

**PERSONAL NETWORKS AND HIV RISK BEHAVIOUR OF INJECTING DRUG  
USERS IN AIZAWL**

**C.VANLALHRIATI**

**Department Of Social Work**

*Submitted in partial fulfillment of the requirement of the Degree of  
Master of Philosophy in Social Work, Mizoram University, Aizawl*

**MIZORAM UNIVERSITY**

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**DECLARATION**

I, C.Vanlalhriati, hereby declare that the subject matter of this dissertation is the record of work done by me, that the contents of this dissertation did not form bias of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the dissertation has not been submitted by me for any research degree in any other University/Institute.

This is being submitted to the Mizoram University for the degree of **Master of Philosophy in Social Work Department.**

Dated: 27<sup>th</sup> June, 2013  
Place: Aizawl, Mizoram

(C.VANLALHRIATI)  
Research Scholar

**MIZORAM UNIVERSITY**

**JUNE, 2013**

**CERTIFICATE**

This is to certify that the dissertation “**Personal Networks and HIV Risk Behaviour of Injecting Drug Users in Aizawl**” submitted by C.Vanlalhriati for the award of Master of Philosophy in Social Work is carried out under my guidance and incorporates the student’s bonafide research and this has not been submitted for award of any degree in this or any other university or institute of learning.

Dated: 27<sup>th</sup> June, 2013

Place : Aizawl, Mizoram

(Dr. KALPANA SARATHY)

Head

Department of Social Work

Mizoram University, Aizawl

(Dr. C.DEVENDIRAN)

Research Supervisor

Associate Professor

Department of Social Work

Mizoram University, Aizawl

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Place: Aizawl, Mizoram

(C.VANLALHRIATI)

Research Scholar

## CONTENTS

<b>CHAPTER</b>		<b>Page No.</b>
	Declaration	i
	Certificate	ii
	Acknowledgement	iii
	Contents	iv
	List of Tables	v
	List of Figures	vi
	List of Abbreviations	vii
<b>I</b>	<b>Introduction</b>	<b>1-12</b>
<b>II</b>	<b>Review of Literature</b>	<b>13-43</b>
	<b>2.1 Injecting Drug Use</b>	<b>13-18</b>
	<b>2.2 Personal Networks</b>	<b>18-26</b>
	<b>2.3 HIV Risk Behaviour</b>	<b>26-43</b>
<b>III</b>	<b>Methodology</b>	<b>44-55</b>
<b>IV</b>	<b>Results and Discussions</b>	<b>56-91</b>
<b>V</b>	<b>Conclusions and Suggestions</b>	<b>92-98</b>
<b>Appendices</b>	Bibliography	viii-xii
	Schedule	xiii-xvii
	Particulars of Candidate	xviii
	Bio-data	xix
	Fieldwork Experience	xx-xxii

## LIST OF TABLES

Table No.	Title	Page No.
1	Profile of the Respondents	69-72
2	Smoking Habits of the Respondents	72
3	Alcohol and Drug Consumed by the Respondents	73
4	Type of Substance consumed by Respondents	73-74
5	Form of Substances Consumed	74-75
6	Mode of Substance Use	75-76
7	Frequency of Substance Use	76-79
8	Reasons for re-using equipment	79
9	Problems faced as a Result of Doing Drugs	80
10	Respondents Opinion on Giving up Drugs	81
11	Respondents Opinion on Detoxification	81-82
12	Respondent's Family Network	82
13	Respondents Staying with Family	83
14	Demographic and Social Composition of Peer Network	83-84
15	Risk Behaviour in the Peer Networks	84
16	Structure of Peer Networks: Personal Network Measures	85
17	Composition, Structure of Peer Networks and Frequency of Risk Behaviour: Pearson's R	85
18	Respondents Reasons to be with Friends	86
19	Time Spend with Friends	87
20	HIV	87-88
21	Respondents Problems due to HIV infection	89
22	Respondents Suggestions to Get Away from Drug Abuse	90-91

## LIST OF FIGURES

Fig. No.	Title	Page No.
3.1	Daily Activity Schedule	54
3.2	Cause Effect Diagram	55

## LIST OF ABBREVIATIONS

LSD	: Lysergic Acid Diethylamide
WHO	: World Health Organization
HIV	: Human Immunodeficiency Syndrome
IDUs	: Injecting Drug Users
AIDS	: Acquired Immune Deficiency Syndrome
NGO	: Non Government Organization
PO	: Prescription Opioid
NSP	: Needle and Syringe Programmes
SMSNSP	: Substance Misuse Services
QOL	: Quality Of Life
FAM-III	: Family Assessment Measure-Version III
RDS	: Respondent Driven Sampling
PWID	: People Who Inject Drugs
IVDU	: Italian Intravenous Drug Users
SNEP	: Syringe and Needle Exchange Program
GEE	: Generalized Estimating Equations
STD	: Sexually Transmitted Disease
HCV	: Hepatitis C Virus
HBC	: Hepatitis B Virus
MSM-DUs	: Man Having Sex with Men- Drug Users
ACASI	: Audio Computer Assisted Self-interview
PRA	: Participatory Rural Appraisal
SPSS	: Statistical Package for Social Sciences
E-Net	:Ego Network
APL	: Above Poverty Line
BPL	: Below Poverty Line
AAY	:Antyodya Anna Yojana



# **CHAPTER –I**

## **INTRODUCTION**

## CHAPTER-I

### INTRODUCTION

This study will attempt to understand the personal networks and HIV risk behaviour of injecting drug users.

#### 1.1 Overview of Concepts

The use of substances dates back many centuries and many people have taken recourse to it without having a slight understanding of the real nature of the substances. The information of the substances abused helps a person who is helping a person overcome it develops a more effective treatment. Substance abuse refers to the use of a mood-altering drug to change the way one feels. The drug may be inhaled, sniffed, swallowed or injected. It may be legal or illegal, but it is not used for any legitimate purpose. Deliberately taking substances other than its intended purposes and in a manner that can result in damage to the person's health or his ability to function. (Halliday 2009).

Drug abuse is a common problem faced by every society. In the former sense, it is viewed as an evidence of individual's social maladjustment; in the latter sense, it is viewed as a widespread condition that has harmful consequences for society. 'Drug abuse' is the use of illicit drug or misuse of legitimate drug resulting into physical or psychological harm. It includes smoking ganja or hashish, taking heroin or cocaine or LSD, injecting morphine, drinking alcohol, and so forth. The theoretical explanations of drug usage may be grouped broadly under four heads: physiological, psychological, socio-psychological and sociological.

Drugs are chemical that alters the physical or mental functioning of an individual. DSM IV use 'substance' in place of earlier term 'psychoactive substance' as the earlier term risk limiting attention to those substances that have brain altering activity as primary effect (e.g. Cocaine).The concept of psychoactive substance does not include chemicals with brain-altering properties (e.g. organic solvents) that may be ingested either on purpose or by accidents. Drug injecting equipment is defined as syringes, needles, drug mixing containers (i.e. cookers), filters (e.g. cotton), water or other liquid (for drug preparation or for rinsing injecting equipment) and any other material used for the purpose of drug preparation and injection.

According to WHO (1956) the term "Drug dependant" was defined as "a state, psychic and sometimes also physical, resulting from the interaction between a living organism and drug, characterized by behavioural and other responses that always include a compulsion to take drug on a continuous or periodic basis in order to experience its psychic effect, and sometimes to avoid the discomfort of its absence. Tolerance may or may not be present. A person may be dependent on more than one drug". (Lalnunthara, 1997).

In 1964, WHO concluded that the term 'addiction' is no longer a scientific term and recommended substituting the term 'drug dependence'. Two concepts have been invoked regarding the definition of dependence – behavioral (psychological) and physical dependence. The term 'addict' also has acquired a distinctive, unseemly and pejorative connotation that does not reflect the concept of substance abuse as a medical disorder. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one or more of:-

1) Recurrent use, resulting in failure to fulfill major role obligations at work, school,  
home

2) Recurrent use in which it is physically hazardous

3) Recurrent substance-related legal problems

4) Continued use despite social or interpersonal problems caused by effects of substance

The term 'illegal substance' also is not preferred as it is not possible to separate illegal and legal substance, since many legal substances are often obtained by illegal means and used for non prescribed purpose. The word 'substance' is preferred over 'drug', as 'drug' implies a manufactured chemical, whereas many substances associated with abuse are naturally occurring (opium) or not for human consumption (dendrite).

In substance dependence and recreational drug use, drug injection is a method of introducing a drug into the body with a hollow needle and a syringe which is pierced through the skin into the body (usually intravenous, but also intramuscular or subcutaneous). This act is often colloquially referred to as "slamming", "shooting [up]", "banging", "pinning", or "jacking-up", often depending on the specific drug subculture in which the term is used (i.e. heroin, cocaine, methamphetamine).

Although there are various methods of taking drugs, injection is favoured by some users as the full effects of the drug are experienced very quickly, typically in five to ten seconds. It also bypasses first-pass metabolism in the liver, resulting in a higher bioavailability for many drugs than oral ingestion would (so users get a stronger effect from the same amount of the drug). This shorter, more intense high can lead to a dependency, both physical and

psychological, developing more quickly than with other methods of taking drugs. As of 2004 there were 13.2 million people worldwide who used injection drugs of which 22% are from developed countries. (Wikipedia).

For over a half century, researchers have described characteristics of injecting drug use, the use of contaminated paraphernalia and the use of shooting galleries (Terry and Pellens 1928). O'Donnell and Jones (1968) and Agar (1973) argued that drug injection was a defining mark of a street drug sub-culture. Some years later, Page, Chitwood et al. (1990); Page, Smith and Kane (1990); Calsyn et al. (1991); Booth et al. (1993); and Koester (1994) also concluded from their ethnographic and survey research that individuals in the street drug addict role focused on the use of injection equipment. The behavior patterns noted by these researchers exist for a variety of reasons, some historical (O'Donnell and Jones 1968), some legal (Koester 1994), and some related to cultural processes (Agar 1973).

## **1.2 History of Drug Abuse**

Drugs have emerged as an increasingly important aspect of both criminology and criminal justice systems in the latter part of the twentieth century – not only in the metropolitan centres of Europe and North America, but now ever more widely as the global economy of the drugs trade embraces many ‘Third World’ developing nations, as well as those of the post-communist societies of Eastern and Central Europe. Serious drug problems had become a matter for concern first in the USA where from the 1950s heroin use became increasingly associated with delinquent lifestyles and street crime (Preble and Casey 1969; Feldman 1968), although it would not be until the 1980s that heroin epidemics swept through many European cities bringing in their wake twinned preoccupations with drug-related crime and the public health crisis of HIV transmission through unsafe injecting practices. A major difference between North America and

European policy responses to these difficulties was, and remains, whether or not these responses were enforcement-driven or geared to questions of individual and public health.

The use of drugs in India is known from time immemorial. Drugs were used by men long before he became literate. According to O'Brien and Cohen (1984), "Cannabis was introduced into India by about 2000 B.C. and the Indians may have been the first people to dry the plant and smoke it". India has a long tradition of consuming opium, bhang, charas, ganja, etc. however, these drugs were mostly consumed during social functions and religious functions. The use of opium and its many preparations were also popular during the Mughal period in India. Recent decades have witnessed the use of synthetic drug both stimulants and depressants in the country. The problem of drug abuse has now become a serious social problem and affects all sections of the population in the country. (Lalnunthara, 1997).

In the Indian context it is also a paradox that besides the use of traditional substances in rural areas (Ganguly et al., 1995) new drugs like heroin and pharmaceutical products have been introduced among the vulnerable sections, such as non-student youth, industrial workers and slum dwellers (Sharma, 1995) These psycho actives are being accepted by a wide segment of society, from the poorest of the poor to the rich. The impact of alcohol and other drugs can be seen at the familial and societal level in the form of social dejection, produced by dysfunctional social structures and social disorganization, combined with economic disaster and denial of social support.

### **1.3 Present Scenario**

The World Health Organization (WHO) reports that more than 15 million people have been diagnosed with drug use disorders, and that injecting drug use is present in 136 nations.

(International Research Collaboration on Drug Abuse and Addiction Research, 2011). According to estimates by the National Aids Control Organization (NACO – 2006) there are 50,000 IDUs injecting drug use in the region, the majority of them in Manipur, Nagaland, Mizoram and Meghalaya. (Gopen, 2007). In Mizoram, there are 12550 injecting drugs users and 6739 HIV effected persons. In Aizawl city, there are 6000 injecting drug users and 883 HIV effected persons. 28.1% among HIV affected persons are injecting drug users. (MSACS, 2012).

#### **1.4 Personal Networks**

The spouses and children of substance abusers are the silent sufferers and the negative effects of the presence of drugs or alcohol dependants in the family. These include inappropriate coping mechanisms, co-dependency, self-neglect and denial which are manifested in day-to-day life. The hardship endured by the families in dealing with chronic illness have been largely explored and reported as strain on family relationship and include blaming, denial of the illness or disability, grieving associated with the illness, rejection of the person, over-protectiveness, problems interacting with the medical system, a sense of social isolation, an increased financial burden and an overall increase in family tension. (Patterson et al., 1996).

Co-occurring disorders, defined as the presence of two or more simultaneous existing conditions, in this case, substance and mental illness, can lead to greater consequences for both the abusers and family members than a single disorder alone (Albanese and Khantzian, 2001; Clark, 1996). Subsequently, the treatment of persons with co-occurring disorders can be more complex than treatment of individuals with substance or mental disorders alone (Mueser et al., 1997). Thus, it is particularly important to understand the implications of family relationships for substances abusers recovery and wellness (Stewart et al.,2003). In order to improve treatment

outcomes for persons with co-occurring substance and mental disorders, theory based research is sorely needed that focuses on understanding the predictors of family involvement with persons and in the persons' treatment as well as an understanding of the relationship between family involvement and a person outcomes.

Drug injectors' networks include both their relationships with the people with whom they use drugs or have sex and their relationships with the people with whom they have other kinds of interaction, such as work or emotional support. IDUs' networks can therefore function both as channels of infection and as channels of social influence. These networks can be approached at three levels:-

- a) The dyadic risk relationship (for instance, the relationship between the index injector and his or her drug or sex partner).
- b) The personal risk network (including the direct ties of an index person with all of his or her network members and the aggregate characteristics of these network members and of their relationships with each other).
- c) The "sociometric" network (also called the social net-work or full relational network), which refers to the complete set of relations between people (or "nodes") in a population, including indirect and direct ties. Such networks can include a large group or even a community or neighborhood. (Neaigus, 1998).

## **1.5 HIV**

The high rate of HIV infection among IDUs is reflected in the large number of acquired immune deficiency syndrome (AIDS) cases attributed to injecting drug use, which by June 1997,



accounted for one-fourth (612,078) of all AIDS cases and more than one-third of all AIDS cases when other routes of transmission associated with injecting drug use are taken into account. (Neaigus, 1998).

Subsequent research on IDU and their network characteristics have identified other network variables associated with transmission risk. High-risk injection practices have been linked to network characteristics such as the number of network members; the presence of family members or spouses within the network; higher network density; the setting where injection takes place; turnover of network members; and the pooling of financial resources within networks for the purpose of obtaining drugs. Racial/ethnic differences in HIV prevalence have also been at least partially explained by taking into account the differing network characteristics of different ethnic groups. (Wylie et al., 2006).

IDUs who share needles and syringes with other IDUs who have Human Immunodeficiency Virus (HIV) are at high risk of becoming infected with the virus (Chitwood et al. 1995; Jarlais et al., 1988; Schoenbaum et al. 1989; and Turner et al., 1989). IDUs most at risk of HIV are those who go to shooting galleries and borrow, rent, or otherwise use injection equipment that has been used by other IDUs (Nemoto 1992; van Ameijden et al. 1992; Vlahov et al. 1990). In these settings, needles and syringes can be used an average of nine times before they are discarded (Newmeyer 1988).

High human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) incidence among injection drug users (IDUs) shows the failure of traditional health policies. The preference of IDUs for injected cocaine exposes them to high risks for contracting HIV because of the frequency of drug use. The correlation of poverty with the selling of drugs, especially the

so-called “drugs of poverty”—freebase cocaine and crack— is a consequence of prohibitions against drug use and of urban unemployment. There is extensive documentation of the effectiveness of HIV/AIDS prevention interventions among DUs and IDUs in the developed world but very limited information on interventions in developing and transitional countries, especially in Latin America. (Inchaurreaga, 2003).

McKeganey and Barnard (1992) appropriately point out that there was little interest in research on the injection practices of drug users until the HIV epidemic attracted attention to IDUs as a risk group. Aside from classic studies by Howard and Borgess (1970) and Agar (1973), hardly anything was known about why IDUs used contaminated paraphernalia. Even the research studies in the mid to late 1980's concentrated on the frequency with which persons used contaminated needles and the numbers of persons involved in using the same syringes. They suggest, "That drug injectors' risk behavior needs to be understood not only in terms of the social relationships of drug injectors, but also in terms of the local culture shared among people generally living within an area" (McKeganey and Barnard 1992:26).

Individual risk behaviours for injection drug users (IDU) include those directly associated with transmission, such as the use of syringes previously used by another IDU or those behaviours which can act as markers of the above types of behaviours. Examples of risk markers that are positively associated with disease prevalence include drug scene roles, such as dealing drugs or injecting others as a service (street or hit doctors). Other behaviours, such as obtaining clean needles from questionable sources such as drug dealers, shooting gallery owners, or on the street, can also act as a marker of an increased probability of using a contaminated needle, as doctoring of used needles to make them appear new has been reported.(Wylie, 2006).

Some individual behaviours or characteristics may also be proxy markers of network behaviours. The type of drug an IDU chooses to inject can be measured as a characteristic of the individual injector and itself can influence risk, as some drugs, like cocaine, are prepared at room temperature and hence are more conducive to pathogen survival. In addition to these more risky drug-specific practices, IDU may form networks based on drug type, which mark the broader social network within which an individual is a member. Therefore, network members are more likely to come into contact with whichever pathogens happen to be circulating within that network. Similarly, moving to a new city within the past year can also be an indicator of higher risk as individuals create a social bond through the sharing of drug equipment to try and establish themselves in new networks.(Shah, 2006)

The justification for using a network approach in research on the determinants of HIV infection and risk behaviors and in developing interventions to reduce HIV risk resides in the manner in which HIV is transmitted. Compared with infectious diseases that are spread through casual contact and contagion, HIV is transmitted, in large part, by risk behaviors that involve close contact between infectious and susceptible individuals. As a result, the transmission of HIV is structured by social relationships. These social relationships organize how susceptible and infectious individuals come into contact with one another the pattern of HIV exposure and transmission, and, through social influence, the risk or protective behaviors in which they engage with each other. (Neaigus, 1998).

## **1.6 Statement of the Problem**

Mizoram is a state known for organizing its activities around religion and its people are highly influenced by Christianity and biblical teachings. Although, Mizos are heavily influenced by modernization and westernization, the general population has negative attitudes

and perceptions toward injecting drug use which result in stigmatization and discrimination of people who practice it. In Mizoram, many youth were engaged and depended on drug other than medical use. Even in rural areas of Mizoram a large number of youth were engaged in drug. Now days, many NGO's who deal with drug abuse were also found. But the area they covered was not wide enough. Mostly, they were concentrated in urban areas and do not cover wide areas. In addition, the common people in Mizoram do not clearly understand the problem faced by injecting drug users. Many of them were discriminated by their families and others. So, it is particularly important to understand the implications of family relationships for injecting drug users' recovery. If we know the problems faced by these drug abusers, it would be easy to help them. These people need support and guidance from others. If we want to help them, we should know their condition clearly and be opened to them. The study focused on the patterns of personal network such as family, friends and drug users. From the light of these, it will offer appropriate suggestions for the benefit of policy makers, planners, Governmental and Non-Governmental organizations as well as social workers at multilevel.

