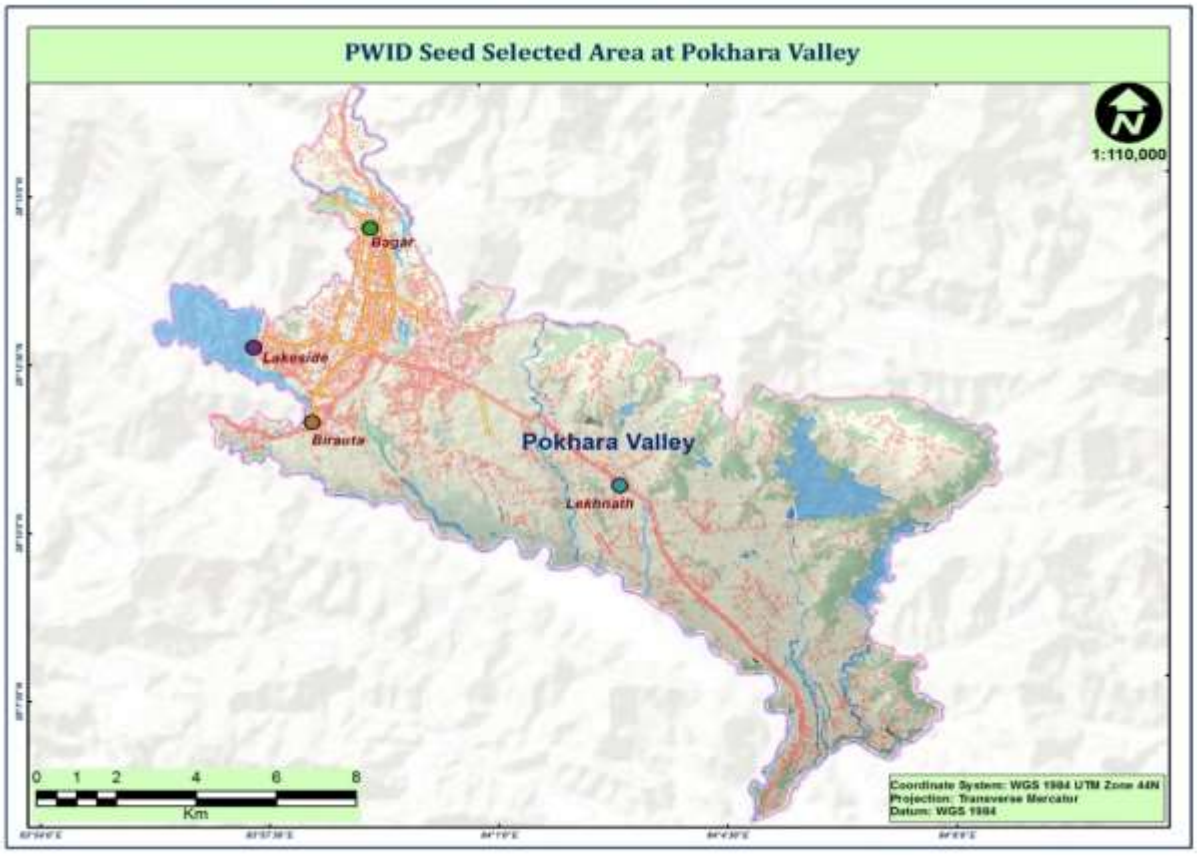
Annex 1: Distributed RDS Coupons

Number of RDS coupon distributed	Person	Total Coupons
3 Coupons	230	690
2 Coupons	2	4
1 Coupon	1	1
No coupon	***112***	***0***
Total:	**345**	**695**

