SUBSTANCE USE AMONG THE YOUTH INJECTING DRUG USERS IN URBAN AREA NEPAL

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จุฬาลงกรณ์มหาวิทยาลัย
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จากรายงานการใช้สารเสพติดโลก (2010) พบว่า มีประชากรที่ติดสารเสพติด 16 – 38 ล้านคน และประมาณ 11 – 21 ล้านคนใช้ยาเสพติดประเภทฉีด การใช้ยาของคนกลุ่มดังกล่าวส่วนใหญ่ใช้เพื่อรักษาอาการป่วยจากการติดเชื้อและโรคติดต่อ การใช้สารเสพติดส่งผลกระทบทั้งในระดับบุคคล ครอบครัว และชุมชน

การศึกษานี้เป็นการศึกษาแบบภาคตัดขวางโดยใช้การสัมภาษณ์แบบเผชิญหน้า ในกลุ่มอายุ 16-34 ปี การศึกษานี้ดำเนินการศึกษาในเทศบาลจำนวน 5 แห่ง ในประเทศเนปาล ได้แก่ เมืองกาตมันดุ เมืองโภครา ดาราน และดามาก ใช้วิธีการสุ่มแบบเฉพาะเจาะจงในการสุ่มพื้นที่จำนวน 5 พื้นที่ ในประเทศเนปาล และการสุ่มสถานที่ในการดำเนินงานตามการรักษาและการลดความเสี่ยงโดยใช้การสุ่มแบบโควต้า

ส่วนใหญ่พบว่า ผู้เข้าร่วมการศึกษาเพศชายมีการใช้สารเสพติดประเภทฉีด 2-3 ครั้งต่อวัน ครึ่งหนึ่งของเพศหญิงที่มีอายุ 15 – 19 ปี มีการใช้สารเสพติดประเภทฉีด 2 – 3 ครั้งต่อสัปดาห์ และ ครึ่งหนึ่งของผู้เข้าร่วมการศึกษามีการใช้สารเสพติดประเภทฉีด 4 – 6 ครั้งต่อสัปดาห์ มากกว่าครึ่งหนึ่งของผู้หญิงที่มีอายุ 20 – 24 ปี และ 25-29 ปี ใช้สารเสพติดประเภทฉีด 2-3 ครั้งต่อวัน ผู้หญิงส่วนใหญ่ที่อายุระหว่าง 30 – 34 ปี มีการใช้สารเสพติดประเภทฉีด 4-6 ครั้งต่อสัปดาห์ เพศกับจำนวนครั้งในการใช้สารเสพติดมีความแตกต่างอย่างมีนัยสำคัญทางสถิติ (p-value <0.001) ระดับของการศึกษากับความถี่ของการใช้สารเสพติดมีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติ (p-value<0.05) จากผลการศึกษานี้ ผู้เข้าร่วมการศึกษาส่วนใหญ่สามารถเข้าถึงสารเสพติดได้ง่าย เนื่องจากการเปิดชายแดนระหว่างประเทศ ซึ่งควรมีการควบคุมด้านกฎหมายและนโยบายโดยหน่วยงานราชการ ควรมีความเข้มงวดในการดำเนินการในพื้นที่ดังกล่าวหรือการลดการเกิดการแลกเปลี่ยนใช้ยาเสพติดประเภทฉีดในกลุ่มผู้หญิง

สาขาวิชา สาธารณสุขศาสตร์ ลายมือชื่อนิสิต .....

ปีการศึกษา 2556 ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก .....

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Abstract

The world Drug Report (2010) indicated 16 to 38 million World's population use drugs and about 11 to 21 million were injecting drug users. These groups of people were susceptible to a diverse range of infectious and communicable disease leading to morbidity and mortality. Substance use had a major impact on individuals, families and communities.

This cross sectional study used face to face interview for age group 16 to 34. The study was carried out from 5 municipalities in Nepal which include Kathmandu, Biratnagar, Pokhara, Dharan and Damak. Purposive sampling was used to select 5 sites in Nepal followed by quota sampling with proportion to select samples from rehabilitation and harm reduction center with respect to place.

Majority of the male respondents from both the centers injected two to three times a day. Whereas half of the female respondents aged 15-19 injected two to three times a week and half of the respondents injected four to six times a week. More than half of the female respondents with age group 20-24 and 25-29 injected two to three times a day. Likewise majority of the female respondents aged 30-34 injected four to six times a week. There was significant difference (p-value<0.001)) between gender and frequency of injection use. The result showed significant difference (p-value<0.05) between level of education and frequency of injection use. According to findings majority of the respondents had easy access to drugs due to open border between countries so strict laws and policies need to be taken into account by the government. Review studies to identify areas that can be strengthen or scaled up will help reduce sharing practices among the female IDUs.

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CHAPTER I

INTRODUCTION

1.1 Background and Rationale

The World Drug Report (2010) indicated 16 to 38 million world's population uses drug and about 11 to 21 million are injecting drug users. These groups of people are susceptible to a diverse range of infectious and communicable disease leading to morbidity and mortality. Globally, around 10% cases of HIV/AIDS are mostly credited to injecting drug use (IDU). Besides HIV/AIDS they are also vulnerable to wound botulism and hepatitis c which can lead them to death (University of Nevada, Savanna R Reid, 2009)

Heroin is the most common form of injecting drug; however amphetamines, buprenorphine, benzodiazepines, barbiturates, cocaine and methamphetamine are also in practice .Globally, 14 million people or more use cocaine and about one-quarter of the 1.6 million US adults were estimated to use cocaine (Gloria J Baciewicz, 2013). Its utilization is mostly widespread in North America i.e 6.4 million people, central and South America i.e 2.2 million people and western and central Europe i.e 3.9 million people (David A Gorelick, 2013)

Drug administered through IV route is a hazardously effectual and one of the most common ways for the spread of blood borne viruses like HIV. In fact, HIV can be directly transferred from the bloodstream of one IDU to another as a result of risky

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injection practices like needle sharing. Furthermore, as drug use via injection started being extensively used worldwide since 3 decades, sharing needle among IDUs has become an important cause accounting for outbreak of HIV/AIDS. Earlier 1970, initiation of injecting drugs like cocaine and heroin via IV route were common in North America and Europe. Injection drug use had extended to 80 countries and regions by 1992, 121 country and regions by 1995 and researchers based on evidence of injection drug use located 158 countries and regions globally by 2008. It is suggested that the number of injection use may enlarge globally according to recent studies carried out in Asia, sub-Saharan Africa and central and Eastern Europe. According to the International Harm Reduction Association (IHRA) 2008, globally 10% of new HIV infections are due to risky injection practices. Among expected 185,000 IDUs, Iran's IDU is supposed to be the highest of any of the country in the Middle East and North Africa. As predicted the number of IDU in Egypt, Algeria and Iraq are roughly 88,618, 40,961 and 34,673 respectively. Whereas in Mauritius there are approximately 17,000 to 18,000 IDUs. In the Middle East and North Africa the IDUs are tremendously male. Though various other forms of drugs are administered, heroin is most frequently injected drug in the region (Gay Men's Health Crisis, 2009)

Whereas in Europe (2013), amongst IDUs wound botulism continue to be present with 2 cases been reported in England and 2 cases in Norway. Likewise, 15 cases of anthrax had been found reported between June 2012 and March 2013 in Europe. Those IDUs who have not been vaccinated appropriately can also be susceptible to

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tetanus. These sorts of infections among the IDUs in Europe are mostly due to heroin contamination or mixing of heroin with cutting agent. Environmental contamination during manufacturing and trafficking the drugs can lead to infection risk among the IDUs (Public Health England, 2013)

More than 8.3 million people in Asia who are living with HIV is at present facing a gradual rise in HIV/AIDS outbreak. Various region of Asia, HIV outbreaks have been largely driven by IDUs. Countries like Indonesia, Malaysia, Myanmar, Thailand and Vietnam reported that among the IDUs, HIV rate is found to be greater than 20 percent. Around 13.2 million of estimated IDUs are found globally and among those more than 10 million are present in developing and transitional countries (Eastern Europe and Central Asia, 3.1 million; South and South-east Asia, 3.3 million; East Asia and Pacific, 2.3 million). An approx 1.1 million IDUs estimate in India with HIV prevalence of more than 64% and recognize it as a public health concern. Throughout 1980s an increase growth of impure heroin dependence has been reported in urban cities like Kolkata Chennai, Mumbai and Delhi. According to this article, reported cases of injecting drug in 21 countries in Western Europe; Italy, the United Kingdom, Germany and France have highest records with 326,000, 164,036, 120,000-150,000 IDUs respectively (YR Gaitonde Centre for AIDS Research and Education, Solomon s et al. , 2008)

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Number of IDUs ranges from 30,155 to 33,742. The highest percentage of IDUs i.e 61.6 is reported within the age group 20-29 years (HSCB). Whereas 38% of the IDUs had their first hand exposure in their earlier twenties. Among 6 epidemic regions, with an estimated number of 24,448 to 27,410 IDUs being the highest number of IDU in the Highway district region. Kaski district predicted to have the maximum IDUs that ranged between 3,187 and 3,477, thus followed by Morang district with 1973 to 2218 IDUs and Chitwan with an estimated IDUs being in the range between 2001 and 2208 respectively (UNODC, 2013).

Adolescents (10-19 years), undergoes various stages in their physical, social and psychological growth in the process conversion from childhood to adulthood. Cannabis and alcohol existed since long time as a part of cultural norms. Various drug forms that are used currently that have been modified from cannabis to synthetic opiates and chemical substances have now become a major public health concern. Its approach has modified form smoking, chewing to injecting. IDU is a major public health issue and need special attention. Its application through IV route is supposed to be the most risky pathway because in the one hand there is hazard of drug overdose and on the other hand the hazard of infection and other disease allied with the way it is introduced. A study carried out in Kathmandu among the IDUs reported that about half (51%) introduced drugs with previously used by another and out of them 106(70%) were involved in sharing needle with multiple persons which was mostly allied due to their intimacy with that person. There is an

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increase in mixing of the drugs and the number of times the drug is introduced (School of Health and Allied Sciences, Niranjan Shrestha, 2012).

According to data more than half of the IDUs population is youth and very few data are available on the pattern of substance use among these population. Objective of this study is to assess the pattern of substance use among the Youth IDUs. The findings of this study can be helpful for the rehabilitation centers, organization working on the substance abuse and also used as a reference for the students.

1.2 Research Question

- What are the patterns of substance use among the youth IDU in urban Nepal?
- What are the unsafe injecting drug use behavior among the youth IDU in urban Nepal?

1.3 Objectives

- To assess the pattern of substance use among the youth IDUs in urban Nepal.
- To assess the unsafe injecting drug use behavior among the youth IDUs in urban Nepal.

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1.4 Operational definition

Substance use: substance use refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs.

Injecting Drug Users (IDUs): Males and females who inject various drugs into their muscles or veins for intoxication purposes

Youth: It refers to the population aged 15-34 years of age

Patterns: means the substance use practice among the respondents which will be determined by pattern of injection use, age of first injection use, duration of injection drug use, frequency of injection use, site wise frequency of use, types of drugs injected, types of drug injected- site wise pattern.

Frequency: Refers to number of times the substance was injected and is measured in terms of day, week and month.

Types of drugs injected: Refers to the list of drugs that are used by injecting such as heroin, buprenorphine, diazepam etc

City wise frequency: Refers to the number of times of injection use with respect to city i.e either daily, 3-6 days a week, 1-2 days a week or lesser.

Area wise frequency: Refers to which among the 5 cities have the highest frequency of drugs use.

Sharing Needles – Sharing the used needles and syringe among intravenous drug users to administer the drug.

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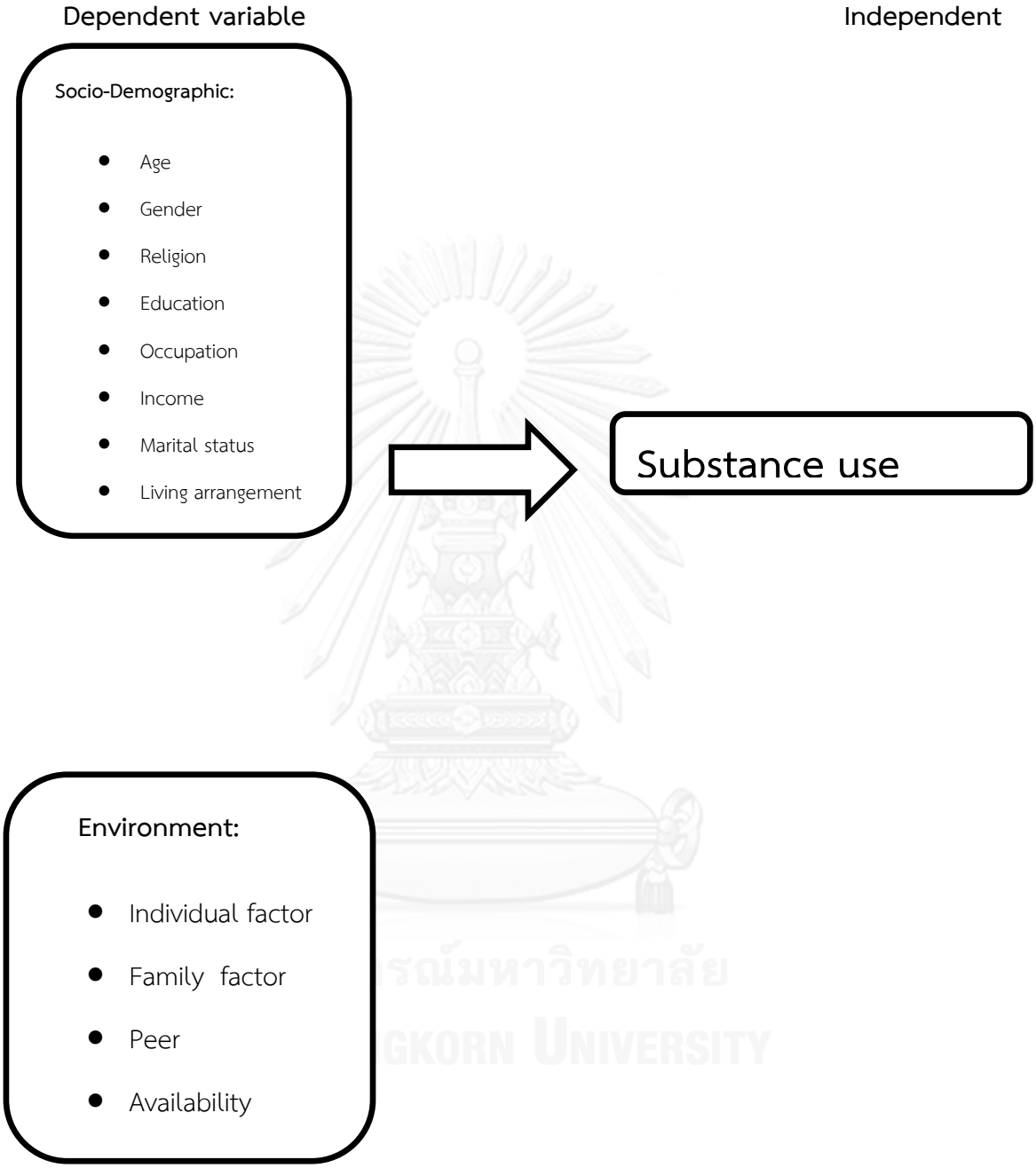
1.5 Conceptual Framework



CHAPTER II

LITERATURE REVIEW

The chapter II deals with the following components:

2.1 Situation of substance use

2.2 Definition

2.3 Types of substance us

2.4 Pattern of substance use

2.5 Risk factors

2.6 Instruments

2.7 Theories

2.8 Article reviews

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2.1 situation of substance use

Global illegal drug use is expected to rise by 25% over the next few decades as rapid urbanization, industrialization, and population growth in developing countries fuel the demand for illegal substances. In 2010, 5% of the world adult population aged 15-64 used illegal drugs at least once. Problem drug users, who mainly depend on cocaine and heroin, make up an estimated 0.6% of the world adult population, amounting to roughly 27 million. Every year, approximately 200,000 people worldwide die from drug abuse.If the annual prevalence of illegal drug use stays stable at 5% of the adult population over the next few decades, demographic trends indicate that the total number of illicit drug users will increase by a quarter by 2050, which is in proportion to world population growth. Although the current rate of 5% might appear like a small proportion of the world's adult population, if this rate continues, there may be some extra 65 million illegal drug users by 2050 compared to 2009-2010.

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2.2 Definition

According to WHO substance use refers to the harmful and hazardous use of psychoactive substances, including alcohol and illicit drugs.

Substance abuse as defined in DSM-IV-R includes continued use of a substance, despite significant problems caused by its use, by an individual who does not meet criteria for substance dependence.

There are several definition on substance use but this study focus on only some aspect of it. This study only defines the pattern of use and unsafe injecting drug behavior.

2.3 Types of substance use

Types of drug from country to country. According to UNODC report Nepal, types of drug used are:

1. Heroin or brown sugar
2. Heroin or brown sugar mixed with other drugs
3. Buprenorphine
4. Buprenorphine mixed with other drugs
5. Pentacozine
6. Dextroprapoxyphene
7. Anti histamines
8. Diazepam

2.4 Pattern of substance use

Various pattern of substance use among the IDUs can be find out but due to the limitation of the study the following 6 patterns will be assessed in this study:

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2.2.1 Injection use

2.2.2 Age of first injection use

2.2.3 Duration of injection use

2.2.4 Frequency of injection use

2.2.5 Site wise frequency of injection use

2.2.6 Types of drugs ever injected

2.5 Risk factors

As the risk factors studied in different part of the world the factors studied in Nepal are much more similar. There are differences in the risk associated to the use of drugs among the male and female and young to elderly people. The risk associated to the youth male are peer groups, family background, family history of drug use etc whereas the initiation of drug among the female is found to be more that that which consists of her poor educational background compared to male, social status, parity. The use of drug weakens her socially disadvantaged position and increases her vulnerability further.

2.6 Theories:

Here are some accepted theories related to substance use:

Cognitive-Affective Theories

This theory talks about the attitude about the consequences of adolescent that has lead them to decide to get adopt to the use of substance after they get exposure with some kind of substances. Intervention that has really focused on such issues has tried to address the attitude of adolescent towards the harmful effects of administering such drugs and thus putting emphasis on the benefits when drug is not used and hence creating awareness on use of drugs.