### **1.7 Objectives**

1. To study the profile of drug users in Aizawl.
2. To probe into the patterns of personal network.
3. To assess the level of HIV risk behavior among the drug users.
4. To determine the relationship between personal network and HIV risk behavior.
5. To suggest the measures for social work practice.

## **1.8 Chapter Scheme**

The study is organized into the following six chapters:

1. Introduction
2. Review of Literature
3. Methodology
4. Results and Discussions
5. Conclusions and Suggestions

## **CHAPTER –II**

### **REVIEW OF LITERATURE**

## **CHAPTER-II**

### **REVIEW OF LITERATURE**

Review of literature is essential and is often given importance before conducting any study as it helps the researcher to understand the theoretical background and findings of different scholars in various aspects. Also, it gives an idea about the research gaps as well as the differences or commonality of various studies in relation to our present study. It also helps to understand the typology or method suitable for a particular study thus giving one a general idea about the significance or limitations of each method. It also widens the outlook and over all it helps in mapping out what is of core importance for the research at hand thus helping one to have a more systematic study. The present section includes various studies done by researchers across the world which are relevant for the present study.

#### **2.1 Injecting Drug Use**

Researchers generally use non-probability methods such as chain-referral sampling to study populations for which no sampling frame exists. Respondent-driven sampling is a new form of chain-referral sampling that was designed to reduce several sources of bias associated with this method, including those from the choice of initial participants, volunteerism, and masking. This study expands this method by introducing “steering incentives,” supplemental rewards for referral of members of a specific group; injection drug users (IDUs) aged 18–25. The results are based on an interrupted time series analysis in which 196 IDUs from Meriden, CT, were interviewed before introduction of the steering incentives, and another 190 were interviewed afterwards. The steering incentives increased the percentage of younger IDUs

sampled by 70%. The researchers compared recruitment patterns with institutional data and self-reported personal networks to determine representativeness and whether volunteerism or masking was present. The results indicated that steering incentives helped to increase recruitment of younger IDUs that the sample was representative, and that both volunteerism and masking were modest. (Heckathorn, Semaan, Broadhead & Hughes, 2001).

There is evidence of a high prevalence of prescription opioid (PO) and crack use among street drug users in Toronto. The purpose of this qualitative study was to describe drug use behaviours and preferences as well as the social and environmental context surrounding the use of these drugs among young and old street-based drug injection drug users (IDUs). In-depth interviews were conducted with 25 PO injectors. Topics covered included drug use history, types of drugs used, how drugs were purchased and transitions to PO use. Interviews were taped and transcribed. Content analysis was conducted to identify themes. Five prominent themes emerged from the interviews: 1) Combination of crack and prescription opioids, 2) First injection experience and transition to prescription opioids, 3) Drug preferences and availability, 4) Housing and income and 5) Obtaining drugs. There was consensus that OxyContin and crack were the most commonly available drugs on the streets of Toronto. Drug use preferences and behaviours were influenced by the availability of drugs, the desired effect, ease of administration and expectations around the purity of the drugs. Distinct experiences were observed among younger users as compared to older users. In particular, the initiation of injection drug use and experimentation with POs among younger users was influenced by their experiences on the street, their peers and general curiosity. Given the current profile of street-based drug market in Toronto and the emergence of crack and POs as two predominant illicit drug groups, understanding drug use patterns and socio-economic factors among younger and older users in



this population has important implications for preventive and therapeutic interventions. (Firestone and Fischer, 2008).

The role of needle and syringe sharing behavior of injection drug users (IDUs) in spreading of blood-borne infections – especially HIV/AIDS – is well known. However, very little is known in this regard from Iran. The aim of the study was to determine the prevalence and associates of needle and syringe sharing among Iranian IDUs. In a secondary analysis of a sample of drug dependents who were sampled from medical centers, prisons and streets of the capitals of 29 provinces in the Iran in 2007, 2091 male IDUs entered. Socio-demographic data, drug use data and high risk behaviors entered to a logistic regression to determine independent predictors of lifetime needle and syringe sharing. 749(35.8%) reported lifetime experience of needle and syringe sharing. The likelihood of lifetime needle and syringe sharing was increased by female gender, being jobless, having illegal income, drug use by family members, pleasure/enjoyment as causes of first injection, first injection in roofless and roofed public places, usual injection at groin, usual injection at scrotum, lifetime experience of nonfatal overdose, and history of arrest in past year and was decreased by being alone at most injections. However this data has been extracted from cross-sectional design and we cannot conclude causation, some of the introduced variables with association with needle and syringe sharing may be used in HIV prevention programs which target reducing syringe sharing among IDUs. (Rafiey et al., 2009).

In the UK, needle and syringe programmes (NSP) are delivered via community pharmacies or substance misuse services (SMSNSP). Understanding the profile of drug injectors primarily using different sources of injecting equipment can help service design. Blood spot samples and behavioural data were collected from drug injectors and tested for antibodies to

hepatitis C and hepatitis B. Data were analysed in relation to NSP use by multivariate logistic regression. Of 700 eligible individuals interviewed, 657 provided information on their main source of equipment; 26% reported pharmacy NSP, 56% SMSNSP and 18% secondary distribution. In the adjusted analysis, individuals whose main source was SMSNSP were more likely to report markers of increased risk (homelessness, groin injection, having injected .16 days/month) and had a higher hepatitis B antibody prevalence than individuals primarily using pharmacy NSP. Individuals whose main source was secondary distribution had a different profile (e.g. they were younger, more likely to be recent onset injectors than main source SMSNSP users and less likely to report being in drug treatment). Differences exist in the populations primarily accessing different NSP and commissioning of services must reflect these differences. Injecting drug users relying on secondary exchange should be targeted to improve health service contact. (Craine et al., 2010).

Injecting drugs is the major driving force of human immunodeficiency virus (HIV) epidemic in Northeastern India. The spatial distribution of locations where injecting drug users (IDU) congregate, as well as the risk behaviour and key characteristics of IDUs to develop new strategies strengthening intervention measures for HIV prevention in this region was assessed. Locations of IDUs congregation for buying and injecting drugs were identified through Key Informants. Verification of the location and its characteristics were confirmed through field visits. Semi structured and structured interviews with IDUs to learn more about their injecting behaviour and other characteristics was also conducted. Altogether, 2462 IDU locations were identified in 5 states. The number of IDU locations was found to be greater in the states bordering Myanmar. Private houses, parks, abandoned buildings, pharmacies, graveyards, and isolated places were the most frequently chosen place for injecting drugs. Many injecting

locations were visited by IDUs of varying ages, of which about 10-20% of locations were for females. In some locations, female IDUs were also involved in sex work. Sharing of needle and syringes was reported in all the states by large proportion of IDUs, mainly with close friends. However, even sharing with strangers was not uncommon. Needle and syringes were mainly procured from pharmacies, drug peddlers and friends. Lack of access to free sterile needles and syringes, and inconsistent supplies from intervention programs, were often given as the cause of sharing or re-use of needles and syringes by IDUs. Most of the IDUs described a negative attitude of the community towards them. The injection of drugs as a problem in 5 Northeastern India states where this is the major driving force of an HIV epidemic. Also highlighted are the large numbers of females that are unrecognized as IDUs and the association between drug use and sex work. Understanding of risk behaviours and other key characteristics of IDUs in the region will help in strengthening harm reduction efforts that can prevent HIV transmission. (Medhi et al., 2011).

The study conducted by Sarin, Samson and Sweat examines the association between quality of life (QOL) and discrimination perpetrated against a vulnerable population like injecting drug users (IDU). Given that QOL affects self efficacy which in turn affects behavior, it is relevant to examine QOL among IDUs in the context of HIV prevention, and to study whether discriminations and human rights abuses impact QOL in this population. A cross sectional study was conducted in two research sites in Delhi, India among 343 IDUs recruited through a respondent driven sampling. A Hindi version of the WHOQOL Bref survey along with a survey questionnaire of discrimination were used to interview participants. After controlling for demographic characteristics, experiencing physical and verbal abuse (OR: 0.46, CI 0.27–0.79), arrests and imprisonment for carrying needles and/or using drugs (OR: 0.53, CI 0.31–0.90) and

lacking health information (OR: 0.49, CI 0.29–0.85) was associated with lower social QOL, while being denied health care services was associated with lower psychological QOL. The more discrimination experienced, the lower was the quality of life in the social and psychological domains. Participants' perceived well being in the four domains was related to their living conditions, discriminatory acts and to perceptions of social support. Discriminatory acts and abuses appeared to have a greater toll on their psychological well being and social relationships, thus indicating the need for human rights advocacy in order to influence law enforcement practices and to reduce stigma, while expanding social support through an extended comprehensive IDU programme. (Sarin, Samson & Sweat, 2012).

## **2.2 Personal Networks**

As part of a larger interview schedule conducted with 1245 injecting drug users in Sydney, Australia, respondents were asked about the degree to which their drug use is conducted within a group context. They were also asked about the size of their user groups and the extent of needle-sharing that occurs in the groups. Results revealed that injecting drug use was a social behaviour approximately half of the time for the overall sample, but that there were statistically significant differences according to the age, gender, and drug experience of the user. The study also found an alarming amount of needle-sharing among the sample overall. Females, younger users, and those less experienced in injecting drug use were more inclined to inject in groups, while needle-sharing was more common among older and more experienced users. (Barber et al., 1992)

The aim of the study conducted by Neaigus was to review human immunodeficiency virus (HIV) risk reduction interventions among injecting drug users (IDUs) that have adopted a

network approach. The design and outcomes of selected network-based interventions among IDUs are reviewed using the network concepts of the dyad (two-person relationships), the personal risk network (an index person and all of his or her relationships), and the "sociometric" network (the complete set of relations between people in a population) and community. In a dyad intervention among HIV-serodiscordant couples, many of which included IDUs, there were no HIV seroconversions. Participants in personal risk network interventions were more likely to reduce drug risks and in some of these interventions, sexual risks, than were participants in individual-based interventions. Sociometric network interventions reached more IDUs and may be more cost-effective than individual-based interventions. Network-based HIV risk reduction interventions among IDUs, and others at risk for HIV, hold promise and should be encouraged. (Neaigus, 1998).

Social network research increasingly expands our understanding of the social environment of drug users' health risks, particularly those associated with the transmission of HIV, hepatitis, and other sexually transmitted and blood borne infectious diseases. The study of the networks of drug users who use high-risk sites, where people gather to inject drugs and smoke crack cocaine, is designed to explore the relationships and interactions of drug users in settings in which potential risk occurs, and to assess the opportunity to create prevention linkages. The paper describes the ego-network characteristics and macro-network linkages among a sample of 293 drug users recruited through street outreach and personal drug-use network referral in Hartford, Connecticut. Characteristics of the largest connected component of the network are also described and analyzed. Uses of network analyses as well as implications of network connections for peer-led AIDS prevention intervention conducted in high-risk drug-use sites were discussed. (Weeks, Clair, Borgatti, Radda, & Schensul 2002).

While studies of the social networks of injection drug users (IDUs) have provided insight into how the structures of interpersonal relationships among IDUs affect HIV risk behaviors, the majority of these studies have been cross-sectional. The present study examined the dynamics of IDUs' social networks and HIV risk behaviors over time. Using data from a longitudinal HIV-intervention study conducted in Baltimore, MD, this study assessed changes in the composition of the personal networks of 409 IDUs. A multi-nominal logistic regression analysis to assess the association between changes in network composition and simultaneous changes in levels of injection HIV risk behaviors was used. Using the regression parameters generated by the multi-nominal model, the predicted probability of being in each of four HIV risk behavior change groups was estimated. Compared to the base case, individuals who reported an entirely new set of drug-using network contacts at follow-up were more than three times as likely to be in the increasing risk group. In contrast, reporting all new non-drug-using contacts at follow-up increased the likelihood of being in the stable low-risk group by almost 50% and decreased the probability of being in the consistently high-risk group by more than 70%. The findings from this study show that, over and above IDUs' baseline characteristics, changes in their personal networks are associated with changes in individuals' risky injection behaviors. They also suggest that interventions aimed at reducing HIV risk among IDUs might benefit from increasing IDUs' social contacts with individuals who are not drug users. (Costenbader, Aston & Latkin, 2005).

The abuse of alcohol and other substances by mothers raising adolescent children has serious adverse effects on family functioning and youth outcomes, and on mothers' own health and adaptation. Mothers who are also HIV-infected face additional challenges. In the present report, a multi-session intervention conducted in individual sessions for mothers with alcohol and other substance use problems that are raising adolescent children was described. The primary

components of the intervention and include case studies and examples of exercises and tools was outlined. It was found that engagement with the intervention and high rates of attendance were facilitated by tapping into mothers' desires to improve their relationships with their adolescent children, the use of a harm reduction approach toward substance use, and intensive outreach. Lessons learned in the course of implementing and evaluating the intervention was also discussed. (Leonard et al., 2006).

International research shows that injecting drug users (IDUs) can encounter many barriers when they try to access drug treatment and other services. However, the existing literature is mostly quantitative and does not consider the kinds of factors that injectors themselves identify as enabling them to access and benefit from services. Responding to this gap in knowledge, the paper explores IDUs' own suggestions for improving service engagement and their reports of other factors enabling them to seek help. Semi-structured qualitative interviews were conducted with 75 current illicit drug injectors in three geographically diverse areas of West Yorkshire, England. Recruitment was through needle exchange programmes, with additional snowball sampling to ensure inclusivity of gender, ethnicity and primary drug injected. Transcribed data were analysed thematically using Framework. Although participants were often satisfied with current access to services, they made three broad suggestions for improving engagement. These were: providing more services (more providers and more forms of support); better operation of existing services (including better communication systems and more flexibility around individual needs); and staffing-related improvements (particularly, less judgmental and more understanding staff attitudes). Other factors identified as important enablers of help seeking were: having supporting relationships (particularly with family members); personal circumstances/life events (especially becoming a parent); and an injector's

state of mind (such as feeling motivated and positive). A range of practical suggestions for improving IDUs' access to drug treatment and other services are identified. (Neale, Sheard & Tompkins, 2007).

De, Cox, Boivin, Platt and Jolly conducted a study to examine the scientific evidence regarding the association between characteristics of social networks of injection drug users (IDUs) and the sharing of drug injection equipment. A search was performed on MEDLINE, EMBASE, BIOSIS, Current Contents, PsycINFO databases and other sources to identify published studies on social networks of IDUs. Papers were selected based on their examination of social network factors in relation to the sharing of syringes and drug preparation equipment (e.g. containers, filters, water). Additional relevant papers were found from the reference list of identified articles. Network correlates of drug equipment sharing are multi-factorial and include structural factors (network size, density, position, and turnover), compositional factors (network member characteristics, role and quality of relationships with members) and behavioural factors (injecting norms, patterns of drug use, severity of drug addiction). Factors appear to be related differentially to equipment sharing. Social network characteristics are associated with drug injection risk behaviours and should be considered alongside personal risk behaviours in prevention programmes. Recommendations for future research into the social networks of IDUs are proposed. (De, Cox, Boivin, Platt & Jolly, 2007).

The purpose of the present research was to determine the role of family functioning and psychological problems of drug addicts and non addicts by assessing the difference between the two groups. After detailed literature review it was hypothesized that scores on the variable of communication, affective expression and control among family members of addicts will be higher than non addicts. Furthermore scores on the variables of anger control problems,



emotional distress and positive self will also be higher of addicts. This was a cohort study. A cluster sampling method was used. Sample of present research consisted of 240 adolescents divided into two groups of 120 addicts and 120 non-addicts each from different socio-economic status. General scale of Family Assessment Measure-Version III (FAM-III) was administered in order to measure the level of communication, value and norms whereas dyadic Relationship Scale was used to measure affective expression and control among the family members of addicts and non addicts. Renold Adolescent Adjustment Screening Inventory was administered in order to assess anger control problems, emotional distress and positive self in addicts and non addicts. *t*-test was calculated in order to determine the difference in the level of communication, value and norms, affective expression and control among families of addicts and non addicts. Furthermore difference in anger control problems, emotional distress and positive self between the addicts and non addicts was also determined by calculating *t*-test. Results showed significant differences in the variables among the family members and there is also a significant difference between addicts and non addicts. Avenues for further research have been suggested. (Agha, Zia & Irfan, 2008).

Social network structure and norms are linked to HIV risk behavior. However little is known about the gradient of norm of HIV risk that exists among social networks. We examined the association between injection risk network structure and HIV risk norms among 818 injection drug users (IDUs). IDUs were categorized into four distinct groups based on their risk behaviors with their drug networks: no network members with whom they shared cookers or needles, only cooker-sharing member, one needle-sharing member, and multiple needle-sharing members. The riskiest group, networks of multiple needle sharers, was more likely to endorse both risky needle sharing and sex norms. Networks of only cooker sharers were less likely to endorse high-risk

norms, as compared to the networks with no sharing. There were also differences based on gender. Future HIV prevention interventions for IDUs should target both injection and sex risk norms, particularly among IDUs in the multiple needle-sharing networks. (Latkin et al., 2001).

In many cities, human immunodeficiency virus (HIV)-1 seroprevalence among drug injectors stabilizes at 30–70% for many years without secondary outbreaks that increase seroprevalence by 15% or more. The authors considered how HIV-1 incidence can remain moderate at seroprevalence levels that would give maximum incidence. Previously suggested answers include behavioral risk reduction and network saturation within high risk subgroups. Among 767 drug injectors studied in 1991–1993, during a period of stable high seroprevalence in New York City, risk behaviors remained common, and networks were far from saturated. The authors suggest a different network-based mechanism: in stable high-prevalence situations, the relatively small sizes of sub networks of linked seronegatives (within larger networks containing both infected and uninfected persons) may limit infectious outbreaks. Any primary infection outbreak would probably be limited to members of connected subcomponents of seronegatives, and the largest such subcomponent in the study contained only 18 members (of 415 seronegatives). Research and mathematical modeling should study conditions that may affect the size and stability of subcomponents of seronegatives. Finally, if the existence of small, connected components of seronegatives prevents secondary outbreaks, this protection may weaken, and vulnerability to new outbreaks increases, if HIV-1 seroprevalence falls. Thus, in situations of declining prevalence, prevention programs should be maintained or strengthened. (Friedman et al., 2010).

The objective of this study conducted by Koram, Liu, Li, Li, Luo and Nield was to examine the influences of social network factors, particularly social support and norms, in the

transition from non-injection heroin and/or opiate use to heroin-injection, which is one of the leading causes of the spread of HIV/AIDS in China. Respondent-driven sampling was used to recruit young heroin and/or opiate users in an egocentric network study in Yunnan, China. Multivariate logistic regression using hierarchical combinations of candidate variables was used to analyze network factors for the injection transition. A total of 3,121 social network alters were reported by 403 egos with an average network size of eight. Fifty-eight percent of egos transitioned to heroin-injection from non injection. This transition was associated with having a larger sex network size, a larger number of heroin injectors in one's network, and a higher network density. The findings enhance the understanding of the influence of social network dimensions on the transition to injection drug use. Accordingly, the development of interventions for heroin and/or opiate users in China should consider social network characteristics. (Koram et al., 2011).

Respondent-driven sampling (RDS) is a form of chain-referral sampling, similar to snowball sampling, which was developed to reach hidden populations such as people who inject drugs (PWID). RDS is said to reach members of a hidden population that may not be accessible through other sampling methods. However, less attention has been paid as to whether there are segments of the population that are more likely to be missed by RDS. This study examined the ability of RDS to capture people with small injecting networks. A study of PWID, using RDS, was conducted in 2009 in Sydney, Australia. The size of participants' injecting networks was examined by recruitment chain and wave. Participants' injecting network characteristics were compared to those of participants from a separate pharmacy-based study. A logistic regression analysis was conducted to examine the characteristics independently associated with having small injecting networks, using the combined RDS and pharmacy-based samples. In comparison

with the pharmacy-recruited participants, RDS participants were almost 80% less likely to have small injecting networks, after adjusting for other variables. RDS participants were also more likely to have their injecting networks form a larger proportion of those in their social networks, and to have acquaintances as part of their injecting networks. Compared to those with larger injecting networks, individuals with small injecting networks were equally likely to engage in receptive sharing of injecting equipment, but less likely to have had contact with prevention services. These findings suggest that those with small injecting networks are an important group to recruit, and that RDS is less likely to capture these individuals. (Paquette, Joanne & Wit, 2011).

