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

Round VII

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

Field Work Conducted by:

The IBBS Survey is part of the National HIV Surveillance Plan led by NCASC. The field work of this survey was carried out by School of Planning, Monitoring, Evaluation and Research and the quality assurance by National Public Health Laboratory with technical and financial and technical assistance from Save the Children.

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This was the seventh round of Integrated Biological and Behavioral Surveillance Survey among People Who Inject Drugs (PWID) in Kathmandu Valley, as part of the National HIV Surveillance Plan. The survey was organized by National Centre for AIDS and STD Control (NCASC) with the technical and financial support from Save the Children/Global Fund. It aimed at generating the evidence about the prevalence of HIV, Syphilis, Hepatitis B and Hepatitis C among the PWID; their high-risk behaviors; knowledge of HIV/STIs; program exposures and exploring strategic information on HIV/HBV/HCV and STIs needed to monitor and guide the National HIV and AIDS program.

We would like to acknowledge SC/GF technical team for their valuable technical support for conducting this survey. We are also grateful to survey Consultant Sampurna Kakchapati, Sagun Pant, M&E Officer, NCASC/GF and the entire survey monitoring team and SITWG for their support throughout the survey. We would like to thank School of Planning Monitoring Evaluation and Research (SPMER) and its survey team members for their commitment and enthusiastic work that led to the successful completion of this survey. We would like to thank the National Public Health Laboratory for conducting external quality assessments of the collected biological specimens.

We express our gratitude to all the respondents who spent their valuable time with us for the interviews, provided a blood sample for testing and shared their personal experiences with the survey team; without their support and cooperation, the survey would not have been completed. We would like to thank all the government and non-governmental agencies for their indispensable support for the completion of this survey. Moreover, we are thankful to all the D(P)HOs, Recovery Nepal, Nirnaya Nepal and other community level stakeholders and community people for their support during data collection.

We believe that the findings of this survey will be valuable for the policy makers, program planners and implementing agencies to frame new policies, plan new programs and revise the strategies to address the HIV epidemic of Nepal.

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ACRONYMS

AIDS	Acquired Immuno-Deficiency Syndrome
ART	Anti-Retroviral Therapy
CE	Community Educator
CM	Community Mobilizer
CHBC	Community Home Based Care
DIC	Drop-in-Centre
EQA	External Quality Assessment
EQAS	External Quality Assurance Scheme
FP	Family Planning
FSW	Female Sex Worker
GOs	Governmental Organizations
HIV	Human Immuno-deficiency Virus
HTC	HIV Testing and Counseling
IBBS	Integrated Biological and Behavioral Surveillance
ID	Identification Number
KPs	Key Populations
MSM	Men who have Sex with Men
NCASC	National Centre for AIDS and STD Control
NGO	Non-Governmental Organization
NHRC	Nepal Health Research Council
NPHL	National Public Health Laboratory
OE	Outreach Educator
PE	Peer Educator
PLHIV	People living with HIV
PMTCT	Prevention of Mother to Child Transmission
PWID	People Who Inject Drugs
RPR	Rapid Plasma Reagin
SD	Standard deviation
SITWG	Strategic Information Technical Working Group
SLC	School Leaving Certificate
SPMER	School of Planning Monitoring, Evaluation and Research
SPSS	Statistical Package for the Social Sciences
STI	Sexually Transmitted Infection
TPHA	Treponema Pallidum Hemagglutination Assay
TPPA	Treponema Pallidum Particle Agglutination

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EXECUTIVE SUMMARY

This is the seventh round of Integrated Biological and Behavioral Surveillance Survey conducted among People Who Inject Drugs (PWID) in Kathmandu Valley. The survey was undertaken primarily to track the trend of HIV, Hepatitis B (HBV), Hepatitis C (HCV) and Syphilis prevalence and to understand the associated risky sexual behaviors among the PWID of Kathmandu Valley.

This was a serial cross-sectional survey; conducted in Kathmandu Valley (Kathmandu, Bhaktapur and Lalitpur). The study population comprised of 340 "current males aged 16 years or above who have been injecting drugs for at least three months prior to the date of survey". PWID were enrolled using Respondent Driven Sampling (RDS) method. The survey was started with five seeds and went up to ten waves. Respondents were interviewed after obtaining witnessed oral consent followed by pre-test counseling and blood sample collection. A structured questionnaire was used to collect information about the socio-demographic characteristics, drug use and needle sharing behaviors, sexual behavior including knowledge and use of condoms; knowledge of HIV/AIDS; knowledge and treatment of STIs and exposure of PWID to available HIV and STI awareness programs and services.

Prevalence of HIV was determined by testing blood samples. Rapid testing was conducted by using a serial testing scheme based on the NCASC national guideline algorithm and WHO approved test kits. First test kit was Determine HIV ½, second test kit was Uni-Gold HIV, and third test kit was Stat Pack. All samples negative by the first test were reported as negatives. All samples positive by fist test were subjected to the second and the third test. All samples that were positive for all three tests were reported positive. Any sample that was positive on the 1st and 2nd test and negative on the 3rd test was then repeated with all three tests, and if gives the same result was reported then finalized as an inconclusive result. Such sample was suggested to repeat the test after 14 days. Similarly, Rapid Plasma Reagin (RPR), a blood-screening test was conducted to detect the presence of antibodies for syphilis among the PWID. All the serum samples were tested for Hepatitis B and Hepatitis C by the WHO certified rapid test kit. Ethical approval was obtained from Nepal Health Research Council (NHRC).

KEY FINDINGS

Prevalence of HIV/HCV/HBV/Syphilis: Prevalence of HIV infection was 8.5% (95% CI=5.5-13.9), HCV was 18.8% (95% CI=16-29.2), HBV was 1.3% (95% CI=0.1-3.6), Active Syphilis was 1.7% and History Syphilis was 2% among the PWID. Similarly, co-infection of HIV and HCV was alarmingly high among the PWID (7.35%).

Nearly a half of the PWID were young: More than two in five of the PWID (44%) were<25 years old with a median age of 20 years.

Almost all of the PWID were literate: An overwhelming majority of the PWID (99%) were literate with nearly three-fourth (71%) completing a secondary level of schooling.

The majority of the PWID were married in young age: More than a third of the PWID (36%) were married at an age between 20-24 years. Similarly, more than a quarter of them

(28%) were married in the adolescent age of 15-19 years. The mean age at first marriage was 23±4.9 with an age range of 15-39 years.

Early entry into injecting practice was common among PWID: More than two-fifth of the PWID (43%) had started injecting drugs in the adolescent age (<15-19 years), and their mean age and standard deviation at first drug injection was 20.9±4. years.

PWID have been injecting since a long time: Almost a half of the PWID (49%) had been injecting drugs for more than 4 years with a mean duration of 6.3 years.

The unsafe injecting practice was still prevailing among the PWID: Almost a tenth of the PWID (9%) had used non-sterile syringe/needle at any time in the last month. Almost 4% of the PWID shared needle/syringe with different people in the last injection. Similarly, almost 6% of the PWID had shared needle/syringe with a friend in the past week. One-tenth (10%) of the PWID had used a pre-filled syringe in the past week. More than a fifth of the PWID (23%) had re-used their own needle/syringe in the last injection.

Injecting Behavior was common among the different sex partners of the PWID: Almost one-sixth of the PWID's female regular partners and female paid partners (FSWs) also injected drugs (N=168; 15% and N=57; 16% respectively). More than a fifth of the PWID non-regular partners also injected drugs (N=85; 23%). Similarly, three out of four PWID male sex partners were injectors (N=8; 75%).

Prevalence of HIV infection and Active Syphilis among PWID showed an increasing trend during 2015 and 2017. HIV prevalence among the PWID has followed an encouragingly declining trend from 68 % in 2002 to 6.4 % in 2015. However, it has increased by 2.1 percent in this round (8.5 % in 2017). The prevalence of active syphilis among PWID had decreased from 2002 to 2007. In 2009 it had slightly increased to 1.5% and dropped to zero in 2011 and 2015 and again has increased to 1.7% in 2017.

Consistent Condom Use practice of the PWID with different sex partners is not satisfactory: Lowest consistent condom use was found with regular female sex partners (wives/live in partners) in all rounds of IBBS. In terms of non-regular female sex partner, in 2002 consistent use of condom of PWID was 48 % which has dropped to 38 % in this round with nearly no difference when compared to previous round (39% in 2015). Consistent use of condoms with FSWs has gone down from 76 % in 2015 to 56 % in 2017.

Comprehensive Knowledge about HIV and AIDS among the PWID was low: Two-fifth of the PWID (43%), had the knowledge of all three ABCs of HIV prevention. Similarly, the understanding of all the five components of HIV prevention (BCDEF) was found among only less than a half of the PWID (47%).

Exposure to STI, HIV and AIDS programs among PWID was low. In the last 12 months, only almost a quarter of the PWID (24%) had ever met or discussed with Peer Educators (PE) or Outreach educators (OE). Just over a half of the PWID (53%) had visited any outreach center (DIC, IC or CC). It is notable that a negligible percent of the PWID (2%) had visited the STI clinic. Similarly, only above a third of the PWID (35%) had visited the HTC.

IMPLICATIONS FOR PROGRAM

Prevalence of HIV, HCV, HBV is high and co-infection of HIV and HCV is alarming. Prevention and treatment strategies for HCV burden need to be prioritized.

Unsafe injecting practice is still prevailing among the PWIDs: Effective Behavioral Change Communication (BCC) programs and Appreciative Inquiry Trainings advocating no use of drugs and safer injecting practices to the target groups need to be widespread.

Dual risk behaviors (Risky sexual behavior and injection drug use) increases risk among PWID population: Substantial proportion of different sex partners of PWIDs also injected drugs. Therefore, awareness regarding consistent condom use with all sex partners and safer injecting practice should be raised through community-focused HIV prevention programs.

Knowledge of ABC and BCDEF of HIV prevention and control is low among PWID. Programs focusing on raising awareness among PWIDs needs to be scaled up to move towards achieving the vision of Zero new cases of HIV in Nepal.

Very few PWIDs had utilized the HIV/STI exposure interventions: Therefore, outreach activities, mobile HTC and STI treatment services should be further widespread to reach the unreached PWID population and improve service utilization among them.

CHAPTER I: INTRODUCTION

1.1 Background

HIV has been one of the serious public health concerns in Nepal, ever since the reporting of the first case of HIV/AIDS in 1988, the prevalence and incidence of HIV/AIDS have been following the decreasing trend. National Centre for AIDS and STD Control (NCASC) has estimated that there were 32,735 People Living with HIV (PLHIV) in Nepal in 2016 with the prevalence of HIV infection among adult population being 0.17 percent (National HIV Infections Estimate 2016 using AEM/Spectrum Model, 2016). The existing National HIV Strategic Plan (2016-2021) identifies that People who Inject Drugs (PWID), Female Sex Workers (FSWs) and their clients, Male Labor Migrants (MLM) and their spouses and Men who have Sex with Men (MSM) as the Key Populations (KPs) at high risk of getting HIV infection.

The National HIV Strategic Plan 2016-2021 has adopted the strengthening of Second Generation Surveillance (SGS) system as one of the key principles of strengthening surveillance of HIV and Sexually Transmitted Infections (STIs) in Nepal. Conducting Integrated Biological and Behavioral Surveillance (IBBS) Surveys among KPs in selected high-risk clusters at the regular intervals based on the National Plan on HIV and STI Surveillance is one of the key components of SGS and also the strategic direction of the national strategy (NCASC, 2016).

This was the seventh round of the IBBS survey (2017) which was conducted among People Who Inject Drugs (PWID) in Kathmandu Valley. PWID are one of the key population at higher risk of HIV transmission due to their needles/syringes sharing behavior among different injecting partners and use of contaminated needles. In addition to that high-risk sexual behavior associated with drug use is another leading cause to spread HIV among the general population. Considerable proportions of the PWID in Kathmandu Valley in the previous round (Round VI) of IBBS survey were diagnosed as HIV positive (NCASC, 2015).

There were spatial variations in the distribution of HIV prevalence among PWID in different locations of Nepal. The first round of the IBBS conducted in 2002 indicated a highest prevalence of HIV (68%) among PWID in the Kathmandu Valley which has followed a declining trend over the years (51.7 % in 2005, 34.9 % in 2007, 20.7% in 2009, 6.3% in 2011 and 6.4% in 2015) (NCASC,2015).

Infection with Hepatitis B virus and Hepatitis C virus is a significant cause of morbidity and mortality globally contributing to cirrhosis and liver failure especially repeatedly linked to PWID community. The substantial global burden of hepatitis B virus (HBV) infection is increasingly recognized. Recent estimates suggest that HBV infection caused 686 000 deaths in 2013, placing HBV in the top 20 causes of human mortality globally (JH MacLachlan, 2015). In 2015, hepatitis B resulted in 887 000 deaths, mostly from complications (including cirrhosis and hepato-cellular carcinoma) (WHO, Factsheets, 2015). HIV and HCV infections are major global public health problems, with overlapping modes of transmission and affected populations.

1.2 Objectives of the Survey

In line with the previous IBBS survey, this seventh round of survey was also undertaken to determine the trends of HIV/STIs and assess risk behavior among PWID in the Kathmandu Valley.

The specific objectives include:

- To determine trends of HIV, HCV, HBV and STI prevalence in the PWID population of Kathmandu Valley.
- To assess HIV and STI-related risk behavior among the PWID population of Kathmandu Valley.
- To collect information related to socio-demographic characteristics; drug use and needle sharing behaviors; sexual behavior including knowledge and use of condoms; knowledge of HIV/AIDS; knowledge and treatment of STIs; exposure of PWID to available HIV and STI services in Kathmandu Valley;
- To explore the association between the risk behaviors and HIV and other specified sexually transmitted infections among the PWID population of Kathmandu Valley.

1.3 Rationale of the Survey

The Integrated Biological and Behavioral Surveillance (IBBS) surveys are conducted at regular intervals in Nepal and are considered as the powerful tools to generate evidence-based data. IBBS surveys help to collect two distinct types of data (biological and behavioral data) from a single participant and also helps to understand the existing/emerging dynamics of HIV epidemic so that appropriate interventions can be designed to prevent the spread of the virus. By linking biological data with behavioral data, IBBS survey has been an effective means to understand the emerging trends on HIV and HIV-related risk behaviors among the key populations.

Findings of these surveys are widely being used for designing HIV interventions, to monitor HIV programs, and for estimation and to project the epidemic of HIV in many countries including Nepal. Nepal's HIV and AIDS epidemic is concentrated amongst KPs. Data on key National HIV Indicators are determined using IBBS survey results. Furthermore, results of these surveys have wider application as these are utilized by different communities, donors, policy makers, program designers and implementers, academicians, and civil society organizations to track the level of HIV epidemic and related risk behaviors of the KPs.

CHAPTER II: METHODOLOGY

2.1 Survey Design

This survey was a serial cross sectional survey. Similar methods that were used in the previous rounds of the survey were followed in this survey.

2.2 Survey Population

This survey was conducted among male PWID; identified as one of the key population at high-risk for transmitting HIV and STI infection. The definition of the PWID used in the survey was "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".

2.3 Survey District

The survey was conducted in Kathmandu Valley which included Kathmandu, Bhaktapur and Lalitpur districts.

2.4 Survey Period

This survey was carried during February, 2017 to June 2017. The data collection took 20 days (22nd May to June 10) to complete the desired sample size.

2.5 Sample Design/Sample Size

Respondent-driven sampling (RDS) was used to recruit survey population. RDS is a network-based chain-referral technique for estimating traits in hard-to-reach populations, for example, the prevalence of HIV among men who have sex with men (MSM), PWID and male sex workers (MSWs). The RDS, unlike the "snowball" method, attempts to overcome the biases such as masking, volunteerism, and oversampling of groups with large networks and, thus, gives unbiased estimates of population parameters and provides more representative samples (Heckathorn, 1997). This survey utilized RDS to recruit the study participants.