Social learning theories

This theory is based on the prediction about the youth that role models, friends and parents are the most influencing persons and are accountable for the acquisition of developing the attitude about the use of substances and also some offending habits among the youth. Hence, considering the insight of this theory optimistic role models are essential as well as providing them some skills so that they can decide what is right and what is wrong for them and being able to make some refusal decision by their own and an attitude that they are able to resist substance.

Conventional commitment and social attainment theories

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According to the presumption of this theory drug use among the youth is the result of peer pressure due to their affecting intimacy with them. These groups of people are bound to deject themselves from getting involved in unexpected activities. Therefore, many interventions are especially focused on addressing for the need for education, providing vocational trainings and skills, making door open for their carrier

opportunities and focusing on providing trainings on socialization and supporting techniques to parents for their children.

Interpersonal theories:

Interpersonal theories assess ones influencing factors responsible for the use of substance such as their personality uniqueness, sentiments and behavioral skills. As for example their coping up mechanism, communication skills, socializing skills, confidence,, anxiety and tensions at school and emotional suffering. Intervention supports on focusing numerous such characteristics within the young people besides giving emphasis on their attitude on some particular substance and behavior.

Comprehensive theories

It is a combination of all other theories. It address on youth's biology, qualities, inter personnel relations with other peers and guardians and culture or surroundings that leads to drug use.

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Biological theories

These theories assume that individual have special influencing physical mechanism (some of which are constitutional and others are partly environmental), that leads them whether or not to experiment or abuse the substance. Constitutional refers to an individual born with that mechanism and differs person to person and environmental i.e an individual involvement in drug use activities are combination of

inborn and environmental factors. Thus, mentioned justification are genetic theories and hence theory of metabolic imbalance.

Above mentioned theory i.e cognitive theory, social learning theory, conventional commitment and social attainment theories and interpersonal theory, substance abuse is the result of peers, curiosity about the drugs, role models, emotional suffering, anxiety and are very essential for preventing individual from its harmful consequences which might be hazardous to their health.

2.7 Article reviews

An important source of data on substance use and abuse by adolescents in European countries is The ESPAD has been an essential information source related to substance use among the adolescent. Examining roughly 95,000 10th-grade students participating countries, the ESPAD was patterned the MTF survey and is designed to enable comparisons between European countries and the United States. Recent findings identified by the ESPAD indicate that European youth are more likely to be current users of tobacco and alcohol, but less likely to be current user illegal drugs, compared to youth in the United States. For example, approximately 17% of 10th grades in 30 European nations were found to have used cannabis in their lifetime, as compared to 41% in the United States (Hibell et al. , 1999).

YRBS is another useful source of informationon adolescent substance use.It is a school-based study which is a kind of similar to the MTF study that is representativeof American students enrolled in the9th through 12th grades. The YBRS

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is implementedbiennially by DiseaseControl and Prevention centers, which developedthe survey in order to monitor serious healthrisks posed to American adolescents andyoung.Substance use is one of six categories of highriskbehavior targeted by the survey and isaddressed by 14 questions on illegal drug useand 16 questions on alcohol and tobacco usein the 2003 survey. Because the YRBS has aparticular focus on issues of risk and health,it examines some things that the MTF studydoes not. For example,questions included on substance use and riskin the YRBS address respondents' frequencyof driving while intoxicated or riding in a carwith an intoxicated driver and whether substance use was present at their last sexual intercourse. Measures such as these haveenabled researchers to link forms of drug usewith a variety of negative health outcomesincluding accidental death; suicide; unwantedpregnancy; and the transmission of disease,including HIV (Manski, Pepper, & Petrie,2001).

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According to National Institute of Health, 75% of the 15.9 million IDUs worldwide are supposed to have been living in developing world. These groups are assumed of having high chances of premature deaths i.e 13 times than of general population. Most of these deaths are due to HIV. Northeast being recognized as IDU in India, due to high manufacturing of heroin in Afghanistan and its trafficking route through India even other regions of India have HIV outbreak among IDUs. As expected 165 000 to 1.1 million IDUs are found in India where Mumbai and New Delhi are supposed of

having major proportion of IDU in the world. Chennai where there is an expected 10 000 to 15 000 IDUs has approximately 30% prevalence of HIV. According to this cohort study the median age at baseline was 35 years, greater proportion were married, one quarter had no formal education and half of them had primary or secondary level education. Since past HIV has been the leading cause of death among the IDUs. HIV may have also contributed to non-AIDS mortality despite the relatively low proportion of AIDS- related mortality. According to this study overdose of heroin resulted from poly drug use(heroin and CNS depressant like alcohol, synthetic/semi-synthetic opiates and benzodiazepines) was the most common cause of death hence being consistent to other reports. (NIH, Sunil S. Solomon et. Al., May 2009)

Increase in the use of heroin and its increasing initiation among the youth has brought light into bitter reality about acquiring HIV soon after they start injecting drugs. Many ethnographic studies show that most of the time initiations are due to peer groups. In reality usually its a member of his social group, relative or a sex partner who facilitate IDU initiation for the very first time. As their 1st injection may be unplanned so it does not usually have equipment for injection and may borrow syringe, cooker, cotton and rinse water from others. Current studies however point out the fact that IDUs who give injections to other member are more likely to have shared needles and are more likely to be unemployed and those using more than one substance. Reports on the initiation of IDU within gender shows women being

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dependent on men for injecting as well as obtaining the drugs. Number of studies being conducted on sex differences in addiction histories shows that woman who were exposed to illicit drugs were found to be younger than men and also most of them were introduced to heroin by men, mostly by their sex partners. Whereas men first initiation to drugs was by their peers in the group situation. In most of the cases more women were unemployed compared to man. (Meg C. Doherty et al. ,sept 2000)

.According to the research article "Drug injecting practice among adolescent in Pokhara sub-metropolitan city , Nepal. Injecting drug was found to be indulged by only males in the study. The main reason for using drugs are love tragedy (50%) and rest in equal percent for curiosity, study problems, family problems, the combination of more than one problem was recorded in the study. Majority of drug users were found in community institution (50%) followed by private (30%) and government 20% (School of Health and Allied Sciences, Niranjan Shrestha, 2012)

As a result of various literatures review risk factors can be various depending on country to country. From some studies risk factors for youth IDUs are youth who had been physically assaulted, who had been sexually assaulted, who had witnessed violence, or who had family members with alcohol or drug use problems had increased risk for current substance abuse. Many ethnographic studies show that most of the time initiations are due to peer groups. In reality usually its a member of

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his social group, relative or a sex partner who facilitate IDU initiation for the very first time (The New York Academy of Medicine, Meg C et al. , 2000)

A study the effect of family members and friends on substance related problems in young people the subject with father or mother with gambling habits was more likely to use drugs. Likewise, young people whose younger brother or other relatives used heroin tended to be arrested for drug related offences. This study puts light on the relation of cases with drug use behavior of close friends. Hence highlighting its root cause to be mainly the behavior of family and friends (Institute of Health Research, Chulalongkorn University, Chitlada Areesantichai, 2013)

From the cross-sectional study of pattern and the cause circle of offence related to addictive substance use in juvenile observation and protection centers the cause of occurrences in female juveniles was mainly derived from family whereas in male besides their family they themselves and their friends were the causes. The cause were mainly resulted from 3 of the main issues i.e personal problems, family problems and friends' problems. Personal problem comprises the curiosity to substance use, their roaming in entertainment places (bars/pubs), their quarrelling and fighting and robbery. Whereas, family problems i.e their broken homes, family members imprisonment, gambling, drug peddling and drug use including consumption of alcohol and friends problems i.e beginning from their friends' influence to try addictive substance (Drug Dependence Research Center, ChitladaAreesantichai, 2013)

In a study of prevalence and risk factors leading to HIV infection among a sample of street children and youth of Kathmandu recruited a sample of 251 street children and youth aged 11-16 and 17-24 years based on purposive sampling developed within each selected cluster, targeting 10 streets of Kathmandu using information gathered through FGD, consultations with group leaders of the street children to ensure an equal sampling probability across the 10 streets. The survey interviews were conducted in confidential settings by the field researchers using a questionnaire developed in the Nepali language. Data on the demographic, social, economic and living conditions of the street children and youth were collected by means of a structured KABP (Knowledge, Attitude, Behavior and Practices) survey questionnaire designed for this study.A blood sample was collected from all study subjects by trained phlebotomists and transported the same day to the laboratory facility of Intrepid Nepal Pvt., Ltd. For serological testing (November 2008-June 2009). Additional qualitative information was also gathered through FGDs conducted by trained field researchers. The survey questionnaire and FGD guides were developed and pretested for accuracy and effectiveness in anadjoining town, which was not part of the sampling area.The tools were approved as part of the overall proposal approval process by the Nepal Health Research Council(NHRC), the ethical regulatory body of Nepal thatinsures the protection of human subjects in research.Written and/or verbal consent was obtained from allparticipants prior to the survey interview

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and bloodsampling. Pre- and post-test counseling were done bytrained counselors. The serological test results were distributedto participants in a confidential setting at a VoluntaryTesting and Counseling Center (STI and AIDSCare and Treatment Services, Kathmandu, Nepal) whereparticipants were able to receive comprehensive HIVand STI related services, if desired (AIDS Research and Therapy, Karmacharya et al., 2012).

In a qualitative study of injecting drug users in Tehran, Iran a combination of five data gathering methods were employed , including secondary data gathering gathering,in-depth individual interview, district-based focusgroup discussions, ethnographic observations, and mappings.Regarding secondary data, the available documentsand data from relevant organizations (e.g., Tehran police,prisons department, legal medicine organization, drugcontrol organization, blood transfusion organization)were reviewed. In-depth interviews with key informantsfocused on the broader situation of each district in generaland IDU-related issues in specific within the district. Similarly,semi-structured and open-ended questionnaireswere used in the in-depth interviews with IDUs to gaugetheir own drug use patterns, trends, and risk behaviors. Tobetter understand the extent of drug use and risk behaviorsat each district and the attitudes of IDUs towardinjecting-based risk behaviors, related risk factors, andpotential interventions, focus group discussions were heldand co-moderated by fieldworkers from the WelfareOrganization and ex-addicts. All in-depth interviews andfocus groups were audio taped and transcribed in Farsi (licensee Bio Med Central Ltd, Razzaghi et al; 2006)

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CHAPTER III

RESEARCH METHODOLOGY

The aim of this study was to assess the pattern of substance use among the youth IDUs in 5 urban areas in Nepal.

3.1. Research Design:

The research design was cross sectional study and was carried out amongst the youth IDUs of 5 sites in Nepal.

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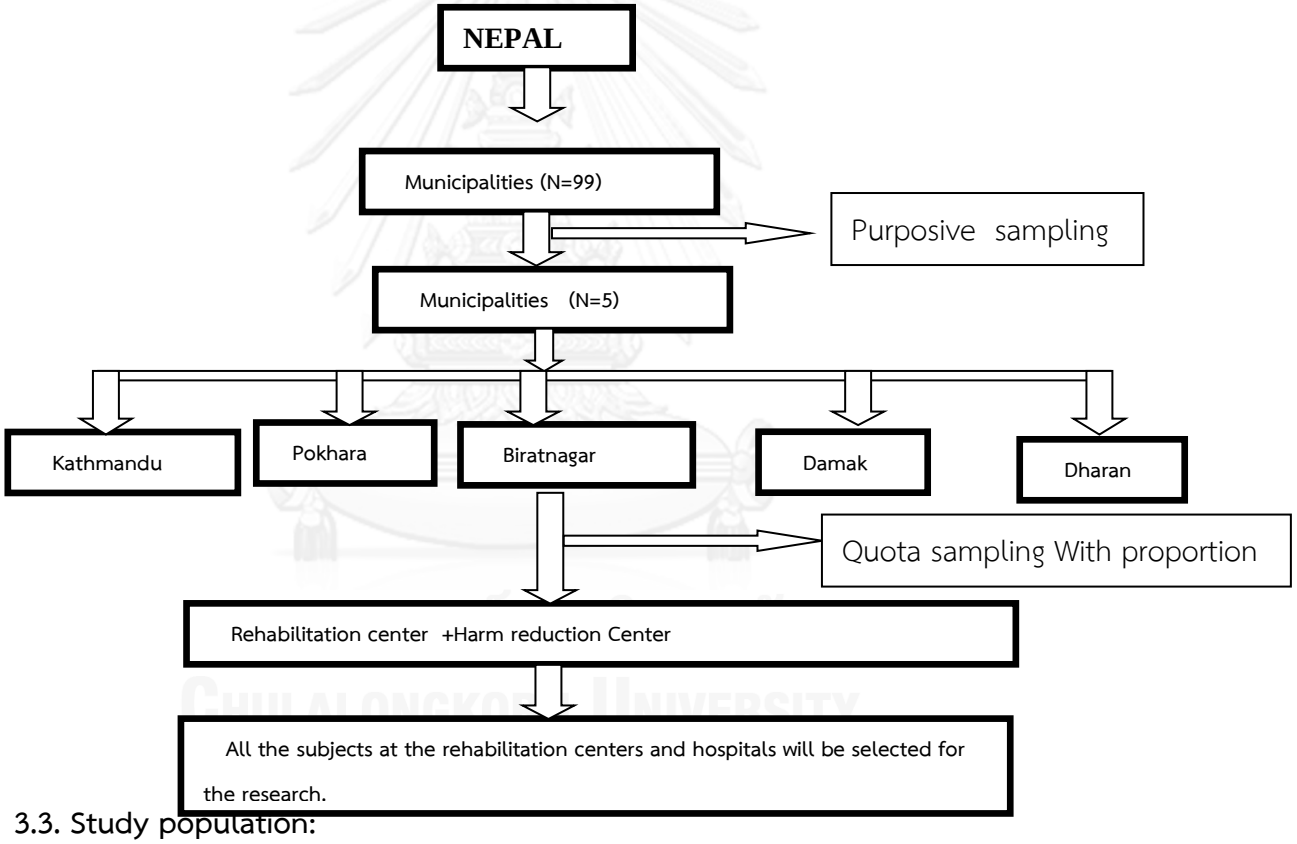
3.2. Study area:

The study was carried out from 5 municipalities out of 99 municipalities in Nepal which includes Kathmandu, Biratnagar, Pokhara, Dharan and Damak. Kathmandu lies in the Central region, Pokhara in the Western and Biratnagar, Dharan and Damak lies in the Eastern region. This study gave emphasis to these areas for being centralized

area for the youth and also these areas had easy access to drugs compared to rural area.



3.3. Study population:

The study population was youth IDUs from 5 sites of Nepal who were between 15 to 34 years of age.

3.4. Sampling technique:

Purposive sampling method was used for the sampling from the 15 rehabilitation center and hot spots present in the respective places. Total population of young IDUs were 19,800 in Nepal as provided by UNODC.

3.5. Sample size:

Krejcie Morgan formula was used to calculate the sample size.

$s=X^2\ NP(1-P)/d^2(N-1)+X^2P(1-P)$

$=3.8411^2*19800*.50(1-.50)/.05^2(19800-1) + 3.8411*.50(1-.50) = 377$

s=required sample size

X^2= the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N=the population size

P=the population proportion (assumed to be .50 since this would provide the maximum sample size)

d= the degree of accuracy expressed as a proportion (.05)

3.6. Data collection:

- Requested approval from the rehabilitation and harm reduction center.
- Translated questionnaire to Nepali language and back-translation to English
- Brief study and questionnaire during the orientation program

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- Selected subjects for interview according to the inclusion and exclusion criteria
- Interviewed the participants
- Re checked the questionnaire after interviewing each day
- Entered data to the computer on day by day basis

3.7 Instruments

The study was assessed through interview using semi structured questionnaire. Quantitative data was assessed through a structured questionnaire. The survey questionnaire was divided into following parts:

- Demographic characteristics such as age, gender, education
- Socio-cultural characteristics such as occupation, religion, marital status, living arrangement, peer pressure
- Pattern of substance use
- Environment
- Unsafe injecting drug use behavior

3.8. Reliability and Validity

Pre testing was carried out for the reliability of the questionnaire in different area with the same characteristics.

Validity of the questionnaire was done by three who is expert in this field.

The IOC (Index of Item Objective Congruence) score was **0.8**

3.9. Data analysis

Descriptive statistics, the frequency and percentage distribution was calculated for all variables (Socio demographic factors, Environment, Pattern of substance use, unsafe injecting drug use). Chi-square was used to test the association between dependent and independent variables.

3.10. Ethical consideration

The thesis was approved by the ethical committee of NHRC with the **Reg. no.25/2014. I**nformed consent from the participants prior to the interview was taken. Confidentiality of the respondents was maintained.All interviews was conducted in surroundings which could assure full privacy and confidentiality.

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CHAPTER IV

RESULTS

The objective of the study was to assess the pattern of substance use among the youth IDUs in urban Nepal.

There were a total of 377 IDUs who participated in this study. The study was carried out in 5 urban area in Nepal which were Kathmandu, Pokhara, Dharan, Damak and Biratnagar.

4.1 Socio demographic characteristics

Table 1 shows the frequency distribution of demographic information of all the participants with respect to center and gender.