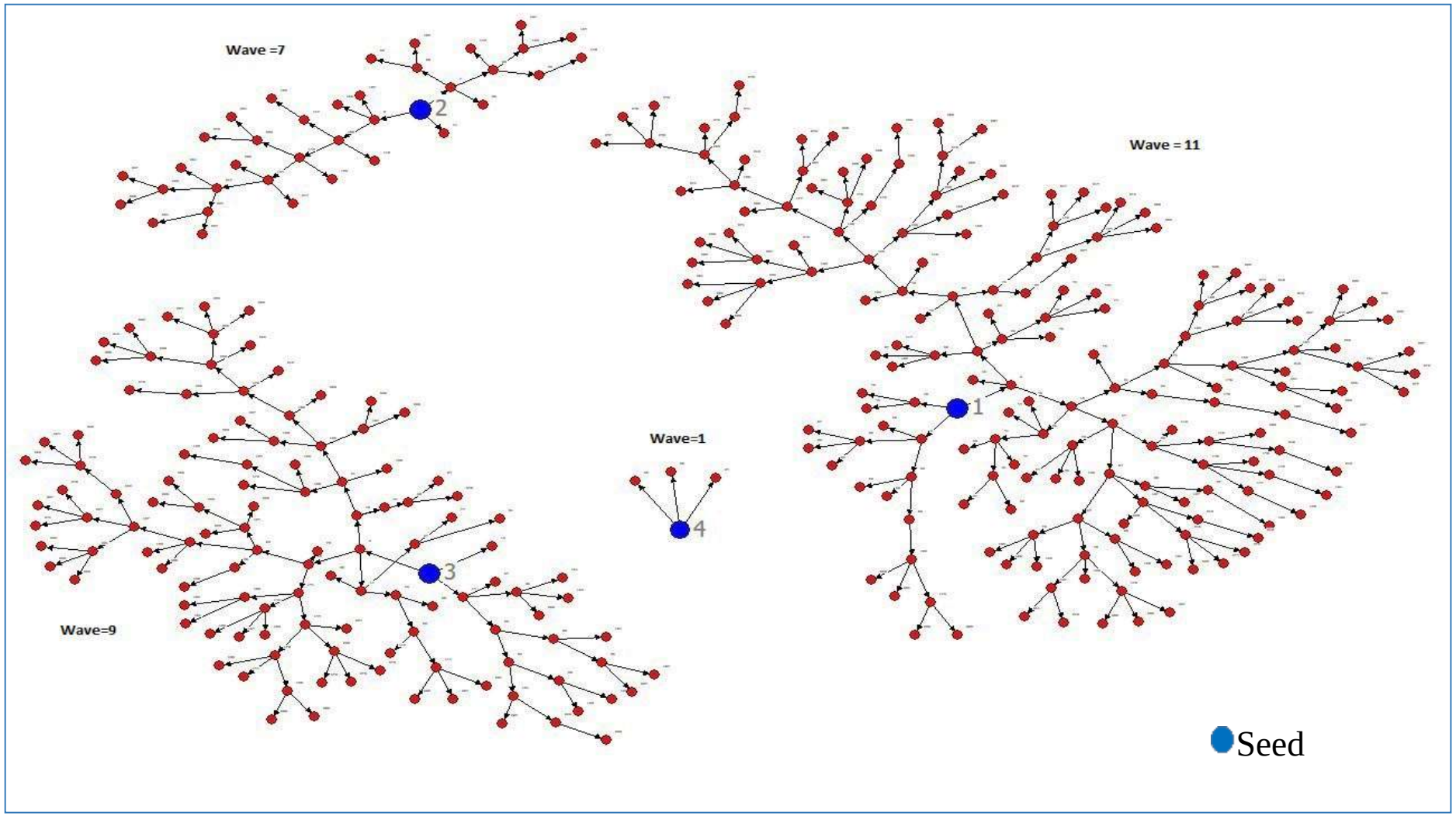
Annex 2: Characteristics of Seed

Seed	Recruits	Number of Waves	Age	Duration of Drugs use
Seed 1	183	11	34	Since last 20 years
Seed 2	36	7	31	Since last 12 years
Seed 3	119	9	20	Since last 5 years
Seed 4	3	1	26	Since last 1 year
Total:	**341**			

Annex 3: Geographical Location of Seed Selection



Annex 4: Network Map of Seed



Annex 5: Sample Size Estimate Formula

$$n = D\frac{[Z_{1-\alpha}\sqrt{2\bar{p}(1-\bar{P})} + Z_{1-\beta}\sqrt{P_1(1-P_1)} + P_z(1-P_z)]^2}{(P_2 - P_1)^2}$$

n = required minimum sample size per survey round

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

P_1 = The estimated proportion at the time of the first survey.

P_2 = The target population at some future date, so that (P_2-P_1) is the magnitude of change of change you want to be able to detect.

$\bar{P}$ = $(P_1 + P_2)/2$

$Z_{1-\alpha}$ = The Z-score corresponding to the level of significance

$Z_{1-\beta}$ = The Z-score corresponding to the level of power

* Guidelines for repeated behavioral surveys in populations at risk of HIV, Page 47, FHI-2000.

Annex 6: Questionnaire

Integrated Biological and Behavioral Surveillance (IBBS) Survey among People Who Inject Drugs (PWID-Male) in Pokhara Valley

Did someone interview you for IBBS surveys is last 2 years. IBBS surveys means taking blood sample for HIV and syphilis test and collecting information on sexual and injecting behaviors?