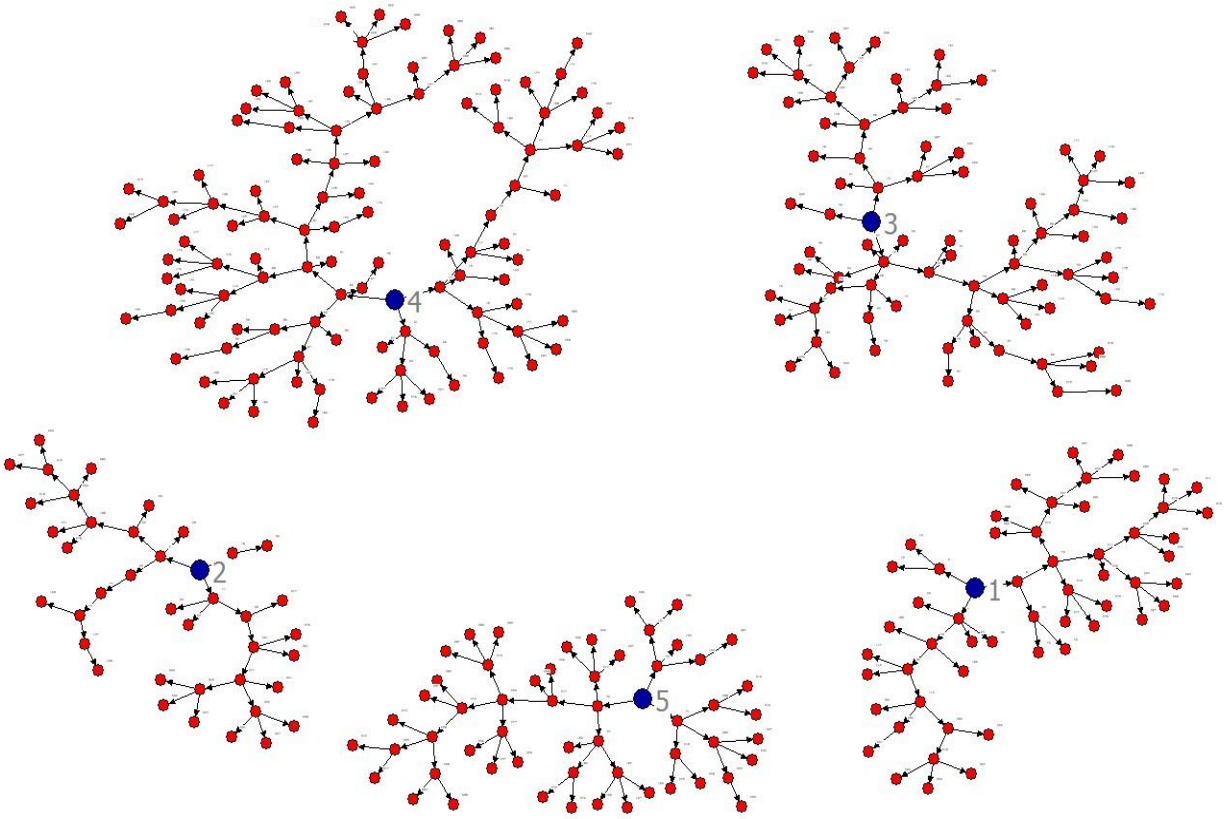
The sampling process began with the selection of a set of people from the target population to serve as 'seeds.' A preliminary mapping exercise prior to the field survey carried out with help from the local NGO partners, helped acquaint the survey team with several PWID, their gathering locations and their networks. This information helped to recruit a total of five PWID as "seeds". Seeds were selected from Kathmandu, Bhaktapur and Lalitpur district.

Seeds were informed of the survey protocol and procedures and were encouraged to recruit other eligible individuals from their social networks to participate in the survey. In some cases, local key informants helped in the seed recruitment process. After participating in the survey, each seed was provided with a maximum of three recruitment coupons, which were used to recruit subsequent three respondents within their networks. This process was repeated with each willing subsequent survey participants till the required sample size was met. The referral coupon had a unique serial number that linked the recruiter to his recruit. Reward (travel allowance of Rs.350) was provided to each participant for their participation. Those participants who recruit other three of their eligible peers from their network were further

provided with incentives (Rs=150*3=450 for recruiting three participants).

The sample size for the survey was 340 PWID of Kathmandu Valley. Biological and Behavioral data was successfully collected with the enrollment of a total of 340 PWID.

Figure 2. 1 Wave of Recruitment of PWID by seeds



2.6 Data Collection Tools and Techniques

A quantitative research approach was adopted in this survey. The structured was used to collect behavioral information. The survey team provided syndromic treatment for STI problems to the PWID, and a lab technician collected blood samples for HIV/Syphilis/HCV/HBV testing. Tablet-based data collection was used in the survey.

2.7 Training of Field Team and Pretesting

2.7.1 Training of Field Team

The experienced field researchers who had been involved in a previous round of IBBS surveys and other similar types of serosurveys were given priority during the recruitment of the research team. A five-day intensive training program was organized from 25th to 29th April, 2017 to the field researchers at Martin Chautari, Thapathali by the trainers from NCASC, Save the Children, NPHL, representatives from PWID communities and SPMER to familiarize them about the study. The field researchers in lab team were given practical exposures and practices in accordance with the national algorithm.

Training sections were based on the curriculum of IBBS surveys. It covered the objectives and the purpose of the IBBS survey, sampling and sample recruitment process, administration of the questionnaire, techniques of approaching PWID, recording keeping, counseling, techniques of HIV test and kit used on IBBS survey, reporting and ethical issues. The training session also focused on the research protocol, informed consent, rapport building, sharing of previous experiences from the stakeholders. Mock interviews, role-play based on actual field situations and practical sessions of tablet usage were the integral parts of the training sessions.

2.7.2 Pretesting

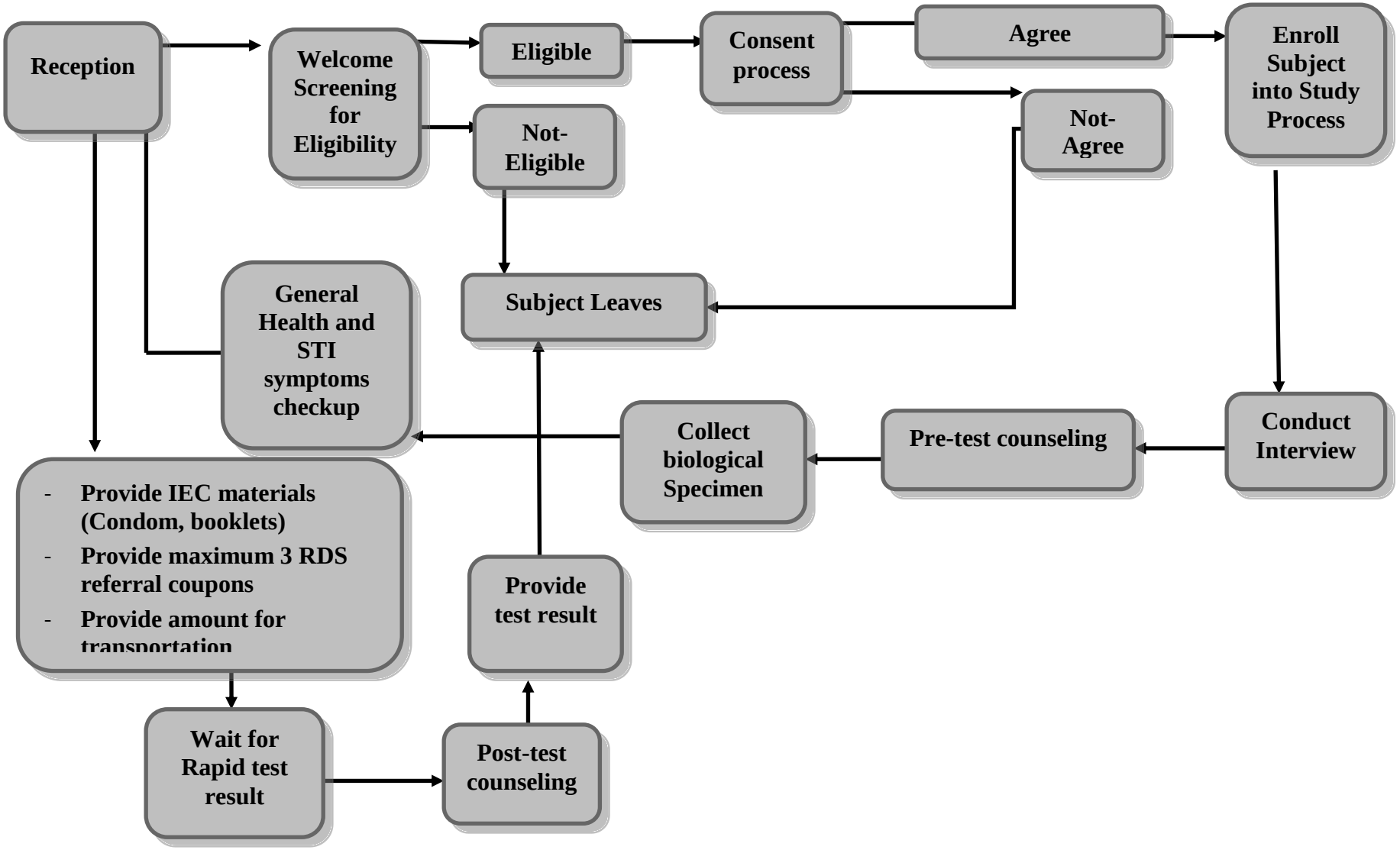
The researchers from School of PMER conducted pretesting of the survey tools among the study population. Altogether, 2 questionnaires were tested with two of the eligible PWID at the DIC center of Recovery Nepal situated at Ranibari, Kathmandu. Skip error correction, and response categories were updated after the pre testing of tool.

2.8 Fieldwork

Clinic was established in a hotel at Sundhara, Kathmandu. The clinic comprised of one welcome room, three interview rooms, one counseling room, one STI clinician room, one laboratory room and one waiting room. The flow chart displaying the survey procedure was pasted on the walls of each room. The field manager greeted the PWID in the welcome room where they were briefed on the overall survey process. Consent was taken in the presence of community motivator and assigned a unique code for the enrollment in the survey.

Then they were interviewed using the structured questionnaire in the tablets in the interview room. After completion of the interview, they were guided to pre-test counseling room. After the pre-test counseling, they were directed to the laboratory room. In the laboratory, blood was drawn, centrifuged for separating the serum and undergone all the tests designated for the survey. Then PWID was sent to the STI Clinician room where necessary syndromic treatment of STIs was provided as per National Guidelines on Case Management of STI (2015). Then they were sent to the waiting room until the test was performed. The test result was provided to them with post-test counseling. The positive cases were linked to concerned program authorities. After finishing all the process, respondents were guided to the welcome room again to receive their travel allowance for participating in the survey. Similarly, they were asked if they could bring their peers who meet the study definition to participate in the survey. Those who were confident to bring their peers were given with RDS coupons with a unique code (maximum of 3 coupons each) to distribute to their eligible friends and request them to visit the clinic within the valid date (within the date printed in the coupon).

Figure 2. 2 Survey Flow Chart



Post-Test Counseling and Test Result Distribution

Pre-Test counseling was given to the PWID prior to drawing their biological sample (blood). They were counseled that other than a very little bearable pain to them while drawing their sample, they do not have any other risks associated with their test. They were informed about 10ml of their blood to be drawn for testing. They were also informed that they could collect their test results by showing the ID card that was provided to them by the survey team. All the PWID were informed that they could retrieve their test result at the same site after some time. They were briefed about the importance of receiving the test result and requested to wait in the waiting room till the research team accompany them to reveal their result in the counseling room. The test result which is highly confidential was disseminated from the lab to the counselor in a sealed envelope. The counselor revealed the result to the participant and provides Post-test counseling according to the result.

2.9 Sample Recruitment Process

In accordance with the RDS methodology, the survey team, in consultation with community motivators and relevant stakeholders first recruited a total of five PWID as 'seed'.

Seeds with heterogeneous characteristics regarding age, ethnicity and geographical distribution were selected. Those seeds were informed about the survey protocols and procedures and were encouraged to recruit other eligible individuals from their social networks randomly to participate in the survey. The initial "seeds" used their three recruitment coupons to pass along to their peers eligible for the survey. Hence, the first wave of participants was recruited by the seeds.

Upon arrival to the survey site (clinic set up at Sundhara), the new recruits presented their coupon to the survey team. Those eligible for the survey after necessary screening further acted as a new seed. Each uniquely coded coupon was used to monitor recruitment and was also recorded in the questionnaires. Out of the five seeds, maximum and minimum completed waves were 10 and 6 respectively.

The dual incentive was provided to the respondents. Initially, each participant was provided with an incentive (as travel allowance) for their participation in the survey and additional incentive for each individual they recruited. All respondents participated voluntarily in the survey. An inclusion criterion was developed for participation in the survey. Those who failed to meet the criteria or those not willing to participate were not enrolled in the survey.

PWID who agreed and satisfactorily answered all the screening questions were briefed about the purpose, objectives, and methodology of the survey. The researchers invited them to the clinic and interview site for an interview and collection of blood samples required for the testing of HIV.

2.10 Refusal

Altogether three PWID who were eligible for interview (who got the ID card and also completed the consent procedure in the welcome room) did not complete the whole procedure and thus refused to take part in the survey. In addition to this, 16 male who came with the RDS coupon were rejected as they were not found eligible during the screening process. All these refusals were replaced to full fill the required sample. The reason for the refusal was the PWID who did not complete the process were restless and could not wait for

an hour to complete all the steps of the survey and left in the middle.

2.11 Clinical and Laboratory Procedure

2.11.1 Clinical Set-up

The clinic set-up was done in Tej Mahal Hotel situated at Sundhara Kathmandu. There were separate rooms for waiting, counseling, laboratory process, physical examinations, and conducting interviews.

2.11.2 Clinical Procedures

A trained Health Assistant examined the PWID for any signs and symptoms of STI and other general health problems after completion of the interview, pre-test counseling and lab test. The syndromic management of visible symptoms was done providing some essential medicines according to the National Guidelines on Case Management of Sexually Transmitted Infections, 2014. The Clinicians made appropriate referrals of the identified cases that required additional treatment to concerned government hospitals/health centers nearby DIC where STI treatment options were available.

2.11.3 Laboratory Procedures

Blood Sample Collection

National HIV testing and counseling protocol was followed before collecting blood. After pre-test counseling, the lab technician briefly explained to the PWID about the HIV and Syphilis testing process and offered for consent for drawing blood. The samples were tested for HIV and Syphilis on the spot within 30 minutes. This survey was designed to provide test results with pre- and post-counseling in the shortest possible time. Blood samples were taken from each participant using a 5ml disposable syringe. Each sample was labeled with the respondent's ID number. Collected sample was placed in a centrifuge to separate the blood cells from the serum. All the necessary reagents were stored in a fridge at 2-8°C. The specimens separated for EQAS were placed in a deep fridge throughout the day and transferred to a cold box and sent to Intrepid lab by maintaining cold-chain at the end of the day for storage. The lab technician as well as the field coordinator regularly monitored the temperature with a digital thermometer inside the refrigerator and maintained the logbook of the measured temperature.