Table 1 Socio-demographic characteristics

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
Age Group			
15-19	13(9.6)	26(13.6)	4(8)
20-24	55(40.4)	52(27.2)	18(36)
25-29	43(31.6)	73(38.2)	15(30)
30-34	25(18.4)	40(20.9)	13(26)
Total	136(100)	191(100)	50(100)
Place			
Damak	11(8.1)	48(25.1)	5(10)
Pokhara	26(19.1)	44(23)	7(14)
Kathmandu	42(30.9)	23(12)	10(20)
Dharan	40(29.4)	25(13.1)	16(32)
Biratnagar	17(12.5)	51(26.7)	12(24)
Total	136(100)	191(100)	50(100)

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Religion			
Hindu	101(74.3)	129(67.5)	35(70)
Buddhist	17(12.5)	41(21.5)	12(24)
Christian	14(10.3)	13(6.8)	3(6)
Muslim	4(2.9)	8(4.2)	0
Total	136(100)	191(100)	50(100)
Caste			
Brahmin	15(11)	19(9.9)	4(8)
Chettri	14(10.3)	29(15.2)	7(14)
Dalit	13(9.6)	5(2.6)	4(8)
Janjati	82(60.3)	105(55)	31(62)
Madeshe	12(8.8)	33(17.3)	4(8)
Total	136(100)	191(100)	50(100)
Education			
Illiterate	10(7.4)	11(5.8)	2(4)
Literate	126(92.6)	180(94.2)	48(96)
Primary	14(10.3)	34(17.8)	9(18)
Secondary	66(48.5)	101(52.9)	29(58)
Above	46(33.8)	45(23.6)	10(20)
Occupation			
Business	12(8.8)	34(17.8)	4(8)
Service	23(16.9)	24(12.6)	3(6)
Unemployed	69(50.7)	76(39.8)	30(60)
Agriculture	14(10.3)	24(12.6)	2(4)
Labour	18(13.2)	33(17.3)	11(22)
Total	136(100)	191(100)	50(100)
Monthly Income			
Minimum (around 80$)	50(36.76)	100(52.35)	19(38)
Medium (around 324.92$)	17(12.5)	3(1.57)	
Average (250$)		12(6.28)	1(2)
Type of Family			
Nuclear	74(54.4)	122(63.9)	21(42)
Joint	62(45.6)	69(36.1)	29(58)
Total	136(100)	191(100)	50(100)
Marital Status			
Single	94(69.1)	111(58.1)	25(50)
Married	38(27.9)	70(36.6)	21(42)
Divorced	4(2.9)	10(5.2)	4(8)
Total	136(100)	191(100)	50(100)

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Table 1 represents the socio demographic of respondents on the basic of centers and gender. As there were no female respondents in the rehabilitation center, hence they were not presented for the table of rehabilitation center. About 40.4%(n=55) of the total respondents (N=327) were male and 13.26%(n=50) were female. Of total male respondents (n=136) in rehabilitation center, majority of respondents were from age group 20 to 24. Majority of the male respondents from harm reduction center were from the age group 20-24 similarly from majority of female respondents from harm reduction center were from the age group 20 to 24.

Majority of the male respondents from rehabilitation center were from Kathmandu. Majority of the male respondents were from biratnagar in harm reduction center and majority of the female respondents were from dharan in harm reduction center. Majority of the male respondents in rehabilitation center followed Hindu religion (74.3%).

About 67.5% of the male respondents from harm reduction followed hindu religion similarly about 70% of the female from harm reduction followed hindu religion. . Majority of the caste among both the respondents were Janjatii.e 60.3% of male in rehabilitation center, 55% of male from harm reduction and 62% of female from harm reduction.

7.4% of the male respondents in rehab, 5.8% of the male in harm reduction and 4% of female in harm reduction were illiterate. The male respondents who were literate and were staying in rehab, majority of them (48.5%) had secondary level of education. Likewise 52.9% of male and 58% female from harm reduction had secondary level of education.

Half of the male respondents from rehabilitation center were unemployed. Likewise one third of the male respondents and more than half of the female respondents from harm reduction center were unemployed.

Majority of the male respondents from rehab belonged to nuclear family. Whereas majority of the male respondents and female respondents from harm reduction center belonged to nuclear and joint family respectively.

More than half of the male respondents (69.1%) from rehab were single. Likewise, more than half of the male respondents and half of the female respondents from harm reduction center were single.

4.2 Environment:

Table 2 represents the environmental characteristics of the respondents with respect to center and gender of the IDUs

4.2.1. Individual Factor

Table 2: Reason for starting drugs:

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
Peer group	32(23.5)	70(36.6)	9(18)
For Fun and enjoyment	32(23.5)	30(15.7)	7(14)
Curiosity	53(39)	63(33)	27(54)
To cope up with depression	17(12.5)	26(13.6)	6(12)
Easily availability of drugs	2(1.5)	2(1)	1(2)
Total	136(100)	191(100)	50(100)

Table 2 illustrate one third of the male respondents staying in rehab started drugs because of curiosity. Likewise one third of the male respondents and more than half

of the female respondents from harm reduction center started drugs because of peer groups and curiosity respectively.

Table 3: Spend free time with:

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
Father	3(2.2)	7(3.7)	0
Mother	4(2.9)	7(3.7)	2(4)
Siblings	14(10.3)	17(8.9)	3(6)
Friends	93(68.4)	133(69.6)	33(66)
Alone	17(12.5)	21(11)	5(10)
Spouse/girl/boy friend	5(3.7)	6(3.1)	7(14)
Total	136(100)	191(100)	50(100)

Table 3 shows more than half of the respondents from rehab and harm reduction center spend their free time with their friends. Whereas majority of the female respondents spend their free time their friends and none of them spend their free time with their father.

Table 4: Away from Home

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	50(36.8)	55(28.8)	34(68)
Yes	86(63.2)	136(71.2)	16(32)
Rent	5(3.7)	17(28.8)	3(68)
Relatives	13(9.6)	27(14.1)	0
Friend house	68(50)	89(46.6)	9(18)
Girl/Boy friend	0	3(1.6)	4(8)

Table 4 shows that majority of the male respondents from rehab and harm reduction stayed away from their home for more than a month whereas minority (32%) of the female respondents from harm reduction stayed out of home for more than a month.

4.2.2. Family factor:

Table 5: Partner involvement in substance use:

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	40(29.4)	72(37.7)	14(28)
Yes	2(1.5)	9(4.7)	11(22)

Table 5 illustrates that majority (29.4%) of the male respondent's partner staying in rehabilitation center were not involved in substance use. Whereas majority (37.7%) of male respondents and majority (28%) of female respondent's partner from harm reduction were not involved in substance use.

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Table 6: Parent's status:

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n (%)	Female n(%)
Father death	14(10.3)	19(9.9)	5(10)
Mother death	9(6.6)	5(2.6)	1(2)
Both death	14(10.3)	21(11)	4(8)
Both alive	99(72.8)	146(76.4)	40(80)
Living together	86(63.2)	128(67)	37(74)
Remarried	2(1.5)	4(2.1)	0
Divorced	11(8.1)	14(7.3)	3(6)

Table 6 shows that majority of the male respondents (72.8%, who were staying in rehabilitation center) both parents were alive and of those more than half (63.2%) were living together. Majority of the male respondents (76.4%) from harm reduction center) both parents were alive and of those more than half (67%) were living together likewise majority of the female respondents (80%, from harm reduction) both parents were alive and of those more than half (74%) were living together.

Table 7: Family support

Category	Rehabilitation	Harm reduction	
	Male	Male	Female
	n(%)	n (%)	n(%)
No	37(27.2)	48(25.1)	17(34)
Yes	99(72.8)	143(74.9)	33(66)
Total	136(100)	191(100)	50(100)

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Table 7 shows that majority (72.8%) of the male respondents staying in rehab were supported financially and emotionally by their family. Similarly majority of the male respondents (74.9%) and female respondents (66%) from harm reduction center were supported both financially and emotionally by their family.

Table 8: Family member involved in substance use

Category	Rehabilitation	Harm reduction

	Male n(%)	Male n(%)	Female n(%)
No	90(66.2)	107(56)	23(46)
Yes	46(33.8)	84(44)	27(54)
Total	136(100)	191(100)	50(100)

Table 8 illustrate that majority (66.2%) of the male respondents (staying in rehab) family member were not involved in substance use similarly majority (56%) of the male respondents (from harm reduction) family member were not involved in substance use. More than half of the female respondents (54%, from harm reduction) family members were involved in substance use.

Table 9: Conflict within family member

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	74(54.4)	104(54.5)	22(44)
Yes	62(45.6)	87(45.5)	28(56)
Total	136(100)	191(100)	50(100)

Table 9 shows that nearly half of the male respondents from both rehab (45.6%) and harm reduction (45.5%) had conflict within family member. Likewise more than half of the female respondents (56%) from harm reduction had conflict within family member.

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4.2.3. Peer Group:

TABLE 10: Forced by friend

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	106(77.9)	129(67.5)	32(64)
Yes	30(22.1)	62(32.5)	18(36)
Total	136(100)	191(100)	50(100)

Table 10 shows that one fifth of the male respondents (22.1%) staying in rehab was forced to drugs by their friends. One third of the male respondents (32.5%) from harm reduction were forced to drugs by their friends. Similarly one third of the female respondents (36%) from harm reduction center were forced to drugs by their friends.

Table 11: Belonged to gang

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	87(64)	125(65.4)	38(76)
Yes	49(36)	66(34.6)	12(24)
Total	136(100)	191(100)	50(100)

Table 11 shows that one third of the male respondents (36%) from rehab belonged to gang during their life time. One third of the male respondents (34.6%) from harm reduction center belonged to gang during their life time. One fourth of the female respondents (24%) from harm reduction belonged to gang during their life time.

4.2.4. Availability:

Table12: Offered drugs by others

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	61(44.9)	80(41.9)	26(52)
Yes	75(55.1)	111(58.1)	24(48)
Total	136(100)	191(100)	50(100)

Table 12 shows that More than half of the male respondents (55.1%) staying in rehabilitation center were offered drugs by others. More than half of the male respondents (58.1%) from harm reduction center were offered drugs by others.

Nearly half of the female respondents from harm reduction center were offered drugs by others.

Table 13: Offered/sold drugs to someone

Category	Rehabilitation	Harm reduction	
	Male	Male	Female
	n(%)	n(%)	n(%)
No	54(39.7)	94(49.2)	27(54)
Yes	82(60.3)	97(50.8)	23(46)
Total	136(100)	191(100)	50(100)

Table 13 shows that Majority of the male respondents (60.3%) from rehabilitation center offered/sold drugs to others. About half of the male respondents (50.8%) from harm reduction center offered/sold drugs to others. Likewise nearly half of the female respondents (46%) offered/sold drugs to others.

Table 14: Difficulty in getting drug

Category	Rehabilitation	Harm reduction	
	Male	Male	Female
	n(%)	n(%)	n(%)
No	68(50)	100(52.4)	13(26)
Yes	68(50)	91(47.6)	37(74)
Total	136(100)	191(100)	50(100)

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Table 14 shows that about half of the male respondents (50%, staying in rehab), nearly half of the male respondents (47.6%, from harm reduction) and more than half of the female respondents (74%, from harm reduction) had difficulty in drugs.

Table 15: Purchase drug

Category	Rehabilitation	Harm reduction

	Male n(%)	Male n(%)	Female n(%)
Friends			
No	67(49.3)	87(45.5)	19(38)
Yes	69(50.7)	104(54.5)	31(62)
Relatives			
No	95(69.9)	141(73.8)	40(80)
Yes	41(30.1)	50(26.2)	10(20)
From dealer			
No	51(37.5)	88(46.1)	28(56)
Yes	85(62.5)	103(53.9)	22(44)
Gf/bf			
No	123(90.4)	177(92.7)	21(42)
Yes	13(9.6)	14(7.3)	29(58)
Siblings			
No	122(89.7)	133(69.6)	41(82)
Yes	14(10.3)	58(30.4)	9(18)

Table 15 shows that more than half (62.5%) of the male respondents who stayed in rehabilitation center purchased drugs from the dealer. Majority of the male respondents (54.5%) and female respondents (62%) from harm reduction center purchased it from their friends.

Table 16: Difficulty in getting syringe

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	80(58.8)	140(73.3)	23(46)
Yes	56(41.2)	51(26.7)	27(54)
Total	136(100)	191(100)	50(100)

TABLE 16 shows that more than half of the male respondents from rehabilitation center (58.8%) and harm reduction center (73.3%) had no difficulties in getting drugs whereas slightly more than half of the female respondents from harm reduction center (54%) had difficulties in getting drugs.

4.2.5. Community/society:

Table 17: Community supportive

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	59(43.4)	101(52.9)	30(60)
Yes	77(56.6)	90(47.1)	20(40)
Total	136(100)	191(100)	50(100)

Table 17 shows that most (56.6%) of the male respondents from rehabilitation center belonged to supportive community. Whereas majority of the male respondents (52.9%) and female respondents (60%) from harm reduction center belonged to non-supportive community.

TABLE 18: Discrimination faced by community:

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	83(61)	98(51.3)	22(44)
Yes	53(39)	93(48.7)	28(56)
Total	136(100)	191(100)	50(100)

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Table 18 shows that one third of the male respondents from rehabilitation center (39%) responded to have been living in a discriminating community. Nearly half of the male respondents from harm reduction center (48.7%) responded to have been living in a discriminating community. More than half of the female respondents from harm reduction center (56%) responded to have been living in a discriminating community.

Table 19: Others involved in substance use

Category	Rehabilitation	Harm reduction	
	Male n(%)	Male n(%)	Female n(%)
No	45(33.1)	82(42.9)	28(56)
Yes	91(66.9)	109(57.1)	22(44)
Total	136(100)	191(100)	50(100)

Table 19 shows that majority of the male respondents from rehabilitation center (66.9%) and harm reduction center (57.1) belonged to a community where other substance users were also present. Whereas more than half of the female respondents (56%) belonged to a where other substance users were also present.

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4.3. Substance use

Table 20: Duration and first age at drug use

Category	Rehabilitation	Harm reduction	
	Male(m)	Male(m)	Female(f)

	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
≤ 1 year	4 (30.8)	2 (3.6)	1 (2.3)	0	2 (7.7)	0	0	0	0	0	0	0
2-4 years	6 (46.2)	11 (20)	3 (7)	3 (12)	18 (69.2)	18 (34.6)	3 (4.1)	3 (7.5)	2 (50)	6 (33.3)	1 (6.7)	0
5-7 years	3 (23.1)	25 (45.5)	13 (30.2)	3 (12)	5 (19.2)	21 (40.4)	17 (23.3)	0	2 (50)	10 (55.6)	4 (26.7)	1 (7.7)
8-10 years	0	15 (27.3)	17 (39.5)	3 (12)	1 (3.8)	13 (25)	38 (52.1)	6 (15)	0	1 (5.6)	7 (46.7)	0
≥11 years	0	2 (3.6)	9 (20.9)	16 (64)	0	0	15 (20.5)	31 (77.5)	0	1 (5.6)	3 (20)	12 (92.3)
Total (N)	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)
10-14	5 (38.5)	18 (32.7)	5 (11.6)	5 (20)	14 (53.8)	19 (36.5)	4 (5.5)	12 (30)	3 (75)	3 (16.7)	0	3 (23.1)
15-19	8 (61.5)	36 (65.5)	30 (69.8)	10 (40)	12 (46.2)	33 (63.5)	62 (84.9)	25 (62.5)	1 (25)	15 (83.3)	13 (86.7)	9 (69.2)
20-24	0	1 (1.8)	7 (16.3)	8 (32)	0	0	7 (9.6)	2 (5)	0	0	2 (13.3)	1 (7.7)
25-29	0	0	1 (2.3)	2 (8)	0	0	0	1 (2.5)	0	0	0	0
Total (N)	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)

Table 20 shows that majority of the respondents from rehabilitation center (male=64%) and harm reduction center (male=77.5, female=92.3%) who had been using drugs since 11 years or more were from the age group 30-34. Majority of the respondents from rehabilitation center (male=69.8%) and harm reduction center (male=84.9%, female=86.7%) with age range 25-29 started drugs at the age range 15 to 19.

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TABLE 21: Duration and first age at injection use

Categ	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
	9 (69.2)	12 (21.8)	7 (16.3)	0	16 (61.5)	7 (13.5)	3 (4.1)	1 (2.5)	2 (50)	5 (27.8)	0	0
	3 (23.1)	20 (36.4)	8 (18.6)	4 (16)	10 (38.5)	21 (40.4)	17 (23.3)	5 (12.5)	2 (50)	12 (66.7)	6 (40)	0
	1 (7.7)	14 (25.5)	18 (41.9)	6 (24)	0	18 (34.6)	26 (35.6)	5 (12.5)	0	1 (5.6)	6 (40)	2 (15.4)
	0	9 (16.4)	6 (14)	11 (44)	0	3 (5.8)	21 (28.8)	17 (42.5)	0	0	2 (13.3)	5 (38.5)
	0	0	4 (9.3)	4 (16)	0	3 (5.8)	6 (8.2)	12 (30)	0	0	0	6 (46.2)
	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)
10-14	13 (100)	37 (67.3)	10 (23.3)	4 (16)	26 (100)	34 (65.4)	29 (39.7)	14 (35)	4 (100)	8 (44.4)	5 (33.3)	5 (38.5)
15-19	0	18 (32.7)	29 (67.4)	12 (48)	0	18 (34.6)	40 (54.8)	19 (47.5)	0	10 (55.6)	10 (66.7)	7 (53.8)
20-24	0	0	4 (9.3)	9 (36)	0	0	4 (5.5)	7 (17.5)	0	0	0	1 (7.7)
25-29	0	0	0	0	0	0	0	0	0	0	0	0
Total (N)	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)

Table 21 shows majority of the male respondents from rehabilitation center aged 20-24 years had injected for 2-4 years. Majority of the male respondents from harm reduction center aged 25-29 years had injected for 5-7 years. Whereas majority of the female from harm reduction aged 20-24 years had injected for 2-4 years.

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Table 22: Frequency of drug use

Category	Rehabilitation				Harm reduction							
Freq of	Male				Male				Female			
Drg use	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
Once a week	2 (15.4)	1 (1.8)	0	0	0	1 (1.9)	0	2 (5)	0	0	0	0
2-3 times a week	0	2 (3.6)	2 (4.7)	0	1 (3.8)	3 (5.8)	0	2 (5)	2 (50)	0	2 (13.3)	0
4-6 times a week	1 (7.7)	2 (3.6)	0	0	0	0	0	0	2 (50)	6 (33.3)	4 (26.7)	8 (61.5)
Once a day	2 (15.4)	4 (7.3)	2 (4.7)	1 (4)	6 (23.1)	2 (3.8)	7 (9.6)	1 (2.5)	0	0	0	2 (15.4)
2-3 times a day	6 (46.2)	31 (56.4)	30 (69.8)	15 (60)	18 (69.2)	36 (69.2)	55 (75.3)	21 (52.5)	0	11 (61.1)	8 (53.3)	2 (15.4)
4/more times day	2 (15.4)	15 (27.3)	9 (20.9)	9 (36)	1 (3.8)	10 (19.2)	11 (15.1)	14 (35)	0	1 (5.6)	1 (6.7)	1 (7.7)
Total (N)	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)

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Table 22 shows majority of the male respondents from both the centers injected 2 to 3 times a day. Whereas half of the female respondents aged 15-19 injected 2-3 times a week and half of the respondents injected 4-6 times a week. More than half of the female respondents with age group 20-24 and 25-29 injected 2-3 times a day. Likewise majority of the female respondents aged 30-34 injected 4-6 times a week.