1. Yes 2. No

If yes, how many times, you enrolled for the survey ☐☐

Operational definition of PWIDs: "Current male drug injectors aged 16 years or above who had been injecting drugs for non-medical purposes for at least three months prior to the date of the survey"

---

001. Has someone interviewed you from …… with a questionnaire in last few weeks?

1. Yes 2. No (continue interview)

↓

When?

_____Days ago (make sure that it was interviewed by …… and close the interview)

002. Respondent's ID #: ☐☐☐☐☐☐

002.2 Did you share needle/syringe with the friend who brought you here?

1. Yes 2. No

002.3 How long you have been injecting drugs?

Years ☐☐ Months ☐☐

(NOTE: AFORMENTIONED QUESTIONS ARE THE SCREENING QUESTIONS. IF THE RESPONSE IS LESS THAN THREE MONTHS, STOP INTERVIEW BECAUSE THIS PERSON IS NOT ELIGIBLE FOR INCLUSION IN THE SAMPLE)

003. Interview Location ☐☐

(to be filled by interviewer)

003.1 District: _____

003.2 VDC/Municipality:_____

1.0 BACKGROUND OF RESPONDENT

Q.N.	Questions	Coding Categories	Skip to
101	Where are you living now? **(Write current place of residence)**	003.1 District: _____ 003.2 VDC/Municipality :____	
101.1	How long have you been living continuously at the same address? **(Write 995 if less than one month)**	Month ..... ☐☐☐ Always (since birth)..... 0 Others	
102	How old are you?	Age ..... ☐☐ **(write the completed years)**	

☐☐

☐☐

103	What is your educational status? **(Circle '0' if illiterate, '19' for the literate without attending the school, and write exact**	Illiterate..... 0 Literate..... 19 Grade ..... ☐☐	
104	What is your caste? **(Specify Caste)**	Caste _____ Code No..... ☐☐	
105	What is your current marital status?	Never married..... 1 Married ……..…2 Divorced/Permanently separated ..... 3 Widor……..4 Living	→ 106
105.1	How old were you when you first got married?	Age ..... ☐☐ **(write the completed years)**	
106	Which of the following best describes your current living situation? (Select only one option)	Homeless on the street……..1 Living in own home……..……2 Living in a residential hotel..……..3 Rented apartment 4	
107	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	
107.1	How many dependents are there in your family?	Number: ……..☐☐	
108	During the past one-month how often have you had drinks containing alcohol? **(Such as beer, local beer etc.)**	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	Coding Categories	Skip to
201	How long have you been using drugs? **(Drug means medicine not used for treatment purpose rather used for Intoxication**)	Year..... ☐☐ Months..... ☐☐ No response 99	
202	How old were you when you first injected drugs? **(Include self-injection or injection by another)**	Years ..... ☐☐ **(write the completed years)**	

203	How long have you been injecting drugs? **(Include self-injection or injection by others)**	Years..... ☐☐ Months..... ☐☐ No response 99	
203.1	Have you injected drugs in the last month?	Yes.....1 No .....2 →	204
203.2	If Yes, have you used non-sterile syringe/needle at any time in the last month?	Yes.....1 No 2	
203.3	Have you used non-sterile injecting equipment at any time in the last month?	Yes.....1 No 2	

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. Opidol/Tramdol/Saipem	1	2	98	99				
2. Clonazepam	1	2	98	99				
3. Tidigesic/Noorphine/Nufine/Lupegesic					1	2	98	99
4. Brown Sugar/White Sugar	1	2	98	99	1	2	98	99
5. Nitrosun/ Nitrovate	1	2	98	99	1	2	98	99
6. Ganja/Chares	1	2	98	99				
7. Phensydyl/Corex	1	2	98	99				
8. Velium 10	1	2	98	99	1	2	98	99
9. Codeine	1	2	98	99	1	2	98	99
10. Phenergan/Stagon	1	2	98	99	1	2	98	99
11. Calmpose/Diazepam	1	2	98	99				
12. Cocaine/Cracks	1	2	98	99	1	2	98	99
13. Proxygin/Proxyvon	1	2	98	99	1	2	98	99
14. Effidin								
15. Lysergic Acid Dithylamide(LSD)	1	2	98	99				
16. Avil/Algic	1	2	98	99	1	2	98	99
17. Amphetamine /Yava	**1**	2	98	99	1	2	98	99
96. Others (Specify)_	1	2	98	99	1	2	98	99