2.11.4 HIV Rapid Testing

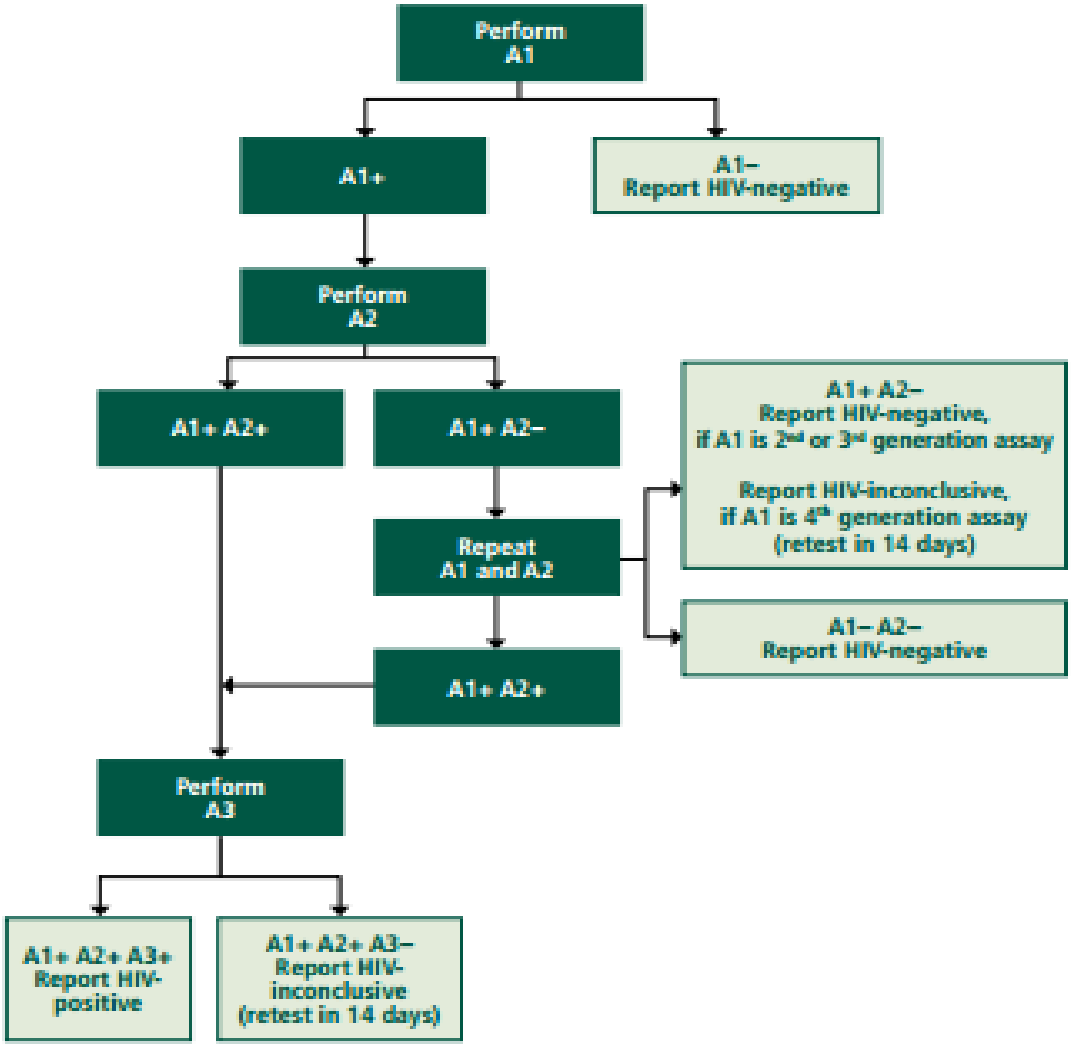
HIV rapid testing method was conducted at the survey site after completion of pre-test counseling by certified laboratory technicians. Rapid testing was conducted by using a serial testing scheme based on the NCASC national guideline algorithm and approved commercial test kits. Blood serum which was diagnosed reactive on test with the first kit (Determine HIV ½) was confirmed with a second kit (Uni-Gold HIV) and than by a third kit (Stat Pak). Samples that were found reactive on all three tests were considered HIV-positive. Samples that were non-reactive on the first test were considered HIV-negative. Any sample that was reactive on the first, second test and nonreactive on the third test was then repeated with all three test (with same individual sample) and if the result was still same on the retest was then considered HIV inconclusive. In that condition that individual (sample) was suggested to

repeat the test after 14 days. All PWID received post-test counseling, with specific messages tailored to their test result. Persons with any reactive result, or indeterminate result, were given a referral to HIV care services and further counseling and testing. For quality assurance, all positive samples and 10% of the negative samples were sent to National Public Health Laboratory (NPHL).

Interpretation of the Test Results

- All samples negative by the first test were reported as negatives.
- All samples positive by fist test were subjected to the second and the third test.
- All samples that were positive for all three tests were reported positive.
- Any sample that was positive on the 1st and 2nd test and negative on the 3rd test was then repeated with all three tests, and reported inconclusive if gives the same result. Such sample was suggested to repeat the test after 14 days.

Figure 2. 3 HIV Testing Strategy II Algorithm



NOTE:

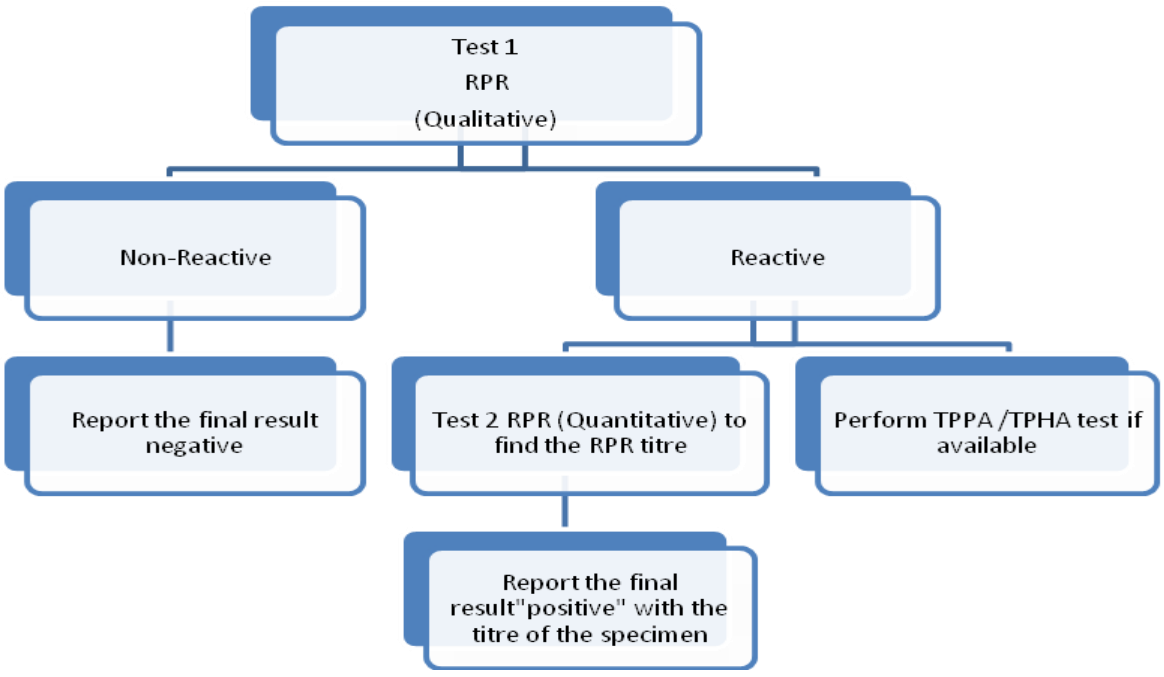
A1(First test)	Determine HIV ½
A2 (Second test)	Uni Gold HIV
A3(Third test)	Statpak HIV ½
"+"	Reactive
"-"	Non-reactive

Table 2. 1 Sensitivity and Specificity

Test Kits	Company	Initial	Confirm	Tie	Antigen	Spec.	Sens.
Determine	Allere	X			Recom HIV-1 and HIV-2	99.4%	100.0%
Uni-Gold	Trinity Biotech		X		HIV-1 and HIV-2	100.0%	100.0%
STAT PAK	CHEM BIO			X	HIV-1 (gp41; p24) -2	99.3%	100.0%

Syphilis Testing:
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.

Figure 2. 4 Syphilis testing algorithm



Syphilis RPR and TPPA test:
The combination of RPR Qualitative, RPR titre and TPPA test result were used for interpretation of the syphilis status of the respondents as follows:

- RPR is positive with more than or equal to 1:8 titre value and positive TPPA test confirms the active syphilis cases.
- RPR is positive with less than 1:8 titre values with positive TPPA test confirms the History Syphilis cases.
- RPR is positive with greater than or, lower than or, equal to 1:8 titre with negative TPPA test is considered Syphilis negative cases. This may be due to unspecific syphilis RPR positive scenarios.

Hepatitis B and Hepatitis C Rapid Testing

HCV antibody detection procedure:
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

The Rapid Signal HCV whole blood/serum/plasma dipstrip kit was taken out of the refrigerator. It was inspected for the expiration date or any damage or leakage. The kit components (dipstrips and buffer) were brought to room temperature. The plasma samples to be tested were also thawed in room temperature.

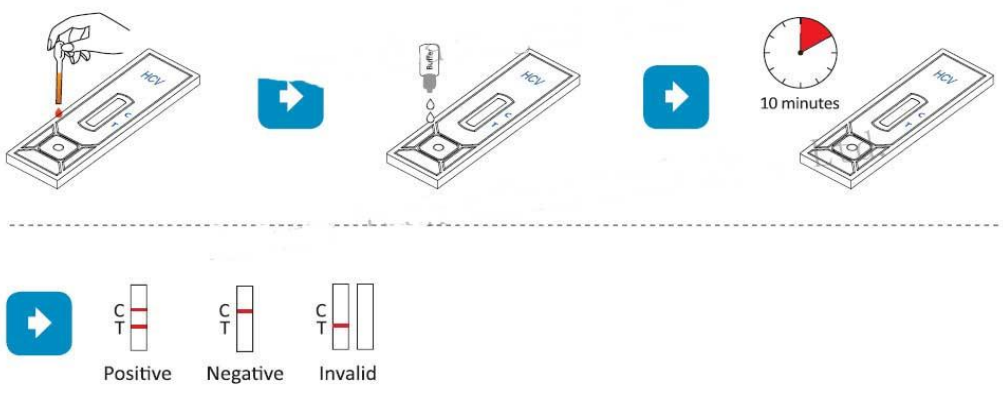
To begin the testing, the test dipstrip was removed from the sealed foil pouch. The tape was peeled off from the test stripe card and the dipstrip was stuck in the middle of the test card with arrows pointing down on the test card. The strip card was labeled with patient's identifying number. Then, 10 ul of thawed plasma sample was then pipette out and added onto the specimen pad of the dip strip. Then, two full drops of buffer were added and timer is started. At the end of 10 minutes, the result was interpreted.

The two red lines in the control and test region suggested the result was positive. The test having red lines in control region and no lines in test region was considered as negative result. A colored control band in the control region appears at the end of the test procedure regardless of the test result. The absence of the control band indicated that the test was invalid the whole test was repeated using new kit.

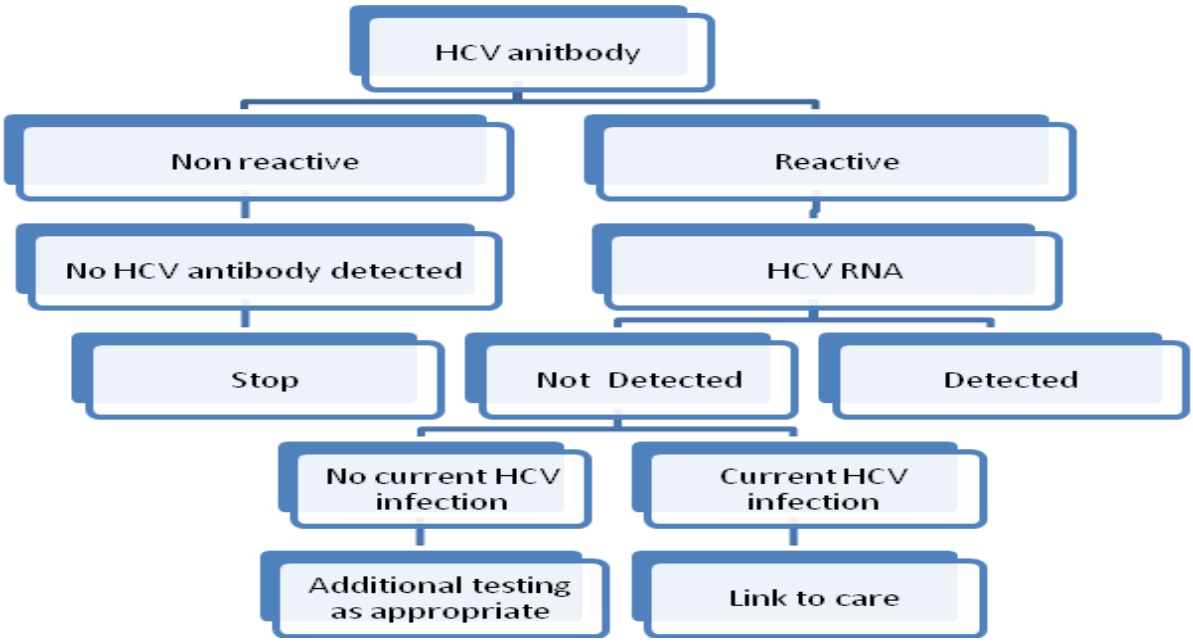
Figure 2. 5 HCV antibody detection procedure

:

Figure 2. 6



Hepatitis C (HCV) Algorithm



HBV surface antigen detection procedure:

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).

The Rapid Signal HBsAg serum/plasma dipstrip kit was taken out of the refrigerator. It was inspected for the expiration date or any damage or leakage. The kit components (dipstrip pouches and buffer) were brought to room temperature. The plasma samples to be tested were also thawed in room temperature.

To begin the testing, the test dipstrip was removed from the sealed foil pouch. The test dipstrip, with its arrows pointing towards the plasma sample, was immersed vertically in the sample for 10-15 seconds. Care was taken not to surpass the sample beyond the maximum line on the test dipstrip while immersing it. Then, the dipstrip was placed on a non-absorbent flat surface. The timer was started and waited till 15 minutes. At the end of 15 minutes, the result was interpreted as below.

The presence of HbsAg in serum was an indication of an active Hepatitis B infection. The presence of the colored line in the test region suggested a positive result, while its absence denoted a negative result. The absence of the control band indicated that the test was invalid and the whole test was repeated using a new kit.

Figure 2. 7 HBV surface antigen detection procedure

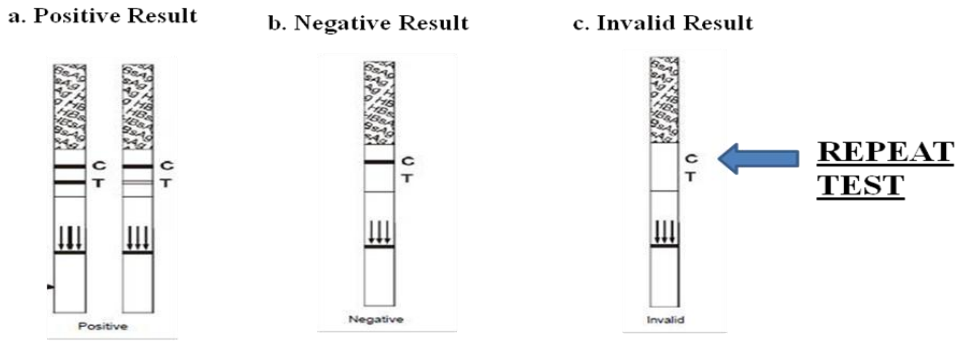
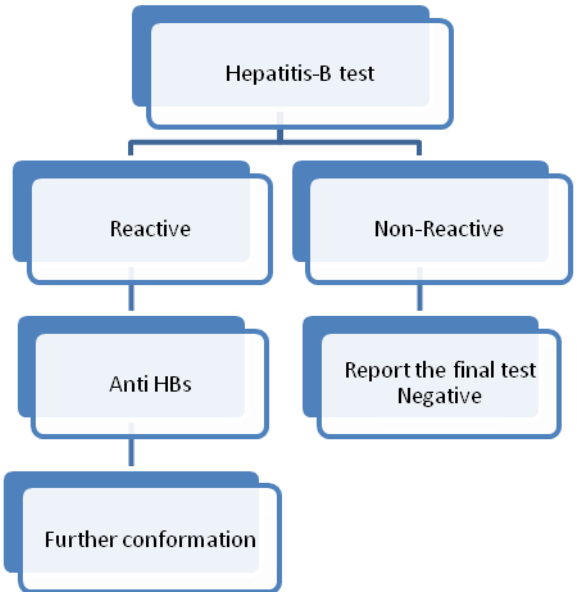


Figure 2. 8 Hepatitis B (HBV) Algorithm



2.12 Precautions, Disposal Mechanism and Post-Exposure Management

The universal precautions and post exposure management were followed in the laboratory and STI clinic. Proper waste disposal mechanisms were followed to minimize the spread of infection. Gloves and mask were used by laboratory technician and STI clinician. Waste produced in the lab was collected in different color-coded and labeled containers. Needles were destroyed using needle destroyer. Waste products formed as a result of laboratory and clinical procedure was managed in accordance with the standard disposal procedures in collaboration with the nearby hospital (Kathmandu Valley Hospital, Sundhara). All materials were decontaminated using disinfectants before disposal. Contaminated materials including specimens of body fluids, cotton gauze and broken glassware and used needles were decontaminated in 0.5% Sodium Hypochlorite each day. The plastic material, papers, cotton were incinerated. Researchers were prepared for possible Post exposure management. They were provided with contact numbers of the concerned authorities in case if emergency.

2.14 Fieldwork Supervision and Monitoring

The overall monitoring and supervision of the survey were done by the team of NCASC and SC/GF. NCASC, SC/GF and members of SITWG had monitoring visits during the entire survey and provided feedbacks and suggestions to maintain the quality of work. The study team adopted their feedbacks and suggestions.

Internally, School of PMER followed the result based participatory monitoring and supervision process for this survey. Since the beginning of the survey, team leader and research officer did regular monitoring and supervision of the field progress. The field coordinator and field manager were responsible to ensure that the survey was implemented in the field according to the protocol. Team meetings were held every day to plan ahead and solve any field-level problems. The field coordinator in the field updated each day's field progress to the research officer.