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Table 23 Types of drugs

Caste	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34

Tidigesic												
No	12	53	33	16	25	47	58	31	4	16	12	10
	(92.3)	(96.4)	(76.7)	(64)	(96.2)	(90.4)	(79.5)	(77.5)	(100)	(88.9)	(80)	(76.9)
Yes	1	2	10	9	1	5	15	9	0	2	3	3
	(7.7)	(3.6)	(23.3)	(36)	(3.8)	(9.6)	(20.5)	(22.5)		(11.1)	(20)	(23.1)
Brown												
No	11	49	29	14	25	47	60	28	4	18	14	12
	(84.6)	(89.1)	(67.4)	(56)	(96.2)	(90.4)	(82.2)	(70)	(100)	(100)	(93.3)	(92.3)
Yes	2	6	14	11	1	5	13	12	0	0	1	1
	(15.4)	(10.9)	(32.6)	(44)	(3.8)	(9.6)	(17.8)	(30)			(6.7)	(7.7)
Nitrosun												
No	12	53	39	24	26	51	70	37	4	18	14	13
	(92.3)	(96.4)	(90.7)	(96)	(100)	(98.1)	(95.9)	(92.5)	(100)	(100)	(93.3)	(100)
Yes	1	2	4	1	0	1	3	3	0	0	1	0
	(7.7)	(3.6)	(9.3)	(4)		(1.9)	(4.1)	(7.5)			(6.7)	
Phensydyl												
No	12	54	39	21	26	51	67	37	4	18	15	13
	(92.3)	(98.2)	(90.7)	(84)	(100)	(98.1)	(91.8)	(92.5)	(100)	(100)	(100)	(100)
Yes	1	1	4	4	0	1	6	3	0	0	0	0
	(7.7)	(1.8)	(9.3)	(16)		(1.9)	(8.2)	(7.5)				
Diazepam												
No	0	0	0	0	0	0	0	0	0	1	1	0
										(5.6)	(6.7)	
Yes	3	55	43	25	26	52	73	40	4	17	14	13
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(94.4)	(93.3)	(100)
Phenergan												
No	4	14	11	9	12	25	30	17	1	13	10	7
	(30.8)	(25.5)	(25.6)	(36)	(46.2)	(48.1)	(41.1)	(42.5)	(25)	(72.2)	(66.7)	(53.8)
Yes	9	41	32	16	14	27	43	23	3	5	5	6
	(69.2)	(74.5)	(74.4)	(64)	(53.8)	(51.9)	(58.9)	(57.5)	(75)	(27.8)	(33.3)	(46.2)
Avil												
No	7	12	21	9	9	17	37	16	2	5	5	4
	(53.8)	(21.8)	(48.8)	(36)	(34.6)	(32.7)	(50.7)	(40)	(50)	(27.8)	(33.3)	(30.8)
Yes	6	43	22	16	17	35	36	24	2	13	10	9
	(46.2)	(78.2)	(51.2)	(64)	(65.4)	(67.3)	(49.3)	(60)	(50)	(72.2)	(66.7)	(69.2)
Lupregesic												
No	11	47	38	20	26	49	61	36	3	16	14	12
	(84.6)	(85.5)	(88.4)	(80)	(100)	(94.2)	(83.6)	(90)	(75)	(88.9)	(93.3)	(92.3)
Yes	2	8	5	5	0	3	12	4	1	2	1	1
	(15.4)	(14.5)	(11.6)	(20)		(5.8)	(16.4)	(10)	(25)	(11.1)	(6.7)	(7.7)
Norphin												
No	7	10	11	6	2	12	18	10	1	0	4	4

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	(53.8)	(18.2)	(25.6)	(24)	(7.7)	(23.1)	(24.7)	(25)	(25)		(26.7)	(30.8)
Yes	6	45	32	19	24	40	55	30	3	18	11	9
	(46.2)	(81.8)	(74.4)	(76)	(92.3)	(76.9)	(75.3)	(75)	(75)	(100)	(73.3)	(69.2)
Stargon												
No	11	42	35	21	26	49	70	39	4	18	14	12
	(84.6)	(76.4)	(81.4)	(84)	(100)	(94.2)	(95.9)	(97.5)	(100)	(100)	(93.3)	(92.3)
Yes	2	13	8	4	0	3	3	1	0	0	1	1
	(15.4)	(23.6)	(18.6)	(16)		(5.8)	(4.1)	(2.5)			(6.7)	(7.7)
Fortwin												
No	10	45	32	17	24	43	57	30	4	15	12	9
	(76.9)	(81.8)	(74.4)	(68)	(92.3)	(82.7)	(78.1)	(75)	(100)	(83.3)	(80)	(69.2)
Yes	3	10	11	8	2	9	16	10	0	3	3	4
	(23.1)	(18.2)	(25.6)	(32)	(7.7)	(17.3)	(21.9)	(25)		(16.7)	(20)	(30.8)
Norgesic												
No	11	51	40	22	24	47	61	37	4	15	14	12
	(84.6)	(92.7)	(93)	(88)	(92.3)	(90.4)	(83.6)	(92.5)	(100)	(83.3)	(93.3)	(92.3)
Yes	2	4	3	3	2	5	12	3	0	3	1	1
	(15.4)	(7.3)	(7)	(12)	(7.7)	(9.6)	(16.4)	(7.5)		(16.7)	(6.7)	(7.7)
Bruphenorph												
No	13	55	41	24	25	49	72	39	3	18	15	13
	(100)	(100)	(95.3)	(96)	(96.2)	(94.2)	(98.6)	(97.5)	(75)	(100)	(100)	(100)
Yes	0	0	2	1	1	3	1	1	1	0	0	0
			(4.7)	(4)	(3.8)	(5.8)	(1.4)	(2.5)	(25)			

Table 23 shows diazepam was the most commonly used chemical by both the male and female respondents. Also most commonly injected mixture with diazepam was phenergan and avil. Majority of the respondents aged 30-34 had injected tidigesic and brown sugar in their life time.

Table 24: Switch from one drug to another

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34

No	7 (53.8)	36 (65.5)	18 (41.9)	12 (48)	25 (96.2)	42 (80.8)	51 (69.9)	25 (62.5)	4 (100)	16 (88.9)	12 (80)	9 (69.2)
Yes	6 (46.2)	19 (34.5)	25 (58.1)	13 (52)	1 (3.8)	10 (19.2)	22 (30.1)	15 (37.5)	0	2 (11.1)	3 (20)	4 (30.8)
Total (N)	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)

Table 24 shows more than half of the male respondents (65.5) from rehabilitation center with age group 20-24 did not switch from one drug to another. More than half of the male respondents (69.9) from harm reduction center aged 25-29 did not switch from one drug to another. Whereas majority of the female respondents (88.9) from harm reduction center with age group 20-24 did not switch from one drug to another.

Table 25: Setting

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
Inject alone	1 (7.7)	4 (7.3)	6 (14)	6 (24)	6 (23.1)	3 (5.8)	14 (19.2)	6 (15)	0	3 (16.7)	1 (6.7)	3 (23.1)
Inject in group	8 (61.5)	32 (58.2)	25 (58.1)	13 (52)	17 (65.4)	45 (86.5)	44 (60.3)	27 (67.5)	3 (75)	13 (72.2)	12 (80)	9 (69.2)
Both	4 (30.8)	19 (34.5)	12 (27.9)	6 (24)	3 (11.5)	4 (7.7)	15 (20.5)	7 (17.5)	1 (25)	2 (11.1)	2 (13.3)	1 (7.7)
Total (N)	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)
If inject in group												
2-5	11 (84.6)	42 (76.4)	27 (62.8)	16 (64)	16 (61.5)	36 (69.2)	49 (67.1)	31 (77.5)	0	11 (61.1)	9 (60)	10 (76.9)

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6-9	0	8 (14.5)	10 (23.3)	2 (8)	3 (11.5)	10 (19.2)	9 (12.3)	3 (7.5)	4 (100)	4 (22.2)	5 (33.3)	0
10-13	1 (7.7)	1 (1.8)	0	1 (4)	1 (3.8)	3 (5.8)	1 (1.4)	0	0	0	0	0

Table 25 shows majority of the male respondents in rehabilitation center inject in a group and majority of them were from age group 20 to 24. Of those who inject in a group almost all of them had 2 to 5 persons in a group. Similarly majority of the male respondents in harm reduction center inject in a group and majority of them were from age group 20 to 24. Of those who inject in a group more than half of them had 2 to 5 persons in a group. Likewise, majority of the female respondents in harm reduction center inject in a group and majority of them were from age group 20-24. Of those who inject in a group majority of them had 2 to 5 persons in a group.

Table 26: Sharing from and to others

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
Every time	0	9 (16.4)	3 (7)	3 (12)	2 (7.7)	8 (15.4)	10 (13.7)	6 (15)	1 (25)	3 (16.7)	6 (40)	7 (53.8)
Almost every times	2 (15.4)	6 (10.9)	6 (14)	1 (4)	6 (23.1)	11 (21.2)	10 (13.7)	2 (5)	3 (75)	7 (38.9)	2 (13.3)	1 (7.7)
Some times												
Never used	3 (23.1)	24 (43.6)	18 (41.9)	7 (28)	7 (26.9)	21 (40.4)	27 (37)	12 (30)	0	5 (27.8)	5 (33.3)	2 (15.4)
	7 (53.8)	12 (21.8)	10 (23.3)	8 (32)	5 (19.2)	9 (17.3)	12 (16.4)	14 (35)	0	0	1 (6.7)	0

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Every time	1 (7.7)	13 (23.6)	12 (27.9)	3 (12)	5 (19.2)	13 (25)	16 (21.9)	4 (10)	1 (25)	11 (61.1)	9 (60)	8 (61.5)
Almost every times	1 (7.7)	4 (7.3)	1 (2.3)	2 (8)	2 (7.7)	3 (5.8)	7 (9.6)	7 (17.5)	0	0	0	0
Some times												
Never	5 (38.5)	23 (41.8)	14 (32.6)	7 (28)	8 (30.8)	26 (50)	27 (37)	14 (35)	3 (75)	3 (16.7)	4 (26.7)	1 (7.7)
	5 (38.5)	11 (20)	10 (23.3)	7 (28)	5 (19.2)	7 (13.5)	9 (12.3)	9 (22.5)	0	1 (5.6)	1 (6.7)	1 (7.7)

Table 26 shows majority of the male respondents in rehabilitation center inject with used syringe by others sometimes and majority of them were from age 20 to 24 and also majority of those respondents shared their syringe after use to others sometimes. Majority of the male respondents in harm reduction center inject with used syringe by others sometimes and most of them were from age group 25 to 29 and also majority of those respondents shared their syringe after use to others sometimes. Whereas majority of the female respondents in harm reduction center inject with used needle by others every time and most of them were from age group 30-34 and also majority of them shared their syringe after use to others every time.

Table 27: Front loading and back loading

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	**20-24**	**25-29**	**30-34**	**15-19**	**20-24**	**25-29**	**30-34**	**15-19**	**20-24**	**25-29**	**30-34**
Every time	0	1 (1.8)	0	0	0	0	1 (1.4)	0	0	0	0	
Almost every times	1 (7.7)	3 (5.5)	6 (14)	1 (4)	3 (11.5)	2 (3.8)	2 (2.7)	1 (2.5)	4 (100)	8 (44.4)	8 (53.3)	7 (53.8)
Some times												
Never	3	30	13	5	8	18	25	14	0	6	3	1

	(23.1)	(54.5)	(30.2)	(20)	(30.8)	(34.6)	(34.2)	(35)		(33.3)	(20)	(7.7)
	8 (61.5)	17 (30.9)	18 (41.9)	13 (52)	9 (34.6)	29 (55.8)	31 (42.5)	19 (47.5)	0	1 (5.6)	3 (20)	2 (15.4)

Table 27 shows that majority of the male respondents from both rehabilitation and harm reduction center practiced back loading and front loading sometimes and majority of them were from age group 20-24 and 25-29 respectively. Whereas majority of the female respondents from harm reduction center practiced back loading and front loading almost every time.

Table 28: Sharing common container

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
No	11 (84.6)	46 (83.6)	24 (55.8)	10 (40)	18 (69.2)	46 (88.5)	51 (69.9)	28 (70)	4 (100)	15 (83.3)	14 (93.3)	9 (69.2)
Yes	1 (7.7)	5 (9.1)	13 (30.2)	9 (36)	2 (7.7)	3 (5.8)	8 (11)	6 (15)	0	3 (16.7)	0	1 (7.7)

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Table 28 shows that majority of the male respondents from both rehabilitation center and harm reduction center did not share common container and majority of them who did not share were from age group 20-24 and 25-29 respectively. Similarly most of the female respondents did not share common container and majority of them who did not share were from age group 20 to 24.

Table 29: Drag from common container

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
Every time	0	0	2 (4.7)	2 (8)	0	1 (1.9)	2 (2.7)	1 (2.5)	0	0	0	0
Almost every times	0	2 (3.6)	2 (4.7)	4 (16)	0	0	1 (1.4)	1 (2.5)	0	0	0	0
Some times												
Never	1 (7.7)	3 (5.5)	8 (18.6)	2 (8)	1 (3.8)	2 (3.8)	4 (5.5)	4 (10)	0	0	1 (6.7)	1 (7.7)
	11 (84.6)	46 (83.6)	25 (58.1)	11 (44)	19 (73.1)	46 (88.5)	52 (71.2)	28 (70)	4 (100)	15 (83.3)	13 (86.7)	9 (69.2)

Table 29 shows that more than half of the male respondents from both rehabilitation center and harm reduction center never dragged solution from common container and majority of them who never dragged were from age group 20-24. Likewise most of the female respondents from harm reduction center never dragged solution from common container and majority of the respondents who never dragged were from the age group 20 to 24.

Table 30: Switch from sharing to non- sharing

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
No	5 (38.5)	32 (58.2)	23 (53.5)	7 (28)	8 (30.8)	37 (71.2)	42 (57.5)	18 (45)	2 (50)	12 (66.7)	8 (53.3)	8 (61.5)
Yes	7 (53.8)	19 (34.5)	14 (32.6)	12 (48)	12 (46.2)	12 (13.1)	17 (23.3)	16 (40)	2 (50)	3 (16.7)	6 (40)	2 (15.4)

Table 30 shows one third of the male respondents from both rehabilitation center and harm reduction center switched from sharing to non- sharing and majority of them were from age group 20-24 and 25-29 respectively. One third of the female respondents switch from sharing to non-sharing and majority of them were from age group 25- 29.

TABLE 31: Frequency of cleaning Syringe

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
Every time	3 (23.1)	15 (27.3)	8 (18.6)	4 (16)	6 (23.1)	10 (19.2)	15 (20.5)	7 (17.5)	1 (25)	3 (16.7)	1 (6.7)	1 (7.7)
Almost every times	0	15 (27.3)	8 (18.6)	6 (24)	4 (15.4)	8 (15.4)	11 (15.1)	8 (20)	1 (25)	2 (11.1)	2 (13.3)	2 (15.4)
Some times												
Never	5 (38.5)	11 (20)	12 (27.9)	8 (32)	6 (23.1)	16 (30.8)	20 (27.4)	13 (32.5)	2 (50)	4 (22.2)	6 (40)	4 (30.8)
Never reused	0	3 (5.5)	6 (14)	1 (4)	2 (7.7)	5 (9.6)	8 (11)	2 (5)	0	5 (27.8)	2 (13.3)	1 (7.7)
Total	5 (38.5)	11 (20)	9 (20.9)	6 (24)	8 (30.8)	13 (25)	19 (26)	10 (25)	0	4 (22.2)	4 (26.7)	5 (38.5)
	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)
Clean with												
Water	2 (15.4)	3 (5.5)	7 (16.3)	1 (4)	4 (15.4)	10 (19.2)	13 (17.8)	6 (15)	0	2 (11.1)	5 (33.3)	2 (15.4)
Urine	0	1 (1.8)	5 (11.6)	0	2 (7.7)	3 (5.8)	5 (6.8)	3 (7.5)	0	2 (11.1)	0	0
Saliva	4 (30.8)	5 (9.1)	2 (4.7)	0	4 (15.4)	9 (17.3)	4 (5.5)	4 (10)	1 (25)	1 (5.6)	1 (6.7)	1 (7.7)

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Boil												
	0	10 (18.2)	6 (14)	10 (40)	3 (11.5)	6 (11.5)	8 (11)	6 (15)	1 (25)	3 (16.7)	1 (6.7)	0
Alcohol pad												
	1 (7.7)	11 (20)	2 (4.7)	4 (16)	0	2 (3.8)	8 (11)	3 (7.5)	1 (25)	0	1 (6.7)	2 (15.4)
Burn												
	0	1 (1.8)	1 (2.3)	1 (4)	2 (7.7)	2 (3.8)	4 (5.5)	6 (15)	0	0	0	0
Distilled water												
	1 (7.7)	10 (18.2)	5 (11.6)	2 (8)	1 (3.8)	2 (3.8)	4 (5.5)	28 (70)	1 (25)	1 (5.6)	1 (6.7)	1 (7.7)

Table 31 shows majority of the male respondents from both the rehabilitation center and harm reduction center cleaned their syringe sometimes and majority of them were from age group 25 to 29. Also majority of the male respondents from rehabilitation center boiled their syringe before use and majority of the male respondents from harm reduction center used distilled water to clean the syringe. Majority of the female respondents from harm reduction center cleaned their syringe sometimes before use and majority of them clean it with water.

Table 32: Possible to obtain syringe

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	**20-24**	**25-29**	**30-34**	**15-19**	**20-24**	**25-29**	**30-34**	**15-19**	**20-24**	**25-29**	**30-34**
No	5 (38.5)	19 (34.5)	18 41.9)	8 (32)	16 (61.5)	27 (51.9)	32 (43.8)	18 (45)	4 (100)	18 (100)	13 (86.7)	12 (92.3)
Yes	8 (61.5)	36 (65.5)	25 (58.1)	17 (68)	10 (38.5)	25 (48.1)	41 (56.2)	22 (55)	0	0	2 (13.3)	1 (7.7)
Total	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)

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Table 32 shows majority of the male respondents from both rehabilitation center and harm reduction center did not face difficulty in obtaining the syringe and majority of them were from age group 20-24 and 25-29 respectively. Whereas majority of the female respondents from harm reduction center faced difficulty in obtaining syringe and majority of them were from age group 20-24.