204.0.1	Have you used these drugs in combination form?	Yes.....1 No .....2 No response 99	→ 204.1
204.0.2	If yes, how many drugs has been used?	☐ (numbers)	
204.0.3	What are the most frequently combination that is used ?	……..(Specify)	
204.1	In the last month, did you switch from one drug to another?	Yes……	205

Q.N.	**Questions**	**Coding Categories** →	**Skip to**
204.1.1	If yes, which drug?	From _____drug To _____drug	
204.1.2	What is the reason for switching?	To decrease effects of syringe…….1 Costly……2 Difficult to find drugs ……3 Others…….……96	
205	How many times did you inject drugs yesterday?	Times..... ☐☐ → Not injected 0	207

206	Would you like to tell me why you did not inject yesterday?	Due to lack of Money……..…….1 Want to quit slowly……..…….2 Had taken Ganja……...…….3 Had taken Brown Sugar…….4 Had injected previous day……..5 Had taken alcohol…….……..6 Did not find Drugs……7 Was under police custody…….……8 Had taken Nitrosun…….9 Was Sick…….……..10 Had taken other drugs……..11 Was busy in household activity……12 Others (Specify)……..96	
207	How many days ago did you inject?	Days ago..... ☐☐	
208	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	
209	(Ask whether the respondent was ever arrested or not then ask the following questions) Have you ever been imprisoned or detained for any reason?	Yes.....1 No .....2 No response 99	→ 210
209.1	In the past year, have you ever been imprisoned or detained for any reason?	Yes.....1 No .....2 No response 99	→ 210
209.2	In the past year, have you ever been imprisoned for drug-related reason?	Yes.....1 No .....2 No response 99	→ 210
209.3	In the past year, how many times have you been imprisoned for drug-related reason?	Times ..... ☐☐ No response 99	
209.4	Have you ever injected drugs while in prison?	Yes.....1 No .....2 No response 99	
210	How often you cross the border (Indo-Nepal) to buy and use the illicit drugs in the past 12 months?	Always……1 Most of the time……..…….2 Sometimes……..……..3 Never……..……..4 Don't Know……98 No response……99	

3.0 NEEDLE SHARING BEHAVIORS

Q.N.	Questions	Coding Categories	Skip to
301	Think about the times, you have injected drugs Yesterday/last day. How many times did you inject drugs on that day? **(Fill the number from answer to Q. 205 and verify by asking the respondent)**	Times..... ☐☐	

Q.N.	Questions	Coding Categories	Skip to
302	The last time you injected, how did you get that syringe/needle? **(Public place means places other than the PWIDs home that are used to hide syringe/needle)**	My friend/relative gave it to me after his use .....1 Unknown person gave it to me after he use .....2 I picked it up from a public place which was left there by others .....3 I picked it up from a public place which was left there by myself .....4 I used a new needle/syringe given by NGO staff/volunteer……..5 **(write the name of Organization)** I used a needle/syringe which I purchased.....6 I reused my own needle/syringe .....7 My friend gave new needle/syringe.....8 Others (Specify)…..,…….....96 Don't know.....98 No response 99	
302.1	If you were in a group the last time that you injected, how many different people in the group do you think used the same syringe/needle?	No of person: ..... ☐☐ Injected alone 95	
304	In the past one-week, did you ever share needles and syringes with any of the following?		

Read out list. Multiple answers possible	Yes	No	DK	NR
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		

304	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	
305	In the past-week, did you ever inject with a pre-filled syringe? **(By that I mean a syringe that was filled without you witnessing it)**	Yes ..... 1 No ..... 2 Don't know……..98 No response.....99	
306	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?	Every times..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never 4	
307	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	
307.1	In the past one year have you switched from sharing to non-sharing practice?	Yes.....1 No 2	
308	Can you obtain new, unused needles and syringes when you need them?	Yes..... 1 No ..... 2 Don't know..... 98 No response 99	

Q.N.	Questions	Coding Categories	Skip to
309	Where can you obtain new unused needles and syringes? **(Do not read out list. Multiple answers possible. Probe only with "Anywhere Else?")**	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 **(write the name of Organization)** Steal from legitimate source (hospital./pharmacy).....12 Buy on streets.....13 Other (Specify) ……....96	
310	Are you satisfied with ongoing needle/syringe programs?	Strongly satisfied……..1 Satisfied……2 Neutral……..3 Not satisfied…….4 Not strongly satisfied……...5	
311	What do you usually do with your used needle/ syringe?	Disposed ……1 Gave to friend……2 Kept/carry safely for another use……3 Hide in public places ……4 Threw anywhere (please specify)……5 Others (specify)……..96 Don't know ……..……98	
312	In the past one-year, did you ever inject drug in another city/district (or another country)?	Yes.....1 No .....2 Don't' remember.....98 No response 99	315
313	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	315
314	How many months ago did you last receive treatment or help for your drug use?	Months ..... ☐☐ Don't know .....98 No response 99	
315	In the last 12 months, have any of an outreach worker, a peer educator or a staff from a needle exchange program given you a new needle/syringe?	Yes ..... 1 No ..... 2 Don't' remember..... 98 No response 99	