2.15 Quality Control of Laboratory Tests and External Quality Assurance Scheme

On-site quality assurance of the samples was maintained while testing which included quality control of test kits, record-keeping, and observation of staff performance. The on-site quality control of the kit was assessed by inbuilt control mechanism mentioned in the kit. The trained laboratory personnel was responsible for maintaining the required temperature of the samples in the refrigerator and record-keeping on a daily basis. The performance of lab personnel was supervised by the field coordinator who was stationed on the field.

External Quality Assurance Scheme (EQAS) is the evaluation of the performance of a testing laboratory by an external agency. An EQAS is very essential in such studies to determine the quality of testing. All the HIV-positive samples and 10 percent of all the HIV-negative samples were sent to retest at NPHL in this survey as an EQA of HIV/HCV/HBV/Syphilis testing.

2.16 Data Management and Data Analysis

The behavioral and biological data were collected through the tablets and were uploaded to a server after completion of each questionnaire every day. The uploaded data were downloaded by an authorised person of SPMER (Research Officer of the survey) and were saved in password-protected computers every day. The inconsistencies identified in the data collection procedures were noted on a daily basis and finally were rechecked and verified in consultation with survey consultant, application and data management team and other experts. These data downloaded in the Excel sheets were cleaned and coded. Then, the data were transferred to the SPSS-20 version for the final data analysis. Descriptive statistics such as percentage, mean, median, standard deviation and inferential statistics like chi-square test were used to establish an association to infer findings. The p-value less than 0.05 were taken as a significant association. Analysis of key indicators was done using RDSTAT (5.6) software.

2.17 Ethical Considerations

Ethical approval was obtained from the Nepal Health Research Council (NHRC) to ensure adherence to ethical aspects of the study. The PWID enrolled in the survey were fully informed about the nature of the study. They were informed that their participation was voluntary and that they were free to refuse to answer any question or to withdraw from the interview at any time.

A consent form describing the objectives of the study, the nature of the participant's involvement, the benefits, and confidentiality issues was clearly read aloud to them (Annex). An ID card with an unique ID number was provided to each of the PWID so that their names and addresses were not recorded anywhere. HIV test results along with post-test counseling were provided to the individual participants in a confidential manner. A travel allowance of NRs 350 was provided to each of the PWID as transportation costs along with a fruit juice. The research team maintained the confidentiality of the data collected throughout the survey.

2.18 Limitations of the survey

- The initial seeds were selected purposively and this in itself could be one of the limitations of the survey. However, the subsequent waves were adequate to exclude any bias introduced by purposively recruiting seeds.

CHAPTER III: RESULTS

This chapter explains the information on the prevalence of HIV, Syphilis, HCV and HBV among the PWID. Furthermore, this chapter deals with the drug use, needle sharing, sexual behavior, consistent condom use, knowledge on HIV/AIDS and STIs and treatment seeking behavior among the PWID of Kathmandu Valley. Exposure of PWID to various awareness intervention programs related to STIs, HIV & AIDS targeted to them is also presented in this chapter.

3.1 Prevalence of HIV, Syphilis, HCV and HBV

In this survey, HIV prevalence among the PWID was determined using standard revised diagnostic protocol of the NCASC. The prevalence of HIV infection was found among nearly a tenth of the PWID (N=30; 8.5%, CI=5.5-13.9). Similarly, the prevalence of Syphilis was 2 percent among the PWID (Active Syphilis N=3; 1.7% and History Syphilis N=4; 2%, CI=0.1-2.9. A notably higher percentage of the PWID were diagnosed with HCV (N=71; 18.8%, CI=16-29.2) whereas the prevalence of HBV was 1.3 percent (N=3).

Table 3. 1 Prevalence of HIV, Syphilis, HCV and HBV

	N	*RDSAT (%)	**SPSS (%)
HIV Prevalence			
Negative	310	91.5 (95%CI= 86.1-94.5)	91.2
Positive	30	8.5 (95%CI =5.5-13.9)	8.8
Total	340	100.0	100.0
Syphilis prevalence			
Non-reactive	333	96.3 (95%CI=96.2-99.4)	97.9
Active syphilis	3	1.7	0.9
History syphilis	4	2.0 (95%CI=0.1-2.9)	1.2
Total	340	100.0	100.0
Hepatitis C			
Negative	269	81.1 (95%CI=70.8-84)	79.1
Positive	71	18.8 (95%CI=16-29.2)	20.9
Total	340	100.0	100.0
Hepatitis B			
Negative	337	98.7 (95%CI=96.4-99.9)	99.1
Positive	3	1.3 (95%CI=0.1-3.6)	0.9
Total	340	100.0	100.0

*Adjusted value **Unadjusted Value

3.1.1 HIV and Syphilis, HCV and HBV Co-infection

The survey revealed that out of 340 PWID, 30 were diagnosed as HIV positive. It was found that two PWID had co-infection of Active Syphilis and HIV (0.58%). Similarly, another two PWID had co-infection of History Syphilis and HIV (0.58%). It is notable more than 7 percent of the PWID (7.35%; N=25) had co-infection of HIV and Hepatitis C. Likewise, one PWID had co-infection of all three HIV, HBV and HCV.

Table 3. 1.1 Co-infection

	N	*RDSAT (%)	**SPSS (%)
HIV and Active syphilis	2	0.4	0.58
HIV and History syphilis	2	0.4	0.58
HIV and Hepatitis C	25	7 (95%CI=4.2-12.2)	7.35
HIV and Hepatitis B	1	0.5	0.29
HBV and HCV	1	1.6 (0-2.1)	0.29
HIV and HBV and HCV	1	0.05	0.29

*Adjusted value **Unadjusted Value

3.2 Socio-Demographic Characteristics

Table 3.2 illustrates the socio-demographic characteristics of the PWID. Age-wise distribution of the PWID showed that the highest number of them belonged to youth (44%) aged below 25 years with a mean age 27.2 ±7.1 and age range between 17-58 years. Regarding the caste/ethnicity of the surveyed PWID, nearly two-third of them (64%) were Janajati followed by more than a quarter of them (29%) belonging to Brahmin/ Chhetri/Thakuri.

Overall, the majority of the PWID (56.5%) had completed secondary level of schooling followed by more than a fifth of them (22%) completing a higher secondary level of education. Only one percent of the PWID were illiterate. Nearly three-fourth of the PWID (72%) were never married whereas above one out of four of them (26%) were ever married. On the other hand, nearly 2 percent of them were divorced or permanently separated.

More than a third of the PWID (36%) were married at an age of 20-24 years. Similarly, more than a quarter of them (28%) were married in the adolescent age of 15-19 years. The mean age at first marriage was 23±4.9 with an age range of 15-39 years. The survey explored the current living situation of the PWID. Almost three-fifth of the PWID (59%) were living in their own home. However, nearly two-fifth of them (38%) were living in a rented apartment. It was found that 2 percent of the PWID were homeless and lived on the street. Current living relationship of the PWID indicated that three out of four of them (75%) were currently living with their family/relative whereas a fifth of them (20%) were living with their wife.

Table 3. 2 Background information of the PWID

	N	%
Age of respondents		
Below 20 yrs	27	7.9
20 to 24 yrs	122	35.9
25 to 29 yrs	82	24.1
30 to 34 yrs	58	17.1
35 to 39 yrs	26	7.6
40 to 44 yrs	17	5.0
45 yrs and above	8	2.4
Mean Age ±S.D	27.2± 7.1	
Median Age	26.0	
Ranges	17-58	
Total	340	100.0
Caste/Ethnicity		
Janajati	217	63.8
Brahamin/ Chhetri/Thakuri	98	28.8
Dalit	11	3.2
Terai Madhesi	8	2.4
Muslim	6	1.8
Total	340	100.0
Education		
Illiterate	4	1.2
Primary	48	14.1
Secondary	192	56.5
Higher Secondary	76	22.4
Bachelor	16	4.7
Literate with formal education	4	1.2
Total	340	100.0
Current marital status		
Never married	246	72.4
Married	87	25.6
Divorced/Permanently Separated	5	1.5
Widower	2	0.6
Total	340	100.0
Age at first marriage		
15-19 years	26	27.7
20-24 years	34	36.2
25-29 years	22	23.4
30-34 years	10	10.6
34 years and above	2	2.1
Mean Age ±S.D	23±4.9	

Median Age at first marriage	22.0	
Ranges	15-39	
Total	94	100.0
Current living situation		
Homeless, on the street	7	2.1
Living in own home	202	59.4
Rented apartment	131	38.5
Total	340	100.0
Currently living with		
Alone	17	5.0
Living with wife	68	20.0
Family/relative	254	74.7
Living with friend (without sexual relation)	1	0.3
Total	340	100.0

3.3 Injecting Behaviors/Alcohol Use and Needle-Syringe Sharing Behavior

3.3.1 Injecting Behaviors/Alcohol Use

The survey explored the alcohol use and injecting behavior of the PWID. In this regards, almost two-fifth of the PWID (39%) stated that they never drank alcohol in the past one-month whereas more than a quarter of them (27%) reported that they drank alcohol less than once a week. One out of five PWID (20%) mentioned of drinking alcohol more than once a week in the previous month.

It was found that more than two-fifth of the PWID (43%) had started injecting drugs in the adolescent age (<15-19 years). Another two-fifth of the PWID (41%) had started injecting drugs in between 20-24 years. The mean age and standard deviation at first drug injection was 20.9±4. Almost a half of the PWID (49%) had been injecting drugs for more than 4 years. Similarly, one out of six PWID (17%) had been injecting drugs for 1-2 years followed by more than a tenth of them (13%) being injecting drugs for 3-12 months. The mean duration of injecting drugs was 76.3 month (6 years).

A Large majority of the PWID (89%) had injected drugs in the last month. Among them, almost a tenth of the PWID (9%) had used non-sterile syringe/needle at any time in the last month. Nearly all of the PWID (97%) had not switched from one drug to another. More than a fifth of the PWID (22%) had injected drug 2-3 times in the past one week followed by a fifth of them (20%) injecting drugs for 4-6 times. On the other hand, another one-fifth of the PWID (20%) had not injected drug in the last week.

Table 3. 2 Injecting behavior and Alcohol-use

	N	%	RDSTAT %
Frequency of having alcohol in the past one-month			
Every day	45	13.2	
More than once a week	68	20.0	
Less than once a week	93	27.4	
Never drink	134	39.4	
Total	340	100.0	
Injecting starting age			
11-15 years (Before 15 years)	8	2.4	
15 to 19 years	137	40.3	
20 to 24 years	139	40.9	
After 25 years	56	16.5	
Mean Age ± S.D	20.9±4.1		
Median Age	20.0		
Total	340	100.0	
Duration of injecting drugs			
3 to 12 months	44	12.9	
1 to 2 years	58	17.1	
2 to 3 years	41	12.1	
3 to 4 years	30	8.8	
More than 4 years	167	49.3	
Mean duration ± S.D (months)	76.3±70.5		
Median duration (months)	48.0		
Total	340	100.0	
Injected drugs in the last month			
Yes	303	89.1	88.9 (95%CI=83.4-92.6)
No	37	10.9	11.1 (95%CI=7.4-16.6)
Total	340	100.0	
Used non-sterile syringe/needle at any time in the last month			
Yes	27	8.9	8.2 (95%CI=5.3-13.3)
No	276	91.1	91.8 (95%CI=86.7-94.7)
Total	303	100.0	
Switched from one drug to another			
Yes	9	2.6	
No	331	97.4	
Total	340	100.0	
Frequency of injecting drug in yesterday			
Not yesterday	175	51.5	
Single	96	28.2	
Two and more	69	20.3	
Total	340	100.0	

	N	%	RDSTAT %
Frequency of injecting drug in the past one-week			
Once a week	44	12.9	
2-3 times a week	74	21.8	
4-6 times a week	67	19.7	
Once a day	26	7.6	
2-3 times a day	34	10.0	
4 or more times a day	28	8.2	
Not injected in the last week	67	19.7	
Total	340	100.0	

3.3.2 Needle Sharing- behavior

Almost two-third of the PWID (65%) had injected drugs only once yesterday. More than two-fifth of the PWID (45%) reported that they used a needle/syringe which they purchased themselves in the last injection. Similarly, more than a fourth of them (29%) said that they used a needle/syringe given by NGO staff/volunteer whereas more than a fifth of them (23%) reported that they reused their own needle/syringe. Almost all of the PWID (99%) stated of never sharing needles and syringe with their sexual partner in the past one-week.

Among the two PWID who reported of sharing needles and syringe with their sexual partner in the past one-week, one of them stated that he shared needles and syringe with a sexual partner who was an unfamiliar person to him. Similarly, 6 percent (n=19) of the PWID shared needles and syringe with a friend whereas only one percent of the PWID (n=3) shared needles and syringe with a drug seller in the past one-week.

Almost all of the PWID (99%) never shared needles and syringe with an unknown person in the past one-week. It was found that 6 percent of the PWID (n=15) sometimes gave a needle/syringe to someone else after their use. A notable percentage of the PWID (10%) had ever injected with a pre-filled syringe in the past-week. Likewise, more than a tenth of the PWID (13%) had sometimes, and 1 percent of them (n=4) had almost every times injected drugs using a syringe after someone else had squirted drugs into it from his/her used syringe in the past one-week.

Table 3. 3 Injection Sharing Behavior

	N	RDSTAT %	%
Frequency of injected drugs yesterday/last time			
Single time	220		64.7
Two and more time	120		35.3
Total	340		100.0
Place/person giving syringe/needle in the last injection			
My friend/relative gave it to me after his use	8		2.4
I used a needle/syringe given by NGO staff/volunteer	100		29.4
I used a needle/syringe which I purchased	152		44.7
I reused my own needle/syringe	80		23.5
Total	340		100.0
Ever shared needles and syringes with your usual sexual partner in the past one-week			
Yes	2		0.6
No	336		98.8
Don't know	2		0.6
Total	340		100.0
Ever shared needles/syringes with a sexual partner who you did not know in the past one-week			
Yes	1		0.3
No	338		99.4
Don't know	1		0.3
Total	340		100.0
Ever shared needles and syringes with a friend in the past one-week			
Yes	19	6.3 (95%CI=3-9.1)	5.6
No	321	93.7 (95%CI=90.9-97)	94.4
Total	340		100.0
Ever shared needles and syringes with a drug seller in the past one-week			
Yes	3		0.9
No	335		98.5
Don't know	2		0.6
Total	340		100.0
Ever shared needles and syringes with an unknown person in the past one-week			
No	337	99.5 (95%CI=98.8-99.9)	99.1
Don't know	3	0.5 (95%CI= 0.1-0.12)	0.9
Total	340		100.0
Frequency of giving a needle or syringe to someone else, after use			
Sometimes	15	5.6 (95%CI=2.4-9.3)	4.4
Never	325	94.4 (95%CI=90.7-97.6)	95.6
Total	340		100.0

	N	RDSTAT %	%
Ever injected with a pre- filled syringe in the past-week			
Yes	38	9.6 (95%CI=5.6-14.2)	11.2
No	286	83.2 (95%CI=78-89)	84.1
Don't know	16	7.1 (95%CI=3.2-11.7)	4.7
Total	340		100.0
Frequency of injecting drugs using a syringe after someone else had squirted drugs into it from his/her used syringe in the past one-week			
Almost every-times	4	1 (95%CI=0.1-1.4)	1.2
Sometimes	44	15.9 (95%CI=9.8-20.2)	12.9
Never	292	83.1 (95%CI=79.2-89.6)	85.9
Total	340		100.0

3.3.3 Injecting behavior of partners

The survey explored the injecting behaviors of the PWID. It was found that among the PWID who had sex with female regular sex partners in the past 12 months (N=168), almost one-sixth PWID (15%) reported that their regular female sex partners also injected drugs. Similarly, PWID who had sex with FSWs in the last 12 months (N=57) mentioned that one-sixth (16%) of their paid partners also injected drugs. Likewise, more than a fifth of the PWID (23%) said that their non-regular female sex partner with whom they had sex in the past 12 months (N=86) also injected drugs. Among those who had anal sex with a male partner (N=8), three out of four of the PWID (75%) reported that their male sex partners had ever injected drugs.

Table 3. 4 Injecting behavior of partners

	N	%
Female regular sex partner also injecting drugs		
Yes	25	14.9
No	143	85.1
Total	168	100.0
Knowledge of the female sex worker with whom you had sex also injected drugs		
Yes	9	15.8
No	44	77.2
Don't know	4	7.0
Total	57	100.0
Knowledge about the female non-regular sex partners with whom you had sex also injected drugs		
Yes	20	23.3
No	65	75.6
Don't know	1	1.2
Total	86	100.0

	N	%
Knowledge about male friend with whom you had anal sex with, ever injected drugs		
Yes	6	75.0
No	2	25.0
Total	8	100.0

3.3.4 Use of new Needle and treatment

It is encouraging to note that an overwhelming majority of the PWID (92%) were able to obtain new, unused needles and syringes whenever they needed. Among them (n=312), more than four-fifth (84%) reported that new needles are available at the drug store. Almost one-sixth of the PWID (16%) mentioned that they get the new needles from the needle exchange program followed by friends (14%), hospital (13%), drug wholesaler (11%), etc. Almost a half of the PWID (47%) were pleased with the ongoing needle/syringe programs {satisfied (38%), strongly satisfied (36%)}. However, nearly two-fifth of the PWID (38%) were neutral towards the ongoing needle/syringe programs. On the other hand, more than a tenth of the PWID (13%) were not satisfied with the needle/syringe programs.