Table 33: Peer educator gave syringe

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
No	7 (53.8)	18 (32.7)	13 (30.2)	13 (52)	16 (61.5)	26 (50)	31 (42.5)	15 (37.5)	2 (50)	11 (61.1)	9 (60)	9 (69.2)
Yes	6 (46.2)	37 (67.3)	30 (69.8)	12 (48)	10 (38.5)	26 (50)	42 (57.5)	25 (62.5)	2 (50)	7 (38.9)	6 (40)	4 (30.8)
Total	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)

Table 33 shows early half of the male respondents from both rehabilitation center and harm reduction center were given syringe by peer educator during their life whereas majority of the female respondents from harm reduction center were not given syringe from peer educator during their life.

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Table 34: Got treatment before

Category	Rehabilitation				Harm reduction							
	Male				Male				Female			
	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34	15-19	20-24	25-29	30-34
No	12 (92.3)	25 (45.5)	18 (41.9)	13 (52)	20 (76.9)	34 (65.4)	40 (54.8)	13 (32.5)	4 (100)	17 (94.4)	11 (73.3)	1 (7.7)
Yes	1 (7.7)	30 (54.5)	25 (58.1)	12 (48)	6 (23.1)	18 (34.6)	33 (45.2)	27 (67.5)	0	1 (5.6)	4 (26.7)	12 (92.3)

Total	13 (100)	55 (100)	43 (100)	25 (100)	26 (100)	52 (100)	73 (100)	40 (100)	4 (100)	18 (100)	15 (100)	13 (100)

Table 34 shows nearly half of the male respondents from both rehabilitation center and harm reduction center received treatment before and majority of the respondents who already received treatment before were from age group 20-24 and 30-34 respectively. Whereas majority of the female respondents from harm reduction center did not receive any treatment before and of those who did not receive treatment were from age group 20-24.

Table 35: Relationship between socio demographic characteristic and duration of drug use

	≤7years n(%)	**≥8 years n(%)**	**p-value**
Gender			
-Male	161(42.7)	166(44.0)	0.769
-Female	26(6.9)	24(6.4)	
Age			
15-24	135(35.8)	33(8.8)	
25-29	52(13.8)	157(41.6)	0.000**
Religion			
-Hindu	131(34.7)	134(35.5)	
-Buddhist	38(10.1)	32(8.5)	0.501
-others	18(4.8)	24(6.4)	
Caste			
-Brahmin	18(4.8)	20(5.3)	
-Chettri	26(6.9)	24(6.4)	
-Dalit	12(3.2)	10(2.7)	0.723
-Jan jati	111(29.4)	107(28.4)	
-Madeshe	20(5.3)	29(7.7)	
Education			
-illiterate	8(2.1)	15(4)	0.196
-literate	179(47.5)	175(46.4)	

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Level of education			
-Primary	37(10.5)	20(5.6)	
-Secondary	91(25.7	105(29.7)	
-Above	51(14.4)	50(14.1)	0.049*
Occupation			
-Business	20(5.3)	30(8)	
-Service	22(5.8)	28(7.4)	0.027*
-Unemployed	91(24.1)	84(22.3)	
-agriculture	28(7.4)	12(3.2)	
-labour	26(6.9)	36(9.5)	
Monthly income			
-minimum(around 80$)	61(35.5)	85(49.4)	
-maximum(≥250$)	11(6.4)	15(8.7)	0.960
Marital status			
-single	138(36.6)	92(24.4)	
-married or divorced	49(13)	98(26)	0.000**
Type of family			
-nuclear	106(28.1)	111(29.4)	0.755
-joint	81(21.5)	79(21)	

*P-value<0.05

** p-value<0.001

Table 35 shows that the respondent's gender was categorized into male and female. The gender was not found to be significant with duration of drug use (p>0.05). The respondent's age (16-34) has been categorized into 2 categories and was compared with the duration of drug use. The result showed significant difference between the two variables (p-value<0.001). The injecting drug users who injected for 7 years or less were from the age group 15-24 whereas who injected for 8 years or more were from the age group 25-34. Religion of the respondents was categorizes into Hindu, Buddhist and others. Majority of the respondents followed Hindu religion. There was no significant relationship between religion and duration of drug use. Caste of the respondents was categorized into Brahmin, Chettri, Dalit, Jan jati and Madeshe. There

was no significant difference (p-value>0.05) between caste and duration of drug use. Education was categorized into illiterate and literate. There was no significant difference (p-value>0.05) between education and duration of drug use. Majority of the respondents were literate. Level of education was categorized into primary, secondary and above. The result showed that there was significant difference (p-value<0.05) between level of education and duration of drug use. Majority of the respondents had secondary level of education. Occupation was categorized into business, service, unemployed, agriculture and labour. The result showed that there was significant difference between occupation (p-value<0.05) and duration of drug use. Majority of the respondents were unemployed. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was no significant difference between monthly income and duration of drug use. Marital status of the respondents were categorized into single and married or divorced. There was significant difference (p-value<0.05) between marital status and duration of drug use. Type of family was categorized into nuclear and joint. There was no significant difference between type of family and duration of drug use. Majority (28.1%) of the respondents who belonged to nuclear family used drug for 8 years or more and majority (21.5%) of them

Table 36: Relationship between environment and duration of drug use

	≤7years n(%)	≥8years n(%)	p-value
Anyone offered drugs			
-No	93(24.7)	74(19.6)	0.035*
-Yes	94(24.9)	116(30.8)	
Community Supportive			
-No	84(22.3)	106(28.1)	0.035*
-Yes	103(17.3)	84(22.3)	
Discrimination faced from community			
-No	112(29.7)	91(24.1)	0.023*
-Yes	75(19.9)	99(26.3)	

*p-value<0.05

**p-value<0.001

Table 36 shows that the relationship between anyone offered them drugs and duration of drug use was found to be significant (p-value<0.05). Majority (30.8%) of the respondents who were offered drugs from others were involved in drugs for 8 years or more. There was significant relationship (p-value<0.05) between community support and duration of drug use. Majority (28.1%) of the respondents who did not receive support from their community were involved in drugs since 8 years or more. There was significant relationship (p-value<0.05) between discrimination faced from the community and duration of drug use. Majority (26.3%) of the respondents who faced discrimination from their community were involved in drugs since 8 years or more.

Table 37: Socio demographic by duration of injection use

	≤2-4 years n(%)	5-7 years n(%)	8-10 years n(%)	≥11 years n(%)	p-value
Gender					
-male	143(37.9)	88(23.3)	67(17.8)	29(7.7)	0.214
-female	27(7.2)	9(2.4)	7(1.9)	7(1.9)	
Age					
15-24	119(31.6)	34(9)	12(3.2)	3(.8)	0.000**
25-34	51(13.5)	63(16.7)	62(16.4)	33(8.8)	
Religion					
-Hindu	116(30.8)	71(18.8)	51(13.5)	27(7.2)	
-Buddhist	34(9)	18(4.8)	13(3.4)	5(1.3)	0.921
-Christian	14(3.7)	7(1.9)	7(1.9)	2(.5)	
-Muslim	6(1.6)	1(.3)	3(.8)	2(.5)	
Caste					
-Brahmin	15(4)	15(4)	7(1.9)	1(.3)	
-Chettri	23(6.1)	9(2.4)	9(2.4)	9(2.4)	
-Dalit	12(3.2)	3(.8)	6(1.6)	1(.3)	0.142
-Jan jati	102(27.1)	59(15.6)	38(10.1)	19(5)	
-Madeshe	18(4.8)	11(2.9)	14(3.7)	6(1.6)	

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Education					
-illiterate	9(2.4)	4(1.1)	6(1.6)	4(1.1)	
-literate	161(42.7)	93(24.7)	68(18)	32(8.5)	0.399
Level of education					
-Primary	32(9)	11(3.1)	11(3.1)	3(.8)	
-Secondary	80(22.6)	53(15)	40(11.3)	23(6.5)	0.247
-Above	49(13.8)	29(8.2)	17(4.8)	6(1.7)	
Occupation					
-unemployed	86(22.8)	50(13.3)	27(7.2)	11(2.9)	0.032*
-employed	84(22.3)	47(12.5)	47(12.5)	25(6.6)	
Monthly income					
-minimum	56(32.6)	36(20.9)	37(21.5)	17(9.9)	0.883
-maximum	10(5.8)	8(4.7)	5(2.9)	3(1.7)	
Marital status					
-single	123(32.6)	63(16.7)	30(8)	14(3.7)	
-married	46(12.2)	29(7.7)	35(9.3)	19(5)	0.000*
-divorced	1(.3)	5(1.3)	9(2.4)	3(.8)	
Type of family					
-nuclear	93(24.7)	57(15.1)	44(11.7)	23(6.1)	
-joint	77(20.4)	40(10.6)	30(8)	13(3.4)	0.723

***p-value<0.05**

****p-value<0.001**

Table 37 shows that the respondent's gender was categorized into male and female. There was no significant difference (p-value>0.05) between gender and duration of injection use. The respondent's age (16-34) has been categorized into 2 categories and was compared with the duration of injection use. The result showed significant difference between the two variables (p-value<0.001). Majority of the respondents aged 15-24 injected for 4 years or less whereas majority of the respondents aged 25-34 injected for 5 to 7 years. Religion of the respondents was categorizes into Hindu, Buddhist, Christian and Muslim. Majority of the respondents followed Hindu religion. There was no significant relationship (p-value>0.05) between religion and duration of injection use. Caste of the respondents was categorized into Brahmin, Chettri, Dalit,

Jan jati and Madeshe. There was no significant difference (p-value>0.05) between caste and duration of injection use. Education was categorized into illiterate and literate. There was no significant difference (p-value<0.05) between education and duration of injection use. Majority of the respondents were literate and majority of those who were literate injected for 4 years or less.Level of education was categorized into primary, secondary and above. The result showed that there was no significant difference (p-value<0.05) between level of education and duration of injection use. Majority of the respondents had secondary level of education. Occupation was categorized into unemployed and employed. The result showed that there was significant difference between occupation (p-value>0.05) and duration of injection use. Majority of the respondents were unemployed. Majority of them who were employed injected for 4 years or less. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was no significant difference between monthly income and duration of injection use. Marital status of the respondents were categorized into single and married and divorced. There was significant difference (p-value>0.001) between marital status and duration of injection use. Type of family was categorized into nuclear and joint. There was no significant difference between (p-value>0.05) type of family and duration of injection use. Majority of the respondents (24.7%) who belonged to nuclear family injected for 4 years or less and similarly majority (20.4%) of them who belonged to joint injected for 4 years or less.

Table 38: Environment by duration of injection use

	≤2-4 years n(%)	5-7 years n(%)	8-10 years n(%)	≥11 years n(%)	p-value
Family member involved in substance use					
-No	90(23.9)	53(14.1)	48(12.7)	29(7.7)	0.011*
-yes	80(21.2)	44(11.7)	26(6.9)	7(1.9)	
Anyone offered drugs					

-No					
-Yes	85(22.5)	46(12.2)	24(6.4)	12(3.2)	0.035*
	85(22.5)	51(13.5)	50(13.3)	24(6.4)	
Support by community					
-No					
-Yes					
	78(20.7)	53(14.1)	47(12.5)	12(3.2)	0.010*
	92(24.4)	44(11.7)	44(11.7)	27(7.2)	

*p-value <0.05

Table 38 shows that there is significant relationship (p<0.05) between family involvement in substance use and duration of injection. The relationship between anyone offered them drugs and duration of injection was found to be significant (p-value<0.05). Majority of the respondents were offered drugs from others. There was significant relationship (p-value<0.05) between community support and duration of injection use.

Table 39: Relationship between socio demographic by age at first injection use

	15-19 n (%)	20-24 n(%)	25-29 n(%)	p-value
Gender				
-male	165(43.8)	135(35.8)	27(7.2)	0.118
-female	22(5.8)	27(7.2)	1(.3)	
Current age				
15-24	121(32.1)	45(11.9)	2(.5)	0.000**
25-34	66(17.5)	117(31)	26(6.9)	
Religion				
-Hindu	136(36.1)	1110(29.2)	19(5)	
-Buddhist	32(8.5)	34(9)	4(1.1)	0.380
-Christian	12(3.2)	13(3.4)	5(1.3)	
-Muslim	7(1.9)	5(1.3)	0	
Caste				
-Brahmin	21(5.6)	15(4)	2(.5)	
-Chettri	27(7.2)	20(5.3)	3(.8)	
-Dalit	10(2.7)	10(2.7)	2(.5)	0.983
-Jan jati	107(28.4)	95(25.2)	16(4.2)	
-Madeshe	24(6.4)	23(6.1)	2(.5)	

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Education				
-illiterate	13(3.4)	9(2.4)	1(.3)	0.784
-literate	176(46.7)	154(40.8)	24(6.4)	
Level of education				
-Primary	34(9.6)	18(5.1)	5(1.4)	
-Secondary	103(29.1)	84(23.7)	9(2.5)	0.033*
-Above	39(11)	52(14.7)	10(2.8)	
Occupation				
-unemployed	100(26.5)	72(19.1)	2(.5)	0.000**
-employed	89(23.6)	91(24.1)	23(6.1)	
Monthly income				
-minimum	66(38.4)	68(39.5)	12(7)	0.004*
-maximum	5(2.9)	14(8.1)	7(4.1)	
Marital status				
-single	128(34)	94(24.9)	8(2.1)	0.006*
-married	53(14.1)	60(15.9)	16(4.2)	
-divorced				
Type of family				
-nuclear	115(30.5)	91(24.1)	11(2.9)	
-joint	74(19.6)	72(19.1)	14(3.7)	0.233

* p-value <0.05

** p-value <0.001

Table 39 shows that the respondent's gender was categorized into male and female. There was no significant difference (p-value<0.05) between gender and age at first injection use. The respondent's age (16-34) has been categorized into 2 categories and was compared with the age at first injection use. The result showed significant difference between the two variables (p-value<0.001). Majority of the respondents aged 15-24 injected at the age of 15 to 24 whereas majority of the respondents aged 20-24 and 25 to 29 injected at the age of 25 to 34. Religion of the respondents was categorizes into Hindu, Buddhist, Christian and Muslim. Majority of the respondents followed Hindu religion. There was no significant relationship (p-value>0.05) between religion and age at first injection use. Caste of the respondents was categorized into

Brahmin, Chettri, Dalit, Jan jati and Madeshe. There was no significant difference (p-value>0.05) between caste and age at first injection use. Education was categorized into illiterate and literate. There was no significant difference (p-value>0.05) between education and duration of injection use. Majority of the respondents were illiterate and majority of those who were literate injected for 4 years or less.Level of education was categorized into primary, secondary and above. The result showed that there was significant difference (p-value<0.05) between level of education and age at injection use. Occupation was categorized into unemployed and employed. The result showed that there was significant difference between occupation (p-value<0.001) and age at first injection use. Majority of the respondents were unemployed. Majority of them who were employed injected at the age of 15 to 19. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was significant difference (p-value<0.05) between monthly income and age at first injection use. Marital status of the respondents were categorized into single and married and divorced. There was significant difference (p-value<0.05) between marital status and age at first injection use. Type of family was categorized into nuclear and joint. There was no significant difference between (p-value>0.05) type of family and age at first injection use. Majority of the respondents belonged to nuclear family.

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Table 40: Relationship between environment and age at first injection use

	15-19 n(%)	20-24 n(%)	25-29 n(%)	p-value
Been away from home				
-No	58(15.4)	70(18.6)	11(2.9)	0.04*
-Yes	131(34.7)	93(24.7)	14(3.7)	
Parental marital status				
-living together	113(39.6)	123(43.2)	15(5.3)	
-remarried	1(.4)	0	5(1.8)	0.000**
-divorced	21(7.4)	7(2.5)	0	
Sold drug to someone				

-No	73(19.4)	89(23.6)	13(3.4)	0.012*
-Yes	114(30.2)	73(19.4)	15(4)	

* p- value <0.05

** p- value <0.001

Table 40 shows that there is significant relationship (p-value<0.05) between been away from home and age at first injection. The relationship between parental marital status and age at first injection was found to be significant (p-value<0.001). The relationship between sold drugs and age at first injection was found to be significant (p-value<0.05). Majority of the respondents who sold drugs injected at the age of 15 to 19.

Table 41: Relationship between socio demographic and frequency of drug use

	Once a week n(%)	2 to 3 times a week n(%)	4 to 6 times a week n(%)	Once a day n(%)	2-3 times a day n(%)	4 or more times a day n(%)	p-value n(%)
Gender							
-male	6(1.6)	10(2.7)	3(.8)	25(6.6)	212(56.2)	71(18.8)	0.000**
-female	0	4(1.1)	18(4.8)	2(.5)	23(6.1)	3(.8)	
Age							
15-24	4(1.1)	8(2.1)	9(2.4)	14(3.7)	104(27.6)	29(7.7)	0.614
25-34	2(.5)	6(1.6)	12(3.2)	13(3.4)	131(34.7)	45(11.9)	
Religion							
-Hindu	5(1.3)	9(2.4)	17(4.5)	20(5.3)	162(43)	52(13.8	
-Buddhist	1(.3)	4(1.1)	2(.5)	5(1.3)	49(13)	9(2.4)	
							0.570
-Christian	0	0	2(.5)	1(.3)	16(11)	11(2.9)	
-Muslim	0	1(.3)	0	1(.3)	8(2.1)	2(.5)	
Caste							
-Brahmin	1(.3)	0	4(1.1)	3(.8)	24(6.4)	6(1.6)	
-Chettri	1(.3)	2(.5)	3(.8)	4(1.1)	26(6.9)	14(3.7)	0.917
-Dalit	0	1(.3)	1(.3)	1(.3)	16(4.2)	3(.8)	
-Jan jati	3(.8)	9(2.4)	10(2.7)	14(3.7)	136(36.1)	46(12.2)	
-Madeshe	1(.3)	2(.5)	3(.8)	5(1.3)	33(8.8)	5(1.3)	

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Education							
-illiterate	0	0	0	3(.8)	17(4.5)	3(.8)	
-literate	6(1.6)	14(3.7)	21(5.6)	24(6.4)	218(57.8)	71(18.8)	0.426
Level of education							
-Primary	2(.6)	5(1.4)	2(.6)	7(2)	33(9.3)	8(2.3)	0.020*
-Secondary	4(1.1)	8(2.3)	17(4.8)	11(3.1)	120(33.9)	36(10.2)	
-Above	0	1(.3)	2(.6)	6(1.7)	65(18.4)	27(7.6)	
Occupation							
-unemployed	2(.5)	7(1.9)	10(2.7)	10((2.7)	110(29.2)	35(9.3)	0.915
-employed	4(1.1)	7(1.9)	11(2.9)	17(4.5)	125(33.2)	39(10.3)	
Monthly income							
-minimum	2(1.2)	6(3.5)	10(5.8)	14(8.1)	86(50)	28(16.3)	0.716
-maximum	1(.6)	0	1(.6)	2(1.2)	15(8.7)	7(4.1)	
Marital status							
-single	4(1.1)	11(2.9)	9(2.4)	15(4)	144(38.2)	47(12.5)	
-married	2(.5)	3(.8)	10(2.7)	11(2.9)	82(21.8)	21(5.6)	0.519
-divorced	0	0	2(.5)	1(.3)	9(2.4)	6(1.6)	
Type of family							
-nuclear	3(.8)	10(2.7)	16(4.2)	13(3.4)	131(34.7)	44(11.7)	0.344
-joint	3(.8)	4(1.1)	5(1.3)	14(3.7)	104(27.6)	30(8)	

*p-value<0.05

*p-value<0.001

Table 41 shows that the respondent's gender was categorized into male and female. There was significant difference (p-value<0.001) between gender and frequency of injection use. The respondent's age (16-34) has been categorized into 2 categories and was compared with the age at first injection use. The result showed no significant difference between the two variables (p-value>0.05). Religion of the respondents was categorizes into Hindu, Buddhist, Christian and Muslim. Majority of the respondents followed Hindu religion. There was no significant relationship (p-value>0.05) between two variables. Caste of the respondents was categorized into Brahmin, Chettri, Dalit, Jan jati and Madeshe. There was no significant difference (p-value>0.05) between caste and frequency of injection use. Education was

categorized into illiterate and literate. There was no significant difference (p-value>0.05) between education and frequency of injection use. Level of education was categorized into primary, secondary and above. The result showed that there was significant difference (p-value<0.05) between level of education and frequency of injection use. Occupation was categorized into unemployed and employed. The result showed that there was no significant difference between occupation (p-value>0.05) and frequency of injection use. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was no significant difference (p-value>0.05) between monthly income and frequency of injection use. Marital status of the respondents were categorized into single and married and divorced. There was no significant difference (p-value>0.05) between marital status and frequency of injection use. Type of family was categorized into nuclear and joint. There was no significant difference between (p-value>0.05) type of family and age at frequency of injection use.