4.0 SEXUAL HISTORY

Q.N.	Questions	Coding Categories	Skip to
401	How old were you at your first sexual Intercourse?	Years old …….. ☐☐ ***(Write completed years)*** Never had sexual intercourse .....0 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

	have you had sex in the last 12 months?	Number…… ☐☐	
403.1	How many were female "regular partners"? **(Your wife or live-in sexual partners)**	Number…….. ☐☐ Don't know……98 No response	
403.2	How many were female "sex worker"? **(Partners to whom you bought or sold sex in exchange for money or drug)**	Number ..... ☐☐ Don't know .....98 No response 99	
403.3	How many were female "non-regular partners"? **(Sexual partners, you are not married to and have never lived with and did not have sex in exchange for money)**	Number ..... ☐☐ Don't know .....98 No response 99	
404	We have 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/oral sex in the last 12 months?	Number ..... ☐☐ Don't know .....98 No response 99	
404.3	The last time you had anal/oral 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/oral sex with male sex partner in the past 12 months	Every Times .....1 Almost Every Times .....2 Sometimes…… 3 Never Used .....4 Don't Know .....98 No response 99	

5.0 NUMBERS AND TYPES OF PARTNERS

Q. N.	Questions	Coding Categories	Skip to
501.	Did you have sex with female regular partner (wife or live-in partner) during last 12 months?	Yes..... 1 No ..... 2 →	502
501.1	The last time you had sex with a female regular partner did you or your partner use a condom?	Yes..... 1 → No ..... 2 Don't know ..... 98 No response 99	501.4 501.4
501.2	Why did not you or your partner use a condom that time? **(Do not read the possible answers, multiple answer possible)**	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	

Q. N.	Questions	Coding Categories	Skip to
501.3	Did your female regular partner also inject drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
501.4	Have you ever had anal sex with your female regular partners?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	502
501.5	The last time you had anal-sex with a female regular partner did you or your partner use a condom?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
501.6	How often have you used a condom in an anal-sex with female regular partners in the past 12 months?	Every time ..... 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? **(Check 403.2 and circle the response of Q. 502** ***if necessary you may need to ask 403.2 once again and correct the response)***	Yes ..... 1 No 2	→ 503
502.1	Think about the female sex workers that you have had sex in the past one-month. In total how many female sex workers you had sex in exchange for money or drugs?	Number .. .. ☐☐ 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 ..... ☐☐ Don't know ..... 98 No response 99	
502.3	The last time you had sex with a female sex worker did you or 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 or your partner use a condom that time? **(Do not read the possible answers, multiple answer possible)**	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	
502.6	Do you know whether female sex worker with whom you had sex also injected drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	

Q. N.	Questions	Coding Categories	Skip to
502.7	Have you ever had 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 anal-sex with a female sex worker did you 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? **(Check 403.3 and circle the response of Q. 503 *if necessary you may need to ask 403.3 once***	Yes ..... 1 No 2	→ 504
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 ..... ☐☐ Don't know ..... 98 No response 99	
503.2	The last time you had sex with a female non-regular partner did you or 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 or your partner use a condom that time? **(Don't read the possible answers, multiple answer possible)**	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-time ..... 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 injected drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
503.6	Have you ever had anal sex with your female non-regular partners?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	504
503.7	The last time you had 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	Coding Categories	Skip to
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	
504	Have you had anal sex with a male partner in the past one year? **(See the response in Q. 404.1 and circle Q. 504 response *if necessary you may need to ask***	Yes.....1 No 2	→505
504.1	The last time you had anal sex with him; did you use condom? **(Check answer in Q no 404.3)**	Yes.....1 No .....2 Don't know .....98 No response 99	→ 504.4 504.4
504.2	Why didn't you use condom at that time? **(Don't read possible answer, multiple answer possible)**	Not available.....1 Too expensive .....2 Partner objected.....3 Don't like .....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	
504.4	How often have you used a condom during anal sex with a male partner is the past year? **(Check Q no. 404.4)**	Every times.....1 Almost every-times .....2 Sometimes .....3 Never used.....4 Don't know .....98 No response.....99	
505	With whom did you have the last sexual intercourse?	FSW .....1 Regular partner.....2 **(Wife or live in sexual partner)** Other female friend 3	→
506	Did you use condom in the last sexual intercourse?	Yes.....1 No 2	