### **2.3 HIV Risk Behaviour**

To evaluate the role of parenteral and sexual transmission of human immunodeficiency virus, seronegative intravenous drug users recruited from 25 drug dependence treatment centers in northern Italy was studied. All attending intravenous drug users were asked for their consent and screened for antibodies to human immunodeficiency virus; those who were seronegative were enrolled, interviewed about their habits, and invited to follow-up visits. Between 1987 and 1989, 1,195 seronegative intravenous drug users were enrolled, 635 were followed up (mean duration, 11.9 months), and 35 seroconversions were observed. The incidence rate ratios were 3.3 (95% confidence interval (CI) 1.4-7.5) for subjects aged <20 years, 2.4 (95% CI 1.2-4.7) for <2 years of intravenous drug use, 2.2 (95% CI 0.9-5.5) for syringe sharing, and 1.0 for subjects with a sexual partner who had tested positive for human immunodeficiency virus. A case-control approach, using logistic regression and adjusting for sex, age, area, and prevalence, showed odds ratios of 13.2 (95% CI 3.1 -56.8) for frequent syringe sharing and 4.0 (95% CI 1.5-10.4) for

sexual contacts with seropositive partners; frequent use of condoms was associated with a reduction in risk that did not reach statistical significance. Parenteral transmission is the most important route of infection with the human immunodeficiency virus among intravenous drug users, and sexual transmission plays a relevant, additive role (Nicolosi, Leite, Musicco, Molinari & Lazzarin, 1992).

The study by Robles, Colon, Sahai, Matos, Marrero and Reyes reports on four empirical models likely to contribute to understanding the behaviors linked with human immunodeficiency virus (HIV) among intravenous drug users. The sample comprises 1,637 intravenous drug users recruited between May 1989 and June 1990 in San Juan, Puerto Rico. Adjusting for socio-demographics, four logistic regression models were constructed to assess the association of risk behaviors with HIV seropositivity. In model 1, the variables found to be significantly associated with HIV seropositivity were injecting four times a day, injection as the only route of consuming drugs, and years of injection. In model 2, the only risk behavior significantly associated with HIV seropositivity was injecting drugs in shooting galleries. In model 3, all sex risk variables failed to meet the adjusted level of significance. In model 4, pneumonia, hepatitis, and syphilis were significantly linked with HIV infection. In order to assess the individual effects of the significant variables in each one of the four models, a logistic regression analysis was performed simultaneously controlling for all of the variables. After adjustment for the Bonferroni correction, age group 25-34 years, injection as the only route of using drugs, number of years of injection, and syphilis were the only significant variables remaining (Robles et al., 1992).

Although injection drug users have been shown to reduce high-risk injection behaviors in response to the epidemic of human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS), the total elimination of risk behaviors has not been

achieved. A more fundamental preventive measure may be to keep drug users from starting to inject at all. The authors selected 184 drug users from a cohort study in Amsterdam, the Netherlands, from 1985 to 1992, who had reported at entry to the study that they either had never injected drugs or had injected for the last time more than 1 year before the initial visit. Over a 5-year follow-up period, impressively high cumulative rates of transition to injection drug use were found in both groups. Among drug users who had never injected drugs, 30% began injecting; among those who had injected drugs 1-5 years before their entry into the study, 70% started injecting again. These rates were stable over time. The authors also confirmed that new injectors are at high risk of acquisition of HIV infection. With the use of a survival and a nested case-control analysis, the following independent risk factors that increased the likelihood of starting to inject were found: previous injecting history, ethnicity other than Surinamese/Antillean, regular long-term use of cocaine, current use of heroin, and a current steady sexual relationship with a partner who injects drugs. Given the high and stable incidence of initiation of injection among drug users within the cohort study, the prevention of this behavior appears to be difficult. Additional studies are needed to determine effective prevention strategies (Ameijden, Hoek, Hartgers & Coutinho, 1994).

Nine hundred and nineteen injecting drug users (IDUs) were interviewed in Glasgow, Scotland during 1990 and 1991, as part of a wider study of HIV risk behaviour, about their injecting and sexual behaviour outside the city in the previous two years. Forty-five percent of respondents injected outside Glasgow, 6% shared needles and syringes (n/s) and 20% had sexual intercourse. Much activity occurred outside Scotland but mainly within the UK, particularly London. Predictors of n/s sharing outside Glasgow during the previous two years included current injecting with and passing on of used n/s and sexual intercourse with casual partners.

Predictors of sexual behaviour outside Glasgow included passing on used n/s, having sexual intercourse with casual partners and, for females, engaging in prostitution. Glasgow IDUs are a highly mobile group and although HIV prevalence remains low within this population, considerable potential for importation/ exportation of HIV and other blood borne and sexually transmitted infections exists. Further work is required to establish why IDUs travel to, and engage in high-risk activities in locations outside their home environment, and detailed data about activities such as frequency of condom usage and n/s cleaning practices need to obtain. While there is a widespread network of services for IDUs in the UK, information provided usually relates to local services and may not fully address the needs of this mobile population. Therefore, it is recommended that IDUs be provided with details of facilities such as n/s exchange schemes and drug-treatment establishments in centres to where they most commonly travel (Goldberg et al., 1994).

From 1988 to 1991, 6,882 drug injectors in 15 US cities were interviewed and had serum samples collected. The interviews and samples were analyzed for determination of significant predictors of human immunodeficiency virus (HIV) seroconversion in the 10 low seroprevalence cities and the five high seroprevalence cities. The unit of analysis was the period of observation between consecutive paired interviews/blood samples. In Cox proportional hazards regression, significant predictors of seroconversion in the low seroprevalence cities were: not being in drug treatment, injecting in outdoor settings or abandoned buildings, using crack cocaine weekly or more frequently, engaging in woman-to-woman sex, being of non-Latino race/ethnicity, and city seroprevalence. Predictors in high seroprevalence cities were: injecting with potentially infected syringes, not being in drug treatment, and having a sex partner who injected drugs. These findings suggest that HIV may be concentrated in socio-behavioral pockets of infection in low

seroprevalence cities. For reducing HIV transmission, these results suggest: 1) in low seroprevalence cities, localized monitoring to detect specific emerging socio-behavioral pockets of infection, and quick implementation of appropriate targeted interventions if necessary; 2) in high seroprevalence cities, relatively more emphasis on locality-wide outreach and syringe exchange projects to reduce risky behavior; and 3) in both types of cities, considerable expansion of drug treatment programs (Friedman et al., 1995).

The aim of the study conducted by Pavia, Indovino, Nobile and Angellino was to evaluate the knowledge, attitudes and behaviour of Italian intravenous drug users (IVDUs) regarding AIDS. The study was cross-sectional survey. Setting: 4 public drug treatment centres in Calabria, Italy. 157 IVDUs attending the clinics from March to October 1994 recruited on a voluntary basis. A self-administered questionnaire consisting of questions on demographics, knowledge about AIDS, injecting and sexual behaviour and attitudes on drug-using and sexual activity was distributed to participants. Stepwise logistic regression was performed. Knowledge was significantly lower in married people (OR=0.22, 95% CI: 0.06-0.76) and in those with a lower income (OR=0.61, 95% CI: 0.38-0.97), while it was higher in IVDUs with a longer history of addiction (OR=1.19, 95% CI: 1.03-1.36). The 'sharing' of injecting equipment was significantly higher as the frequency of injection increased (OR=3.44, 95% CI: 1.17-10.36). The routine use of condoms was significantly lower in married people (OR=0.04, 95% CI: 0.01-0.43) and as the number of partners in the previous year increased (OR=0.39, 95% CI: 0.18-0.83), while it was significantly more common in those who considered that getting AIDS was a likely event in their lives (OR=3.61, 95% CI: 1.20-10.84). Knowledge was satisfactory in our population, except for methods of disinfection. The proportion of sharers in the previous 3 months (15.9%) was low. The routine use of condoms was still low, confirming resistance to



seeking a safer sexual lifestyle. The results of our study confirm that changing sexually risky behaviour has proven more difficult than changing drug injection risk behaviour. Our findings suggest that an important target for AIDS prevention programmes may be the reduction of frequency of injection and that intervention strategies should shift their emphasis from drug use to sexual behaviour (Pavia, Indovino, Nobile & Anglillo, 1997).

The study by Eicher, Crofts Benjamin, Deutschmann and Rodger aimed to measure risk behaviours and seroprevalence of HIV and hepatitis C virus in IDUs in Manipur, North-East India, and evaluate the impact of the recently established Syringe and Needle Exchange Program (SNEP). Sampling strategy was based on social networks. Peer interviewers administered the study questionnaire and collected blood for anti-HCV and anti-HIV testing. One hundred and ninety-one IDUs (85% male) took part. Average age at first injection was 19 years and average length of time injecting was 3.7 years. The main drug currently injected was heroin (66%). Most (93%) reported having shared injecting equipment and only 42% had used the SNEP. Three-quarters (74.7%) were infected with HIV and almost all (98%) with HCV. Age and length of time injecting were significantly associated with being HIV-positive. Over two-thirds were sexually active, but only 3% consistently used condoms. Almost three-quarters of IDUs in this study were infected with HIV, most within the first two years of injecting, indicating infection continues to spread at very high rates. Unsafe sexual practices place partners of infected IDUs at risk of infection. The SNEP must increase its coverage to young and new IDUs before they are exposed to blood-borne viruses (Eicher, Crofts, Deutschmann & Rodger, 2000).

Disclosing that one is HIV seropositive may reduce the burden of disease by facilitating reduction in risk behaviors and mobilizing network support. Logistic regression and generalized estimating equations (GEE) analyses were used to examine disclosure of HIV positive serostatus

to network members among 161 low-income, current, and former injection-drug users living with HIV/AIDS. About 14% of the respondents reported they had not disclosed their serostatus to any network members, whereas 35% reported that they had disclosed to all network members. Respondents who had known their HIV seropositive status longer, did not currently use illicit drugs, or had more education were more likely to have disclosed their HIV serostatus. Characteristics of network members associated with having been disclosed to include HIV seropositive status, not being a drug partner, residential propinquity, having known the respondent longer, and having discussed drug use with the respondent. The findings suggest that injection-drug users with HIV are more likely to disclose to network members with whom they have strong ties, and that drug-using partners are at high risk for HIV infection because they are less likely to self-disclose their serostatus (Latkin, Kuramoto, Davey-Rothwell & Tobin, 2010).

Injection risk practices and unprotected sex between injection drug users (IDUs) and their sexual partners are responsible for a high proportion of AIDS cases and new HIV infections in the United States. The purpose of this study was to investigate the links between drug use behaviors and psychosocial factors with high-risk sexual behaviors among male and female IDUs. Understanding the determinants of sexual risk practices among drug users can lead to the development of more effective programs to prevent sexual HIV and STD transmission. This study enrolled a community sample of 101 IDUs (males D 65, females D 36), primarily African American and unemployed, who injected drugs and had unprotected sex in the past 3 months. The sample was categorized into highest sexual risk (multiple partners and intercourse without condoms) and lower sexual risk subgroups. Univariate analyses showed that IDUs at highest sexual risk had lower sexual risk reduction self-efficacy and were more likely to be African American. Drug users at highest sexual risk also used non-injected cocaine and crack more

frequently, were less likely to inject heroin, and tended to more often inject cocaine. IDUs at highest sexual risk also tended to more often use crack and methamphetamines. Logistic regression analyses showed that injecting cocaine or crack, sexual risk reduction self-efficacy, and race were independent predictors of sexual risk behavior levels. Sexual risk reduction programs for this population are needed, with HIV prevention programs tailored to specific IDU risk reduction needs (Somlai, Kelly, McAuliffe, Ksobiech & Hackl, 2003).

Several studies have used social network variables to improve the understanding of HIV transmission. Similar analytic approaches have not been undertaken for hepatitis C (HCV) or B (HBV), nor used to conduct comparative studies on these pathogens within a single setting. A cross-sectional survey consisting of a questionnaire and blood sample was conducted on injection drug users in Winnipeg between December 2003 and September 2004. Logistic regression analyses were used to correlate respondent and personal network data with HCV, HBV and HIV prevalence. At the multivariate level, pathogen prevalence was correlated with both respondent and IDU risk network variables. Pathogen transmission was associated with several distinct types of high-risk networks formed around specific venues (shooting galleries, hotels) or within users who are linked by their drug use preferences. Smaller, isolated pockets of IDUs also appear to exist within the larger population where behavioural patterns pose a lesser risk, unless or until, a given pathogen enters those networks. The findings suggest that consideration of both respondent and personal network variables can assist in understanding the transmission patterns of HCV, HBV, and HIV. It is important to assess these effects for multiple pathogens within one setting as the associations identified and the direction of those associations can differ between pathogens (Wylie, Shah & Jolly, 2006).

Vietnam is in the midst of an expanding HIV epidemic, primarily driven by an increase in injection drug use in young people. This study was conducted to understand the patterns and initiation of drug use, and the sexual risk behavior among youth in three provinces in southern Vietnam. A cross-sectional survey was conducted among male and female drug users under age 25 recruited from drug treatment centers (N = 560) and the community (N = 240) in Ho Chi Minh City, Dong Nai and Ba Ria-Vung Tau. The majority of those surveyed (82%) began by smoking heroin; after a year, 57% were injecting heroin and/or opium. Initiation of drug use frequently occurred in entertainment venues. Among injectors, 23% shared needles; 71% of all users were sexually active of whom 77% had unprotected sex. More than half of those recruited from treatment centers had previously been in drug treatment. Public health programs to prevent and treat the dual epidemics of HIV and drug abuse must be able to access and respond to the needs of youth, many of whom are unemployed and exposed to drug traffic (Thao, Lindan Brickley & Giang, 2006).

In Iran, there are an estimated 200,000 injecting drug users (IDUs). Injecting drug use is a relatively new phenomenon for this country, where opium smoking was the predominant form of drug use for hundreds of years. As in many countries experiencing a rise in injecting drug use, HIV/AIDS in Iran is associated with the injection of drugs, accounting for transmission of more than two-thirds of HIV infections. This study aimed to: describe the range of characteristics of IDUs in Tehran, Iran's capital city; 2) examine the injecting-related HIV risk behaviors of IDUs, and 3) suggest necessary interventions to prevent HIV transmission among IDUs and their families and sex partners. Using rapid assessment and response methods with a qualitative focus, six districts of Tehran were selected for study. A total of 81 key informants from different sectors and 154 IDUs were selected by purposeful, opportunistic and snowball sampling, then

interviewed. Ethnographic observations were done for mapping and studying injecting-related HIV risk settings and behaviors. Modified content analysis methods were used to analyze the data and extract typologies of injecting drug users in Tehran. Evidence of injecting drug use and drug-related harm was found in 5 of 6 study districts. Several profiles of IDUs were identified: depending on their socioeconomic status and degree of stability, IDUs employed different injecting behaviors and syringe hygiene practices. The prevalence of sharing injection instruments ranged from 30–100%. Varied magnitudes of risk were evident among the identified IDU typologies in terms of syringe disinfection methods, level of HIV awareness, and personal hygiene exhibited. At the time of research, there were no active HIV prevention programs in existence in Tehran. The recent rise of heroin injection in Iran is strongly associated with HIV risk. Sharing injection instruments is a common and complex behavior among Iranian IDUs. For each profile of IDU we identified, diverse and targeted interventions for decreasing sharing behavior and/or its harms are suggested. Some notable efforts to reduce the harm of injecting drug use in Iran have recently been accomplished, but further policies and action-oriented research for identification of effective preventive interventions are urgently needed (Razzaghi, Movaghar, Green & Khoshnood, 2006).

The nature, context and frequency of use of various licit and illicit non-injection drugs are associated with an elevated risk of HIV infection. Beyond HIV, a high proportion of HIV infected IDUs are co-infected with HCV (hepatitis C virus). In this review, a brief review of the epidemiology of these problems, discuss behavioral interventions that can reduce ongoing high risk behaviors among HIV-seropositive IDUs and MSM-DUs, and review the literature which has evaluated their effectiveness was provided. The majority of these interventions has focused on HIV-seronegative heterosexuals and therefore need to be considered in this larger context;

however, where possible we discuss the potential impact of these interventions among HIV-seropositive persons. In addition, it was briefly discuss interventions which have the potential to simultaneously reduce ongoing transmission of both HIV and HCV. Finally, given the dearth of information on the effectiveness of behavioral interventions in reducing the burden of the HIV and HCV epidemics among persons already infected with either or both viruses, we describe some newer, promising interventions and offer suggestions for future studies (Strathdee and Patterson, 2006).

Iran faces parallel human immunodeficiency virus (HIV) and injection drug use epidemics; more than 62% of known HIV cases occur among injection drug users (IDU). A formative study of IDU in Tehran to explore risk behavior in the wake of the recent harm reduction efforts was conducted. Key informant interviews ( $n = 40$ ), focus group discussions (nine groups of IDU,  $n = 66$ ) and a review of existing published and unpublished literature were conducted. Participants included IDU, physicians, policy makers, police, IDU advocates and their families. IDU were diverse in gender, education, income and neighborhood of residence. Interviews were transcribed and analyzed using grounded theory. A typology of IDUs in Tehran, categorized according to self-defined networks as well as HIV risks, is presented. This categorization is based on the groups identified by IDUs, compared to those identified by other key informants, and on a secondary data review. Homeless, female, young IDU and users of a more potent form of heroin were identified as having increased risks for HIV. Participants described shortening transitions from smoked opium to injected opiates. Whereas a majority of participants considered needle sharing less common than previously, sharing continues in locations of group injection, and in states of withdrawal or severe addiction. System-wise barriers to harm reduction were discussed, and include the cost or stigma of purchasing needles

from pharmacies, over-burdened clinics, irregular enforcement of laws protecting IDU and lack of efforts to address the sexual risks of IDU. This research is one of the first to describe a diversity of IDU, including women and higher socio-economic class individuals, in Tehran. While efforts in harm reduction in Iran to date have been notable, ongoing risks point to an urgent need for targeted, culturally acceptable interventions (Razani et al., 2007).

Data from 6,341 injection drug users (IDUs) entering detoxification or methadone maintenance treatment in New York City between 1990 and 2004 was analysed to test the hypothesis that alcohol use and intoxication is associated with increased HIV sexual risk behaviors. Two types of associations were assessed: 1) a global association (i.e., the relationship between HIV sexual risk behaviors during the six months prior to the interview and at-risk drinking in that period, defined as more than 14 drinks per week for males or 7 drinks per week for females), and 2) an event-specific association (i.e., the relationship between HIV sexual risk behaviors during the most recent sex episode and alcohol intoxication during that episode). Sexual risk behaviors included multiple sex partners and engaging in unprotected sex. After adjusting for the effects of other variables, at-risk drinkers were more likely to report multiple sex partners and engaging in unprotected sex with casual sex partners (both global associations). IDUs who reported both they and their casual partners were intoxicated during the most recent sex episode were more likely to engage in unprotected sex (an event-specific association). We also observed two significant interactions. Among IDUs who did not inject cocaine, moderate-drinkers were more likely to report multiple partners. Among self-reported HIV seropositive IDUs, when both primary partners were intoxicated during the most recent sex episode they were more likely to engage in unprotected sex. These observations indicate both global and event-specific associations of alcohol and HIV sexual-risk behaviors. (Arasteh, Jarlais & Perlis, 2008).