Table 42:. Relationship between environment and frequency of drug use

	Once a week n(%)	2-3 times a week n(%)	4-6 times a week n(%)	Once a day n(%)	2-3 times a day n(%)	4 or more times a day n(%)	p-value
Free time							
-father	0	0	0	4(1.1)	5(1.3)	1(.3)	
-mother	1(.3)	0	0	2(.5)	7(1.9)	3(.8)	
-siblings	0	0	1(.3)	2(.5)	24(6.4)	7(1.9)	0.04*
-Friends	4(1.1)	10	18(4.8)	17(4.5)	165(43.8)	45(11.9)	
-alone	1(.3)	2	1(.3)	1(.3)	23(6.1)	15(4)	
-spouse/Gf/Bf	0	2	1(.3)	1(.3)	11(2.9)	3(.8)	
Partner involved in substance use							
-No	2(1.4)	2(1.4)	7(4.7)	9(6.1)	81(54.7)	25(16.9)	0.057*
-Yes	0	1(.7)	5(3.4)	3(2)	11(7.4)	2(1.4)	
offered drug by others							
-No		2(.5)	3(.8)	7(1.9)	13(3.4)	120(31.8)	0.010*
-Yes		4(1.1)	11(2.9)	14(3.7)	14(3.7)	115(30.5)	
Sold drugs to others							

-No							
-Yes	1(.3)	7(1.9)	18(4.8)	8(2.1)	103(27.3)	38(10.1)	0.001*
	5(1.3)	7(1.9)	3(.8)	19(5)	132(35)	36(9.5)	
Discriminating community							
-No							
-Yes	6(1.6)	11(2.9)	7(1.9)	16(4.2)	131(34.7)	32(8.5)	0.006*
	0	3(.8)	14(3.7)	11(2.9)	104(27.6)	42(11.1)	

*p-value<0.05

**p-value <0.001

Table 42 shows that there is significant relationship (p-value<0.05)) between free time and age at frequency of injection. The relationship between parents involvement in substance use and frequency of injection was found to be significant (p-value>0.05). The relationship between offered drugs by others and frequency of injection was found to be significant (p-value<0.05). Majority of the respondents who were offered drugs by other injected 4 or more times a day. The relationship between sold drugs by others and frequency of injection was found to be significant (p-value<0.05). Majority of the respondents who sold drugs injected 2 to 3 times a day.

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Table 43:. Socio demographic by types of drug use

	≤ 6 drugs n(%)	≥7drugs n(%)	p-value
Gender			
-Male	241(63.9)	86(22.8)	0.001*
-Female	47(12.5)	3(.8)	
Age			
15-24	136(36.1)	32(8.5)	0.062

25-34	152(40.3)	57(15.1)	
Religion			
-Hindu	206(54.6)	59(15.6)	
-Buddhist	51(13.5)	19(5)	0.636
-others	31(8.2)	11(2.9)	
Caste			
-Brahmin	34(9)	4(1.1)	
-Chettri	38(10.1)	12(3.2)	
-Dalit	15(4)	7(1.9)	0.202
-Jan jati	161(42.7)	57(15.1)	
-Madeshe	40(10.6)	9(2.4)	
Education			
-illiterate	18(4.8)	5(1.3)	0.828
-literate	270(71.6)	84(22.3)	
Level of education			
-Primary			
-Secondary	46(13)	11(3.1)	0.691
-Above	148(41.8)	48(13.6)	
	76(21.5)	25(7.1)	
Occupation			
-unemployed			0.477
-employed	130(34.5)	44(11.7)	
	158(41.9)	45(11.9)	
Monthly income			
-minimum			0.689
-maximum	114(66.3)	32(18.6)	
	1(.6)	0	
Marital status			
-single			0.272
-married	179(47.5)	51(13.5)	
-divorced	98(26)	31(8.2)	
	11(2.9)	7(1.9)	
Type of family			
-nuclear			0.242
-joint	161(42.7)	56(14.9)	
	127(33.7)	33(8.8)	

***p-value<0.05**

****p-value<0.001**

Table 43 shows that the respondent's gender was categorized into male and female. There was significant difference (p-value<0.05) between gender and types of drugs used. The respondent's age (16-34) has been categorized into 2 categories and was compared with the types of drugs used. The result showed no significant difference

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between the two variables (p-value>0.05). Religion of the respondents was categorizes into Hindu, Buddhist and others. Majority of the respondents followed Hindu religion. There was no significant relationship (p-value<0.05) between two variables. Caste of the respondents was categorized into Brahmin, Chettri, Dalit, Jan jati and Madeshe. There was no significant difference (p-value<0.05) between caste and types of drugs used. Education was categorized into illiterate and literate. There was no significant difference (p-value>0.05) between education and types of drugs used. Level of education was categorized into primary, secondary and above. The result showed that there was no significant difference (p-value>0.05) between level of education and types of drugs used. Occupation was categorized into unemployed and employed. The result showed that there was no significant difference between occupation (p-value>0.05) and types of injection use. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was no significant difference (p-value>0.05) between monthly income and types of drugs used. Marital status of the respondents were categorized into single and married and divorced. There was no significant difference (p-value>0.05) between marital status and types of drugs used. Type of family was categorized into nuclear and joint. There was no significant difference between (p-value>0.05) type of family and types of drugs used.

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Table 44: Environment by types of drug use

	≤6 drugs n (%)	≥7drugs n (%)	p-value
Reason for starting drugs			
-peer group	92(24.4)	19(5)	0.042*
-for fun	49(13)	20(5.3)	
-curiosity	112(29.7)	31(8.2)	
-cope up with depression	33(8.8)	16(4.2)	
-easily availability of drugs	2(.5)	3(.8)	

Parent status			
-father expire	21(5.6)	17(4.5)	0.013*
-mother expire	11(2.9)	4(1.1)	
-both expire	31(8.2)	8(2.1)	
-both alive	225(59.7)	60(15.9)	
Parents marital status			
-living together	201(70.5)	50(17.5)	0.001*
-remarried	1(.4)	5(1.8)	
-divorced	23(8.1)	5(1.8)	
Belong to gang			0.021*
-no	200(53.1)	50(13.3)	
-yes	88(23.3)	39(10.3)	

*p-value<0.05

*p-value<0.001

Table 44 shows that there is significant relationship (p-value<0.05) between reason for starting drugs and types of drugs used. The relationship between parents status and types of drugs used was found to be significant (p-value<0.05). The relationship between parental marital status and types of drug used was found to be significant (p-value<0.05). The relationship between belonged to gang and types of drugs used was found to be significant (p-value<0.05).

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Table 45: Relationship between socio demographic and setting

	Inject alone n(%)	**Inject in group n(%)**	**p-value**
Gender			
-Male	46(12.2)	281(74.5)	0.990
-Female	7(1.9)	43(11.4)	
Age		151(40.1)	
15-24	17(4.5)	173(45.9)	0.049*
25-34			
Religion			
-Hindu	37(9.8)	228(60.5)	

-Buddhist	11(2.9)	59(15.6)	0.888
-Christian	3(.8)	27(7.2)	
-Muslim	2(.5)	10(2.7)	
Caste			
-Brahmin	4(1.1)	34(9)	
-Chettri	7(1.9)	43(11.4)	
-Dalit	1(.3)	21(5.6)	0.161
-Jan jati	29(7.7)	189(50.1)	
-Madeshe	12(3.2)	37(9.8)	
Education			
-illiterate	3(.8)	20(5.3)	0.885
-literate	50(13.3)	304(80.6)	
Level of education			
-Primary	11(3.1)	46(13)	
-Secondary	18(5.1)	178(50.3)	
-Above	21(5.9)	80(22.6)	0.012*
Occupation			
-unemployed	19(5)	155(41.1)	
-employed	34(9)	169(44.8)	0.105
Monthly income			
-minimum	23(13.4)	123(71.5)	
-maximum	7(4.1)	19(11)	0.167
Marital status			
-single	28(7.4)	202(53.6)	
-married	21(5.6)	108(28.6)	
-divorced	4(1.1)	14(3.7)	.334
Type of family			
-nuclear	30(8)	187(49.6)	0.879
-joint	23(6.1)	137(36.3)	

*p-value <0.05

*p-value<0.001

Table 45 shows that the respondent's gender was categorized into male and female. There was no significant difference (p-value>0.05) between gender and setting of injection. The respondent's age (16-34) has been categorized into 2 categories and was compared with setting of injection use. The result showed significant difference

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between the two variables (p-value>0.05). Religion of the respondents was categorizes into Hindu, Buddhist, Christian and Muslim. Majority of the respondents followed Hindu religion. There was no significant relationship (p-value>0.05) between two variables. Caste of the respondents was categorized into Brahmin, Chettri, Dalit, Jan jati and Madeshe. There was no significant difference (p-value>0.05) between caste and setting. Education was categorized into illiterate and literate. There was no significant difference (p-value>0.05) between education and setting. Level of education was categorized into primary, secondary and above. The result showed that there was significant difference (p-value<0.05) between level of education and setting.Occupation was categorized into unemployed and employed. The result showed that there was no significant difference between occupation (p-value>0.05) and setting. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was no significant difference (p-value>0.05) between monthly income and setting. Marital status of the respondents were categorized into single and married and divorced. There was no significant difference (p-value>0.05) between marital status and setting. Type of family was categorized into nuclear and joint. There was no significant difference between (p-value>0.05) type of family and setting of injection use.

Table 46: Relationship between environment and setting

	Inject alone n(%)	Inject in group n(%)	p-value
Free time			
-father	3(.8)	7(1.9)	
-mother	4(1.1)	9(2.4)	
-siblings	3(.8)	31(8.2)	0.034*
-friends	30(8)	229(60.7)	
-alone	11(2.9)	32(8.5)	
-spouse/gf/bf	2(.5)	16(4.2	
Belong to gang			
-No	42(11.1)	208(55.2)	
-Yes	11(2.9)	116(30.8)	0.032*

Anybody offered drug			
-No	33(8.8)	134(35.5)	
-Yes	20(5.3)	190(50.4)	0.005*
Community discriminating			
-No	20(5.3)	183(48.5)	
-Yes	33(8.8)	141(37.4)	0.011*

***p-value<0.05**

****p-value<0.001**

Spend free time with:

There is significant relationship (0.034) between free time and setting.

Table 46 shows that the relationship between belonged to gang and setting of injection use was found to be significant (p-value<0.05). The relationship between anybody offered drugs and setting was found to be significant (p-value<0.05). The relationship between faced discrimination from the community and setting of injection use was found to be significant (p-value<0.05).

Table 47: Relationship between socio demographic and sharing syringe used by others

	Every time n(%)	Almost every time n(%)	Sometime n(%)	Never used	p-value
Gender					
-Male	41(12.7)	44(13.6)	119(36.7)	77(23.8)	
-Female	17(5.2)	13(4)	12(3.7)	1(.3)	0.000**
Age					
-15-24	23(7.1)	35(10.8)	60(18.5)	33(10.2)	0.080
-25-34	35(10.8)	22(6.8)	71(21.9)	45(13.9)	
Religion					
-Hindu	36(11.1)	42(13)	94(29)	56(17.3)	
-Buddhist	10(3.1)	15(4.6)	23(7.1)	11(3.4)	0.020*
--others	12(3.7)	0	14(4.3)	11(3.4)	

Caste					
-Brahmin	7(2.2)	11(3.4)	10(3.1)	6(1.9)	
-Chettri	10(3.1)	12(3.7)	17(5.2)	4(1.2)	
-Dalit	9(2.8)	1(.3)	7(2.2)	4(1.2)	0.001*
-Jan jati	29(9)	28(8.6)	83(25.6)	49(15.1)	
-Madeshe	3(.9)	5(1.5)	14(4.3)	15(4.6)	
Education					
-illiterate	5(1.5)	1(.3)	9(2.8)	5(1.5)	0.451
-literate	53(16.4)	56(17.3)	122(37.7)	73(22.5)	
Level of education					
-Primary	8(2.6)	10(3.3)	17(5.6)	11(3.6)	
-Secondary	34(11.2)	35(11.5)	74(24.3)	35(11.5)	0.313
-Above	11(3.6)	11(3.6)	31(10.2)	27(8.9)	
Occupation					
-unemployed	32(9.9)	26(8)	59(18.2)	38(11.7)	
-employed	26(8)	31(9.6)	72(22.2)	40(12.3)	0.615
Monthly income					
-minimum	20(14.1)	21(14.8)	51(35.9)	31(21.8)	
-maximum	2(1.4)	1(.7)	9(6.3)	7(4.9)	0.424
Marital status					
-single	41(12.7)	39(12)	82(25.3)	40(12.3)	0.039*
-married	12(3.7)	17(5.2)	43(13.3)	36(11.1)	
-divorced	5(1.5)	1(.3)			
Type of family					
-nuclear	39(12)	35(10.8)	71(21.9)	42(13)	0.306
-joint	19(5.9)	22(6.8)	60(18.5)	36(11.1)	

*p-value<0.05

**p-value<0.001

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Table 47 shows that the respondent's gender was categorized into male and female. There was significant difference (p-value<0.05) between gender and sharing syringe used by others. The respondent's age (16-34) has been categorized into 2 categories and was compared with the types of drugs used. The result showed no significant difference between the two variables (p-value>0.05). Religion of the respondents was categorizes into Hindu, Buddhist and others. Majority of the respondents followed

Hindu religion. There was significant relationship (p-value<0.05) between two variables. Caste of the respondents was categorized into Brahmin, Chettri, Dalit, Jan jati and Madeshe. There was significant difference (p-value<0.05) between two variables. Education was categorized into illiterate and literate. There was no significant difference (p-value>0.05) between two variables. Level of education was categorized into primary, secondary and above. The result showed that there was no significant difference (p-value>0.05) between two variables. Occupation was categorized into unemployed and employed. The result showed that there was no significant difference between occupation (p-value>0.05) and injecting with used syringe. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was no significant difference (p-value>0.05) between monthly income and injecting with used syringe. Marital status of the respondents were categorized into single and married and divorced. There was significant difference (p-value<0.05) between marital status and injecting with used syringe. Type of family was categorized into nuclear and joint. There was no significant difference between (p-value<0.05) type of family and injecting with used syringe.