6.0 USE AND AVAILABILITY OF CONDOM

(Check responses in Q.N. 404.3, 404.4, 501.2, 501.4, 501.7, 501.8, 502.3, 502.5, 502.8, 502.9, 503.2, 503.4, 503.7, 503.8, 504.4, 505.1, 506, 508 and circle responses in Q. 601 & 602and Probe if the response is contradictory)

Q. N.	Questions	Coding Categories	Skip to
601	Have you ever used a condom?	Yes..... 1 No 2	
602	Do you know of any place or person from which you can obtain condom?	Yes..... 1 No ..... 2 No response 99	701

603	From which place or people, can you obtain condoms? **(Multiple answer possible. Don't read the list but probe)**	Shop ..... 1 Pharmacy ..... 2 Clinic ..... 3 Hospital ..... 4 Family planning center ..... 5 Bar/Guest house/Hotel ..... 6 Health worker ..... 7 Peer Educator/Outreach doctor ..... 8 Friend ..... 9 *Pan Pasal* ..... 10 Others (Specify)…….. 96 No response 99	
603.1	Did any organization give you condom in the last 12 months?	Yes, free of cost..... . 1 Yes, by taking money..... 2 No 3	
604	Do you usually carry condom with you?	Yes ..... 1 No 2	

7.0 KNOWLEDGE AND TREATMENT OF STIs

Q. N.	Questions	Coding Categories	Skip to
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.)**	Lower 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	
703	Can you describe any symptoms of STIs in men? **(Do not read possible answers, multiple answer possible)**	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 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 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 genital ulcer/sore blister?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	

Q. N.	Questions	Coding Categories	Skip to
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 Never had such symptoms ..... 4 Others (Specify)	

8.0 KNOWLEDGE, OPINIONS AND ATTITUDES ON HIV

Q. N.	Questions	Coding Categories	Skip to
801	Have you ever heard of HIV or the disease called AIDS? **(Probe if the response if No)**	Yes.....1 No .....2 No response 99	
802	Do you know anyone who is infected with HIV or who has died of AIDS?	Yes.....1 No .....2 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 No response 99	
804	Can a person protect himself/herself from HIV, the virus that causes AIDS, by using a condom correctly during each sexual act?	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 a person protect himself/herself from HIV, by having only one uninfected faithful sex partner?	Yes.....1 No .....2 Don't know .....98 No response 99	
807	Can a person protect himself/herself 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 a person who inject drug protect himself/herself from HIV, the virus that causes AIDS, by switching to non-injecting drugs? **(Oral or inhaling 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? **(Do not read the possible answers, multiple answer possible)**	Take medication (Antiretroviral) ..1 Others (Specify) _____96 Don't know .....98 No response 99	

Q. N.	Questions	Coding Categories	Skip to
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	
813.1	Do you think a healthy-looking person can be infected with HIV?	Yes.....1 No .....2 Don't know 98	
813.2	Can a person get HIV by shaking hand with an infected person?	Yes.....1 No .....2 Don't know 98	
813.3	Can blood transfusion from an infected person to the other transmit HIV?	Yes.....1 No .....2 Don't know 98	
814	Is it possible in your community for someone to have a confidential HIV test? **(By confidential, I mean that no one will know the result if you don't want him or her to know it.)**	Yes.....1 No .....2 Don't know .....98 No response 99	
814.1	Do you know where to go for HIV test?	Yes.....1 No 2	
815	Have you ever had an HIV test?	Yes.....1 No 2	
816	Did you voluntarily take up the HIV test, or were you required to have the test?	Voluntary.....1 Required 2	
817	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 48 months .....4 Don't know .....98 No response 99	
817.1	How many times have you undergone for HIV test within the last 12 months?	……. Times	
818	Did you find out the result of your HIV test?	Yes.....1 →	818.1
		No 2	
818.1	What was the result of your last test?	Positive……1 →	
		Negative……2	901
		Uncertain……3	819
		Result not received……4	901
		Don't know……98	
		No response……99	
818.2	Did you go to HTC for HIV care once you knew you were HIV positive?	Went……..1 Did not go……2 Don't know……98 No response……99	
818.3	Why didn't you go to HTC for HIV care even after knowing you were HIV positive?	Felt I was healthy……..1 Others might know……..2 Had to pay……3 Bad attitude of healthcare provider..4 Long waiting time/Could not manage with Clinic opening time……..5 Others (Specify)……96 Don't know……98 No response……99	