Recent policy announcements in Canada and the United States may potentially affect the risk environment for HIV transmission among incarcerated injection drug users (IDU). We sought to evaluate the potential impact of incarceration on HIV risk behaviour among the IDU enrolled in a prospective cohort study. Patterns of incarceration among 1247 IDU participants enrolled in a 6-year prospective cohort study in Vancouver, Canada, and tested for potential associations between HIV risk behaviour and incarceration was examined. Correlates of incarceration were identified using generalized estimating equations (GEE). At baseline, factors significantly associated with incarceration included daily injection heroin and injection cocaine use and inconsistent condom use with casual sexual partners. In a GEE analysis, factors independently associated with incarceration included: used syringe borrowing (adjusted odds ratio [AOR]  $\frac{1}{4}$  1.36; [95% CI: 1.16–1.60]), used syringe lending (AOR  $\frac{1}{4}$  1.31; [95% CI: 1.12–1.55]) and inconsistent condom use with casual sexual partners (AOR  $\frac{1}{4}$  1.16; [1.02–1.33]). All variables  $P, 0.05$ . In the study, incarceration was independently associated with HIV transmission and acquisition behaviours. These findings suggest that increased rates of incarceration of IDU may be associated with increased HIV transmission among this group (Werb et al., 2008).

The objective of the study conducted by Uuskula, Kals, Rajaleid, Abel, Talu, Ruutel, Platt, Rhodes, DeHovitz and Jarlais was to examine HIV risk behavior and HIV infection among new injectors in Tallinn, Estonia. Data from two cross-sectional surveys of injecting drug users (IDUs) recruited from a syringe exchange program ( $N \frac{1}{4}$  162, Study 1) or using respondent driven sampling ( $N \frac{1}{4}$  350, Study 2). Behavioral surveys were administered; serum samples were collected for HIV testing. Subjects were categorized into new injectors (injecting  $\leq$  3 years) and long-term injectors (injecting  $>$  3 years). Twenty-eight of 161 (17%, Study 1) and 73/350 (21%, Study 2) of the study subjects were new injectors. HIV infection was substantial among the



newer injectors: HIV prevalence was 50% (Study 1) and 34% (Study 2), and estimated HIV incidence 31/100 PY and 21/100 PY, respectively. In Study 2, new injectors were more likely to be female and ethnic Estonian and less likely to be injecting daily compared with long term injectors. No significant difference was found among two groups on sharing injecting equipment or reported number of sexual partners. A continuing HIV epidemic among new injectors is of critical public health concern. Interventions to prevent initiation into injecting drug use and scaling up HIV prevention programs for IDUs in Estonia are of utmost importance (Uuskula et al., 2008).

The aim of the study conducted by Booth, Lehman, Dvoryak, Brewster and Sinitsyna is to assess the effectiveness of a brief human immunodeficiency virus (HIV) testing and counseling intervention compared to a more time-consuming and expensive street-based intervention with injection drug users (IDUs). Cross-over experimental design in which 900 IDUs were recruited, followed by a ‘wash-out’ period with no recruitment, a reversal of intervention assignment areas and an additional recruitment of 900 IDUs with baseline and 6-month follow-up assessments. The study was conducted in Kiev, Odessa and Makeevka/Donesk Ukraine. The study was conducted among a total of 1798 IDUs by HIV testing and audio computer-assisted self-interview (ACASI) data on socio-demographics, drug use and injection and sex-related risk behaviors. Participants in both conditions reduced their injection and sex risks significantly; however, there was little difference in outcomes between conditions. IDUs who knew they were HIV-infected at baseline were significantly more likely to practice safe sex than those unaware or HIV-negative; those who first learned that they were infected at baseline changed their safe sex practices significantly more than those who already knew that they were infected at baseline and those who were HIV-negative. Younger IDUs and those injecting for a

shorter period of time reported higher injection and sex risk behaviors following interventions. Awareness of HIV infection by street-recruited drug injectors is associated with reduced sex risks. Additional interventions are required for younger IDUs and those injecting for shorter periods of time (Booth, Lehman, Dvoryak, Brewster & Sinitsyna, 2009).

The study of Nayak, Korcha and Benega critically examined associations among past year alcohol use, self-rated mental health and HIV risk-related behaviors for men and their partners, i.e., two or more partners and/or perpetration of partner violence. Data are reported from a population sample of 1,137 men aged 16–49 in Karnataka. Overall, 9.5% of all men reported HIV risk-related behaviors, 38.1% consumed alcohol, and about half (54.5%) of all current drinkers met criteria for hazardous alcohol use. Hazardous alcohol use and poorer mental health remained significantly associated with HIV-risk related behaviors after controlling for sociodemographics and psychosocial risk factors. More severe alcohol misuse, specifically alcohol dependence, and co morbid hazardous alcohol use and poorer mental health, was associated with over two- and five-fold increases, respectively, in men's HIV risk-related behaviors. Implications of findings for HIV prevention and intervention programs for men and their partners and directions for future research are discussed (Nayak, Korcha & Benegal, 2010).

The study by Taran, Johnston, Pohorila and Saliuk present findings from a HIV survey using respondent driven sampling among 3,711 injecting drug users (IDUs) in 16 cities in Ukraine in 2008. Eligible participants were males and females who injected drugs in the past 1 month, >16 years and lived/worked in their respective interview area. The impact of injecting and sexual risk behaviors on HIV-infection were analyzed using four logistic models. Overall HIV prevalence was 32%. In the sexual risk model, paying for sex in the past 3 months and condom use during last sex increased the odds of HIV infection. Being female, having greater

than 3 years of injection drug use, always sharing equipment and using alcohol with drugs in the past month remained significant in all four models. These findings indicate the urgent need to scale up peer education, needle exchange and methadone substitution programs for IDUs with specific programs targeting the needs of female injectors (Taran, Johnston, Pohorila & Saliuk, 2011).

It is estimated that there are up to 1.1 million injection drug users (IDUs) in India; the majority are likely married. HIV, hepatitis B (HBV) and hepatitis C (HCV) prevalence and the risk environment of a sample of spouses of IDUs were characterized. A cohort of 1158 IDUs (99% male) was recruited in Chennai, India from 2005-06. A convenience sample of 400 spouses of the male IDUs in this cohort was recruited in 2009. A risk assessment questionnaire was administered and a blood sample collected. Logistic regression was used to identify factors associated with prevalent HIV. Median age was 31 years; thirteen percent were widowed and 7% were not currently living with their spouse. Only 4 (1%) reported ever injecting drugs; Twenty-two percent and 25% reported ever using non-injection drugs and alcohol, respectively. The majority had one lifetime sexual partner and 37 (9%) reporting exchanging sex. Only 7% always used condoms with their regular partner. HIV, HBV and HCV prevalence were 2.5%, 3.8% and 0.5%, respectively; among spouses of HIV+ IDUs (n = 78), HIV prevalence was 10.3%. The strongest predictor of HIV was spousal HIV status (OR: 17.9; p < 0.001). Fifty-six percent of women had ever experienced intimate partner violence; Eight-six percent reported sexual violence. The finding of a 10-fold higher HIV prevalence among spouses of IDUs compared with general population women indicates their vulnerability; prevalence is likely to increase given the context of low condom use and frequent sexual violence. Prevention efforts directed at IDUs should also include programs for spouses (Solomon et al., 2011).

Few investigations have assessed risk behaviours and social-structural contexts of risk among injecting drug users (IDUs) in Northeast India, where injecting drug use is the major route of HIV transmission. Investigations of risk environments are needed to inform development of effective risk reduction interventions. This mixed methods study of HIV-positive IDUs in Manipur included a structured survey (n = 75), two focus groups (n = 17), seven in-depth interviews, and two key informant interviews. One-third of survey participants reported having shared a needle/syringe in the past 30 days; among these, all the men and about one-third of the women did so with persons of unknown HIV serostatus. A variety of social-structural contextual factors influenced individual risk behaviours: barriers to carrying sterile needles/syringes due to fear of harassment by police and “anti-drug” organizations; lack of sterile needles/syringes in drug dealers’ locales; limited access to pharmacy-sold needles/syringes; inadequate coverage by needle and syringe programmes (NSPs); non-availability of sterile needles/syringes in prisons; and withdrawal symptoms superseding concern for health. Some HIV-positive IDUs who shared needles/syringes reported adopting risk reduction strategies: being the ‘last receiver’ of needles/syringes and not a ‘giver;’ sharing only with other IDUs they knew to be HIV-positive; and, when a ‘giver,’ asking other IDUs to wash used needles/syringes with bleach before using. Effective HIV prevention and care programmes for IDUs in Northeast India may hinge on several enabling contexts: supportive government policy on harm reduction programmes, including in prisons; an end to harassment by the police, army, and anti-drug groups, with education of these entities regarding harm reduction, creation of partnerships with the public health sector, and accountability to government policies that protect IDUs’ human rights; adequate and sustained funding for NSPs to cover all IDU

populations, including prisoners; and non discriminatory access by IDUs to affordable needles/syringes in pharmacies (Chakrapani, Newman, Shunmugam & Dubrow, 2011).

## **2.4 Research Gap**

The review pointed out a few research gaps. Firstly, there were a few empirical studies on this problem in terms of personal networks among the drug users in Mizoram. Secondly there were few studies on HIV risk behavior among youth in Mizoram. The present study attempted to fill these research gaps by the way of conducting a field survey among the drug users.

In this chapter an attempt had been made to present critical review of literature on Personal Networks and HIV Risk Behaviour of Injecting Drug Users in Aizawl. In the light of the review the next chapter presents the methodological aspects and the setting of the present study.

## **CHAPTER –III**

### **METHODOLOGY**

## **CHAPTER-III**

### **METHODOLOGY**

#### **3.1 Profile of the Study Area**

The study was conducted among injecting drug users in three institutions like K-Ward, Synod Rescue Home and Tawngtai Bethel Camp Centre.

##### **3.1.1. K-Ward:**

K-Ward is one of an important unit under Presbyterian Hospital, Durtlang. It is a place where substance abusers are treated by detoxification. It is divided into two sections: one section is for those abusers who have wounds and those abusers who want to be detoxified were put in separate section. There are 16 beds in each section. There are 2 Doctors, 1 Sister, 8 Staff Nurses, 2 Ward Assistants, 1 Ward Attendant and 1 Cleaner. Devotion, dressing, lecture on drug abuse related topics, family interaction and family counselling etc. are provided in this agency.

##### **3.1.2. Synod Rescue Home:**

Synod Rescue Home was established in 21<sup>st</sup> September, 1987. Initially, it was arranged for both males and females who had been facing problems of drugs, alcohol and other social evils. It has been one of the ongoing programmes of the Mizoram Synod Social Front Committee, which make the policy of the Home and direct for the running of the Home. The Rescue Home is a residential establishment where most of the Staff and their families dwell within the Home Campus. It is equipped with dedicated and committed 12 regular staff and 13 staff on contract basis. Doctors from Presbyterian Hospital visit the Home as and when

necessary. The Synod Rescue Home has been following three approaches treatment, namely: - spiritual approach, psychological approach and physical approach. The aims and objectives are: - i) To help and rehabilitate those who are creating problems to the government and the society. ii) To lead the mind, body and soul of the clients to Christ so as to enable them to construct a normal life. iii) To rehabilitate them by providing skill-trainings that will create self-sufficiency in their future. The home has been providing treatment for the clients at the maximum of six months de-addiction and rehabilitation period. This may be extended in accordance with their improvement during the course period.

### **3.1.3 Tawngtai Bethel Camp Centre**

Tawngtai Bethel Camp Centre was established in 27<sup>th</sup> January, 2005 by Mr. T.T. Zohmingthanga. It is a centre for males and females who had been facing problems of drugs and alcohol. There is 10 dedicated staff. At present there are 660 patients in the centre which comprised of 533 males, 108 females and 8 children. The centre has been providing treatment for the alcoholic patients for 10 months and also provides treatment for 12 months for the drug users.

### **3.2 Pilot Study**

For this study a pilot study was first conducted among few injecting drug users in two institutions like K-Ward and Synod Rescue Home to ensure what kind of problems injecting drug users' experience.

From the pilot study it was found that almost all the injecting drug users have different problems like personal problems, family problems and social problems. It was also found that many of them did not have good relationship with their family and friends. From the pilot study it was also learnt that injecting drug users have HIV risk behaviour.



### **3.3 Methodology**

The study was cross sectional in nature. The study employs a descriptive in design. Both Quantitative Data and Qualitative Data were collected. A semi-structured Interview Schedule was constructed and administered to collect the quantitative data. Prior to conducting the interview, the purpose of the study was explained and informed consent was taken from each and every one of the respondents to be interviewed. It was conducted among a total number of sixty male and forty female injecting drug users. Qualitative data was collected using case studies and Participatory Rural Appraisal (PRA).

#### **3.3.1 Source of Data**

The study was based on primary data collected through quantitative, qualitative and participatory methods. Primary data was collected from the injecting drug users who were selected purposively in Presbyterian Hospital, Durtlang, Synod Rescue Home, Durtlang, and Tawngtai Bethel Camp Centre. Four case studies and two PRA activities (Daily Activity Schedule and Cause Effect Diagram) were also conducted.

Secondary data were collected from books, journals, local newspapers, magazines, websites, etc.

#### **3.3.2 Tools of Data Collection**

1. Semi structured interview schedule was used to collect primary data. The schedule contains different sections which sought information on the demographic profile, family profile, details about injecting drug users, HIV risk behaviour and other information.

2. Case Study: The research scholar conducted 4 case studies. The following shows the details of the case studies and findings of the case study.

Case 1:

Name: Andrew (fictitious name)

Age: 33

Sex: Male

Sub tribe: Lusei

Marital Status: Divorced

Occupation: Unemployed

Educational Qualification: Class VII

Agency: Synod Rescue Home

Andrew got married when he was 21 years but unfortunately, he got divorced in 2009 due to his drug use and his disease i.e., HIV. His father remarried when Andrew was 25 years, He had a rough relationship with his step-mother. He was having HIV since 2008 due to sharing of needles with others and unsafe sex. When his step-mother realized he had HIV, she was afraid of him and started discriminating him. She told all their neighbors and families about his disease and told them to be careful. He felt miserable and felt abandoned. So, he ran away from home and went to his elder sister's house. But, his sister was staying with her in-laws and it was not comfortable to live with them. So, with the sponsorship of her sister he used to stay at different

rehabilitation homes. He accepts his position but sometimes he wanted to commit suicide. He really hated his step-mother and sometimes he wanted to take revenge.

Case 2:

Name: Mark (fictitious name)

Age: 37

Sex: Male

Sub tribe: Lusei

Marital Status: Divorced

Occupation: Private Employed

Educational Qualification: Class XII

Agency: K-Ward

Mark was from a broken family. He got married at the age of 23 and unfortunately got divorced at 2009. He started drinking alcohol at the age of 14 years and started using drug at the age of 17. He had two sons and at present he lived with his mother and his sons. He used to take Parvon by eating and by injecting. He used it 5 times a day. He had social problems, family problems and personal problems. He said that he did not share injecting equipment with others and he was free from HIV. He felt the need for help to overcome his addiction by means of medical help, spiritual help and counselling. He was detoxified for less than a year, he felt that it was not sufficient for his health and wanted to be free from drug. He had a poor relationship with his mother due to his addiction. He did not like the company of friends and he further said that he

did not even have a close friend. Mr. Mark's suggestions to get away from drug abuse are self-discipline and having good moral support.

Case 3:

Name: Nancy (fictitious name)

Age: 22

Sex: Female

Sub tribe: Sailo

Marital Status: Remarried

Occupation: Unemployed

Educational Qualification: Class X

Agency: Tawngtai Bethel Camp Centre

Nancy's first marriage was when she was only 16 years and had one son with her ex-husband. She got divorced at 2010. She was remarried at the age of 22. She lived with her husband's parents, her husband and her son. She started smoking when she was 13 years and consumed alcohol from the age of 16 years. She started using drug at the age of 16. She had a very bad relationship with her parents-in-law. She also said that she liked hanging out with her friends. She used to share injecting equipment with others and she had HIV. Due to this problem she did not like to mingle with the society and she felt excluded from social gatherings. She thought that she had loss respect within her family and she did not receive good quality health services.

Case 4:

Name: Christy (fictitious name)

Age: 25

Sex: Female

Sub tribe: Lusei

Marital Status: Unmarried

Occupation: Unemployed

Educational Qualification: Class VII

Agency: Synod Rescue Home

Christy's parents got divorced when she was only 7 years old and she lived with her mother. She had been facing a problem of abusing drug and alcohol. She started using drug and alcohol when she was only 14 years. She had a lot of stress and depression and she was afraid to think of her future. Her mother supports her for her process of detoxification. She accepted her position as the abuser but sometimes she felt miserable. She said she did not share the equipment with others and did not have sexual partners and said that was why she was free from HIV.

**Findings**

From the case studies conducted it can be seen that the common people do not clearly understand the situation of drug abusers. Family relationships played an important role in drug abusers life. Drug abuse is not only an individual problem, but also a family and social problem.

Counseling should be given for both the IDUs and for their family. IDUs who share needles and syringes with other IDUs who have Human Immunodeficiency Virus (HIV) are at high risk of becoming infected with the virus than those who do not share the equipments. Therefore more awareness about needle/ syringe exchange programme should be given among the IDUs.

3. Participatory Rural Appraisal (PRA): The trainee conducted two PRA exercises among the injecting drug users at K-Ward. PRA is described as growing body methods to enable local people to share, enhance, and analyse their knowledge of life and the conditions to plan, act, monitor and evaluate. It has drawn from various sources to develop its body of method and tools, some of which have been in us for decades. The two exercises are Daily Activity Schedule and Cause Effect Diagram.

#### **Daily Activity Schedule (Fig. 1.1.):**

Daily Activity Schedule is a popular PRA method used to explore the activities of an individual, group or community, on a daily basis. This method forms part of the family of temporal PRA methods. The basis of temporal analysis is hours or periods of the day. It depicts not only the various activities but also the duration of those activities. Its visual nature makes it an attractive method.

From the Daily Activity Schedule, it was found that the respondents wake up between 7:00 a.m. and 9:00 a.m. They used to take breakfast during 9:00 a.m. - 11:00 a.m. The working times for the respondents are 11:00 a.m. - 3:00 p.m. They spent 3:00 p.m.-5:00p.m. for indulgence. They had dinner at 5:00 p.m. – 7:00 p.m. They spent 7:00 p.m. -10:00 p.m. for indulgence and they sleep at 10:00 p.m. -12:30 a.m.

From the Daily Activity Schedule, it can be seen that the participants had many leisure times and enough time to engage in doing drugs. It can also be seen that the time spent by the respondents was not much different from the others but it can be seen that the participants spend most of their leisure time to do drugs.

### **Cause Effect Diagram (Fig.1.2.):**

Cause Effect Diagram is a popular PRA method which falls under the larger family of flow and linkage diagram methods. It focuses on the causal factors of a phenomenon, activity, or a problem, and the effects thereof. The cause effect diagram presents visually the cause, effects and their inter-linkages, which help in arriving at an in-depth understanding of a particular topic, and provide scope for analysis and subsequent action by the local people.

Cause Effect Diagram on a topic of Drug Abuse was conducted. The findings from the exercise are as follows:-

Causes of drug Abuse: The participants mentioned that they become abusers by their own desire. It can also be because of peer influence. They also included that due to broken family, a person is vulnerable to abuse drug. Bad effect of media also can become one of the causes of drug abuse among the respondents. The participants said that due to girlfriend/boyfriend a person can start using drug. If a person feels despaired or discouraged he was vulnerable to do drug. When a person is mistrusted or doubted by others it was easy for him to do anything in order to provoke, so, many respondents said that they used to provoke doubt by using drug. Environment plays a significant role in every human being. A person from unhealthy environment is more vulnerable to use drug than person in a healthy environment. Poverty is also one of the major causes of drug abuse.

Effect of Drug Abuse: From the exercise it can be seen that poverty is one of the major effect of drug abuse. Drug abuse can bring despair or discouragement. Drug abuse can cause unhealthy body and wound among the drug abusers. Due to drug abuse many family become broken. Due to drug abuse a person can avoid direct contact with others. Drug abuse can cause a person disowned or renounced by his family members or by his friends. Drug abuse can badly effect a person's occupation or work. Drug abuse badly affects not only his own life but also affect his family and society.