Table 48: Environment by sharing syringe used by others

	Every time n(%)	Almost every time n(%)	Sometime n(%)	Never used n(%)	p-value
Free time					
-father	0	3(.9)	2(.6)	2(.6)	
-mother	1(.3)	3(.9)	3(.9)	2(.6)	
-siblings	10(3.1)	14(4.3)	6(1.9)	1(.3)	0.000**
-friends	43(13.3)	27(8.3)	95(29.3)	64(19.8)	
-alone	3(.9)	6(1.9)	16(4.9)	7(2.2)	
-spouse/gf/bf	1(.3)	4(1.2)	9(2.8)	2(.6)	
Family support					
-no	20(6.2)	20(6.2)	38(11.7)	10(3.1)	
-yes	38(11.7)	37(11.4)	93(28.7)	68(21)	0.008*
Conflict within family					
-no	28(8.6)	22(6.8)	68(21)	50(15.4)	

-yes	30(9.3)	35(10.8)	63(19.4)	28(8.6)	0.029*
Sold drug to others					
-No	30(9.3)	31(9.6)	41(12.7)	46(14.2)	
-Yes	28(8.6)	26(8)	90(27.8)	32(9.9)	0.000**
Community member involved in substance use					
-No					
-Yes	31(9.6)	18(5.6)	45(13.9)	45(13.9)	0.001*
	27(8.3)	39(12)	86(26.5)	33(10.2)	

***p-value<0.05**

****p-value<0.001**

Table 48 shows that there is significant relationship (p-value<0.001) between two variables. Th relationship between two variables was found to be significant (p-value<0.05) The relationshi between two variables was found to be significant (p-value<0.05). The relationship between tw variables was found to be significant (p-value<0.05). The relationship between two variables wa found to be significant (p-value<0.05)

Table 49: Socio demographic Cleaning syringe

	Every time n(%)	Almost every time n(%)	Sometime n(%)	Never n(%)	Never used n(%)	p-value
Gender						
-Male	68(18)	60(15.9)	91(24.1)	27(7.2)	81(21.5)	
-Female	6(1.6)	7(1.9)	16(4.2)	8(2.1)	13(3.4)	0.261
Religion						
-Hindu	52(13.8)	54(14.3)	78(20.7)	20(5.3)	61(16.2)	
-Buddhist	15(4)	7(1.9)	19(5)	11(2.9)	18(4.8)	0.324
-Christian	5(1.3)	4(1.1)	9(2.4)	3(.8)	9(2.4)	
-Muslim	2(.5)	2(.5)	1(.3)	1(.3)	6(1.6)	
Caste						
-Brahmin	7(1.9)	10(2.7)	10(2.7)	1(.3)	10(2.7)	
-Chettri	10(2.7)	11(2.9)	16(4.2)	6(1.6)	7(1.9)	
-Dalit	3(.8)	4(1.1)	6(1.6)	1(.3)	8(2.1)	0.295
-Jan jati	48(12.7)	32(8.5)	64(17)	24(6.4)	50(13.3)	
-Madeshe	6(1.6)	10(2.7)	11(2.9)	3(8)	19(5)	

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Education						
-illiterate	5(1.3)	4(1.1)	7(1.9)	2(.5)	5(1.3)	0.995
-literate	69(18.3)	63(16.7)	100(26.5)	33(8.8)	89(23.6)	
Level of education						
-Primary	8(2.3)	8(2.3)	19(5.4)	5(1.4)	17(4.8)	
-Secondary	37(10.5)	35(9.9)	53(15)	20(5.6)	51(14.4)	0.313
-Above	24(6.8)	20(5.6)	28(7.9)	8(2.3)	21(5.9)	
Occupation						
-unemployed	38(10.1)	32(8.5)	52(13.8)	19(5)	33(8.8)	
-employed	36(9.5)	35(9.3)	55(14.6)	16(4.2)	61(16.2)	0.154
Monthly income						
-minimum	24(14)	21(12.2)	38(22.1)	14(8.1)	49(28.5)	0.030*
-maximum	2(1.2)	10(5.8)	8(4.7)	1(.6)	5(2.9)	
Marital status						
-single	53(14.1)	37(9.8)	61(16.2)	21(5.6)	58(15.4)	0.106
-married	19(5)	29(7.7)	38(10.1)	10(2.7)	33(8.8)	
-divorced	2(.5)	1(.3)	8(2.1)	4(1.1)	3(.8)	
Type of family						
-nuclear	40(10.6)	40(10.6)	53(14.1)	21(5.6)	63(16.7)	0.144
-joint	34(9)	27(7.2)	54(14.3)	14(3.7)	31(8.2)	

***p-value<0.05**

****p-value<0.001**

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Table 49 shows that the respondent's gender was categorized into male and female. There was no significant difference (p-value=0.261) between gender and cleaning syringe. Religion of the respondents was categorizes into Hindu, Buddhist and others. Majority of the respondents followed Hindu religion. There was no significant relationship (p-value>0.05) between two variables. Caste of the respondents was categorized into Brahmin, Chettri, Dalit, Jan jati and Madeshe. There was no significant difference (p-value>0.05) between caste and cleaning syringe. Education was categorized into illiterate and literate. There was no significant difference (p-

value>0.05) between education and cleaning syringe. Level of education was categorized into primary, secondary and above. The result showed that there was no significant difference (p-value>0.05) between level of education and cleaning syringe. Occupation was categorized into unemployed and employed. The result showed that there was no significant difference between occupation (p-value>0.05) and cleaning syringe. Monthly income was categorized into minimum (around 80$) and maximum (≥250$). There was significant difference (p-value<0.05) between monthly income and cleaning syringe. Marital status of the respondents were categorized into single and married and divorced. There was no significant difference (p-value<0.05) between marital status and cleaning syringe. Type of family was categorized into nuclear and joint. There was no significant difference between (p-value>0.05) type of family and cleaning syringe.

Table 50: Environment by cleaning syringe

	Every time n(%)	Almost every time n(%)	Sometime n(%)	Never n(%)	Never used n(%)	p-value
Been away from home						
-No	19(5)	20(5.3)	49(13)	13(3.4)	38(10.1)	0.048*
-Yes	55(14.6)	47(12.5)	58(15.4)	22(5.8)	56(14.9)	
Belong to gang						
-No	37(9.8)	43(11.4)	82(21.8)	23(6.1)	65(17.2)	0.006*
-Yes	37(9.8)	24(6.4)	25(6.6)	12(3.2)	29(7.7)	

*p-value<0.05

Table 50 shows that there is significant relationship (p-value<0.05) between reason been away from home for more than a month and cleaning syringe. The relationship

between belonged to gang and cleaning of syringe was found to be significant (p-value<0.05).

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CHAPTER V

DISCUSSION CONCLUSION AND RECOMMENDATION

This was a cross sectional study which was carried out among the youth IDUs in urban area Nepal with 377 participants. Majority of them were male (n=327) and minority were female (n=50). The objective of this study was to access the pattern of substance use among the youth injecting drug users in urban area Nepal.

The study also showed the relationship between socio demographic characteristic, environment with pattern of substance use and unsafe injecting behavior among the youth IDUs. Hence the outcome of this study will be helpful for the organization to evaluate their project and improve it.

In this study gender was categorized into two groups male and female. Majority of the IDUs were male. Gender had relationship with frequency of drug use, types of drug use and sharing syringe used by others. And also due to minority group the sharing of syringe were common among females. This was consistent with other study where majority of the users who shared the used syringe to inject themselves. Especially in the developing countries where female is at a disadvantage in terms of the power structure and may be unable to exercise her decision not to share injecting equipment and when injecting in a group, the women may be the last to use the needle or syringe. Use of previously used injecting equipment was more prevalent among female injecting drug user compared to male. – (profile, drug use pattern, risk behavior and selected bio behavior of women drug users from seven sites in Nepal, UNODC.

In this study, the age group was categorized into four groups where majority of the male respondents were from the age group 24-29 whereas majority of the female respondents were from the age group 20-24. Majority of the female

respondents were from Dharan (n=32%)) followed by Biratnagar (n=24%). This finding was consistent with the study done by UNODC where majority of the IDUs were from Sunsari followed by Morang. (Profile, drug use pattern, risk behavior and selected Bio-risk behavior of women IDUs from 7 sites in Nepal). And also age of the respondents had significant relationship with duration of drug use, duration of injection use, age at first injection use and setting which implies either in group or alone. Lesser the age more likely to inject in a group.

Religion in Nepal is categorized into Hindu, Buddhist, Christian and Muslim. Majority of the respondents followed Hindu religion. This was not consistent with other studies as this study was conducted in only 5 areas of Nepal so religion varies from place to place and was the same for caste which was categorized into 5 groups those were Brahmin, Chettri, Dalit, Jan jati and Madeshe. Though according to UNODC report 2011 majority of them were from ethnic minorities. Religion had significant relationship with sharing syringe used by others.

Education is one of the important factors. Majority of the male respondents (92.6%) in rehabilitation center were literate and amongst them nearly half of the respondents had attended secondary level of education and very few had attended primary level of education. Similarly majority of the male respondents (94.2%) from harm reduction center were literate and amongst them more than half of the respondents (52.9%) had attended secondary level of education and minority (17.8%) of them had attended primary level of education. Likewise majority of the female respondents (96%) from harm reduction center were literate and majority (58%) of them had attended secondary level of education and minority of them (18%) had attained primary level of education. As most of the IDUs were literate but dropout rate was high among them in secondary level. This was not consistent with the study on mapping and size estimation where majority of the respondents had

attended higher level education. (HSCB/ NCASC-2011). Level of education had significant association with duration of drug use, age at first injection use and frequency of injection use. Those with higher level of education had less likelihood of injecting frequently. As male are more likely to inject for longer duration and have high frequency of drug use compared to female due to the fact that female has little access to drugs they are supposed to depend on male to get drugs and also they are bounded with some boundaries (correlates of needle sharing among injecting drug users, Wallace Mandell, PHD)

Majority of the respondents from both the centers were unemployed and of those majority (16.9%) of the male respondents in rehabilitation center were engaged in service and minority in business. Also majority (17.8%) of the male respondents in harm reduction center were engaged in business and minority (12.6%) of them engaged in either service or agriculture. Whereas majority (22%) of the female respondents from harm reduction center who were employed were engaged in labour work whereas minority (4%) of them were engaged in agriculture. The unemployed were more likely to have pattern of high use. As they were more likely to have free time compared to those who were employed. And also according to other study done unemployment rated of the drug user were high compared with the general population (47.4% among drug clients compared with 8.2 % in the general population). Also finding job was difficult and was rare for drug users to keep a job for long or progress in a career. (National drug use survey Maldives-2011/2012, UNODC). Occupation had significant relationship with duration of drug use, duration of injection use and age at first injection use. Those who were unemployed were more likely to inject in their early age which is a bit faster than employed. As employed are engaged with their work and the unemployed had free time which leads them drugs through friend circle. (Socio demographic correlates of injection drug use among users, Neupane)

Type of family was categorized into 3 groups nuclear, joint and alone. More than half of the male respondents (54.4%) from harm reduction center belonged to nuclear family and 45.6% of them belonged to joint family. Majority of the male respondents from harm reduction center (63.9%) belonged to nuclear family whereas one third of them belonged to joint family. Whereas more than half of the female respondents belonged to joint family and 42% of them belonged to nuclear family. Type of family was not found to be significant. Marital status was categorized into 3 groups single, married and divorced. More than half (69.1%) of the male respondents from rehabilitation center were single and very few (2.9%) were divorced. Similarly majority of the male respondents (58.1%) in harm reduction center were single and few of them (5.2%) were divorced. Likewise half of the female respondents in harm reduction center were single, 42% of the female respondents were married and minority of them (8%) was divorced. Marital status was found to be significant with sharing syringe used by others, age at first injection use, duration of injection use and duration of drug use. There has been a major evolution of the structure of a family because of globalization. The evolution has effects both positive and negative on child's social behavior. Globalization has made even the women going out to work as opposed to the traditional woman whose responsibility was mainly home keeping and motherhood. This has made the nuclear family to have some changes which has effects on the child's social behavior. In nuclear family parents won't be able to give their full time to their children so they are more likely to adopt anti-social behavior. (Influence of nuclear family to development of antisocial behavior, Proomy, May 2013).

Majority (39%) of the male respondents from rehabilitation center started drugs due to curiosity. 23.5% due to peer group and for fun and enjoyment. Very few of them (1.5%) of them started drugs due to easily availability of drugs. More than

half (68.4%) of them spent their free time with their friends and very few spend their free time with their parents. More than half of them (63.2%) had been away from their home for a month or more and amongst them most of them stayed in their friend's house. Similarly majority of the male respondents (36.6%) from harm reduction center started drugs due to peer group, 33% of them to cope up with depression, 15.7% for fun and enjoyment and very few of them started due to easily availability of drugs. More than half (69.6%) of them spend their free time with their friends, 11% spend their free time alone and very few (spent their free time with their spouse or girl friend or boy friend. More than half of the respondents (71.2%) had been away from their home for a month or more and amongst them majority of the respondents stayed in their friend's house. Likewise majority (54%) of the female respondents from harm reduction center started drug due to curiosity, 18% due to peer group and very few (2%) due to easily availability of drugs. Majority of them (66%) spent their free time with their friends, 14% with their spouse or boy friend or girl friend, very few (4%) spent their free time with their mother and none of them spent their free time with their father. More than half (68%) of them did not stay away from their home for a month or more and amongst those who stayed away from home stayed in their friends home. Curiosity and thrill seeking were the main reasons for starting to inject whereas for others injection was just another way to get high. If initiation of injection is viewed simply as the next step in drug experimentation. According to the research article "Drug injecting practice among

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adolescent in Pokhara sub-metropolitan city, Nepal. Injecting drug was found to be indulged by only males in the study. The main reason for using drugs are love tragedy (50%) and rest in equal percent for curiosity, study problems, family problems, the combination of more than one problem was recorded in the study. (School of Health and Allied Sciences, Niranjan Shrestha, 2012). Individual factors had significant association with age at first injection use, frequency of injection use, type of drug use, setting of drug use, sharing syringe and cleaning syringe.

Majority (29.4%) of the male respondents from rehabilitation center who were married had partners involved in substance use. More than half (72.8%) of their parents were alive and amongst them 63.2% of their parents were living together and 8.1% were divorced. Majority (72.8%) of them received support from their family. One third of the male respondent's parents (33.8%, from rehabilitation center) were involved in substance use. Nearly half (45.6%) of them had conflict within their family member. Most (37.7%) of the male respondents from harm reduction center who were married had partners involved in substance use. More than half (76.4%) of the respondent's parents were alive and amongst them majority of them were living together. Majority (74.9%) of them did receive service from their family. Nearly half of the male respondent's parents (44%, from harm reduction center) were involved in substance use. Nearly half of them had conflict within their family member. Majority of female respondents from harm reduction center who were married nearly half (22%) had their partner involved in substance use. Majority (80%) of the female respondent's parents was alive and amongst them most of them (74%) was living together. Majority of the female (66%) did receive support from their family. More than half of the female respondent's parents were involved in substance use. More than half of them (56%) had conflict within their family member. From similar studies

an interesting finding was the high prevalence of familial drug use and IDU. Nearly half of the sample had parents who used illicit drugs, most of whom used these drugs on a weekly basis, and a quarter of the sample had parents who injected drugs. (Drug use, needle sharing, and HIV risk among injection drug-using street youth, Michele D. kipke et al) Also family factor had significant association with duration of injection use, age at first injection use, frequency of drug use, types of drugs and sharing needle.

One-fourth of the male respondents (22.1%) from rehabilitation center were forced to use drugs by their friends. More than half of the respondents (64%) did not belong to gang.. Similarly one third of the male respondents (32.5%) from harm reduction center were forced to use drugs by their friends. More than half (65.4%) did not belong to gang. Likewise one third of the respondents were forced to use drugs by their friends. More than half (76%) did not belong to gang. . From some studies factors for youth IDUs are youth who had family members with alcohol or drug use problems had increased risk for current substance abuse. Many ethnographic studies show that most of the time initiations are due to peer groups. In reality usually its a member of his social group, relative or a sex partner who facilitate IDU initiation for the very first time (The New York Academy of Medicine, Meg C et al. , 2000)Also peer group had significant association with types of drugs, injection setting and cleaning syringe.

Majority of the male respondents were offered drugs by others. Of those who were offered drugs majority (55.1%) of the male respondents from rehabilitation center were offered drugs by others and also more than half (60.3%) sold drugs to

others. Half of them faced difficulties in getting drugs and half did not face any difficulties in getting drugs. More than half (62.5%) of them purchase drugs directly from the dealer. Majority (58.8%) of the respondents did not face difficulties in getting syringe. More than half (58.1%) of the male respondents from harm reduction center were offered drugs by others. Whereas more than half (52%) were not offered drugs by others. And also half (50.8%) sold drugs to others. Majority of them did not face difficulties in getting drugs. Majority (54.5%) purchase drugs from their friends. Majority (73.3%) of the respondents did not face difficulties in getting syringe. Majority (52%) of the female respondents did not sell drugs to others and also more than more than half (54%) did not sell drugs to others. More than half (74%) of the female respondents faced difficulties in obtaining drugs. majority of the female purchased drugs from their friends. Majority of them did face difficulties in getting syringe. Another possible explanation for these results is that the environment is changing for young drug users. Drugs are easily accessible. (Gender differences in the initiation of injection use among young adults, Meg C et al.) Availability of drugs had significant relationship with duration of drug use, duration of injection use, age at first injection use, frequency of drug use, injecting setting and sharing syringe.

More than half (56.6%) of the male respondents from rehabilitation center responded to have supportive community and 43.4% did not have supportive community. Majority (56.6%) of the respondents from rehab respondent respond that they did not face any discrimination from their community and also they responded more than half of the community member were involved in substance use. Similarly majority of the male respondent's (from harm reduction) community was not supportive. Majority of them responded that they did not face discrimination from their community and also majority of respondents (57.1%) respond that their

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community members were involved in substance use. Likewise more than half of the female respondents did not receive support from their community. More than half of the female respondents also respond that they faced discrimination from the community and also nearly half of the female replied that there was no one in the community who were involved in substance use. As a result of various literatures review risk factors can be various depending on country to country. Many studies reviled that community has an influential role in drug use among the drug users as majority of the users have high pattern due to lack of community support. As relapse cases is high among the users and environmental factors might also be one of the factor contributing it. (Relative effectiveness of comprehensive community programming for drug abuse prevention with high risk and low risk adolescents, Johnson)Community/society had significant association with duration of drug use, duration of injection use, frequency of drug use, injection setting and sharing syringe.

Majority of the respondents from rehabilitation center (male=64%) and harm reduction center (male=77.5, female=92.3%) who had been using drugs since 11 years or more were from the age group 30-34. Majority of the respondents from rehabilitation center (male=69.8%) and harm reduction center (male=84.9%, female=86.7%) with age range 25-29 started drugs at the age range 15 to 19. Majority of the male respondents from rehabilitation center aged 20-24 years had injected for 2-4 years. Majority of the male respondents from harm reduction center aged 25-29 years had injected for 5-7 years. Whereas majority of the female from harm reduction aged 20-24 years had injected for 2-4 years. Age at first injection use- 15-19 years for majority of the respondents. (Both male and female). Being the most vulnerable age

for the youngsters as they are curious to try new experiment with their life. Similar study conducted on injecting drug users by UNODC, age at first injection use 15-19

Majority of the male respondents from both the centers injected 2 to 3 times a day. Whereas half of the female respondents aged 15-19 injected 2-3 times a week and half of the respondents injected 4-6 times a week. More than half of the female respondents with age group 20-24 and 25-29 injected 2-3 times a day. Likewise majority of the female respondents aged 30-34 injected 4-6 times a week. From various other studies it is also clear that the frequency of injection is comparatively higher in male compared to female as male had easy access to drugs and females are less likely to be open in the society due to fear of rejection from the society. Though female are most at risk due to the sharing practice despite frequency of injection. (Gender differences in sexual and injection risk behavior among active young injection users in San Francisco, MJL Evans, 2013)

Tidigesic, brown sugar and buprenorphine were the most commonly injected drugs in the past. Drugs injected were in combination and most commonly used chemical with all types of drugs was diazepam. Types of drugs used in 5 urban areas of Nepal were not consistent with the other studies as it varies from place to place and country to country. In this study diazepam was combined cost commonly with phenergan and avil which was commonly used by majority of the respondents. Heroin was the most common form of injecting drug; however amphetamines, buprenorphine, benzodiazepines, barbiturates, cocaine and methamphetamine was also in practice .Globally, 14 million people or more use cocaine and about one-quarter of the 1.6 million US adults were estimated to use cocaine (Gloria J Baciewicz, 2013).