The usual practice of throwing used needle/ syringe of the PWID was explored in the survey. In this regards, it was found that nearly two-third of the PWID (64%) disposed of the needles/syringes after use. On the contrary, more than a quarter of the PWID (28%) reported of throwing the used needles/syringes anywhere haphazardly after their use. Four out of five of the PWID (80%) mentioned that they never received treatment or help because of their drug use whereas almost a fifth of them (19%) were in treatment for drug use but not currently. Among those PWID who had received the treatment or currently under treatment for drug use, more than a half (54%) had received the treatment in between 6-23 months. In the meantime, one out of four of them (25%) had received the treatment before 6 months.

Table 3. 5 Using new needle and treatment

	N	%
Able to obtain new, unused needles and syringes when needed		
Yes	312	91.8
No	28	8.2
Total	340	100.0
Needle available places		
Drugstore	263	84.3
Other shop	4	1.3
Health worker	11	3.5
Hospital*	41	13.1
Drug wholesaler	35	11.2
Friends	44	14.1
Other drug users	7	2.2
Drug seller	31	9.9
Needle exchange program	50	16.0
Total	312	*

	N	%
Satisfaction with ongoing needle/syringe programs		
Strongly satisfied	42	12.4
Satisfied	123	36.2
Neutral	131	38.5
Not satisfied	31	9.1
Not strongly satisfied	13	3.8
Total	340	100.0
Usual practice of throwing used needle/ syringe		
Disposed	218	64.1
Kept/carry safely for another use	2	0.6
Hide in public places	25	7.4
Threw anywhere	95	27.9
Total	340	100.0
Currently under treatment (or receiving help) or ever received treatment (or help) because of drug use		
Currently under treatment	2	0.6
Was in treatment but not now	66	19.4
Have never received treatment	272	80.0
Total	340	100.0
Service received before		
6 months before	17	25.0
6 to 23 months	37	54.4
Before 2 years	14	20.6
Total	68	100.0

** Percent total may exceed 100*

3.4 Sexual behaviors and condom use with different partners

This section describes the sexual behaviors of PWID including sexual contact with regular sex partners, paid sex partners (FSWs), non-regular sex partners and male regular sex partners.

3.4.1 Sexual Behavior of PWID

The survey sought information related to the sexual behavior of the PWID. It was found that more than two-third of the PWID (69%) had sexual intercourse in the last 12 months while 5 percent of the PWID reported of never having had any type of sexual intercourse in their lifetime. Furthermore, two-fifth had sex with 2-4 female sex partners (43%) and with a single sex partner (41%) respectively. The mean number of female sex partners in the last 12 months was 2.8, and the range was between 1-35.

Similarly, more than a half of the PWID (54%) had a single regular sex partner while one-fifth of them (20%) had 2 or more number of regular sex partners. On the other hand, above two-fifth of the PWID (21%) had no any regular sex partners. The mean number of regular sex partners was 1.2. Two-thirds of the PWID (66%) never had sex with any of the paid sex partners (FSWs). However, almost one-six of them (16%) had sex with 2 or more number of

FSWs followed by almost a tenth of them having sex with a single FSW (9%).

The survey revealed that more than a half of the PWID (55%) had no any non-regular sex partners while one in four of them (25%) had one such partner. Similarly, more than a tenth of the PWID (12%) had sex with 2 or more non-regular partners in the last 12 months.

Among those PWID who had any sexual experience, 3 percent of them (n=8) had male sex partners. All of them who had male sex partners had anal sex with any of their partners in the last 12 months. Nearly two-third of the PWID (63%) had sex with only one male partner while the remaining (37%) had 2 or more male partners in the last 12 months.

Table 3. 6 Sexual behavior of PWID

	N	%
Had any type of sexual intercourse in the last 12 months		
Never had any type of sexual intercourse	17	5.0
Yes	235	69.1
No	88	25.9
Total	340	100.0
Age at first sex		
Never had sexual intercourse	17	5.0
Before 15 yrs	21	6.2
15 to 19 yrs	235	69.1
20 to 24 yrs	53	15.6
After 25 yrs	14	4.1
Mean	17.8±3	
Median	17	
Total	340	100.0
Number of different female sex partners		
Single	97	41.3
Two to Four	100	42.6
Five and more	38	16.2
Mean	2.8	
Median	2	
Total	235	100.0
Number of regular sex partners		
None	49	20.9
Single	126	53.6
Two and more	47	20.0
Don't know	13	5.5
Mean ± S.D	1.2±1.5	
Median	1	
Total	235	100.0

	N	%
Number of paid sex partners (FSW)		
None	154	65.5
Single	20	8.5
Two and more	37	15.7
Don't know	24	10.2
Mean ± S.D	2.6±1.8	
Median	2	
Total	235	100.0
Number of non-regular sex partners		
None	130	55.3
Single	58	24.7
Two and more	28	11.9
Don't know	19	8.1
Mean ± S.D	1.5±0.9	
Median	1	
Total	235	100.0
Ever had any male sexual partners		
Yes	8	3.4
No	227	96.6
Total	235	100.0
Having had anal sex with any of the male partners in the last 12 months		
Yes	8	100.0
Total	8	100.0
Number of male partners		
Single	5	62.5
Two and more	3	37.5
Total	8	100.0

3.4.2 Sexual Intercourse and Condom Use with regular sex partners

It was found that large majority of the PWID (71%) had sex with female regular partner (wife or live-in partner) during the last 12 months. Among them, more than a half of the PWID (56%) had used condom at the last sex with a regular female partner. Similarly, 15 percent of the PWID who had sex with female regular partner in the last 12 months had involved in anal sex, and among them, a half of the PWID had used condom at their last anal sex. Consistent use of condom while having anal/oral sex with female regular partner in the last 12 months was only 4 percent. A Large majority of the PWID (84%) did not use condom during anal/oral sex in the past 12 months.

Table 3. 7 Sexual intercourse with regular sex partner and condom use

	N	RDSTAT %	SPSS%
Had sex with regular female partner during last 12 months			
Yes	168		71.5
No	67		28.5
Total	235		100.0
Use of condom at the last sex with a regular female partner			
Yes	85	56.2 (95%CI=38.9-69.5)	50.6
No	83	43.8 (95%CI= 30.5-61.1)	49.4
Total	168		100.0
Ever had anal sex with your female regular partners			
Yes	26		15.5
No	142		84.5
Total	168		100.0
Use of condom at the last anal-sex with a regular female partner			
Yes	13		50.0
No	13		50.0
Total	26		100.0
Frequency of condom use at the last anal/oral sex with a regular female partner in the past 12 months			
Every times	7		4.2
Almost every time	8		4.8
Sometimes	11		6.5
Never used	142		84.5
Total	168		100.0

3.4.3 Sexual Intercourse and Condom Use with FSWs

One out of the six PWID (24%) had sex with an FSW in the last 12 months. Among them, more than two-fifth of the PWID (44%) did not have sex with any of the FSWs in the last 12 months. However, more than a fifth of the PWID each had sex with only one FSW (23%) followed by 2 or more FSWs (21%) in the last 12 months.

Similarly, condom use practice of the PWID while having sex with the FSWs was explored in the survey. Among those PWID who had sex with the FSWs, the majority of them (88%) had used condom at the last sex. Likewise, it was found that three out of the five PWID (60%) had used condom consistently at each sexual intercourse with the FSWs in the past year. Nearly one-fifth of the PWID (18%) shared of ever having anal sex with an FSW and among them, almost four-fifth (78%) had used condom at their last anal sex. However, only more than half of them (56%) reported consistent use of condom during having anal sex with the FSWs in the past 12 months.

Table 3. 8 Sexual intercourse with FSW and condom use

	N	%
Had sexual intercourse with a female sex worker in last 12 months		
Yes	57	24.3
No	178	75.7
Total	235	100.0
Number of paid sex partners (FSWs) in the last month		
None in the last month	25	43.9
Single	13	22.8
Two and more	12	21.1
Don't know	7	12.3
Total	57	100.0
Use of condom at the last sex with a female sex worker		
Yes	50	87.7
No	7	12.3
Total	57	100.0
Frequency of using condom with female sex workers in the past year		
Every times	34	59.6
Almost every time	12	21.1
Sometimes	6	10.5
Never used	5	8.8
Total	57	100.0
Ever had anal sex with female sex workers		
Yes	10	17.5
No	47	82.5
Total	57	100.0
Use of condom at the last anal sex with a female sex worker		
Yes	7	77.8
No	2	22.2
Total	9	100.0
Frequency of condom use at anal sex with FSWs in the past 12 months		
Every times	5	55.6
Almost every time	2	22.2
Never used	2	22.2
Total	9	100.0

3.4.4 Sexual Intercourse and Condom Use with non-regular sex partner

It was found that slightly more than a quarter of the PWID (37%) had sex with a female non-regular sex partner during the last 12 months. Among them, almost two-third of the PWID (65%) had used condom at the last sex with a female non-regular partner. Consistent condom use with a female non-regular partner in the past one year was only below two-fifth (38%).

More than a tenth of the PWID (13%) had experienced anal sex with a female non-regular partner. Out of those, nearly three-fourth (73%) had used condom at the last anal sex with a female non-regular partner. Nearly a half of the PWID (45%) had practiced consistent condom use with a female non-regular partner during anal sex in the past year.

Table 3. 9 Sexual intercourse with non-regular sex partner and condom use

	N	%
Had sexual intercourse with a female non-regular sex partner during last 12 months		
Yes	86	36.6
No	149	63.4
Total	235	100.0
Use of condom at the last sex with a female non-regular partner		
Yes	56	65.1
No	30	34.9
Total	86	100.0
Frequency of using a condom with a female non-regular partner in the past year		
Every times	33	38.4
Almost every times	12	14.0
Sometimes	27	31.4
Never used	14	16.3
Total	86	100.0
Ever had anal sex with your female non-regular partners		
Yes	11	12.8
No	75	87.2
Total	86	100.0
Use of condom at the last anal sex with a female non-regular partner		
Yes	8	72.7
No	3	27.3
Total	11	100.0
Frequency of condom use in an anal-sex with female non-regular partners in the past year		
Every times	5	45.5
Almost every time	2	18.2
Sometimes	2	18.2
Never used	2	18.2
Total	11	100.0

3.4.5 Sexual Intercourse and Condom Use with male partner

The survey explored information related to the sexual behavior of the PWID with a male partner. Very few percent of the PWID (3%; n=8) had anal sex with a male partner in the past one year. Among them, only above a third of the PWID (37%) had practiced consistent condom use during the anal sex with a male partner in the past year.

Table 3. 10 Anal sex with male partner and condom use

	N	%
Had anal sex with a male partner in the past one year		
Yes	8	3.4
No	332	96.6
Total	340	100.0
Frequency of condom use during anal sex with a male partner is the past year		
Every times	3	37.5
Sometimes	2	25.0
Never used	3	37.5
Total	8	100.0

3.4.6 Last sex and condom use

The majority of the PWID (73%) had last sex with their regular partner while one out of five of them (20%) had last sex with other female friend. Only almost a half of the PWID (49%) were found to use condom during their last sexual intercourse.

Table 3. 11 Last sex and condom use

	N	%
Person with whom you had the last sexual intercourse		
FSW	15	6.4
Regular partner	172	73.2
Other female friend	48	20.4
Total	235	100.0
Use of condom in the last sexual intercourse		
Yes	115	48.9
No	120	51.1
Total	235	100.0

3.4.7 Condom availability and use

This survey revealed the practice of condom use and accessibility of condom among the PWID. It was found that above three-fifth of the PWID (61%) who had ever had sex had ever used a condom. It is encouraging to note that all of the PWID had knowledge about the place or person from where/whom they can obtain condom. Almost all of the PWID (98%) mentioned that they obtain condom from the pharmacy followed by the hospital (37%), clinic (23%), health worker (22%), shop (20%), bar/guest house/hotel (15%), etc. More than a quarter of the PWID (27%) reported of getting condoms free of cost from any organizations in the last 12 months. Similarly, it was found that more than a fourth of the PWID (27%) usually carried condoms with them.

Table 3. 12 Condom availability and use

	N	%
Ever used a condom		
Yes	197	61.0
No	126	39.0
Total	323	100.0
Knowledge of place or person to obtain condom		
Yes	340	100.0
Total	340	100.0
Place or person to obtain condom*		
Shop	69	20.3
Pharmacy	332	97.6
Clinic	78	22.9
Hospital	121	35.6
Family planning center	4	1.2
Bar/Guest house/Hotel	51	15.0
Health worker	74	21.8
Peer Educator/Outreach doctor	14	4.1
Friend	19	5.6
Total	340	*
Any organization giving condom in the last 12 months		
Yes, free of cost	93	27.4
Yes, by taking money	3	0.9
No	244	71.8
Total	340	100.0
Usual condom carrying practice		
Yes	91	26.8
No	249	73.2
Total	340	100.0

**Percent total may exceed 100*

3.5 Comprehensive Knowledge of HIV and Modes of HIV Transmission

The survey explored the comprehensive knowledge and mode of transmission of HIV/AIDs among the PWID. Nearly three-fourth of the PWID (71%) opined that HIV transmission could be prevented through abstinence from sexual contact (A). Similarly, the majority of the PWID (80%) had to understand in regards to the faithful partnership to a single partner as a measure of HIV prevention (B). Large majority of them knew that consistent use of condom (92%) could protect from HIV transmission (C). In the meantime, more than four-fifth of the PWID (83%) opined that a person looking healthy could be infected with HIV (D). It is notable that nearly one-fifth of the PWID (18%) knew that a person cannot get HIV infection from mosquito bite (E). Likewise, almost a tenth of the PWID (9%) had the misconception that HIV can be transmitted by sharing a meal (F).

Overall, only above two-fifth of the PWID (43%), had the knowledge of all three ABCs of

HIV prevention. Similarly, the understanding of all the five components of HIV prevention (BCDEF) was found among half of the PWID (47%).

Table 3. 13 Comprehensive knowledge of HIV and AIDS

	N	RDSTAT %	%
A: Abstinence from sexual contact			
Yes	251	70.7 (95%CI=64.6-77.7)	73.8
No	81	26.5 (95%CI=19.4-31.4)	23.8
Don't know	8	2.8 (95%CI=0.7-6.4)	2.4
Total	340		100.0
B: Being faithful to one partner			
Yes	276	80.4 (95%CI=77.4-87)	81.2
No	59	17 (95%CI=11.5-21)	17.4
Don't know	5	2.7 (95%CI=0.2-3.6)	1.5
Total	340		100.0
C: Condom use during each sexual contact			
Yes	318	91.7 (95%CI=89.6-96.5)	93.5
No	18	6.8 (95%CI=2.7-9.4)	5.3
Don't know	4	1.5 (95%CI=0-2)	1.2
Total	340		100.0
D: A healthy-looking person can be infected with HIV			
Yes	287	82.9 (95%CI=78.8-88.6)	84.4
No	38	10.5 (95%CI=6.7-14.1)	11.2
Don't know	15	6.6 (95%CI=2.9-10)	4.4
Total	340		100.0
E: A person cannot get the HIV from mosquito bite			
Yes	76	17.6 (95%CI=14.4-24.3)	22.4
No	257	79.9 (95%CI=73.6-84.2)	75.6
Don't know	7	2.5 (95%CI=0-3.7)	2.1
Total	340		100.0
F: Get HIV by sharing meal			
Yes	31	9.2 (95%CI=6.1-14.8)	9.1
No	307	90.4 (95%CI=84.9-93.7)	90.3
Don't know	2	0.4 (95%CI=0.1-0.6)	0.6
Total	340		100.0
Knowledge of ABC			
Yes	211	43.1 (95%CI=33.7-47.4)	62.1
No	129	56.9 (95%CI=52.6-66.3)	37.9
Total	340		100.0
Knowledge of BCDEF			
Yes	171	47.3 (95%CI= 43.2-55.5)	50.3
No	169	52.7 (95%CI=44.5-56.8)	49.7
Total	340		100.0

3.6 Awareness and Availability of HIV Testing Facility and HIV Testing

It was found that more than four-fifth of the PWID (84%) knew about the place where HIV testing could be done. However, only more than half of the PWID (56%) had ever tested for HIV. Among those who had ever had an HIV test, the majority of the PWID (88%) had undergone the test voluntarily. Above three out of five of the PWID (61%) had done their most recent HIV test within the past 12 months. Almost a third of them (32%) had tested for an HIV only once, and almost a fifth of them (19%) had done so twice within the past 12 months. However, almost two-fifth of them (39%) had not undergone the HIV test within the past 12 months. The majority of the PWID (96%) who had tested for an HIV had obtained their test results. Only one PWID mentioned that he did not receive the test result since he forgot. Among them, nearly a tenth of the PWID (9%) had a positive result at their last test. Above two out of the five PWID (41%) who had a positive test result at their last test did not visit HTC for HIV care after knowing their status.