### **3.4 Data Processing and Analysis**

The quantitative data collected through field survey was processed through Microsoft excel and with the help of computer software SPSS package and E-Net. Qualitative data was processed with use of transcripts and has been presented in the form of reports.

### **3.5 Limitation of the Study**

The limitation of the study was that in order to study the personal networks only the perception of the drug users were collected, no information from the parents and friends side was collected. The perception of personal networks by parents and friends was needed in order to find out the results from both sides. The expected results from the interview cannot be find out because most of the respondents did not tell the exact situation and also during the interview some of the respondents' friends or workers of the agency stayed near them and they were afraid to give the correct answers as well.

This chapter had presented the setting and methodological aspects of the present study. The next chapter presents results and discussions of the study.



## **CHAPTER –IV**

## **RESULTS AND FINDINGS**

## CHAPTER-IV

### RESULTS AND DISCUSSIONS

In this present chapter an attempt has been made to present the results of the analysis of data collected through interview schedule, PRA activities and case studies in K-Ward, Presbyterian Hospital, Durtlang, Synod Rescue Home, Durtlang, and Tawngtai Bethel Camp Centre. This chapter has been presented in different sections and sub-sections.

#### **Table 4.1 Profile of the respondents**

The profile of the respondents are presented in fourteen sub-sections viz., age, education qualification, religion, denomination, sub-tribe, marital status, age at marriage, type of family, form of family, size of family, house live in, type of house, number of rooms and socio-economic category.

The respondents were collected from three institutions in Aizawl. More than half (60%) of the total respondents were male while a little less than half (40%) were female. Age is an important variable in research. In this study the age group was divided into five categories: i) below 14 years ii) 14-18 years, iii) 18-24 years, iv) 24-34 years and v) 34 and above. Results indicated that majority of the respondents consisted of both the age group between 18-24 years and the age group between 24-34 years (44% each). Out of 40 female respondents, the age group between 18-24 yrs constituted the majority (60%), and out of 60 male respondents, the age group between 24-34 years constituted the majority (48.33%). The age group from 34 and above constitutes the second highest (11%). The age group between 14-18 years constituted the lowest

percentage (1%). From the study, the mean age for male was 27.75 years and the mean age for female is 23.7years. The mean age for both male and female was 26.13years.

The educational qualification of the respondents was classified into five levels viz., primary, middle, H.S.L.C, H.S.S.L.C, and graduate. The highest educational level attained by the respondents was H.S.S.L.C (43%) followed by H.S.L.C (34%). The third highest position was occupied by both middle and graduate (11% each). Primary constituted the lowest educational qualification (1%).

All the respondents declared that they were Christians by faith with maximum number of them (83%) affiliated to the Presbyterian denomination. The fact that all respondents stated their religion as Christian can be explained by saying that since all families were of Christian households and children acquired their religion by birth and not by choice, thus explaining the indicated (100%) of Christianity of the respondents.

Sub-tribe of the respondents was divided into 6 types:- i) Lusei, ii) Ralte, iii) Hmar, iv) Paihte, v) Sailo and vi) Pawi. A little more than three-fifth (62%) belonged to Lusei sub-tribe, a little less than one-fifth (14%) belonged to Ralte and the other sub-tribes consisted of less than one-tenth of the total respondents.

The marital status of the respondents was classified into five categories viz., i) Unmarried ii) Married iii) Divorced iv) Remarried and v) Widowed. In this study, more than half of the respondents were unmarried (54%). The divorced group was the second highest (24%). The third highest group was married group (14%). Widowed were small in number (5%) and the lowest group was remarried (3%).

The age of the respondents at marriage was divided into five groups viz., i) Below 14 yrs ii) 14-18 yrs iii) 18-24 yrs iv) 24-34 v) 34 and above. Only few respondents were married (14%) in which most of them got married during the age between 18-24 years (26%). Only 11% of the respondents got married at the age between 24-34 years and only few respondents got married at the age between 14-18 years.

The family type was divided into two viz., nuclear family and joint family. Findings indicated that nuclear family elicit more respondents comprising more than half (59%) and less than half of the respondents belonged to joint family (41%).

The form of family was divided into three, namely i) Stable ii) Broken and iii) Reconstituted/Step family. Majority of the respondents belonged to stable family (85%) followed by broken family (10%). The remaining of the respondents (5%) belonged to reconstituted/step family. The findings indicated that IDUs do not necessarily belong to broken family.

The findings indicated that medium size family has the highest percentage of respondents comprising of about two-third (63%) while the big size family comprises a little more than one-tenth (12%) of the respondents. The mean of the family size for male is 4.63 and for female 4.73. For all the respondents, the mean size is 4.67.

The findings revealed that more than three-fourth (81%) lived in their own house while only few (18%) lived in rented house. More than half of the respondents (55%) lived in pucca house. The lowest group comprising of more than one-tenth (15%) lived in semi-pucca house.

The number of rooms where the respondents lived was divided into three groups :- i) 1-5, ii) 6-10 and iii) 11-15. More than half of the respondents (56%) lived in a house having 1-5

rooms, around two-fifth (41%) lived in a house having 6-10 rooms and only three percent (3%) lived in a house having 11-15 rooms.

The table reveals that socio-economic status contributed to an extent in the development of respondents. In the present study, socio-economic status was categorized into APL, BPL and AAY. The findings revealed that majority of the respondents belonged to an APL group comprising of more than three-fourth (86%), followed by BPL members (12%). AAY members were the lowest comprising a minority (1%) of the respondents.

#### **Table 4.2 Smoking habits of the respondents**

Majority of the respondents (90%) used to smoke and only one-tenth (10%) of the respondents were free from smoking. More than half of the respondents (53%) started smoking at the age between 14-18 years. One-fourth (25%) of the respondents started smoking before they reached 14 years. Only few respondents (11%) started smoking at the age between 18-24 years. Only one percent (1%) of the respondents started smoking at the age between 24-34 years. The mean age for male smoker respondents was 14.83 years and for female smoker respondents was 13.92 years. As a whole, the mean age for respondents was 14.47 years. More than two-third of the respondents (64%) used to smoke 1-10 cigarettes per day. Less than one-fourth of the respondents smoked 11-20 cigarettes per day. Only some respondents (3%) smoked 21-30 cigarettes per day. The table clearly showed that vast majority of the respondents were smokers and they started smoking in the early age itself.

#### **Table 4.3 Alcohol and drug consumed by the respondents**

More than two-third of the respondents (77%) consumed alcohol and less than one-third of the respondents (23%) were free from alcohol. The age at consuming alcohol was divided into

five categories viz., below 14 years, 14-18 years, 18-24 years, 24-34 years and 34 and above years. No respondent started consuming alcohol after completing the age of 34. Majority of the respondents (41%) started consuming alcohol at the age between 14-18 years. The findings indicated that less than two-tenth of the respondents (15%) started consuming alcohol at the age of 18-24 and more than one-tenth of the respondents (13%) started consuming alcohol before they reached 14 years. Less than one-tenth of the respondents started consuming alcohol at the age of 24-34 years.

Maximum of the respondents (44%) started doing drug at the age of 18-24 years and more than one-fourth (39%) respondents started doing drug when they were within the age of 14-18 years. Among the respondents only few (10%) started doing drug at the age between 24-34 years. The minimum number consisted of the respondents who started doing drug before reaching 14 years (7%).

#### **Table 4.4 Type of substance consumed by respondents**

The type of substance consumed by the respondents was divided into five, namely pan, heroin, ganja, cough syrup and parvon. More than two-third of the respondents (68%) were engaged in pan eating and more than three-fourth of the respondents (85%) consumed heroin. A little more than one-tenth of the respondents (13%) consumed ganja. Only one-tenth of the respondents (10%) consumed cough syrup and more than one-third (43%) of the respondents consumed parvon. The table obviously showed that majority (68%) of the respondents engaged in pan eating and one third (43%) of them consumed parvon.

#### **Table 4.5 Form of substances consumed**

Majority of the respondents consumed heroin (85%) by injecting and less than one fifth (13%) consumed ganja by smoking. Among the respondents less than one tenth (10%) consumed cough syrup by drinking. Among those respondents who consume parvon maximum of them (40%) consumed it by injecting and only small number (3%) consumed it by eating.

#### **Table 4.6 Mode of substance use**

The mode of substance use was divided into three viz., single use, multiple uses and sharing with friends. More than half of the respondents (54%) who consumed heroin, used it for multiple times. A little less than two-tenth (19%) of them shared with their friends and only a small number (12%) used it for a single time. Among the respondents who consumed ganja and cough syrup used it for single time. Among the parvon users, maximum of them (24%) shared with their friends and only few of them (9%) used it multiple times.

#### **Table 4.7 Frequency of substance use**

Majority of the smokers (41%) smoked cigarettes for 201-300 times in a month and a little more than one-fourth (29%) smoked cigarettes for more than 400 times in a month. A little less than one-tenth (9%) of the respondents smoked cigarettes for 11-100 times monthly and less than one-tenth (6%) smoked cigarettes for 301-400 times monthly. The minimum percentage consisted of smokers (5%) who smoke 101-200 times. Among the alcoholics, majority of the respondents (34%) drank alcohol below 10 times in a month and more than one-fourth (33%) of the respondents drank alcohol for 11-100 times monthly. Less than one-tenth (4%) of the respondents drank for 101-200 times monthly. The minimum numbers were those who drank alcohol for 201-300 and more than 400 times (2% each). More than one-third (35%) of the

respondents had said 'No Response' for frequency of chewing pan and a little less than one-fourth (22%) of the respondents chewed pan for 101-200 times monthly. Less than one-fifth (16%) of the respondents chewed pan for 400 and above times monthly and less than one-fifth (12%) of the respondents chewed pan for 201-300 times monthly. A little less than one-tenth (9%) of the respondents chewed pan for 11-100 times monthly and less than one-tenth (6%) of the respondents chewed pan for 301-400 times monthly. Majority of the heroin users (44%) consumed heroin for 101-200 times monthly. Less than one-fourth of the respondents (17%) consumed heroin for 11-100 times and the same percentage consumed heroin for 201-300 times monthly. Only one respondent (1%) used it for more than 400 times. Majority of the respondents (85%) had said 'No Response' for frequency of consuming ganja which means ganja was not much consumed by the respondents. Only few respondents (4%) consumed ganja for 11-100 times monthly and less than one-tenth of the respondents (2%) consumed ganja for 101-200 times and the same percentage (2%) consumed ganja for 201-300 times monthly. Only one percent (1%) consumed ganja below 10 times monthly. Majority of the parvon users (16%) used it for 201-300 times monthly and less than one-fourth (14%) used it for 101-200 times monthly. A little less than one-tenth (9%) used parvon for 11-100 times monthly and less than one-tenth (3%) consumed it for 301-400 times monthly. Only few respondents (2%) consumed parvon for more than 400 times monthly.

#### **Table 4.8 Reasons for re-using equipment**

Majority of the respondents (73%) said that they re-used the equipment due to irregular supply of the equipment while few respondents (11%) of them re-used the equipment due to uncomfortable accessing of the equipment. Only a small number said that they re-used the equipment due to high cost.



#### **Table 4.9 Problems faced as a result of doing drugs**

Majority of the respondents (87%) said they had problems due to drug use and only few respondents (13%) said they did not face problem due to drug use. 13 percent (13%) of the respondents said that they had abscess due to drug use and one-fourth (25%) of them faced social problems. More than half of the respondents (57%) faced family problems which showed that drug use did not only affect the user but it also affects their family. Majority of respondents (67%) faced personal problems due to drug use.

#### **Table 4.10 Respondent's opinion on giving up drugs**

All the respondents said that they wanted to give up and overcome the drug addiction. Majority of them (61%) wanted to overcome by medical help and followed by those who wanted to overcome by spiritual help (25%). Only small number (3%) said they wanted to overcome by counselling and there were some (11%) who did not respond this part.

#### **Table 4.11 Respondent's opinion on detoxification**

Majority of the respondents (84%) were detoxified and less than one-fourth (16%) of them were not detoxified. Among the respondents majority of them (55%) had been detoxed for less than one year and followed by those who were detoxed for more than one year (23%). There were only some respondents who had been detoxed for more than five years (6%). A little less than one-tenth (9%) of the respondents felt the need for detoxification and the rest (10%) did not felt the necessity of detoxification.

#### **Table 4.12 Respondent's family network**

The male IDUs networks had larger female members proportion as compared to the female members in the networks of female IDUs. In terms of age there was no significant difference in the composition. The average age of the members of the networks was worked out to 38 years for male IDUs and 39.94 years for female IDUs. The female IDUs family networks were more homophiles as compared to the male IDUs family network in terms of gender. In the male IDUs networks about 35 percent of their family members were male; in the female IDUs family network 52 percent of their families were female. In the structure of the family network of male and female IDUs no significant difference could be observed. In the degree as well as density of the networks there was no significant difference between the family members of male and female networks.

#### **Table 4.13 Respondents staying with family**

Almost all the respondent (98%) stayed with their family and only few (2%) did not stay with their family. The reasons for not staying with their family were due to divorce and abandoned by family.

#### **Table 4.14 Demographic and social composition of peer network**

Among the respondents, male associated more with male (mean 90.5), female associated more with female (mean 62.8). Among the respondents, the minimum age group of male was 24.3 and maximum 28 in the peer group. The minimum age group of female was 17 and the maximum age group was 19.5. Among the respondents, more than half (55.7%) male were unmarried, less than half (47.1%) female were unmarried. Among the respondents, majority of the male (91.7%) associated with friends, majority three-fourth (75%) of the female associated

with friends. Among the male respondents, the majority of the respondents educational status of their peers was Higher Secondary (mean 32.3) and for female respondents, the maximum educational status of their peers was Undergraduate level (mean 25.8). Presbyterian occupied the maximum status for both male (mean 84.4) and female peers (mean 60). The maximum sub-tribe for male and female peers was Lusei (mean 57.4 for male and mean 42.5 for female). Male respondents had only friend relationship with most of their friends (mean 91.7) and have both friend and kin relationship with little friends (mean 14.4). Female respondents had only friend relationship with majority of their friends (mean 75) and had both friend and kin relationship with few friends (mean 16.2).

#### **Table 4.15 Risk behaviour in the peer networks**

Among the male respondents, the highest risk behaviour in the peer networks was sex work (mean 84.9) followed by alcohol use (mean 75.3). The next highest risk behaviour was tobacco use (mean 73.5), followed by injecting drug use (mean 62) and followed by premarital sex (mean 44.9). The two lowest risk behaviours were drug use (mean 8.7) and HIV (0.6). Among the female respondents, the maximum risk behaviour in the peer networks was sex work (mean 77) followed by tobacco use (mean 57.9). The next highest risk behaviour was injecting drug use (mean 57.2), followed by alcohol use (mean 56.5) and followed by premarital sex (mean 46.1). The two lowest risk behaviours were drug use (mean 11) and HIV (mean 7).

#### **Table 4.16 Structure of Peer Networks: Personal Network Measures**

The degree of the structure of the peer networks among male respondents (mean 2.2) was higher than the degree of the structure of the peer networks among female respondents (mean 1.67). The density of the structure of the peer networks among male respondents (mean 0.35)

was also higher than the density of the structure of the peer networks among female respondents (mean 0.24).

**Table 4.17 Composition, Structure of Peer Networks and Frequency of Risk Behaviour: Pearson's R**

The Table 4.17 showed the composition, structure of Peer Networks and Frequency of Risk Behaviour: Pearson's R. It was found out that there was a relationship between age and alcohol use (0.31) at 0.01 level of significance in Pearson's R and there was also relationship between age and ganja use (0.23) at 0.05 level of significance in Pearson's R. In the composition of peer network minimum age, maximum age and average age were all associated with alcohol use respectively (0.34), (0.31) and (0.33) at 0.01 level of significance in Pearson's R. In the marital status, there was relationship between divorced and alcohol use (0.41) at 0.01 level of significance and there was a relationship between unmarried and pan use (0.23) at 0.05 level of significance in Pearson's R. In the risk behaviour among peers, there was a relationship between HIV and pan use (0.20) at 0.05 level of significance in Pearson's R.

From the analysis, the table showed clearly that there was a relationship between age and alcohol use and ganja use and also revealed that there was a peer network in terms of age and alcohol use. On the other hand, there was a relationship between divorced and alcohol use, this may be due to frustration among the divorced respondents.

**Table 4.18 Respondent's reasons to be with friends**

Majority the respondents (77%) liked to be with their friends and less than one-fourth of the respondents (23%) did not enjoy being with friends. More than half of the respondents (58%) spend their time with friends by chatting and less than half (43%) used their time with friends by

drinking alcohol. More than one-fourth of the respondents (29%) shared their time with friends by doing drug together and only few (8%) used their time with friends by playing games.

**Table 4.19 Time spend with friends**

A little more than one-fifth of the respondents (23%) spend more than five hours with their friends. A little less than one-fifth of the respondents (17%) spend their friends for two-three hours and a little more than one-tenth (15%) spend their times with their friends for three-four hours. A little more than one-tenth (12%) spend time with their friends for four-five hours and a little more than one-tenth (12%) spend for one-two hours with their friends and only few respondents (1%) spend time with their friends for less than one hour.

**Table 4.20 HIV**

A little less than half of the respondents (48%) had sexual partner while more than half of the respondents (52%) did not have sexual partner. Among those partners a little less than one-fifth (17%) engaged in drug use and the rest (83%) were free from drug use. Majority of the respondents (89%) were free from HIV and the rest (11%) were HIV infected. A little less than one-tenth (8%) of the respondents got HIV from unsafe sex, while 4 percent (4%) got it from sharing of needles with HIV infected persons. Among the HIV infected respondents all their families knew about their infection. Only 2 percent of the respondent's family faced problems because of the infection and the problem they faced were refusal of the family members and did not like to mingle with the society.

#### **Table 4.21 Respondents problems due to HIV infection**

The HIV infected respondents did not face much problem due to the infection. The problems they had faced were excluded from social gathering (2%), abandoned by spouse (2%), abandoned by family (1%), being denied in at religious rites/services (1%), lost respect with the family and in community (3%), being threatened with violence (3%) and being given poor quality health services.

#### **Table 4.22 Respondent's suggestion to get away from drug abuse**

More than one-third (37%) suggested that self-discipline can help to get away from drug abuse. The other suggestions to get away from drug abuse were spiritual help (13%), do not involve in drug use (12%), faith in God (9%), awareness campaign (7%), healthy environment (6%), counselling (5%), good relationship with family (5%), do not have relationship with drug abusers (4%), medical treatment (3%), staying at home (3%), healthy mind (2%) and be faithful (1%).

In this chapter an attempt had been made to discuss the results of the analysis of primary data of Personal Networks and HIV Risk Behaviour of Injecting Drug Users in Aizawl. The next chapter presents the major conclusions of the present study.