More than half of the male respondents (65.5) from rehabilitation center with age group 20-24 did not switch from one drug to another. More than half of the male

respondents (69.9) from harm reduction center aged 25-29 did not switch from one drug to another. Whereas majority of the female respondents (88.9) from harm reduction center with age group 20-24 did not switch from one drug to another. Majority of the male respondents in rehabilitation center inject in a group and majority of them were from age group 20 to 24. Of those who inject in a group almost all of them had 2 to 5 persons in a group. Similarly majority of the male respondents in harm reduction center inject in a group and majority of them were from age group 20 to 24. Of those who inject in a group more than half of them had 2 to 5 persons in a group. Likewise, majority of the female respondents in harm reduction center inject in a group and majority of them were from age group 20-24. Of those who inject in a group majority of them had 2 to 5 persons in a group .According to this study: Majority of the respondents shared syringe used by others. A study carried out in Kathmandu among the IDUs reported that about half (51%) introduced drugs with previously used by another and out of them 106(70%) were involved in sharing needle with multiple persons which was mostly allied due to their intimacy with that person. There is an increase in mixing of the drugs and the number of times the drug is introduced (School of Health and Allied Sciences, Niranjan Shrestha, 2012).

Majority of the male respondents from both the rehabilitation center and harm reduction center cleaned their syringe sometimes and majority of them were from age group 25 to 29. Also majority of the male respondents from rehabilitation center boiled their syringe before use and majority of the male respondents from harm reduction center used distilled water to clean the syringe. Majority of the female respondents from harm reduction center cleaned their syringe sometimes before use and majority of them clean it with water. From other study there was not proper practice of cleaning the used needle as prescribed. This was consistent with this study. Most of the IDUs reported cleaning used needles/syringe with saliva (31.2%)

and distilled water (26.3%). Similarly about 17.4% and 9.8 % IDUs reported of cleaning needles by plain water and bleach respectively. (Behavioral and sero prevalence survey among IDUs in Eastern Nepal, New Era, Nov 2003)

LIMITATION OF THE STUDY

The study was conducted in the 5 sites of Nepal, so could not be generalized to the whole population.

CONCLUSION:

In conclusion we can say that majority of the IDUs in this study were male. This is because of the fact that drug users are stigmatized in many countries including Nepal and when women use drugs the stigma and subsequent social isolation is even more severe than when compared to male drug users. They are more likely to hide their status and do not easily come to an exposure. There was significant difference between gender and frequency of injection use. Frequency of injection use was higher among male than female because female are more likely to face difficulties in getting drugs and syringe or either she has to depend on male to buy drugs. Males are more likely to use more than 7 types of combination of drugs due to easily availability of drugs among male. There was significant relationship between gender and injecting with syringe already used by others. Females were more likely to inject with used syringe or needle as because female is at a disadvantage in terms of the power structure and may be able to exercise her decision not to share injecting equipment and when injecting in a group women may be the last to use the needle or syringe. Majority of the male had received treatment before compared to female as women do not access help easily and tend to hide and delay seeking help. Stigma, shame and guilt, her socially disadvantage position and lack of availability of women friendly service are some more reasons for poor access to service. The result

showed significant relationship between level of education and duration of drug use, age at first injection use, frequency of injection use, setting of injection use. And also occupation had significant relationship with duration of drug use and age at first injection use. Majority of the IDUs who were unemployed were more likely to inject for longer duration and majority were supposed to inject earlier than compared to those who were employed. Unemployment leads them to frustration and the only solution to overcome it was drugs. And also education may have indirect association with unemployment.

Environmental factors like family involvement, offered drugs by others and community support had significant relationship with duration of injection use. Community support was also an essential component as it may lead to longevity of drug use. Also environmental factors like free time, partner involved in substance use, offered drugs by others and sold drugs to others had significant association with frequency of injection. Frequency of injection was high among those who spent their free time with their friends as friends circle is the most influential factor among the youth. And it is obvious that availability of drugs increases the frequency of injection use. Environmental factors like reasons for stating drugs, parent status and belong to gang had significant relationship with types of drugs used as majority of the IDUs stated drugs because of curiosity and they are more likely to experiment new types of drugs. Likewise environment factors like free time, family support, conflict within family, sold drugs to others and community involvement has significant relationship with sharing the syringe already used by others. Hence environment also plays a vital role in the substance use among the IDUs and should be addressed.

RECOMMENDATION:

- According to findings majority of the respondents had easy access to drugs due to open border between countries so strict laws and policies need to be addressed by the government.
- Raise awareness on consequences of sharing syringe and making Drop in centers accessible to every client.
- Mobilize the staff in the area like hot spots
- strict border checking as it made the availability of drugs within country more easier.
- As dropout rate high in secondary level of education were quite high- Awareness should be made by covering the information regarding substance use in curriculum and also recreational activities should be included in schools which helps in both the physical and mental growth of the students.
- OST service with either bruphinorphine or methadone should be in reach to all the clients.
- Recommend to do further research on substance use pattern and injecting behavior among the youth injecting drug user via longitudinal study.
- Review studies to identify areas that can be strengthened or scaled up will help reduce sharing practices among the female IDUs
- Practice of using syringe kept/left in public places and sharing syringe among injecting partners, increase the possibility of HIV infection in IDUs community. Thus, harm reduction programs for IDUs should be continuously targeted for minimizing syringe sharing and reusing the previously used syringes among the IDUs.

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APPENDIX

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Appendix I

Confidentiality

substance use among the youth IDUs in urban area, Nepal

For use with Injecting Drug Users (IDUs)

5 urban areas in Nepal

Chulalongkorn university-2014

(Questionnaire)

(The respondent must be a Injecting drug users, and have joined rehabilitation and harm reduction centers about 3 months ago and not more than 3 month.)

Namaste! My name is Sangita Khapung. I am here from Chulalongkorn University to collect data for partial fulfillment of my study . During this data collection, I will ask you some personal questions that will be about pattern of substance use and unsafe injecting drug use behavior use. You may feel uneasy to response some personal questions. Please give me true response. The information given by you will be strictly treated as confidential. You need not to worry. Nobody will know whatever we talk about because your name will not be mentioned on this form. All the mentioned information will be used only for objectives of the study. This interview will take about 40 to 60 minutes. It depends on your wish to participate in this study or not. You do not have to answer any questions that you do not want to answer, and you may end this interview at any time you want to. But I hope you will participate in this study and make it success by providing correct answers to all the questions.

Would you be willing to participate?

1. Yes 2. No

Signature of the interviewer: _____ Date:_____

Participant's ID.....

Date.....

Place of interview .....

Name of interviewer.....

Date of interview.....

Part I : Socio Demographic Characteristics

Instruction: The following questions from 1-11 are about demographic information. Please mark tick in the parenthesis ( ). Please also write down in the blank space where provided.

1. How old are you?..... years old
2. Gender
   ( ) 1. Male
   ( ) 2. Female
3. What is your religion?
   ( ) 1. Hindu
   ( ) 2. Buddhist
   ( ) 3. Christian
   ( ) 4. Muslim
4. What is your caste?
   ( ) 1. Brahmin
   ( ) 2. Chettri
   ( ) 3. Dalit
   ( ) 4. Jan Jati
   ( ) 5. Others
5. Education
   ( ) 1. Illiterate
   ( ) 2. Literate
6. If literate, what is your highest education level?

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( ) 1. Primary (1 to 5)

( ) 2. Secondary (6 to 10)

( ) 3. Above (>10)

7. What is your current occupation?

( ) 1. Business

( ) 2. Service

( ) 3. Unemployed

( ) 4. Others

8. What is your monthly income?

( ) 1. Minimum (around 8,000 NPR)

( ) 2. Median (around 32,492(NPR)

( ) 3. Average (around 25,000 NPR)

( ) 4. Maximum (around 117,000 NPR)

9. What is your marital status?

( ) 1. Single

( ) 2. Married

( ) 3. Divorced

10. What type of family do you have?

( ) 1. Nuclear

( ) 2. Joint

( ) 3. Extended

Part II: Environment

Individual factor:

1. What is your reason for starting injecting?

( ) 1. Peer group

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( ) 2. For fun and enjoyment

( ) 3. Curiosity

( ) 4. to cope up with depression

( ) 5. Easy availability of drug

( ) 6. Others.....

2. With whom did you spend most of your free time?

( ) 1. Father

( ) 2. Mother

( ) 3. Siblings

( ) 4. Friends

( ) 5. Alone

( ) 6. Others

3. In the last 12 months have you been away from your home for more than one-month altogether?

( ) 1. Yes

( ) 2. No

If yes, where did you live?

( ) 1. Rent

( ) 2. Relatives

( ) 3. Friends' house

( ) 4. Others

Family factor

4. Does your partner use drugs?

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( ) 1. Yes

( ) 2. No

5. Have you ever belonged to gang?

( ) 1. Yes

( ) 2. No

6. Did you get any support (financial and emotional) and care from your family? ( ) 1. Yes

( ) 2. No

7. Was any member of your family involved in substance use?

( ) 1. Yes

( ) 2. No

If yes, who are they?

( ) 1. Father

( ) 2. Mother

( ) 3. Siblings

( ) 4. Spouse

( ) 4. Others

8. During your life was there any conflict within your family member?

( ) 1. Yes

( ) 2. No

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Peer group

9. Have you ever been forced by your friends to use drugs?

( ) 1. Yes

( ) 2. No

10. Have you ever belonged to a gang?

( ) 1. Yes

( ) 2. No

Availability:

11. During your life, has anyone offered, sold, or given a drug?

( ) 1. Yes

( ) 2. No

12. Where did you purchase the drugs?

( ) 1. Friends

( ) 2. Relatives

( ) 3. From dealer

( ) 4. Girl friend/ boy friend

( ) 5. Others

13. Was it difficult to get the drug ?

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( ) 1. Yes

( ) 2. No

14. During your life, have you offered, sold, or given a drug to someone else?

( ) 1. Yes

( ) 2. No

15. If yes, how did you get the drug from?

( ) 1. Friends

( ) 2. Relatives

( ) 3. From dealer

( ) 4. Girl friend/boyfriend

( ) 5. Theft from legitimate source (hospital, drugstore etc)

( ) 5. Others

16. Where did you get the syringe from? (multiple answer)

( ) 1. Drugstore

( ) 2. Other shop

( ) 3. Health worker

( ) 4. Hospital

( ) 5. Wholesale drug seller/drug agency

( ) 6. Family /relatives

( ) 7. Sexual partner

( ) 8. Friends

( ) 9. Other drug users

( ) 10. Drug seller

( ) 11. Theft from legitimate source (hospital, drugstore etc)

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( ) 12. Buy on streets

( ) 13. Others (specify).....

17. Was it difficult to obtain the syringe?

( ) 1. Yes

( ) 2. No

18. Was the community you were surrounded with co-operative?

( ) 1. Yes

( ) 2. No

19. Did you face any sort of discrimination from your community?

( ) 1. Yes

( ) 2. No

20. During your life, did you and your family ever have face any sort of discrimination from the community?

( ) 1. Yes

( ) 2. No

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Part III: Substance use

Pattern of drug use:

1. During your life, how long did you use drugs?

( ) 1. one year or lesser

( ) 2. Two to four years

( ) 3. Five to seven years

( ) 4. Eight to ten years

( ) 5. Eleven years and more

2. During your life, how long did you inject drugs?

( ) 1. one year or lesser

( ) 2. Two to four years

( ) 3. Five to seven years

( ) 4. Eight to ten years

( ) 5. Eleven years and more

3. How old were you when you first used drugs?

_____ Years (Write completed years)

4. How old were you when you first injected drugs?

_____ Years (write completed years)

5. During your life how often did you use injection?

( ) 1. Once a week

( ) 2. Two to three times a week

( ) 3. Four to six times a week

( ) 4. Once a day

( ) 5. Two to three times a day

( ) 6. Four or more times a day

( ) 7. Don't know

( ) 8. No response

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6. During your life which of the following types of drug have you injected? (multiple answer)

( ) 1. Tidigesic

( ) 2. Brown sugar

( ) 3. Nitrosun

( ) 4. Ganja

( ) 5. Charas

( ) 6.White sugar

( ) 7. Phensydyl

( ) 8. Calmpose

( ) 9. Diazepam

( ) 10. Codeine

( ) 11. Phenergan

( ) 12. Cocaine

( ) 13. Proxygin

( ) 14. Effidin

( ) 15. Velium 10

( ) 16.Lysergic Acid Dithylamde (LSD)

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7. During your life did you switch from one drug to another?

( ) 1. Yes

( ) 2. No

Unsafe injecting drug use behavior

1. The time you injected drugs, think about the setting where you injected drugs?

   ( ) 1.Injects alone

   ( ) 2. Injects in group

   ( ) 3. Others.....

2. If you have ever injected in a group, how many different people in the group do you think used the same needle?

   ( ) 1. Number.....

3. Think about the times, you had injected drugs. How often was it with a needle or syringe that had previously been used by someone else?

   ( ) 1. Every times

   ( ) 2. Almost every- times

   ( ) 3. Sometimes

   ( ) 4. Never used

   ( ) 5. Don't know

   ( ) 6. No response

4. Think about the time you injected drug, how often did you give a needle or syringe to someone else, after you had already used it?

   ( ) 1. Every times

   ( ) 2. Almost every-times

   ( ) 3. Sometimes

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( ) 4. Never

( ) 5. Don't know

( ) 6. No response

5. During the time you injected drug, did you ever inject with a pre-filled syringe?

( ) 1. Yes

( ) 2. No

( ) 3. Don't know

( ) 4. No response

6. During the time you injected drug, 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)

( ) 1. Every times

( ) 2. Almost every times

( ) 3. Sometimes

( ) 4. Never

( ) 5. Don't know

( ) 6. No response

7. During the time you injected drugs, how often did you share a cooker/ vial/ container, cotton/filter, or rise water?

( ) 1. Every times

( ) 2. Almost every-times

( ) 3. Sometimes

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( ) 4. Never

( ) 5. Don’t know

( ) 6. No response

8. During the time you injected drugs, how often you draw up your drug solution from a common container used by others?

( ) 1. Every times

( ) 2. Almost every-times

( ) 3. Sometimes

( ) 4. Never

( ) 5. Don't know

( ) 6. No response

9. In the past one-year have you switched from sharing to non-sharing practice?

( ) 1. Yes

( ) 2. No

10. During the time you injected drugs with syringe or needles that had previously been used, how often did you clean them first?

( ) 1. Every time

( ) 2. Almost every-times

( ) 3. Sometimes

( ) 4. Never

( ) 5. Never reused

( ) 6. Others .....

( ) 7. Don’t know

( ) 8. No response

10.1. If cleaned, how did you usually clean them?

( ) 1. With water

( ) 2. With urine

( ) 3. With saliva

( ) 4. Boil the syringe in water

( ) 5. With bleach

( ) 6. Burning the needle with matchstick

( ) 7. Others

( ) 8. Don't know

( ) 9. No response

11. Was it possible to obtain new, unused needles and syringes when you need them?

( ) 1. Yes

( ) 2. No

( ) 3. Don't know

( ) 4. No response

12. In the past one-year , did you ever inject drug in another city/district?

( ) 1. Yes

( ) 2. No

( ) 3. Don't remember

( ) 4. No response

13. In the last 12 months, have any of an outreach worker, a peer educator or staff from a needle exchange program given you a new needle/syringe?

( ) 1. Yes

( ) 2. No

( ) 3. Don't remember

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( ) 4. No response

14. Have you ever received treatment (or help) because of your drug use?

( ) 1. Currently under treatment

( ) 2. Was in treatment but not now

( ) 3. Have never received treatment

( ) 4. No response

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VITA

SANGITA KHAPUNG

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PERSONAL PROFILE

Pro active and result orientated individual looking for challenging job. Good team player, quick learner with a can do attitude, excellent communication skills and ability to work independently along with strong problem solving and interpersonal skills. Passionate in regard to public health, social issues affecting the health of the people.

ACADEMIC QUALIFICATION

1. Name of course Masers of public health (MPH)
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2. Name of Course Bachelor of Public Health(BPH)
   University Purbanchal University, Nepal

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3. Name of Course +2 Science

Board Higher Secondary Education Board (HSEB)

4. Name of Exam School Leaving Certificate (SLC)

Board Government of Nepal

EXPOSURE:

- Participated in 1 day Training on water purification and water harvesting Training organized under WASH forum in coordination with ENPHO.

- Participated in a training programme on "Participatory community health diagnosis: using PRA/PLA tools and techniques" organized on 1-7 April 2010.

- Participated in "Appreciative Inquiry Training" conducted at Vector Borne Disease and Training Centre at Hetauda on 15-18 May 2011.

- One month long Comprehensive Field Practice in Makawanpur District (As a part of the field study of the third year of the BPH course).

Chulalongkorn University

- One month long Community Diagnosis program in Mohoriyakot VDC of Lamjung District (As a part of the field study during the second year of the BPH course.)

- Carried out research on "A study on Knowledge and Attitude towards ANC among Married women of reproductive age of Satar community, Sijuwa VDC, Morang.

PROFESSIONAL EXPERIENCE:

Position : International citizenship service, Volunteer

Organization : Voluntary Service Overseas

Theme : Health and Hygiene

Position : Intern

Organization : Voluntary Service Overseas

Theme : Health, education and livelihood

Position : Support programme supervisor

Organization : Voluntary Service Overseas

Theme : Health and livelihood

SKILLS + PROFICIENCIES:

- Technical skills: Health research
- Managerial and leadership skills: Planning, organizing, directing, leading, coordinating, supervision, monitoring and report writing.
- Computer skills: working knowledge of SPSS software for data analysis and presentation and attended three months basic computer course at NIIT, Biratnagar for windows based operating system.
- Communication skills: Fluent in Nepali and English languages, with a conversational knowledge of Hindi language. Able to understand eastern
- Maithili language.

INTEREST:

CHULALONGKORN UNIVERSITY

- Travel: Visiting different places and learning different cultures and languages.
- Social Service: Participated voluntarily to one day programs which encompassed on helping poor and elderly.

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REFERENCES

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