Table 3. 14 Knowledge of HIV testing centre and HIV testing

	N	%
Know about the place where HIV testing can be done (HTC Center)		
Yes	287	84.4
No	53	15.6
Total	340	100.0
Ever had an HIV test		
Yes	191	56.2
No	149	43.8
Total	340	100.0
Voluntarily underwent the test or because it was required		
Voluntary	169	88.5
Required	22	11.5
Total	191	100.0
Most recent HIV test done		
Within the past 12 months	117	61.3
Between 13-24	31	16.2
Between 25-48 months	18	9.4
More than 48 months	25	13.1
Total	191	100.0
Frequency of undergoing HIV test within the last 12 months		
0	74	38.7
1 time	62	32.5
2 times	36	18.8
3 times	16	8.4
4 times	3	1.6
Total	191	100.0
Obtained the test result		
Yes	183	95.8
No	8	4.2
Total	191	100.0

The result of the last HIV test		
Positive	17	9.3
Negative	163	89.1
Uncertain	2	1.1
Result not received	1	0.5
Total	183	100.0
Reason for not receiving the test result		
Forgot it	1	100.0
Total	1	100.0
Visited HTC for HIV care after knowing HIV positive status		
Went	10	58.8
Didn't go	7	41.2
Total	17	100.0

3.7 Knowledge of transmission of Hepatitis C and Testing

The survey assessed the knowledge of the PWID on Hepatitis C. It is notable that almost a third of the PWID (32%) were still unaware of Hepatitis C. Those PWID who had heard of Hepatitis C were further assessed for their knowledge on transmission of Hepatitis C. Nearly three-fifth of the PWID (58%) opined that Hepatitis C could be transmitted through sex. Above three-fourth of the PWID (76%) said condoms could protect against Hepatitis C. Likewise, the majority of the PWID (82%) had knowledge that Hepatitis C cannot only occur if one has HIV. It is encouraging to note that an overwhelming majority of the PWID (95%) were aware that Hepatitis C could be transmitted by sharing needles. Similarly, more than four-fifth of the PWID (84%) mentioned that Hepatitis C could be transmitted through tattooing. It was found that majority of the PWID (83%) had knowledge regarding the availability of medical treatment for Hepatitis C. On the contrary, still above a fifth of the PWID (21%) had the misconception that herbal remedies can cure Hepatitis C.

Those PWID who had ever heard of Hepatitis C were asked whether they have ever tested for Hepatitis C. More than two-fifth of them (44%) had ever tested for Hepatitis C. Among them, more than a quarter of the PWID (29%) were diagnosed as HCV positive.

Table 3. 15 Knowledge on Hepatitis C

	N	%
Ever heard about Hepatitis C		
Yes	233	68.5
No	107	31.5
Total	340	100.0
Hepatitis C can be transmitted through sex		
Yes	135	57.9
No	74	31.8
Don't know	24	10.3
Total	233	100.0
Condoms can protect you against hepatitis C		
Yes	178	76.4
No	39	16.7
Don't know	16	6.9
Total	233	100.0
Hepatitis C can only occur if you have HIV		
Yes	25	10.7
No	191	82.0
Don't know	17	7.3
Total	233	100.0
Hepatitis C can be transmitted by sharing needles		
Yes	222	95.3
No	6	2.6
Don't know	5	2.1
Total	233	100.0
Hepatitis C can be transmitted through tattooing		
Yes	197	84.5
No	25	10.7
Don't know	11	4.7
Total	233	100.0
Availability of medical treatment for hepatitis C		
Yes	194	83.3
No	22	9.4
Don't know	17	7.3
Total	233	100.0
Herbal remedies can cure hepatitis C		
Yes	48	20.6
No	133	57.1
Don't know	52	22.3
Total	233	100.0

	N	%
Ever tested for hepatitis C		
Yes	103	44.2
No	128	54.9
No response	2	0.9
Total	233	100.0
The result of the hepatitis C test		
Positive	30	29.1
Negative	70	68.0
Result not received	1	1.0
Don't know	2	1.9
Total	103	100.0

3.8 Knowledge of STIs, Experienced Symptoms, and Treatment in the Past Year

It is notable that almost two in five of the PWID (38%) had not heard of diseases than can be transmitted through sexual intercourse (STIs). Three out of the five PWID identified genital ulcers/sore (60%) as the symptom of STIs in female followed by foul-smelling from genital (38%), genital discharge (30%), burning pain on urination (18%), itching (14%), pain in lower abdomen (10%) and swelling in groin area (4%). Similarly, the PWID were asked about the known symptoms of STIs among the males. In response, almost three-fourth of them (74%) mentioned genital ulcers/sore blister as the symptom of STI in male followed by genital discharge (36%), burning pain on urination (30%) and swellings in the groin area (18%). However, above a fifth of the PWID (22%) didn't know any of the symptoms of STI in males.

The survey explored if the PWID's experienced any of symptoms of STI currently and during the last 12 months. It was found that nearly a tenth of them (8%) had experienced genital discharge/burning pain on urination in the last 12 months. Among them, nearly a half of PWID (46%) were experiencing the symptom of genital discharge/burning pain on urination currently also. Similarly, 4 percent of the PWID (n=14) reported that they had experienced genital ulcer/sore blister during the last 12 months. Among them, more than a half of the PWID (57%) were experiencing the symptom of genital ulcer/sore blister currently also.

The information on treatment practice of the PWID on having the symptoms of STIs was sought in the survey. A Large majority of the PWID (92%) reported of never having symptoms of genital discharge/ burning urination or a genital ulcer/sore blister. Among those who had that symptom (8%), 4 percent of them sought treatment at the hospital whereas 2 percent of them did not seek any treatment.

Table 3. 16 Sign and Symptoms of STI and treatment

	N	%
Ever heard of diseases that can be transmitted through sexual intercourse		
Yes	209	61.5
No	130	38.2
No response	1	0.3
Total	340	100.0
Sign and symptoms of STIs-Female		
Lower abdominal pain	20	9.6
Genital discharge	62	29.7
Foul smelling	80	38.3
Burning pain on urination	38	18.2
Genital ulcers/sore	126	60.3
Swelling in groin area	8	3.8
Itching	30	14.4
Don't know	57	27.3
Total	209	100.0
Sign and symptoms of STIs-Male		
Genital discharge	75	35.9
Burning pain on urination	63	30.1
Genital ulcers/sore blister	155	74.2
Swellings in groin area	38	18.2
Don't know	45	21.5
Total	209	100.0
Experience of genital discharge/burning urination during the last 12 months		
Yes	28	8.2
No	304	89.4
Don't know	8	2.4
Total	340	100.0
Current experience of genital discharge/burning urination problem		
Yes	13	46.4
No	15	53.6
Total	28	100.0
Experience of genital ulcer/sore blister during the last 12 months		
Yes	14	4.1
No	321	94.4
Don't know	5	1.5
Total	340	100.0
Current experience of genital ulcer/sore blister		
Yes	8	57.1
No	6	42.9
Total	14	100.0

	N	%
Source of treatment during last experience of a genital discharge/ burning urination or a genital ulcer/sore blister		
Did not seek treatment	7	2.1
With private doctor	3	0.9
In hospital	14	4.1
Never had such symptoms	314	92.4
DIC	2	0.6
Total	340	100.0

3.9 Exposure to HIV Programs

3.9.1 Exposure to PE/DIC/STI Clinic/HTC

The survey assessed the exposure to HIV/AIDS/STI Programs among the PWID. It was found that only almost a quarter of the PWID (24%) had ever met or discussed or interacted with Peer Educators (PE) or Outreach educators (OE) in the last 12 months. More than a half of the PWID (53%) had visited any outreach center (DIC, IC or CC) in the last 12 months. It is notable that a negligible percent of the PWID (3%) had visited the STI clinic. Similarly, only above a third of the PWID (35%) had visited HTC in the last 12 months.

Table 3. 17 Exposure to HIV Programs (PE, DIC, HTC)

	N	RDSTAT %	%
Met or discussed or interacted with Peer Educators (PE) or Outreach Educators (OE) in the Last 12 months			
Yes	80	24.4 (95%CI=17.7-28.4)	23.5
No	260	75.6 (95%CI=71.6-82.5)	76.5
Total	340		100.0
Visited any outreach center (DIC, IC or CC) in the last 12 months			
Yes	182	52.8 (95%CI=45.6-57.3)	53.5
No	158	47.2 (95%CI=42.7-54.4)	46.5
Total	340		100.0
Visited any STI clinic in the last 12 months			
Yes	6	3.1 (95%CI=0.6-5.4)	1.8
No	334	96.9 (95%CI=94.6-99.4)	98.2
Total	340		100.0
Visited any HTC (HIV testing and counseling center)			
Yes	117	34.9 (95%CI=27.3-41)	34.4
No	223	65.1 (95%CI=59-72.7)	65.6
Total	340		100.0

3.9.2 Knowledge of PMTCT/ART/Viral load testing/CHBC services

Knowledge of the PWID regarding HIV/AIDs programs and services was appraised in the survey. In this regards, it is notable that above a half of the PWID (52%) were unaware about prevention of mother to child transmission services (PMTCT) for pregnant women. Similarly, it was found that still more than two-fifth of the PWID (42%) had not heard about anti-retroviral therapy (ART) services for HIV-positive individuals. In the meantime, more than a half of the PWID (56%) were unaware of the viral load testing services available for HIV positive individuals. Likewise, only less than a fifth of the PWID (19%) were aware of Community Home Based Care (CHBC) services provided for HIV-positive people.

Table 3. 18 Ever heard about PMTC service, ART service, Viral load testing and CHBC service

	N	%
Ever heard about PMTCT for pregnant women		
Yes	70	20.6
No	176	51.8
Don't know	92	27.1
No response	2	0.6
Total	340	100.0
Ever heard about anti-retroviral therapy (ART) services for HIV positive individuals		
Yes	138	40.6
No	144	42.4
Don't know	58	17.1
Total	340	100.0
Heard of viral load testing services for HIV positive individuals		
Yes	76	22.4
No	190	55.9
Don't know	73	21.5
No response	1	0.3
Total	340	100.0
Heard of Community Home Based Care (CHBC) services provided for HIV-positive people		
Yes	65	19.1
No	275	80.9
Total	340	100.0

3.10 Stigma and Discrimination

The survey explored the information about stigma and discrimination prevalent among the HIV-infected people. In this regards, more than fourth-fifth (88%) of the PWID expressed their willingness to buy food from HIV-infected shopkeeper. An overwhelming majority of the PWID (94%) opined that children living with HIV should be able to attend school with children who are HIV negative.

Table 3. 19 Stigma and discrimination

	N	%
Buy food from an HIV positive shopkeeper or food seller		
Yes	299	87.9
No	41	12.1
Total	340	100.0
Children living with HIV should be able to attend school with children who are HIV negative		
Yes	321	94.4
No	14	4.1
Don't know	5	1.5
Total	340	100.0

CHAPTER IV: TREND ANALYSIS OF KEY INDICATORS

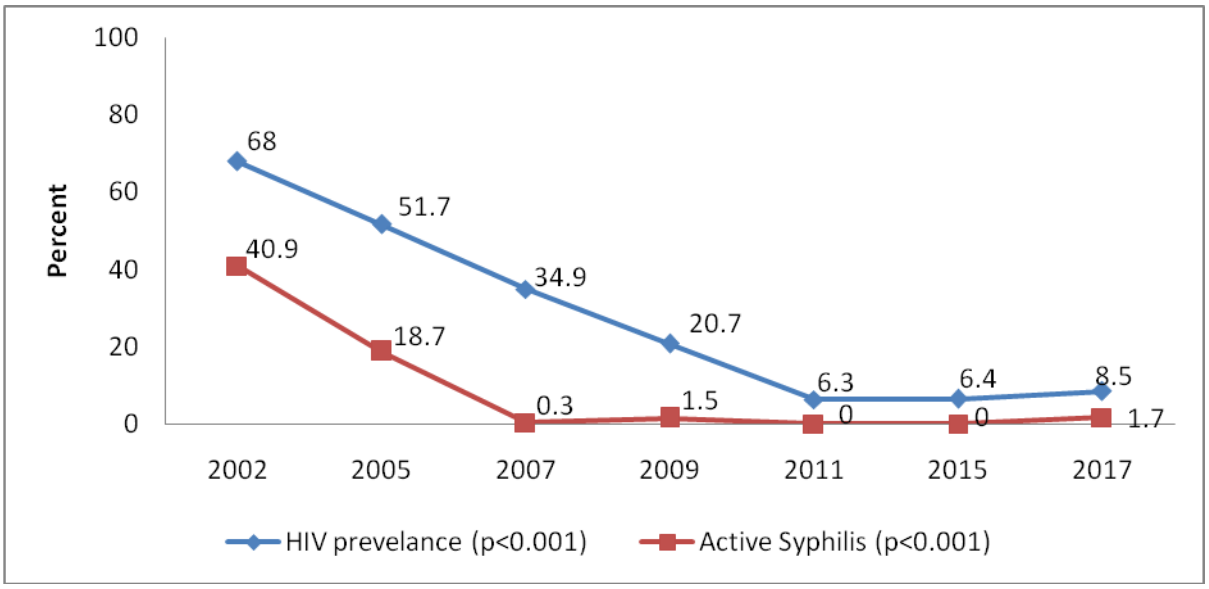
This chapter analyses the trend in the selected indicators by comparing the data obtained from all seven rounds of IBBS (2002-2017) among PWID conducted in Kathmandu Valley.

4.1 HIV and Syphilis Prevalence

HIV prevalence among the PWID has followed an encouragingly declining trend from 68 percent in 2002 to 6.4 percent in the previous round (2015). However, it has increased by 2.1 percent in this round (8.5 % in 2017).

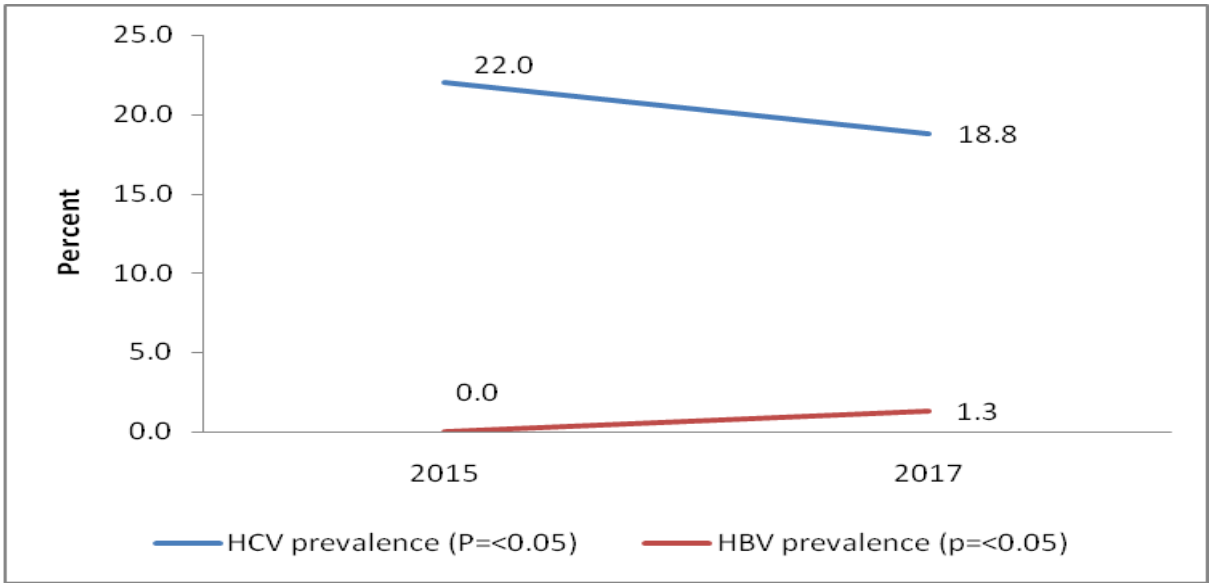
There was a decreasing trend in the prevalence of Active Syphilis from 40.9 percent in 2002 to 0.3 percent in 2007. After that it had slightly increased in 2009 (1.5%). No case of Active Syphilis was diagnosed during 2011 and in 2015, however, in this round, the prevalence is found to be 1.7 percent.