**Table 4.1: Profile of the Respondents**

Sl.No	Characteristics	Sex		Total N = 100
		Male n = 60	Female n =40	
<b>I</b>	<b>Age</b>			
	14-18 yrs	0 (0)	1 (2.50)	1 (1)
	18-24 yrs	20 (33.33)	24 (60)	44 (44)
	24-34 yrs	29 (48.33)	15 (37.50)	44 (44)
	34 and above	11 (18.33)	0 (0)	11 (11)
	<b>Mean age</b>	<b>27.75±5.88</b>	<b>23.7±3.78</b>	<b>26.13±5.49</b>
<b>II</b>	<b>Educational Qualification</b>			
	Primary	1 (1.67)	0 (0)	1 (1)
	Middle	5 (8.33)	6 (15)	11 (11)
	H.S.L.C.	20 (33.33)	14 (35)	34 (34)
	H.S.S.L.C	25 (41.67)	18 (45)	43 (43)
	Graduate	9 (15)	2 (5)	11 (11)
<b>III</b>	<b>Religion</b>			
	Christian	60	40	100
<b>IV</b>	<b>Denomination</b>			
	Presbyterian	52 (86.67)	31 (77.50)	83 (83)
	Salvation Army	3 (5)	5 (12.50)	8 (8)
	United Penticostal Church	0 (0)	1 (2.50)	1 (1)
	Baptist	5 (8.33)	3 (7.50)	8 (8)

<b>V</b>	<b>Sub-tribe</b>			
	Lusei	37 (61.67)	25 (62.50)	62 (62)
	Ralte	7 (11.67)	7 (17.50)	14 (14)
	Hmar	5 (8.33)	2 (5)	7 (7)
	Paihte	3 (5)	3 (7.50)	6 (6)
	Sailo	3 (5)	1 (2.50)	4 (4)
	Pawi	5 (8.33)	2 (5)	7 (7)
<b>VI</b>	<b>Marital Status</b>			
	Unmarried	34 (56.67)	20 (50)	54 (54)
	Married	11 (18.33)	3 (7.50)	14 (14)
	Divorced	13 (21.67)	11 (27.50)	24 (24)
	Remarried	1 (1.67)	2 (5)	3 (3)
	Widowed	1 (1.67)	4 (10)	5 (5)
<b>VII</b>	<b>Age at Marriage</b>			
	No response	34 (56.67)	20 (50)	54 (54)
	14-18 yrs	3 (5)	6 (15)	9 (9)
	18-24 yrs	13 (21.67)	13 (32.50)	26 (26)
	24-34 yrs	10 (16.67)	1 (2.50)	11 (11)
<b>VIII</b>	<b>Type of Family</b>			
	Nuclear	37 (61.67)	22 (55)	59 (59)
	Joint	23 (38.33)	18 (45)	41 (41)



<b>IX</b>	<b>Form of Family</b>			
	Stable	52 (86.67)	33 (82.50)	85 (85)
	Broken	5 (8.33)	5 (12.50)	10 (10)
	Reconstituted/Step Family	3 (5)	2 (5)	5 (5)
<b>X</b>	<b>Size of the family</b>			
	Small (1-3)	16 (26.67)	9 (22.50)	25 (25)
	Medium (4-6)	36 (60)	27 (67.50)	63 (63)
	Big (7 and above)	8 (13.33)	4 (10)	12 (12)
	<b>Mean size of family</b>	<b>4.63±1.93</b>	<b>4.73±1.64</b>	<b>4.67±1.81</b>
<b>XI</b>	<b>House live in</b>			
	Owned	48 (80)	33 (82.50)	81 (81)
	Rented	11 (18.33)	7 (17.50)	18 (18)
	No response	1 (1.67)	0 0	1 (1)
<b>XII</b>	<b>Type of house</b>			
	Kutchra	15 (25)	14 (35)	29 (29)
	Semi Pucca	10 (16.67)	5 (12.50)	15 (15)
	Pucca	34 (56.67)	21 (52.50)	55 (55)
	No response	1 (1.67)	0 0	1 (1)
<b>XIII</b>	<b>Number of rooms</b>			
	1-5	36 (60)	20 (50)	56 (56)
	6-10	23 (38.33)	18 (45)	41 (41)
	11-15	1 (1.67)	2 (5)	3 (3)

<b>XIV</b>	<b>Socio-economic category</b>			
	AAY	0 0	1 (2.50)	1 (1)
	BPL	4 (6.67)	8 (20)	12 (12)
	APL	55 (91.67)	31 (77.50)	86 (86)
	No response	1 (1.67)	0 0	1 (1)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.2: Smoking Habits of the Respondents**

<b>Sl.No.</b>	<b>Characteristics</b>	<b>Sex</b>		<b>Total N = 100</b>
		<b>Male n=60</b>	<b>Female n=40</b>	
<b>I</b>	<b>Smoke</b>			
	No	4 (6.67)	6 (15)	10 (10)
	Yes	56 (93.33)	34 (85)	90 (90)
<b>II</b>	<b>Age at smoking</b>			
	No response	4 (6.67)	6 (15)	10 (10)
	Below 14 yrs	15 (25)	10 (25)	25 (25)
	14-18 yrs	35 (58.33)	18 (45)	53 (53)
	18-24 yrs	6 (10)	5 (12.50)	11 (11)
	24-34 yrs	0 0	1 (2.50)	1 (1)
	<b>Mean age at Smoking</b>	<b>14.83±4.92</b>	<b>13.92±6.53</b>	<b>14.47±5.60</b>
<b>III</b>	<b>No. of cigarettes smoke per day</b>			
	1-10	42 (70)	22 (55)	64 (64)
	11-20	12 (20)	11 (27.50)	23 (23)
	21-30	2 (3.33)	1 (2.50)	3 (3)
	No Response	4 (6.67)	6 (15)	10 (10)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.3: Alcohol and Drug Consumed by the Respondents**

Sl.No	Characteristics	Sex		Total N = 100
		Male n = 60	Female n= 40	
<b>I</b>	<b>Consume alcohol</b>			
	No	11 (18.33)	12 (30)	23 (23)
	Yes	49 (81.67)	28 (70)	77 (77)
<b>II</b>	<b>Age at consuming alcohol</b>			
	No response	11 (18.33)	14 (35)	25 (25)
	Below 14 yrs	9 (15)	4 (10)	13 (13)
	14-18 yrs	27 (45)	14 (35)	41 (41)
	18-24 yrs	8 (13.33)	7 (17.50)	15 (15)
	24-34 yrs	5 (8.33)	1 (2.50)	6 (6)
<b>III</b>	<b>Age at taking drug</b>			
	Below 14 yrs	7 (11.67)	0 0	7 (7)
	14-18 yrs	19 (31.67)	20 (50)	39 (39)
	18-24 yrs	25 (41.67)	19 (47.50)	44 (44)
	24-34 yrs	9 (15)	1 (2.50)	10 (10)

Source: Computed

Figures in parentheses are percentage

**Table 4.4: Type of Substance consumed by Respondents**

Sl.No	Characteristics	Sex		Total N = 100
		Male n = 60	Female n = 40	
<b>I</b>	<b>Pan</b>			
	No	19 (31.67)	13 (32.50)	32 (32)
	Yes	41 (68.33)	27 (67.50)	68 (68)

<b>II</b>	<b>Heroin</b>			
	No	8 (13.33)	7 (17.50)	15 (15)
	Yes	52 (86.67)	33 (82.50)	85 (85)
<b>III</b>	<b>Ganja</b>			
	No	51 (85)	36 (90)	87 (87)
	Yes	9 (15)	4 (10)	13 (13)
<b>IV</b>	<b>Cough Syrup/ Pills</b>			
	No	53 (88.33)	37 (92.50)	90 (90)
	Yes	7 (11.67)	3 (7.50)	10 (10)
<b>V</b>	<b>Parvon</b>			
	No	36 (60)	21 (52.50)	57 (57)
	Yes	24 (40)	19 (47.50)	43 (43)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.5: Form of Substances Consumed**

Sl.No.	Characteristics	Sex		Total N = 100
		Male n =60	Female n =40	
<b>I</b>	<b>Heroin/.5</b>			
	No response	8 (13.33)	7 (17.50)	15 (15)
	Injecting	52 (86.67)	33 (82.50)	85 (85)
<b>II</b>	<b>Ganja</b>			
	No response	51 (85)	36 (90)	87 (87)
	Smoking	9 (15)	4 (10)	13 (13)

<b>III</b>	<b>Cough syrup</b>			
	No response	53 (88.33)	37 (92.50)	90 (90)
	Drinking	7 (11.67)	3 (7.50)	10 (10)
<b>IV</b>	<b>Parvon</b>			
	No response	36 (60)	21 (52.50)	57 (57)
	Eating	2 (3.33)	1 (2.50)	3 (3)
	Injecting	22 (36.67)	18 (45)	40 (40)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.6: Mode of Substance Use**

Sl.No	Characteristics	Sex		Total N = 100
		Male n = 60	Female n = 40	
<b>I</b>	<b>Heroin/No.4</b>			
	No response	8 (13.33)	7 (17.50)	15 (15)
	Single use	7 (11.67)	5 (12.50)	12 (12)
	Multiple use	35 (58.33)	19 (47.50)	54 (54)
	Share with friends	10 (16.67)	9 (22.50)	19 (19)
<b>II</b>	<b>Ganja</b>			
	No response	52 (86.67)	36 (90)	88 (88)
	Single use	8 (13.33)	4 (10)	12 (12)
<b>III</b>	<b>Cough syrup</b>			
	No response	53 (88.33)	37 (92.50)	90 (90)
	Single use	7 (11.67)	3 (7.50)	10 (10)

<b>IV</b>	<b>Parvon</b>			
	No response	41 (68.33)	26 (65)	67 (67)
	Multiple use	5 (8.33)	4 (10)	9 (9)
	Share with friends	14 (23.33)	10 (25)	24 (24)

**Source Computed      Figures in Parentheses are percentages Mean±SD**

**Table 4.7: Frequency of Substance Use**

<b>Sl.No.</b>	<b>Characteristics</b>	<b>Sex</b>		<b>Total N = 100</b>
		<b>Male n=60</b>	<b>Female n =40</b>	
<b>I</b>	<b>Smoking</b>			
	No response	4 (6.67)	6 (15)	10 (10)
	11-100 times monthly	5 (8.33)	4 (10)	9 (9)
	101-200 times monthly	3 (5)	2 (5)	5 (5)
	201-300 times monthly	29 (48.33)	12 (30)	41 (41)
	301-400 monthly	1 (1.67)	5 (12.50)	6 (6)
	400 above times monthly	18 (30)	11 (27.50)	29 (29)

<b>II</b>	<b>Alcohol</b>			
	No response	12 (20)	13 (32.50)	25 (25)
	Below 10 times monthly	18 (30)	16 (40)	34 (34)
	11-100 times monthly	24 (40)	9 (22.50)	33 (33)
	101-200 times monthly	4 (6.67)	0 0	4 (4)
	201-300 times monthly	0 0	2 (5)	2 (2)
	400 above times monthly	2 (3.33)	0 0	2 (2)
<b>III</b>	<b>Pan</b>			
	No response	22 (36.67)	13 (32.50)	35 (35)
	11-100 times monthly	7 (11.67)	2 (5)	9 (9)
	101-200 times monthly	14 (23.33)	8 (20)	22 (22)
	201-300 times monthly	6 (10)	6 (15)	12 (12)
	301-400 monthly	3 ( )	3 (7.50)	6 (6)
	400 above times monthly	8 (13.33)	8 (20)	16 (16)

<b>IV</b>	<b>Heroin/No.4</b>			
	No response	9 (15)	7 (17.50)	16 (16)
	Below 10 times monthly	3 (5)	2 (5)	5 (5)
	11-100 times monthly	12 (20)	5 (12.50)	17 (17)
	101-200 times monthly	28 (46.67)	16 (40)	44 (44)
	201-300 times monthly	7 (11.67)	10 (25)	17 (17)
	400 above times monthly	1 (1.67)	0 0	1 (1)
<b>V</b>	<b>Ganja</b>			
	No response	52 (86.67)	36 (90)	88 (88)
	Below 10 times monthly	2 (3.33)	3 (7.50)	5 (5)
	11-100 times monthly	4 (6.67)	0 0	4 (4)
	101-200 times monthly	1 (1.67)	1 (2.50)	2 (2)
	201-300 times monthly	1 (1.67)	0 0	1 (1)
<b>VI</b>	<b>Cough syrup</b>			
	No response	54 (90)	37 (92.50)	91 (91)
	Below 10 times monthly	1 (1.67)	0 0	1 (1)
	11-100 times monthly	2 (3.33)	2 (5)	4 (4)
	101-200 times monthly	2 (3.33)	0 0	2 (2)
	201-300 times monthly	1 (1.67)	1 (2.50)	2 (2)



<b>VII</b>	<b>Parvon</b>			
	No response	35 (58.33)	21 (52.50)	56 (56)
	11-100 times monthly	4 (6.67)	5 (12.50)	9 (9)
	101-200 times monthly	11 (18.33)	3 (7.50)	14 (14)
	201-300 times monthly	10 (16.67)	6 (15)	16 (16)
	301-400 monthly	0 0	3 (7.50)	3 (3)
	400 above times monthly	0 0	2 (5)	2 (2)

**Source Computed Figures in Parentheses are percentages  
Mean±SD**

**Table 4.8: Reasons for re-using equipment**

<b>Sl.No</b>	<b>Characteristics</b>	<b>Sex</b>		<b>Total N=100</b>
		<b>Male n=60</b>	<b>Female n=40</b>	
<b>I</b>	<b>Reasons for re-using equipment</b>			
	No response	8 (13.33)	5 (12.50)	13 (13)
	Irregular supply of equipment	41 (68.33)	32 (80)	73 (73)
	High cost	1 (1.67)	2 (5)	3 (3)
	Uncomfortable accessing	10 (16.67)	1 (2.50)	11 (11)

**Source Computed Figures in Parentheses are percentages Mean±SD**

**Table 4.9: Problems faced as a Result of Doing Drugs**

Sl.No.	Characteristics	Sex		Total N = 100
		Male n = 60	Female n = 40	
<b>I</b>	<b>Problems</b>			
	No	8 (13.33)	5 (12.50)	13 (13)
	Yes	52 (86.67)	35 (87.50)	87 (87)
<b>II</b>	<b>Abscess</b>			
	No	51 (85)	36 (90)	87 (87)
	Yes	9 (15)	4 (10)	13 (13)
<b>III</b>	<b>Social problems</b>			
	No	44 (73.33)	31 (77.50)	75 (75)
	Yes	16 (26.67)	9 (22.50)	25 (25)
<b>IV</b>	<b>Family problems</b>			
	No	25 (41.67)	18 (45)	43 (43)
	Yes	35 (58.33)	22 (55)	57 (57)
<b>V</b>	<b>Personal problems</b>			
	No	24 (40)	9 (22.50)	33 (33)
	Yes	36 (60)	31 (77.50)	67 (67)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.10: Respondents Opinion on Giving up Drugs**

Sl.No.	Characteristics	Sex		Total N = 100
		Male n = 60	Female n = 40	
<b>I</b>	<b>Give up addiction</b>			
	Yes	60 (100)	40 (100)	100 (100)
<b>II</b>	<b>Overcome</b>			
	Yes	60 (100)	40 (100)	100 (100)
<b>III</b>	<b>Method willing to overcome</b>			
	No response	7 (11.67)	4 (10)	11 (11)
	Medical help	37 (61.67)	24 (60)	61 (61)
	Spiritual help	13 (21.67)	12 (30)	25 (25)
	Counselling	3 (5)	0 (0)	3 (3)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.11: Respondents Opinion on Detoxification**

Sl.No	Charcteristics	Sex		Total N = 100
		Male n = 60	Female n = 40	
<b>I</b>	<b>Detoxified</b>			
	No	52 (86.67)	32 (80)	84 (84)
	Yes	8 (13.33)	8 (20)	16 (16)
<b>II</b>	<b>Duration of detoxification</b>			
	No response	8 (13.33)	8 (20)	16 (16)
	Less than 1 year	30 (50)	25 (62.50)	55 (55)
	More than 1 year	17 (28.33)	6 (15)	23 (23)
	More than 5 years	5 (8.33)	1 (2.50)	6 (6)

<b>III</b>	<b>Need to be detoxified</b>			
	No	3 (5)	7 (17.50)	10 (10)
	Yes	57 (95)	33 (82.50)	90 (90)
<b>IV</b>	<b>Way of detoxified</b>			
	No response	8 (13.33)	9 (22.50)	17 (17)
	By medicine	23 (38.33)	11 (27.50)	34 (34)
	By prayer	7 (11.67)	5 (12.50)	12 (12)
	By other means	22 (36.67)	15 (37.50)	37 (37)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.12: Respondent's Family Network**

Sl.No	Network Measure	Gender				Total		Mann-Whitney	Wilcoxon	Z	Asymp. Sig. (2-tailed)
		Male		Female							
		Mean	S.D	Mean	S.D	Mean	S.D	U	W	Z	
	SEX:Female	61.76	22.09	52.39	20.73	58.02	21.94	845.5	1665.5	-2.5	0.01
	age:Avg	38.10	13.68	39.94	9.49	38.83	12.16	1113.0	2943.0	-0.6	0.54
	age:SD	13.14	7.75	13.94	7.46	13.46	7.61	1083.0	2913.0	-0.8	0.41
	SEX:SameProp	34.90	19.92	51.56	21.15	41.57	21.91	704.0	2534.0	-3.5	0.00
	SEX:E-I	0.26	0.37	-0.03	0.42	0.15	0.42	741.5	1561.5	-3.3	0.00
	SH:Degree	3.57	2.04	3.63	1.75	3.59	1.92	1136.0	2966.0	-0.5	0.65
	SH:Density	0.43	0.16	0.45	0.14	0.44	0.15	1139.5	2969.5	-0.6	0.52

Source:Computed

**Table 4.13: Respondents Staying with Family**

Sl.No.	Characteristics	Sex		Total N=100
		Male n = 60	Female n = 40	
<b>I</b>	<b>Staying with Family</b>			
	No	2 (3.33)	0 0	2 (2)
	Yes	58 (96.67)	40 (100)	98 (98)
<b>II</b>	<b>Reason for not staying with family</b>			
	No response	58 (96.67)	40 (100)	98 (98)
	Divorce	1 (1.67)	0 0	1 (1)
	Abandoned by family	1 (1.67)	0 0	1 (1)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.14: Demographic and Social Composition of Peer Network**

Sl.No		Sex				Total	
		Male		Female		Total	
		Mean	SD	Mean	SD	Mean	SD
<b>I</b>	<b>Gender</b>						
	Female	1.2	6.9	62.8	43.2	25.8	41.0
	Male	90.5	28.4	12.2	23.9	59.2	46.8
<b>II</b>	<b>Age</b>						
	Minimum	24.3	9.6	17.0	10.5	21.3	10.5
	Maximum	28.0	10.6	19.5	12.1	24.6	11.9
	Average	26.0	9.9	18.3	11.2	22.9	11.1
<b>III</b>	<b>Marital Status</b>						
	Unmarried	55.7	41.0	47.1	43.6	52.2	42.1
	Married	28.7	37.3	10.6	25.9	21.5	34.3
	Divorced	7.2	20.9	17.0	31.8	11.1	26.1
	Widowed	0.0	0.0	0.4	2.3	0.1	1.4

<b>IV</b>	<b>Education Status</b>						
	Primary	0.0	0.0	0.4	2.3	0.1	1.4
	Middle	12.1	26.6	12.3	28.6	12.2	27.3
	High School	18.1	32.3	14.8	31.6	16.8	31.9
	Higher Secondary	32.3	34.2	19.9	30.9	27.3	33.3
	Undergraduate	26.2	36.4	25.8	38.6	26.0	37.1
	Post Graduate	3.1	14.9	1.3	7.9	2.3	12.5
<b>V</b>	<b>Denomination</b>						
	Presbyterian	84.4	32.3	60.0	46.6	74.6	40.3
	Baptist	3.8	13.2	10.0	28.2	6.3	20.7
	The Salvation Army	1.7	9.1	4.4	17.8	2.8	13.2
	Roman Catholic	0.4	3.2	0.0	0.0	0.3	2.5
	UPC	0.0	0.0	0.6	4.0	0.3	2.5
	Seventh Day Adventist	0.3	2.6	0.0	0.0	0.2	2.0
<b>VI</b>	<b>Sub tribe</b>						
	Lusei	57.4	48.8	42.5	58.2	51.5	53.7
	Ralte	20.3	31.5	21.9	37.4	20.9	33.8
	Hmar	7.7	21.3	7.8	23.9	7.7	22.8
	Pawi	4.4	16.5	0.0	0.0	2.7	12.9
	Paite	1.8	8.3	2.9	11.2	2.2	9.5
<b>VII</b>	<b>Relationship</b>						
	Friend	91.7	27.9	75.0	43.9	85.0	35.9
	Kin	14.4	31.0	16.2	29.0	15.1	30.1