Q. N.	Questions	Coding Categories	Skip to
819	Why did you not receive the test result?	Sure of not being infected .....1 Afraid of result .....2 Felt unnecessary .....3 Forgot it .....4 Others (Specify) ……96 No response.....99	

9.0 KNOWLEDGE OF HEPATITIS C

Q. N.	Questions	Response categories	Skip to
901	Have you heard about Hepatitis C?	Yes ……1 No ……2 Don't know ……98	
902	Can Hepatitis C be transmitted through sex?	Yes ……1 No ……2 Don't know ……98	→
903	Can Condoms protect you against hepatitis C.	Yes ……1 No ……2 Don't know ……..…98	
904	Can Hepatitis C only occur if you have HIV?	Yes ……1 No ……2 Don't know ……98	
905	Can Hepatitis C be transmitted by sharing needles?	Yes ……1 No ……2 Don't know ……98	
906	Can Hepatitis C be transmitted through tattooing?	Yes ……1 No ……2 Don't know ……98	
907	Is there a medical treatment for hepatitis C?	Yes ……1 No ……2 Don't know ……98	
908	Can herbal remedies cure hepatitis C?	Yes ……1 No ……2 Don't know ……98	

10. KNOWLEDGE AND PARTICIPATION IN STI AND HIV PROGRAMS

Q. N.	Questions	Coding Categories	Skip to
1001	Have you met or discussed or interacted with Peer Educators (PE) or Outreach Educators (OE) or Community Mobilizes (CM) or Community Educators (CE) in the last 12 months?	Yes.....1 No .....2 No response 99	→ 1004
1002	What activities did these PE or OEs involve you in when you met them? **(Multiple answers. DO NOT READ the possible answers)**	Discussion on how HIV/AIDS is/isn't transmitted. .....1 Discussion on how STI is/isn't transmitted…….....2 Discussion on safe injecting behavior.....3 Regular/non-regular use of condom…4 Demonstration on using condom correctly.....……5 Others (Specify)_____96	
1003	How many times have these PE, OE, CM and/or CE met you in the last 12 months?	Once.....1 2-3 times.....2 4-6 times .....3 7-12 times.....4 More than 12 times.....5	

1004	Have you visited or been to any outreach center (DIC, IC or CC) in the last 12 months? Drop-In Center (DIC), Information Center (IC), Counseling Center (CC)	Yes.....1 No .....2 →	1008
1005	What did you do when you went to the out reach center (DIC, IC or CC) in the 12 last months? **(Multiple answers. DO NOT READ the possible answers)**	Went to collect condoms.....1 Went to learn the correct way of using condom .....……2 Went to learn about the safe injecting behavior.....3 Went to watch film on HIV/AIDS…4 Participated in discussion on HIV transmission .....5 Went to have new syringe.....6 Other (Specify)_____96	
1006	How many times have you visited out reach centers (DIC, IC or CC) in the last 12 months?	Once.....1 2-3 times.....2 4-6 times .....3 7-12 times.....4 More than 12 times.....5	
1007	Have you visited any STI clinic in the last 12 months?	Yes.....1 No .....2 →	011
1008	What did you do when you visited such STI clinic? **(Multiple answers. DO NOT READ the possible answers given below)**	Blood tested for STI.....1 Physical examination conducted for STI identification.....2 Discussion on how STI is/isn't transmitted. .....3 Discussion on safe injecting behavior.....4 Regular/non-regular use of Condom.....5 Took a friend with me.....6 Other (Specify) …….96	
1009	How many times have you visited STI clinic in the last 12 months?	Once.....1 2-3 times.....2 4-6 times .....3 7-12 times .....4 More than 12 times.....5	
1010	Have you visited any HTC (HIV testing and counselling center) ?	Yes.....1 No .....2 →	1014
1011	What did you do when you visited such HTCs ? **(Multiple answers. DO NOT READ the possible answers)**	Received pre-HIV/AIDS test counseling.....1 Blood sample taken for HIV/AIDS test.....…2 Received post HIV/AIDS test counseling.....3 Received information on safe injecting behavior.....……4 Received HIV/AIDS test result .....…5 Received counseling on using condom correctly in each sexual intercourse ...6 Received information on HIV/AIDS window period.....7 Took a friend with me.....8 Other (Specify) ……96	