Figure 4. 1 Prevalence of HIV and Active Syphilis



There was a decreasing trend in the prevalence of HCV from 22 percent in 2015 to 18.8 percent in 2017, however, in this round, the prevalence of HBV was found 1.3 percent, which was nil in 2015.

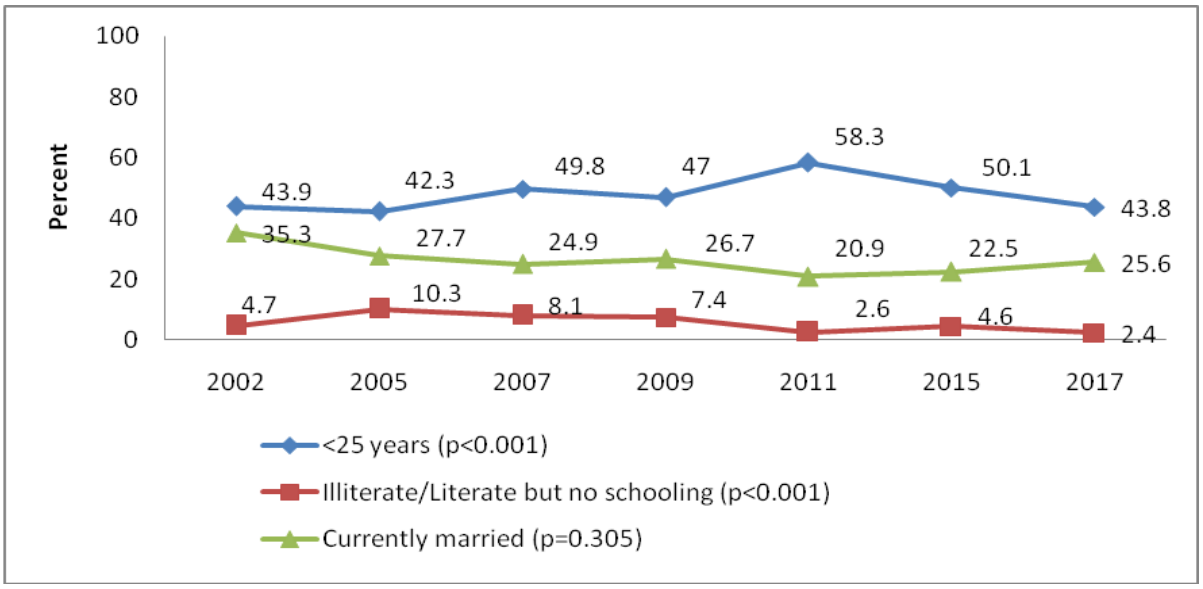
Figure 4. 2 Prevalence of HCV and HBV in 2015 and 2017



4.2 Key Socio-Demographic Characteristics

The PWID who were youth below 25 years showed increasing trend from 2002 (44%) to 2007 (50%) while this proportion slightly dropped to 47 percent in 2009. PWID falling in the age range of fewer than 25 years old have decreased in this round (44%) when compared to the previous round (50%) in 2015. The proportion of the illiterate PWID in the different rounds showed fluctuating trend. In the first round; 2002, it was 5 percent which doubled in 2005 (10%) and then followed declining trend till 2011 (3%). This percentage has increased to 5 % in 2015 and reached to 2 percent in this round (2017). The proportion of PWID who are currently married has fluctuated slightly over the time and decreased in this round (26%) when compared to the first round (35%).

Figure 4. 3 Trend of Socio-Demographic Characteristics

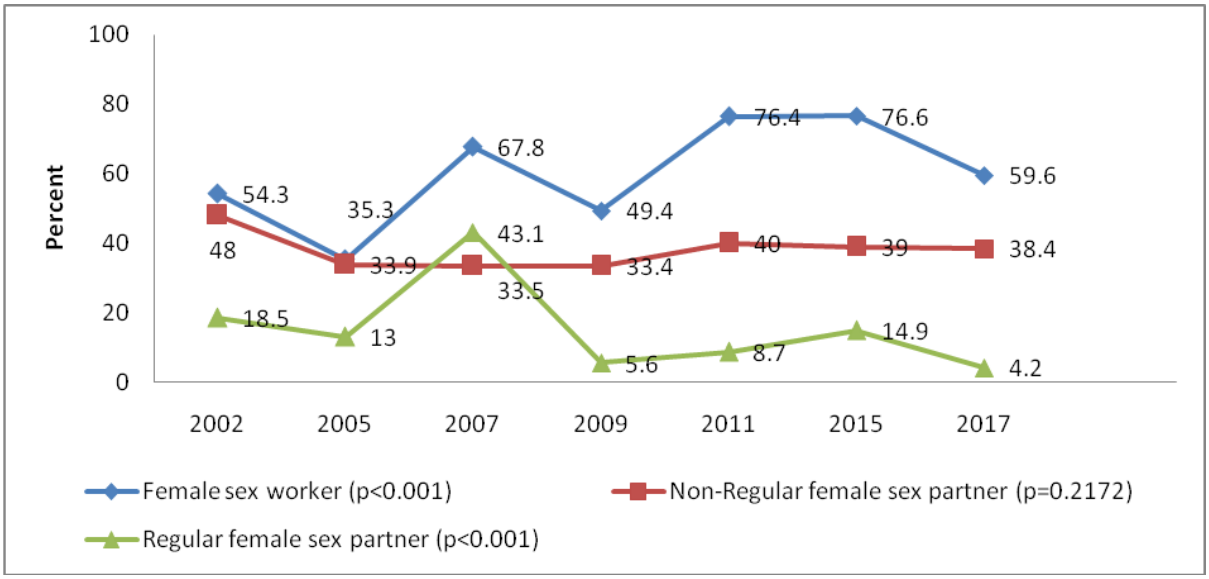


4.3 Consistent Condom Use with Different Partners

Consistent use of condom of PWID with female sex worker was comparatively higher than with other sex partners in all rounds of the survey, however, showed fluctuating trend over the period. In the first round, this proportion was 54 percent while in this round it is 60 percent following a decline compared to the previous round which was 77 percent.

Regarding non-regular female sex partner, in 2002 consistent use of condom of PWID was 48 percent which has dropped to 38 percent in this round with nearly no difference when compared to previous round (39% in 2015). The lowest consistent condom use of PWID was reported among regular female sex partners (wives/girlfriends) in all rounds. This proportion was nearly a fifth (19%) in the first round which dropped to 13 percent in 2005 and then again rose notably in 2005 (33%); thereafter, followed declining trend till 2011. However, this proportion has decreased by 11 percent when compared to the previous round (15% in 2015 and 4 % in 2017).

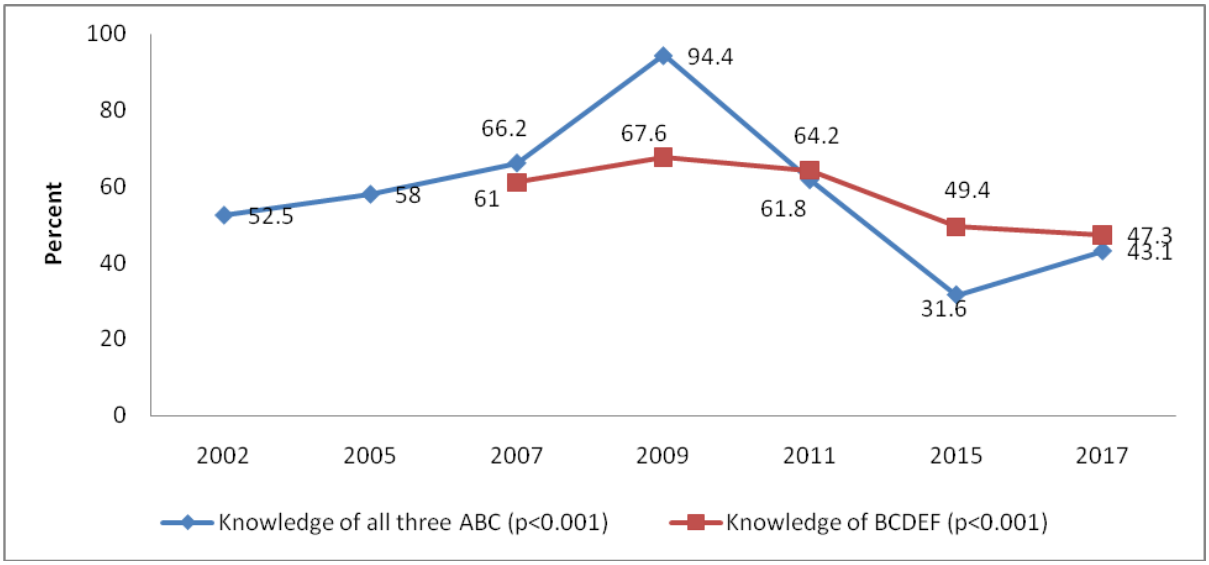
Figure 4. 4 Consistent Condom Use with different partner



4.4 Comprehensive knowledge on HIV

The overall knowledge of PWID on almost all indicators of HIV prevention showed fluctuating trend over the years. Slightly more than half of the PWID (53%) had comprehensive knowledge of ABC in the beginning of the survey (2002) which followed a increasing trend till 2009 (94% in 2009) and then showed declining trend in between 2011 (64%) -2015 (32%) and has raised again in this round to 62 percent. Similarly, the proportion of the PWID having comprehensive knowledge of BCDEF was assessed from 2007, and at that time it was 61 percent which raised to 68 percent in 2009 and followed the decreasing trend in between 2011-2015. There is almost no change in the knowledge of BCDEF among the PWID when compared to previous round and now (49% in 2015 vs. 50% in 2017).

Figure 4. 5 Comprehensive knowledge of HIV Prevention

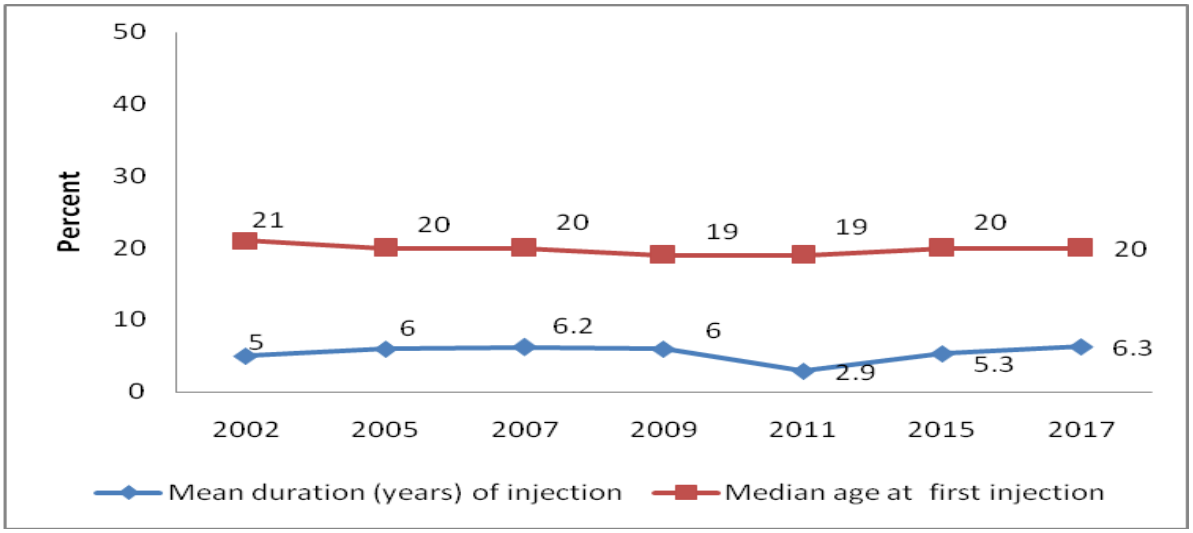


4.5 Injecting Behaviors / Injection Sharing Behaviors

The average duration of time PWID have been injecting drugs was 5 years in the first round of the survey (2002) which followed an increasing trend in between 2005-2009 with an increase in 1 year. In 2011, the mean injecting duration had decreased to 3 years. Compared to the previous round, again this duration has increased by 1 year in this round (5 years in 2015 vs. 6 years in 2017).

The median age of the PWID at first drug injection was 21 years in 2002 which had decreased to 20 years in 2005-2007 and further decreased to 19 years in 2009-2011. However, this has increased to 20 years in the previous round (2015) following no change in this round.

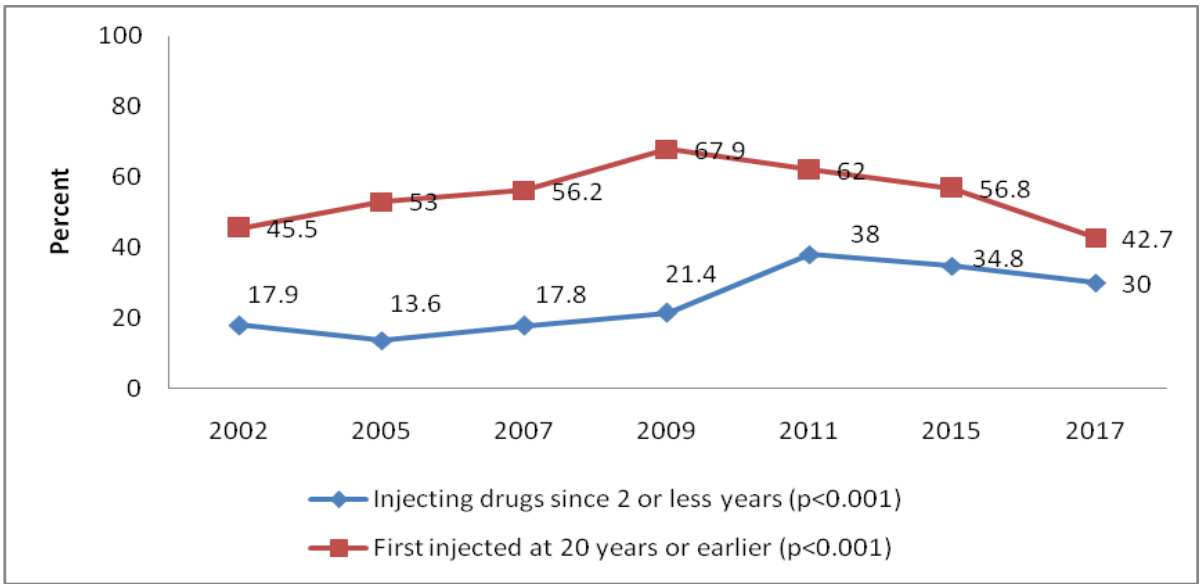
Figure 4. 6 Mean duration of first drug injection and median age at first drug injection



The percentage of PWID who started drug injection before 20 years was 45 percent in the first round (2002) which constantly followed an increasing trend till 2009 (53% in 2005, 56% in 2007 and 68% in 2009). Thereafter, this proportion has been following the decreasing trend. Compared to the previous round, it has decreased by 14% in this round (57% in 2015 vs. 43% in 2017).

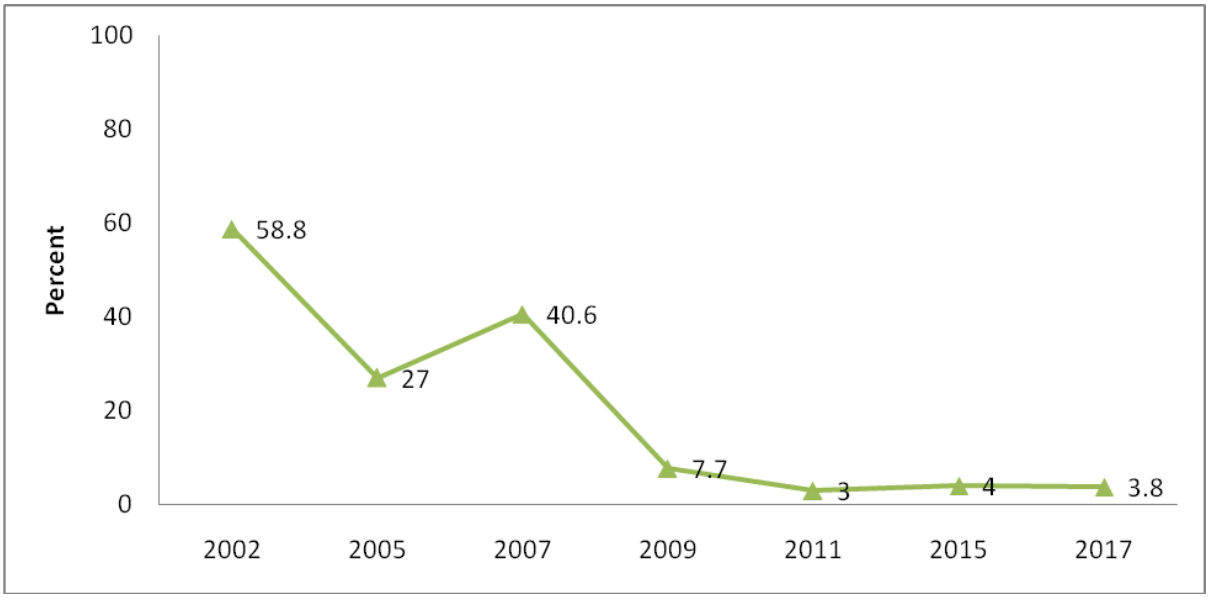
PWID who injected drugs for 2 or less years was 18 percent in 2002 which slightly decreased in 2005 (14%) and followed the growing trend till 2011 (18% in 2007, 21% in 2009, 38% in 2011). Compared to the previous round, this proportion has decreased by 5% in this round (35% in 2015 vs. 30% in 2017).