Source: Computed

**Table 4.15: Risk Behaviour in the Peer Networks**

Sl.No		Sex					
		Male		Female		Total	
		Mean	SD	Mean	SD	Mean	SD
1	Sex Work	84.9	30.8	77.0	73.9	81.7	57.9
2	Alcohol Use	75.3	39.5	56.5	47.8	67.8	43.8
3	Tobacco Use	73.5	40.4	57.9	47.4	67.3	43.8
4	ID Use	62.0	39.3	57.2	46.0	60.1	42.0
5	Premarital Sex	44.9	45.4	46.1	48.5	45.4	46.4
6	Drug Use	8.7	21.7	11.0	25.8	9.6	23.3
7	HIV	0.6	4.3	7.0	19.9	3.1	13.3

Source: Computed

**Table 4.16: Structure of Peer Networks: Personal Network Measures**

Sl.No		Sex					
		Male		Female		Total	
		Mean	SD	Mean	SD	Mean	SD
	Degree	2.2	1.6	1.67	1.7	1.99	1.6
	Density	0.35	0.2	0.24	0.2	0.31	0.2

Source: Computed

**Table 4.17: Composition, Structure of Peer Networks and Frequency of Risk Behaviour: Pearson's R**

	Frequency of					
	Smoking	Alcohol Use	Pan use	Heroin	Ganja Use	Cough Syrup Use
<b>Respondent Characteristics</b>						
Age	-0.09	0.31**	0.08	-0.07	-0.23*	0.06
Gender	-0.08	-0.19	0.11	0.03	-0.09	-0.03
<b>Composition of Peer Network</b>						
<b>Age</b>						
Minimum	-0.01	0.34 **	0.01	-0.04	0.05	0.02
Maximum	-0.04	0.31**	0.01	-0.04	0.03	0.07
Average	-0.03	0.33**	0.01	-0.04	0.04	0.04
<b>Gender</b>						
Female	-0.01	-0.03	0.09	-0.04	-0.02	0.00
Male	0.00	0.15	-0.12	-0.02	0.12	0.04
<b>Marital Status</b>						
Divorced	0.06	0.41**	0.12	-0.04	0.02	0.04
Unmarried	0.03	-0.18	-0.23*	-0.03	0.18	0.02
<b>Risk Behaviour Among Peers</b>						
HIV	-0.10	0.07	-0.20*	-0.04	-0.01	0.15
ID Use	0.02	0.12	-0.04	-0.07	0.09	0.02
Premarital Sex	0.04	-0.10	-0.07	0.08	0.05	-0.01
Smoking	0.09	0.19	-0.03	-0.03	0.13	-0.01
Sex Work	0.03	0.04	-0.05	-0.06	-0.09	0.13
Tobacco Use	0.13	0.21	0.05	-0.03	0.00	-0.03
<b>Network Measures</b>						
Degree	-0.01	-0.02	-0.05	0.13	0.10	0.05
Density	0.08	-0.06	-0.07	0.04	0.13	0.08

Source: Computed

**Table 4.18: Respondents Reasons to be with Friends**

Sl.No.	Characteristics	Sex		Total N = 100
		Male n = 60	Female n =40	
<b>I</b>	<b>Being with friends</b>			
	No	9 (15)	14 (35)	23 (23)
	Yes	51 (85)	26 (65)	77 (77)
<b>II</b>	<b>Chatting</b>			
	No	23 (38.33)	19 (47.50)	42 (42)
	Yes	37 (61.67)	21 (52.50)	58 (58)
<b>III</b>	<b>Drink alcohol</b>			
	No	28 (46.67)	29 (72.50)	57 (57)
	Yes	32 (53.33)	11 (27.50)	43 (43)
<b>IV</b>	<b>Use drugs</b>			
	No	44 (73.33)	27 (67.50)	71 (71)
	Yes	16 (26.67)	13 (32.50)	29 (29)
<b>V</b>	<b>Playing/ playing games</b>			
	No	52 (86.67)	40 (100)	92 (92)
	Yes	8 (13.33)	0 0	8 (8)

Source Computed      Figures in Parentheses are percentages Mean±SD



**Table 4.19: Time Spend with Friends**

Sl.No	Characteristics	Sex		Total N=100
		Male n=60	Female n=40	
<b>I</b>	<b>Spend time with Friends</b>			
	No response	7 (11.67)	13 (32.50)	20 (20)
	Less than 1 hour	0 0	1 (2.50)	1 (1)
	1-2 hours	10 (16.67)	2 (5)	12 (12)
	2-3 hours	10 (16.67)	7 (17.50)	17 (17)
	3-4 hours	9 (15)	6 (15)	15 (15)
	4-5 hours	10 (16.67)	2 (5)	12 (12)
	5 and above	14 (23.33)	9 (22.50)	23 (23)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.20: HIV**

Sl.No	Characteristics	Sex		Total N = 100
		Male n = 60	Female n = 40	
<b>I</b>	<b>Sex Partner</b>			
	No	31 (51.67)	21 (52.50)	52 (52)
	Yes	29 (48.33)	19 (47.50)	48 (48)
<b>II</b>	<b>Partner use Drug</b>			
	No	58 (96.67)	25 (62.50)	83 (83)
	Yes	2 (3.33)	15 (37.50)	17 (17)
<b>III</b>	<b>Infected by HIV</b>			
	No	57 (95)	32 (80)	89 (89)
	Yes	3 (5)	8 (20)	11 (11)

<b>IV</b>	<b>Contract of Disease</b>			
	No response	57 (95)	31 (77.50)	88 (88)
	Unsafe sex	2 (3.33)	4 (10)	6 (6)
	Multiple sex partners	0 0	2 (5)	2 (2)
	Sharing of needles with HIV infected person	1 (1.67)	3 (7.50)	4 (4)
<b>V</b>	<b>Knowledge to family</b>			
	No	57 (95)	32 (80)	89 (89)
	Yes	3 (5)	8 (20)	11 (11)
<b>VI</b>	<b>Who knows</b>			
	No response	57 (95)	32 (80)	89 (89)
	Mother	1 (1.67)	2 (5)	3 (3)
	All of them	2 (3.33)	6 (15)	8 (8)
<b>VII</b>	<b>Family face any problems because of your infection</b>			
	No	59 (98.33)	39 (97.50)	98 (98)
	Yes	1 (1.67)	1 (2.50)	2 (2)
<b>VIII</b>	<b>Problem</b>			
	No response	59 (98.33)	39 (97.50)	98 (98)
	Refusal of the family members	1 (1.67)	0 0	1 (1)
	Do not like to mingle with the society	0 0	1 (2.50)	1 (1)

Source Computed      Figures in Parentheses are percentages Mean±SD

**Table 4.21: Respondents Problems due to HIV infection**

<b>Sl.no.</b>	<b>Characteristics</b>	<b>Frequency</b>	<b>Percent</b>
<b>I</b>	<b>Excluded from social gathering</b>		
	No	98	98
	Yes	2	2
<b>II</b>	<b>Abandoned by spouse</b>		
	No	98	98
	Yes	2	2
<b>III</b>	<b>Abandoned by family</b>		
	No	99	99
	Yes	1	1
<b>IV</b>	<b>Isolated in household</b>		
	No	100	100
	Yes	0	0
<b>V</b>	<b>Being denied in at religious rites/services</b>		
	No	99	99
	Yes	1	1
<b>VI</b>	<b>Lost respect with the family and in community</b>		
	No	97	97
	Yes	3	3
<b>VII</b>	<b>Being threatened with violence</b>		
	No	97	97
	Yes	3	3
<b>VIII</b>	<b>Being given poor quality health services</b>		
	No	97	97
	Yes	3	3

Source Computed      Figures in Parentheses are percentages Mean±S

**Table 4.22: Respondents Suggestions to Get Away from Drug Abuse**

Sl.No	Characteristics	Sex		Total N = 100
		Male n = 60	Female n =40	
<b>I</b>	<b>Self discipline</b>			
	No	37 (61.67)	26 (65)	63 (63)
	Yes	23 (38.33)	14 (35)	37 (37)
<b>II</b>	<b>Staying at home</b>			
	No	58 (96.67)	39 (97.50)	97 (97)
	Yes	2 (3.33)	1 (2.50)	3 (3)
<b>III</b>	<b>Do not have relationship with drug abusers</b>			
	No	57 (95)	39 (97.50)	96 (96)
	Yes	3 (5)	1 (2.50)	4 (4)
<b>IV</b>	<b>Do not involve in drug use</b>			
	No	54 (90)	34 (85)	88 (88)
	Yes	6 (10)	6 (15)	12 (12)
<b>V</b>	<b>Good relationship with family</b>			
	No	56 (93.33)	39 (97.50)	95 (95)
	Yes	4 (6.67)	1 (2.50)	5 (5)
<b>VI</b>	<b>Faith in God</b>			
	No	56 (93.33)	35 (87.50)	91 (91)
	Yes	4 (6.67)	5 (12.50)	9 (9)
<b>VII</b>	<b>Awareness Campaign</b>			
	No	57 (95)	36 (90)	93 (93)
	Yes	3 (5)	4 (10)	7 (7)

<b>VIII</b>	<b>Be faithful</b>			
	No	60 (100)	39 (97)	99 (99)
	Yes	0 0	1 (2.50)	1 (1)
<b>IX</b>	<b>Healthy environment</b>			
	No	56 (93.33)	38 (95)	94 (94)
	Yes	4 (6.67)	2 (5)	6 (6)
<b>X</b>	<b>Spiritual help</b>			
	No	54 (90)	33 (82.50)	87 (87)
	Yes	6 (10)	7 (17.50)	13 (13)
<b>XI</b>	<b>Counselling</b>			
	No	57 (95)	38 (95)	95 (95)
	Yes	3 (5)	2 (5)	5 (5)
<b>XII</b>	<b>Medical treatment</b>			
	No	59 (98.33)	38 (95)	97 (97)
	Yes	1 (1.67)	2 (5)	3 (3)
<b>XIII</b>	<b>Healthy mind</b>			
	No	58 (96.67)	40 (100)	98 (98)
	Yes	2 (3.33)	0 0	2 (2)

Source Computed      Figures in Parentheses are percentages Mean±SD

## **CHAPTER –V**

## **CONCLUSION AND SUGGESTIONS**

## CHAPTER-V

### CONCLUSIONS AND SUGGESTIONS

In this chapter, conclusions and suggestions of the present study is to be presented. It has been divided into sections with its subsections.

#### 5.1 Conclusion

The study attempts to understand the personal networks and HIV risk behaviour of injecting drug users in Aizawl. Mizoram is a state known for organizing its activities around religion and its people are highly influenced by Christianity and biblical teachings. Although, Mizo are influenced by modernization and westernization, the general population has negative attitudes and perceptions toward injecting drug use which result in stigmatization and discrimination of people who practice it. In Mizoram, many youth were engaged and dependant on drug other than medical use. Now a day, many NGO's who deal with drug abuse were also found. But the area they covered was not wide enough. Mostly, they were concentrated in urban areas and do not cover wider areas. In addition, the common people in Mizoram do not clearly understand the problem faced by injecting drug users. Many of them were discriminated by their families and others. So, it is particularly important to understand the implications of family relationships for injecting drug users' recovery. If we know the problems faced by these drug abusers, it would be easy to help them. These people needed support and guidance from others. If we want to help them, we should know their condition clearly and be open to them. The study focused on the patterns of personal network such as family, friends and drug users. From the light of these, the research will offer appropriate suggestions for the benefit of policy makers,

planners, Governmental and Non-Governmental organizations as well as social workers at multilevel.

The study was cross sectional in nature and descriptive in design. The study was based on primary data collected through quantitative, qualitative and participatory methods. The secondary data were collected from books, journals, local newspapers, magazines, websites, etc. Quantitative data was collected from the injecting drug users by using interviewed schedule. Interviewed Schedule was conducted among 100 IDUs which included 60 males and 40 females. The respondents were selected purposively in Presbyterian Hospital, Durtlang, Synod Rescue Home, Durtlang, and Tawngtai Bethel Camp Centre by using non- probability sampling method.

The quantitative data collected through field survey was processed with computer packages of MS excel, SPSS and E-Net.

The objectives of the study were to study the profile of drug users in Aizawl; to probe into the patterns of personal network; to assess the level of HIV risk behavior among the drug users; to determine the relationship between personal network and HIV risk behavior and to suggest the measure for social work practice.

The research observed the following major findings:-

#### **5.1.1. Profile of the Respondents**

- More than half (60%) of the total respondents were male while a little less than half (40%) were female.
- Majority of the respondents consisted of both the age group between 18-24 years and the age group between 24-34 years (44%).



- The highest (43%) educational level attained by the respondents was H.S.S.L.C.
- Majority (100%) of the respondents were Christians by faith with maximum number of respondents (83%) affiliated to the Presbyterian denomination.
- Majority of the respondents (62%) belonged to Lusei sub-tribe.
- Majority (54%) of the respondents were unmarried.
- Majority (26%) of the married respondents got married at the age of 18-24 years.
- Majority (59%) of the respondents belonged to nuclear family.
- Majority (85%) of the respondents belonged to stable family.
- Two-third (63%) of the respondents comprised of medium size family.
- More than three-fourth (81%) lived in their own house.
- More than half (56%) of the respondents lived in a house having 1-5 rooms.
- Majority (86%) of the respondents belonged to an APL group comprising of more than three-fourth of the respondents.

### **5.1.2. Personal Network**

- The male IDUs networks had larger female members proportion as compared to the female members in the networks of female IDUs. In terms of age there was no significant difference in the composition.
- The female IDUs family networks were more homophiles as compared to the male IDUs family network in terms of gender. In the male IDUs networks about 35 percent of their family members were male; in the female IDUs family network 52 percent of their families were female.

- In the degree as well as density of the networks there was no significant difference between the family members of male and female networks.
- Almost all the respondent (98%) stayed with their family and only few did not stay with their family.
- Male respondents had only friend relationship with most of their friends (mean 91.7) and have both friend and kin relationship with little friends (mean 14.4). Female respondents had only friend relationship with majority of their friends (mean 75) and had both friend and kin relationship with few friends (mean 16.2).
- The degree of the structure of the peer networks among male respondents (mean 2.2) was higher than the degree of the structure of the peer networks among female respondents (mean 1.67).
- The density of the structure of the peer networks among male respondents (mean 0.35) was also higher than the density of the structure of the peer networks among female respondents (mean 0.24).
- Majority the respondents (77%) liked to be with their friends.

### **5.1.3. HIV Risk Behaviour**

- Majority (90%) of the respondents used to smoke.
- More than two-third (77%) of the respondents consumed alcohol.
- More than two-third (68%) of the respondents engaged in pan eating and more than three-fourth (85%) of the respondents consumed heroin. A little more than one-tenth (13%) of the respondents consumed ganja. Only one-tenth of the respondents (10%) consumed cough syrup and more than one-third of the respondents (43%) consumed parvon.

- Majority (73%) of the respondents said that they re-used the equipment due to irregular supply of the equipment.
- A little less than half (48%) of the respondents had sexual partner while more than half (52%) of the respondents did not have sexual partner. Among those partners a little less than one-fifth (17%) engaged in drug use and the rest were free from drug use.
- Majority (89%) of the respondents was free from HIV and the rest (11%) were HIV infected.
- Less than one tenth (8%) of the HIV respondents got HIV from unsafe sex.
- Less than one fifth (11%) of the respondents infected with HIV among them all their families knew about their infection.

#### **5.1.4 The relationship between personal network and HIV risk behavior**

- There is a relationship between age and alcohol use (0.31) at 0.01 level of significance in Pearson's R.
- There is also relationship between age and ganja use (0.23) at 0.05 level of significance in Pearson's R.
- In the composition of peer network minimum age, maximum age and average age are all associated with alcohol use respectively (0.34), (0.31) and (0.33) at 0.01 level of significance in Pearson's R.
- There is relationship between divorced and alcohol use (0.41) at 0.01 level of significance in Pearson's R.
- There is a relationship between unmarried and pan use (0.23) at 0.05 level of significance in Pearson's R.
- There is a relationship between HIV and pan use (0.20) at 0.05 level of significance.

## 5.2 Suggestions

- Youth are affected in the age group between 18-34 years. Therefore, awareness can be given more to the young people about the ill effects of drugs.
- Among the respondents, male have more network with female. We can educate about the importance of friendship between boys and girls.
- As smoking, alcohol and tobacco are prevalent among the IDUs, in order to prevent the habits of smoking, alcohol and tobacco, community based organizations have to frame and implement strict rules and regulations.
- Sex education should be given among the IDUs because there is risk behaviour among them.
- IDUs who share needles and syringes with other IDUs who have Human Immunodeficiency Virus (HIV) are at high risk of becoming infected with the virus. Therefore more awareness about needle/ syringe exchange programme should be given among the IDUs.
- Healthy recreation habits should be promoted among the respondents those who are frustrated due to divorce.
- Social work methods like case work and group work can be used to treat among the IDUs.
- Counselling should be given for both the IDUs and for their family. Counselling can be given to the families, individuals in neighbourhood and members of social support networks are also an important need because eventually they have to bear a major responsibility for the sick and the survivors.

- Parents need to play a crucial role in controlling drug usage among their children. Parents have to take more care in keeping the family environment congenial and harmonious.
- Educating people to have safe sex by using condoms and avoiding multiple sexual-partners. This could be done through T.V., radio, newspapers and other mass media. The required awareness can be produced through course content in the educational institutions too.
- Drug users should be persuaded to stay away from intravenous drug use.
- Narcotic Anonymous should be introduced and practiced in different rehabilitation centres.
- Government organizations and non-government organizations should help spread knowledge on HIV to different vulnerable groups through innovative and community-based approaches.
- The task being gigantic and the work that needs to be done for the patients infected with HIV or suffering from AIDS for many years being unprecedented in terms of scale and efforts, government alone cannot be expected to take up the total control programme. Non-government organizations too have to be involved in behaviour change programme.
- Before catching the infection, knowledge in the spread of HIV infection can be imparted by community-based social workers.

In this chapter an attempt had been made to present the salient conclusions and suggestion for social work intervention.

## APPENDICES

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## Personal Networks and HIV Risk Behaviour of Injecting Drug Users in Aizawl

**Research Scholar**  
**C. Vanlalhriati**  
**Department of Social Work**  
**Mizoram University**

**Research Supervisor**  
**Dr. C. Devendiran**  
**Department of Social Work**  
**Mizoram University**

### Interview Schedule

(Confidential and for Research Purpose Only)

Schedule No. \_\_\_\_\_

Date: \_\_\_\_\_

Investigator: \_\_\_\_\_

Agency: \_\_\_\_\_

#### **Profile of the Respondent**

1. Name :
2. Age :
3. Sex : **0** Male; **1** Female
4. Educational Qualification : **0** Primary; **1** Middle; **2** H.S.L.C; **3** H.S.S.L.C;  
**4** Graduate; **5** Post- Graduate; **6** M.Phil/Ph.D
5. Religion : **0** Christian; **1** Hindu; **2** Muslim; **3** Buddhist; **4** Others
6. Denomination : **0** Presbyterian; **1** Adventist; **2** Salvation Army;  
**3** United Pentecostal; **4** Roman Catholic; **5** Others
7. Sub-tribe : **0** Lusei; **1** Ralte; **2** Hmar; **3** Paihte; **4** Sailo; **5** Others
8. Marital status : **0** Unmarried; **1** Married; **2** Divorced; **3** Remarried;  
**4** Widowed
9. Age at marriage :
10. Type of Family : **0** Nuclear; **1** Joint
11. Form of Family : **0** Stable; **1** Broken; **2** Reconstituted/Step Family
12. Size of Family :
13. House live in : **0** Owned; **1** Rented
14. Type of house : **0** Kutcha; **1** Semi Pucca; **2** Pucca
15. Number of Rooms :
16. Socio-economic Category : **0** AAY; **1** BPL; **2** APL
17. Family details:

Sl. No	Name	Age	* Sex	** Relation to respondent	*** Marital Status	**** Edu. Qual.	***** Occupation	Monthly income
1								
2								
3								

4								
5								
6								
7								
8								
9								
10								

Codes: \* **0** Male, **1** Female; \*\* **0** Father, **1** Mother, **2** Husband, **3** Wife, **4** Brother, **5** Sister, **6** Others (Specify) ;\*\*\* **0** Never married, **1** Married, **2** Divorced, **3** Remarried, **4** Widowed/Widower; \*\*\*\***0** Illiterate, **1** Literate, **2** Upto class V, **3** Upto Class VII, **4** Upto Class X, **5** Upto Class XII, **6** Graduate, **7** Post Graduate, **8** Others (Specify); \*\*\*\*\* **0** Student, **1** Unemployed, **2** Self-employed, **3** Govt. Employed, **4** Private employed, **5** Daily Wager, **6** Others (Specify)

18. Do you smoke? **0** Yes; **1** No

19. If yes, at what age have you started smoking? \_\_\_\_\_

20. How many cigarettes have you smoke per day? \_\_\_\_\_

21. Do you consume alcohol? **0** Yes; **1** No

22. If yes, at what age do you start drinking alcohol? \_\_\_\_\_

23. When did you first take drug? Age \_\_\_\_\_; Year \_\_\_\_\_

24. What type of drugs do you take?

S/No	Drugs	Form of Use	Mode of use	Frequency of use
1	Smoking			
2	Alcohol			
3	Pan			
4	Heroin / No.4			
5	Ganja			
6	Cough Syrup			
7	Parvon			

25. Reasons for re-using equipment (for those who re-used):

1	Irregular supply of equipment	
2	High cost	
3	Uncomfortable accessing	

26. Do you have any problems as a result of doing drugs? **0** Yes; **1** No

If yes, what type of problem?