1012	For how many times have you visited HTC center in the last 12 months?	Once.....1 2-3 times.....2 4-6 times .....3 7-12 times .....4 More than 12 times.....5	
1012.1	Have you ever enrolled into any Opioid substitution Therapy (OST): Methadone and Buprenorphine?	Yes.....1 No .....2 Don't Know……98 No response ……..99	1013
1012.2	Have you received any Opioid substitution Therapy (OST) in the past 12 months?	Yes.....1 No .....2 Don't Know……..……..…98 No response ……..……..99	1013
1012.3	Which service have you received?	Methadone ……1 Buprenorphine…….……..2 Others (Specify)…….…….. 96	
1012.4	Are you still in therapy?	Yes.....1 No .....2 Don't know……98 No response …..……...99	1013
1012.5	What amount have you been receiving per day?	Methadone ……..ml Or Buprenorphine …..….. mg.	
1012.6	How long have you been in this therapy?	…… Years …… Months	
1012.7	What is(are) the reasons for receiving OST services and having injecting behaviors?		
1013	Have you ever heard about prevention of mother to child transmission services (PMTCT) for pregnant women?	Yes.....1 No .....2 No response ……..99	1014
1013.1	Do you know from where pregnant women can get PMTCT services?	Yes.....1 No .....2 No response ……..99	
1014	Have you ever heard about anti-retroviral therapy (ART) services for HIV positive individuals?	Yes.....1 No .....2 Don't Know……98 No response ……..……99	1015
1014.1	Do you know from where HIV positive individuals can get ART services?	Yes.....1 No .....2 Don't know ……..……..98 No response ……99	
1015	Have you heard of viral load testing services for HIV positive individuals?	Yes.....1 No .....2 Don't know ……..……98 No response ……..……..99	1016
1015.1	Do you know from where HIV positive individuals can get viral load testing services?	Yes.....1 No .....2 Don't know ……..……..98 No response ……99	
1016	Have you heard of any Community Home Based Care (CHBC) services that are provided for HIV positive people?	Yes.....1 No 2	

11. STIGMA AND DISCRIMINATION

Q. N.	Questions	Coding Categories	Skip
1101	If a male relative of yours gets HIV, would you be willing to take care of him in your household?	Yes .....1 No .....2 Don't know 98	
1102	If a female relative of yours gets HIV, would you be willing to take care of her in your household?	Yes .....1 No .....2 Don't know 98	
1103	If a member of your family gets HIV, would you want to keep it a secret?	Yes .....1 No .....2 Don't know 98	
1104	If you knew a shopkeeper or food seller had HIV, would you buy food from him/her?	Yes.....1 No .....2 Don't know.....98 No response 99	
1105	Do you think a person with HIV should get the same, more or less health care than someone with any other chronic disease?	Same .....1 More .....2 Less .....3 Don't know.....98 No response 99	
1106	If one of your colleagues has HIV but he/she is not very sick, Do you think he/she should be allowed to continue working?	Yes.....1 No .....2 Don't know.....98 No response 99	
1107	Do you think children living with HIV should bee able to attend School with children who are HIV negative?	Yes.....1 No .....2 Don't know.....98 No response 99	

Thank You!!

Annex 7: Clinic/Lab Checklist

CONFIDENTIAL

INTEGRATED BIO-BEHAVIORAL SURVEY (IBBS) AMONG INJECTING DRUG USERS IN SELECTED SITES OF NEPAL

Clinical/Lab Checklist

Respondent ID Number: Date:2072/__/__

Name of Clinician: _____

Name of Lab Technician: _____

(A) Clinical TEST (B) Specimen collection

			Yes	No
Weight	: _____Kg	Pre-test counseled	1	2
B.P.	: _____mm of Hg	Blood Collected for		
		HIV & Syphilis	1	2
Pulse	: _____	Date & place for		
		post-test results given	1	2
Temperature	: _____º F	Condom given	1	2
		IEC materials given	1	2

1.0 Syndromic Treatment Information

101. Have you experienced genital discharge/burning urination/swelling and tenderness of test is or epididymis in the past one month?

1. Yes 2. No

[If yes, give urethral discharge/scrotal swelling syndrome treatment]

102. Have you had genital ulcer/sore blister in the past one month?

1. Yes 2. No

[If yes, give genital ulcer syndrome treatment and time for follow-up]

103. Have you had a tender or non-tender/solid or fluctuant swelling in the groin area in the past one month?

1. Yes 2. No

[If yes, give inguinal swelling (bubo) syndrome treatment and time for follow-up]

Annex 8: RDS Coupon and Payment Record Form

Coupon Issued Date	Respondent ID	Network Size	Coupon # Received	Coupon # 1 Given	Coupon # 2 Given	Coupon # 3 Given	Payment # 1	Payment # 2	Payment # 3