Figure 4. 7 Injecting Behavior of PWID



The trend of unsafe injecting behavior has been decreasing over the years. The practice of sharing needle/syringe in the past week was 59 percent in 2002 which dropped to 27 percent in 2005 and had increased to 41 percent in 2007. This proportion again notably declined to 8 percent in 2009 and has dropped to 4 percent in 2017.

Figure 4. 8 Needle/Syringe Sharing Behavior in the past week



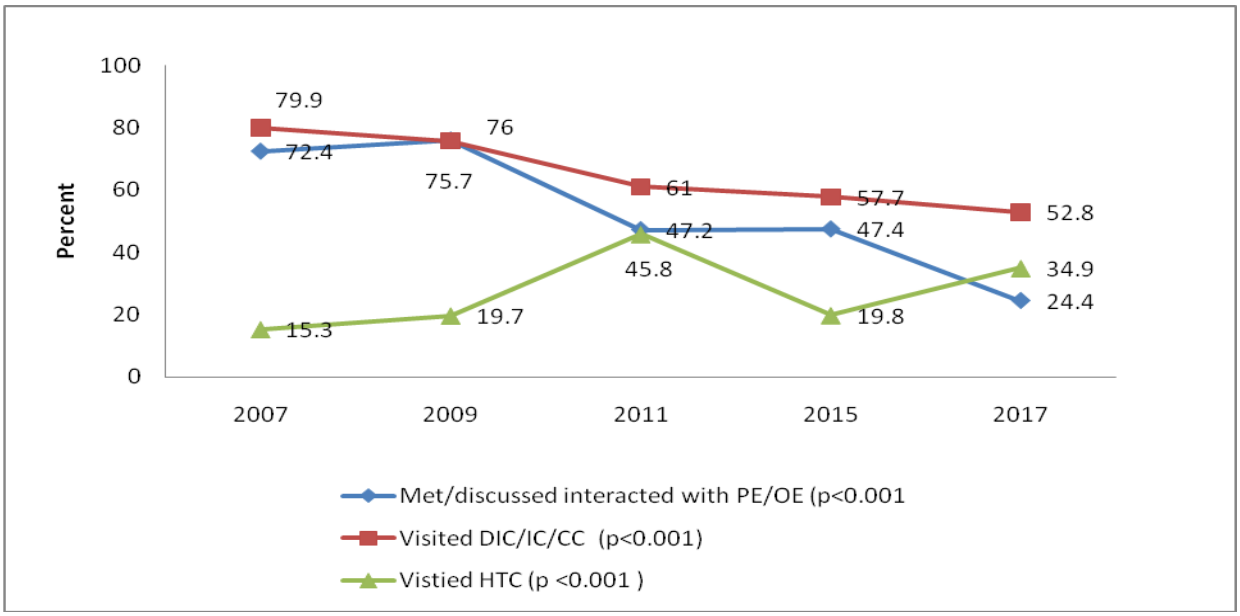
4.6 Exposure to HIV programs (PE, DIC and HTC)

HIV and AIDs related exposure programs among PWID started since 2007. The proportion of PWID who had met or discussed with OEs /PEs was 72 percent in 2007 which increased to 78 percent in 2009 and had again declined to 47 percent in between 2011-2015. This proportion has further decreased in this round (23% in 2017).

Similarly, the percent of PWID visiting DIC was 80% at the beginning of the survey (2007), and this showed declining trend year after year. Compared to previous round this proportion has decreased by 5 percent (58% in 2015 vs. 53% in 2017).

Likewise, the proportion of the PWID visiting HTC was 15 percent in 2007 which showed an increasing trend in between 2009 (20%) to 2011 (46%) and then again dropped to 20 percent in the previous round. However, in this round (2017) it has improved to 34 percent.

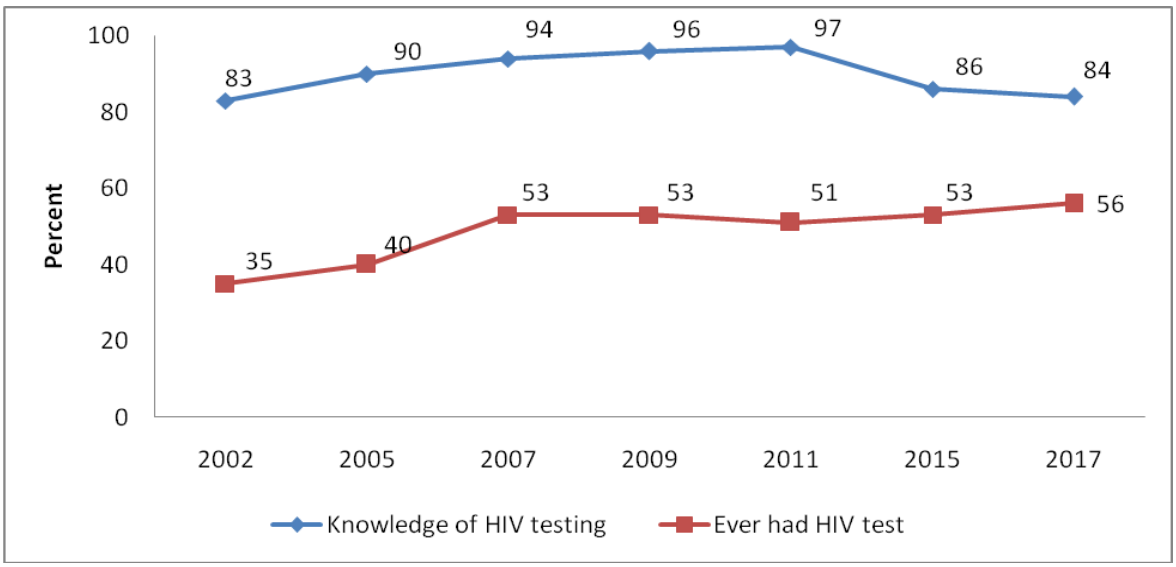
Figure 4. 9 Exposure to HIV Programs (PE, DIC and HTC)



4.7 Knowledge of HIV Testing (HTC) and Practice

The knowledge about the availability of confidential HIV testing and counseling in the community (HTC) among the PWID was 83 percent in 2002 which followed an increasing trend till 2011 (97%) which thereafter dropped in 2015 to 86 percent. In this round (2017), it has further decreased to 84 percent. Similarly, the proportion of the PWID ever having an HIV test was only 35 percent in 2002 which followed an increasing trend till 2009 (53%) then slightly decreased in 2011 to 51 percent and then followed an increasing trend. Comparing to the previous round (2015) it has increased by 3 percent in this round (2017).

Figure 4. 10 Knowledge of HIV Testing and Ever had an HIV test



CHAPTER V: CONCLUSION AND RECOMMENDATIONS

The survey explored the current data on comprehensive knowledge of HIV/AIDS, sexual risk behavior and injecting behaviors among PWID, their exposures to various HIV/AIDS prevention, treatment, care and support programs. Findings from the survey are expected to be widely utilized to design public health program and track the level of HIV epidemic and related risk behaviors of the concerned population sub-group.

Based on the findings of this study, the following are the recommendations.

Prevalence of HIV, HCV, HBV is high and co-infection of HIV and HCV is alarming. Prevention and treatment strategies for HCV burden need to be prioritized.

Unsafe injecting practice is still prevailing among the PWIDs: Effective Behavioral Change Communication (BCC) programs and Appreciative Inquiry Trainings advocating no use of drugs and safer injecting practices to the target groups need to be widespread.

Dual risk behaviors (Risky sexual behavior and injection drug use) increases risk among PWID population: Substantial proportion of different sex partners of PWIDs also injected drugs. Therefore, awareness regarding consistent condom use with all sex partners and safer injecting practice should be raised through community-focused HIV prevention programs.

Knowledge of ABC and BCDEF of HIV prevention and control is low among PWID. Programs focusing on raising awareness among PWIDs needs to be scaled up to move towards achieving the vision of Zero new cases of HIV in Nepal.

Very few PWIDs had utilized the HIV/STI exposure interventions: Therefore, outreach activities, mobile HTC and STI treatment services should be further widespread to reach the unreached PWID population and improve service utilization among them.

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Annex

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

Questionnaire ☐☐

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 PWID:

"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 → 106 Married ……2 Divorced/Permanentlyseparated.....3 Widor……4 Living together……5 Others……96	
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 Rented room……..……5 Other(specify) …….....96	
107	With whom you are living now?	Alone……1 Living with wife.....2 Family/relative……3 Living with other female sex partner...4 Living with friend (without sexual relation)……5 Others(Specify)……..…96 No response.....99	
107.1	How many dependents are there in your family?	Number: …….. ☐☐ Self unemployed……95	
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	

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…….1 No----------2	→ 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..... ☐☐	
302	The last time you injected, how did you get that syringe/needle? **(Public place means places other than the PWID 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	
303	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? **(Front-loading/back-loading/splitting)**	Every times..... 1 Almost every-times ..... 2 Sometimes ..... 3 Never ..... 4 No response 99	
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	

Q.N.	Questions	Coding Categories	Skip to
308	Can you obtain new, unused needles and syringes when you need them?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
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	
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	601
403	In total, how many different female sexual partners have you had sex in the last 12 months?	Number……. ☐☐ 'If person =0'	→ 404
403.1	How many were female "regular partners"? **(Your wife or live-in sexual partners)**	**If person=0 continue upto 404.4 and skip to 502** Number…….. ☐☐ Don't know……98 No response……..99	
403.2	How many were female "sex worker"? **(Partners to whom you bought or sold sex in exchange for money or drug)**	**If person=0 continue upto 404.4 and skip to 503** 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)**	**If person=0 continue upto 404.4 and skip to 504** 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

Q. N.	Questions	Coding Categories	Skip to
501.2	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
501.3	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	
501.4	Did your female regular partner also inject drugs?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	
501.5	Have you ever had anal sex with your female regular partners?	Yes ..... 1 No ..... 2 Don't know ..... 98 No response 99	 502
501.6	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	
501.7	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	

Q. N.	Questions	Coding Categories	Skip to
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	
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
503.2	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	
504.3	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	
504.4	Do you know your male friend with whom you have anal sex with ever injecting drugs?	Yes……1 No…….2 Don't know .....98 No response 99	
504.5	Have you ever had anal sex with regular female sex partner?	Yes……1 No…….2 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 Male friend .....4 Did not have sexual contact in the past year.....5 Don't Know.....98 No response 99	→ 601
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	

Q. N.	Questions	Coding Categories	Skip to
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	
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	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	
802	Can a person get HIV, from mosquito bites?	Yes .....1 No .....2 Don't know .....98 No response 99	
803	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	
804	Can a person protect himself/herself from HIV, by abstaining from sexual intercourse?	Yes .....1 No .....2 Don't know .....98 No response 99	
805	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	
806	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	
807	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	
808	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	→ 810
809	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	
810	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	
810.1	Do you think a healthy-looking person can be infected with HIV?	Yes .....1 No .....2 Don't know 98	

Q. N.	Questions	Coding Categories	Skip to
810.2	Can a person get HIV by shaking hand with an infected person?	Yes.....1 No .....2 Don't know 98	
810.3	Can blood transfusion from an infected person to the other transmit HIV?	Yes.....1 No .....2 Don't know 98	
811	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	
811.1	Do you know where to go for HIV test?	Yes.....1 No 2	
812	Have you ever had an HIV test?	Yes.....1 No .....2 No response 99	901
813	Did you voluntarily take up the HIV test, or were you required to have the test?	Voluntary.....1 Required .....2 No response 99	
814	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	
814.1	How many times have you undergone for HIV test within the last 12 months?	……. Times	
815	Did you find out the result of your HIV test?	Yes.....1 No .....2 No response 99	901
815.1	What was the result of your last test?	Positive……1 Negative……..……2 Uncertain……..……...3 Result not received……..…..4 Don't know……..……98 No response……99	900 816
815.2	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	900
815.3	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	
816	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
900	Have you heard about Hepatitis C?	Yes ……1 No ……2 Don't know ……98	1001
901	Can Hepatitis C be transmitted through sex?	Yes ……1 No ……2 Don't know ……98	
902	Can Condoms protect you against hepatitis C.	Yes ……1 No ……2 Don't know ……98	
903	Can Hepatitis C only occur if you have HIV?	Yes ……1 No ……2 Don't know ……98	
904	Can Hepatitis C be transmitted by sharing needles?	Yes ……1 No ……2 Don't know ……98	
905	Can Hepatitis C be transmitted through tattooing?	Yes ……1 No ……2 Don't know 98	
906	Is there a medical treatment for hepatitis C?	Yes ……1 No ……2 Don't know 98	
907	Can herbal remedies cure hepatitis C?	Yes ……1 No ……2 Don't know 98	
908	Have you ever tested for hepatitis C?	Yes ……1 No ……2 Don't know 98	1001
909	What was the result of your test?	Positive……1 Negative……..……2 Uncertain……..……....3 Result not	

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 how Hepatitis is/isn't transmitted…….....3 Discussion on safe injecting behavior.....4 Regular/non-regular use of condom…5 About OST service……6 Demonstration on using condom correctly.....……7 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	
1007	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	
1008	Have you visited any STI clinic in the last 12 months?	Yes.....1 No 2	→ 1011
1009	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	

1010	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	
1011	Have you visited any HTC (HIV testing and counselling center) ?	Yes.....1 No .....2 →	1014
1012	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	
1013	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	
1013.1	Have you ever enrolled into any Opioid substitution Therapy (OST): Methadone and Buprenorphine?	Yes.....1 No .....2 Don't Know……98 No response ……...99	1013.7
1013.2	Have you received any Opioid substitution Therapy (OST) in the past 12 months?	Yes.....1 No .....2 Don't Know……98 No response ……99	1013.4
1013.3	Which service have you received?	Methadone ……1 Buprenorphine……2	
1013.4	Are you still in therapy?	Yes.....1 No .....2 Don't know……98 No response ……...99	1013.7
1013.5	What amount have you been receiving per day?	Methadone ……..mg Or Buprenorphine …..…. mg.	
1013.6	How long have you been in this therapy?	…… Years …… Months	
1013.7	What is (are) the reasons for receiving OST services and having injecting behaviors?		
1014	Have you ever heard about prevention of mother to child transmission services (PMTCT) for pregnant women?	Yes.....1 No .....2 No response ……..99	1015
1014.1	Do you know from where pregnant women can get PMTCT services?	Yes.....1 No .....2 No response ……..99	

1015	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	1016
1015.1	Do you know from where HIV positive individuals can get ART services?	Yes.....1 No .....2 Don't Know……98 No response ……..……99	
1016	Have you heard of viral load testing services for HIV positive individuals?	Yes.....1 No .....2 Don't know ……..……98 No response ……..……99	1017.1
1016.1	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	
1017	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 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	
1102	Do you think children living with HIV should be able to attend School with children who are HIV negative?	Yes.....1 No .....2 Don't know.....98 No response 99	Kv7v7

12. Information about PWID Network

Q.No	**Questions**	**Coding categories**	**Skip to**
1201	How many PWID do you know who also know you and live in this same district?	Number……. Don't know.....98 No response 99	
1202	How many of them are male and female?	Number of female……. Number of male…….	
1203	Can you tell us approximately how many of them fall in which age ranges?	Below 16 years…… Above 16 years…… Don't know.....98 No response 99	
1204	What is your relation to the person who gave you coupon to come here?	Close friend……1 Friend……..……2 Sex partner……..3 Relative……4 Stranger……5 Others(specify)……96	

Thank You!!