**0** Abscess; **1** Social Problems; **2** Family Problems; **3** Personal Problems

27. Do you feel the need to give up your addiction? **0** Yes; **1** No

28. Do you feel the need for help to overcome your addiction? **0** Yes; **1** No

If yes, in what way?

**0** Medical help; **1** Spiritual help; **2** Counseling; **3** Others

29. Were you detoxified? **0** Yes; **1** No

If yes, how long have you detoxified?

**0** Less than 1 year; **1** More than 1 year; **2** More than 5 years.

30. Do you feel the need to be detoxified? **0** Yes; **1** No

31. How were you detoxified? **0** By medicine; **1** By prayer; **2** By other means.

### Pattern of Personal Networks:

1. Please rate the relationship among your family

I.D	Name	1	2	3	4	5	6	7	8	9	10
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

Codes: 1 Very Poor, 2 Poor, 3 Moderate, 4. Good, 5 Very Good

2. Who are your friends please tell in details?

F.NO	Name	Age	Sex	Denomination	Education	Marital status	Sub tribe	Occupation
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

3. Please tell your friends involved in risk behavior 0 No 1 Yes

F.NO	Name	Tobacco	Smoking	Alcohol	Drug	HIV	IDU	Sex work	Peemarital sex
1									
2									

3										
4										
5										
6										
7										
8										
9										
10										

4. Are you staying with your family? **0** Yes; **1** No

5. If no, why \_\_\_\_\_

6. Please give the details of relationship among friends

I.D	Name	1	2	3	4	5	6	7	8	9	10
1		■									
2			■								
3				■							
4					■						
5						■					
6							■				
7								■			
8									■		
9										■	
10											■

**0** They don't know **1** Friends; **2** Relatives

32. Do you like being with friends? **0** Yes; **1** No

33. What do you do when you hang-out with friends? **0** Chatting; **1** Drink alcohol; **2** Get high on drugs; **3** Others

34. How many hours do you spent with friends during day time? \_\_\_\_\_

**HIV Risk Behaviour of Injecting Drug Users:**

35. Do you have any sexual partner? **0** Yes; **1** No

36. If yes, do your partner use drug? **0** Yes; **1** No

37. Are you an HIV infected? **0** Yes; **1** No

38. If yes, from where do you have the disease? **0** Unsafe Sex; **1** Multiple sex partners; **2** Sharing of needles with HIV infected person; **3** Others (specify) \_\_\_\_\_

39. Does your family know about your infection? **0** Yes; **1** No

40. If yes, in your family, who knows about your disease?

- 0 Husband
- 1 Wife
- 2 Mother
- 3 Father
- 4 Brothers
- 5 Sisters
- 6 Children
- 7 All of them.

41. Does your family face any problems in the society because of your infection?

0 Yes; 1 No

42. If yes, what are the problems?

1	Refusal of the family members.	
2	Social discrimination of the children.	
3	Do not like to mingle with the society.	
4	Others (Specify)	

43. According to you what are the things that happened to you because of your infection?

1	Excluded from social gathering.	
2	Abandoned by my spouse.	
3	Abandoned by my family.	
4	Isolated in household.	
5	Being denied at religious rites/services.	
6	Lost respect with the family and in community.	
7	Being threatened with violence.	
8	Being given poorer quality health services.	

44. Give your suggestion on how to get away from the drug abuse:

Suggestions





## **PARTICULARS OF THE CANDIDATE**

NAME OF THE CANDIDATE : C.Vanlalhriati

DEGREE : M.Phil

DEPARTMENT : Social Work

TITLE OF DISSERTATION : Personal Networks and HIV Risk Behaviour of  
Injecting Drug Users in Aizawl

DATE OF PAYMENT OF ADMISSION : 24<sup>th</sup> August 2011

COMMENCEMENT OF SECOND SEM : 18<sup>th</sup> February 2012

APPROVAL OF RSEARCH PROPOSAL

1. BPGS : 27<sup>th</sup> April 2012
2. SCHOOL BOARD : 2<sup>nd</sup> May 2012
3. RGISTRATION NO. & DATE : MZU/M.Phil/70 of 02.05.2012
4. DUE DATE OF SUBMISSION : 30<sup>th</sup> June 2013
5. EXTENSION (IF ANY) : 1 semester

(Dr. KALPANA SARATHY)

Head

Department of Social Work

Mizoram University

## BIO-DATA

Name : C.Vanlalhriati  
Sex : Female  
Date of Birth : 08.02.1988  
Age : 25  
Educational Qualification : Master of Social Work  
Marital Status : Unmarried  
Contact No : 09862726183/ 09615187441  
Email id : hriatic@gmail.com  
Address : E-76/1, Chawnga Road  
Khatla, Aizawl  
Mizoram-796001

### Details of Educational Qualification

Class	Subject	Board/University	Percentage	Division
H.S.L.C.	-	Mizoram Board of School Education	50.4	Second
H.S.S.L.C.	Arts	Central Board of School Education	67.8	First
Bachelor of Arts	Sociology	Mizoram University	55.7	Second
Master of Social Work	Social Work	Mizoram University	60.4	First

## **Fieldwork Experience**

- 1. 1<sup>st</sup> Semester:** The venue for fieldwork during this semester was at Synod Social Front. The Synod Social Front was established as a sub-committee under Synod Executive Committee in 1979. It became a department at 2002. The agency was meant for the social well-being of the people. The trainee was also placed at K-Ward and Synod Rescue Home for a short period of time where patients with substance abusing problems were admitted. The trainee also visited Grace Home which is attached to the hospital and patients of HIV/AIDS were looked after. Duration of the fieldwork was four months. The objectives were to put theory into practice, to develop skills of working with groups and to provide an understanding of the theoretical knowledge and techniques of working with individuals. Work done during this semester included case study, home visits and group work.
- 2. 2<sup>nd</sup> Semester:** The trainee was placed in an agency Cod Nerc (Centre for Community Development through Network, Education, Research, Training, Resource Mobilization and Capacity Building) which worked on community development. The duration of fieldwork was four months. The objectives were to put theory into practice, to study about Self-Help-Group and to conduct group work with the Self-Help-Group members and to study about the adopted family by the agency. Work done during this semester included case study, home visits and group work.
- 3. 3<sup>rd</sup> Semester:** The trainee was placed in Tuikual South Community for the concurrent fieldwork along with three other trainees. The duration was for four months. Tuikual community was divided into two – Tuikual North and Tuikual South in the year 1987. Tuikual South community was divided into 5 sections. In Tuikual South area there were

different denominations like Presbyterian, Salvation Army, United Pentecostal Church, Isua Krista Kohhran (IKK) and Mizo Kohhran etc. The trainees were mainly concentrated in Section 3 and 4 which was designated by Urban Development and poverty Alleviation (UD & PA) department as slum pockets. In section 3 and 4 areas there were one primary school, one high school, one sub-centre and two anganwadi centres. Young Mizo Association (YMA), Local Council, Mizoram Upa Pawl (MUP), Mizo Hmeichhe Insuihkhawm Pawl (MHIP) etc. were the community based organizations found in Tuikual South community. The objectives were to expose oneself to urban community, to understand the working of Village Council, MHIP, YMA, MUP and other community based organizations, to learn the role of social worker in community work and to evaluate the working of community based organizations. Work done included interactions with leaders of YMA, MHIP, KTP, VC and MUP, community needs and problems were identified through them.

4. **4<sup>th</sup> Semester:** Work from 3<sup>rd</sup> semester was continued in the same community. During the fieldwork the trainee and the co-trainees continued their work done in the previous semester. During the fieldwork, the trainees implemented some interventions. A project was taken up during this semester and the trainee worked specifically with youth organizations within the community. The objectives of the Project were: To practice and develop professional skills in working with youth problem solving process, to highlight the socio-economic profile of youth in Tuikual South, to understand the compositions, activities and programmes of youth organizations of Tuikual South, to find out the challenges faced by youth organizations in Tuikual South, to design interventions and implement programmes for youth organizations at Tuikual South based on the challenges faced by them. Title of the Project during this semester was ‘Working with Youth Organizations of Tuikual

South'. Observation, group work, PRA and socio-economic survey were used to identify the activities and programmes of youth organizations in the community. HIV/AIDS Awareness Programme was organized in collaboration with the KTP.

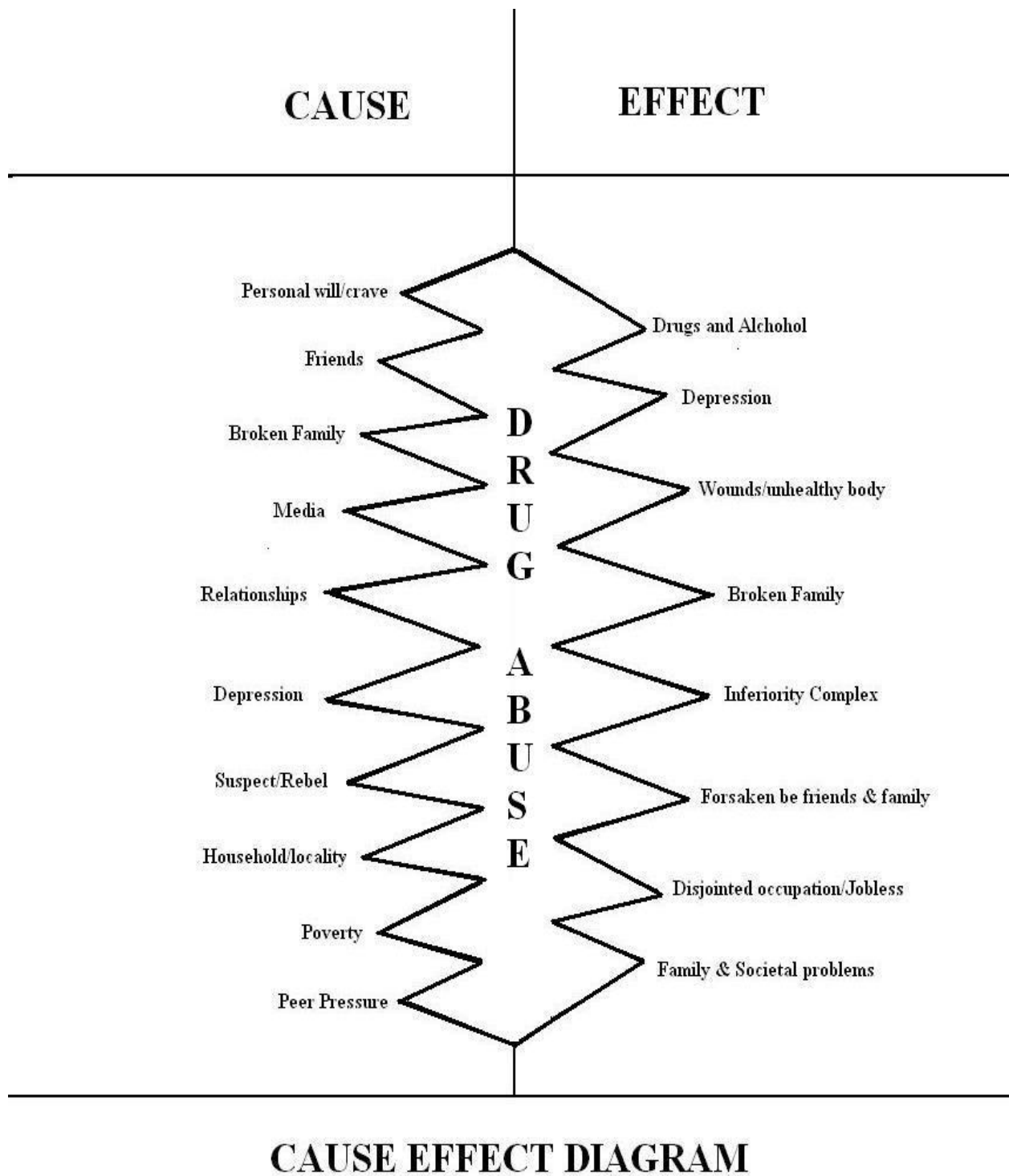



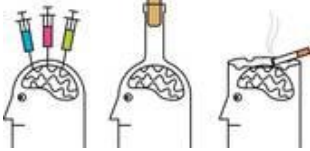





Fig. 3.2

**Fig.3.1. DAILY ACTIVITIES OF GROUP MEMBERS**

TIME	DIAGRAM	ACTIVITIES
7:00 am – 9:00 am		Wake up
9:00 am – 11:00 am		Breakfast
11:00 am – 3:00 pm		Working Hour
3:00 pm – 5:00 pm		Indulgence
5:00 pm – 7:00 pm		Dinner
7:00 pm to 10:00pm		Indulgence/ socializing
10:00pm – 12:30 am		Sleep



**PERSONAL NETWORKS AND HIV RISK BEHAVIOUR OF INJECTING DRUG  
USERS IN AIZAWL**

**ABSTRACT**

**C. VANLALHRIATI**

**RESEARCH SUPERVISOR  
Dr. C. DEVENDIRAN  
ASSOCIATE PROFESSOR  
DEPARTMENT OF SOCIAL WORK**

**DEPARTMENT OF SOCIAL WORK  
MIZORAM UNIVERSITY  
AIZAWL**

## **Introduction:**

Drug abuse is a common problem faced by every society. In the former sense, it is viewed as an evidence of individual's social maladjustment; in the latter sense, it is viewed as a widespread condition that has harmful consequences for society. 'Drug abuse' is the use of illicit drug or misuse of legitimate drug resulting into physical or psychological harm. It includes smoking ganja or hashish, taking heroin or cocaine, injecting morphine, drinking alcohol, and so forth. The theoretical explanations of drug usage may be grouped broadly under four heads: physiological, psychological, socio-psychological and sociological. (Halliday, 2009).

The World Health Organization (WHO) reports that more than 15 million people have been diagnosed with drug use disorders, and that injecting drug use is present in 136 nations. (International Research Collaboration on Drug Abuse and Addiction Research, 2011). According to estimates by the National Aids Control Organization (NACO – 2006) there are 50,000 IDUs injecting drug use in the region, the majority of them in Manipur, Nagaland, Mizoram and, Meghalaya. (Gopen, Moses, 2007). In Mizoram, there are 12550 injecting drugs users and 6739 HIV effected persons. In Aizawl city, there are 6000 injecting drug users and 883 HIV effected persons. 28.1% among HIV affected persons are injecting drug users. (MSACS, 2012).

Injecting drug users' networks include both their relationships with the people with whom they use drugs or have sex and their relationships with the people with whom they have other kinds of interaction, such as work or emotional support. The impact of alcohol and other drugs can be seen at the familial and societal level in the form of social dejection, produced by dysfunctional social structures and social disorganization, combined with economic disaster and denial of social support. The hardship endured by the families in dealing with chronic illness have been largely explored and reported as strain on family relationship and include blaming, denial of the illness or disability, grieving associated with the illness, rejection of the person, over-protectiveness, problems interacting with the medical system, a sense of social isolation, an increased financial burden and an overall increase in family tension (Patterson et al., 1996).

Subsequent research on IDU and their network characteristics have identified other network variables associated with transmission risk. High-risk injection practices have been linked to network characteristics such as the number of network members; the presence of family

members or spouses within the network; higher network density; the setting where injection takes place; turnover of network members; and the pooling of financial resources within networks for the purpose of obtaining drugs. Racial/ethnic differences in HIV prevalence have also been at least partially explained by taking into account the differing network characteristics of different ethnic groups. (Wylie et al., 2006).

### **Statement of the problem:**

Mizoram is a state known for organizing its activities around religion and its people are highly influenced by Christianity and biblical teachings. Although, Mizos are heavily influenced by modernization and westernization, the general population has negative attitudes and perceptions toward injecting drug use which result in stigmatization and discrimination of people who practice it. In Mizoram, many youth were engaged and depended on drug other than medical use. Now days, many NGO's who deal with drug abuse were also found. But the area they covered was not wide enough. In addition, the common people in Mizoram do not clearly understand the problem faced by injecting drug users. Many of them were discriminated by their families and others. So, it is particularly important to understand the implications of family relationships for injecting drug users' recovery. If we know the problems faced by these drug abusers, it would be easy to help them. These people need support and guidance from others. If we want to help them, we should know their condition clearly and be opened to them. The study focused on the patterns of personal network such as family, friends and drug users. From the light of these, it will offer appropriate suggestions for the benefit of policy makers, planners, Governmental and Non-Governmental organizations as well as social workers at multilevel.

### **Objectives:**

1. To study the profile of drug users in Aizawl.
2. To probe into the patterns of personal network.
3. To assess the level of HIV risk behavior among the drug users.
4. To determine the relationship between personal network and HIV risk behavior.
5. To suggest the measures for social work practice.

## **Methodology:**

The study was cross sectional in nature and descriptive in design. The study was based on primary data collected through quantitative, qualitative and participatory methods. The secondary data were collected from books, journals, local newspapers, magazines, websites, etc. Quantitative data was collected from the injecting drug users by using interviewed schedule. The respondents were selected purposively in Presbyterian Hospital, Durtlang, Synod Rescue Home, Durtlang, and Tawngtai Bethel Camp Centre by using non- probability sampling method. The quantitative data collected through field survey was processed with computer packages of MS excel, SPSS and E-Net.

## **Results and Findings:**

The respondents were collected from three institutions in Aizawl. More than half (60%) of the total respondents were male while a little less than half (40%) were female. Majority of the respondents consisted of both the age group between 18-24 years and the age group between 24-34 years (44% each). Out of 40 female respondents, the age group between 18-24 yrs constituted the majority (60%), and out of 60 male respondents, the age group between 24-34 years constituted the majority (48.33%). The age group from 34 and above constitutes the second highest (11%). The age group between 14-18 years constituted the lowest percentage (1%). From the study, the mean age for male was 27.75 years and the mean age for female is 23.7years. The mean age for both male and female was 26.13years.

The highest educational level attained by the respondents was H.S.S.L.C (43%) followed by H.S.L.C (34%). The third highest position was occupied by both middle and graduate (11% each). Primary constituted the lowest educational qualification (1%).

All the respondents declared that they were Christians by faith with maximum number of them (83%) affiliated to the Presbyterian denomination.

A little more than three-fifth (62%) belonged to Lusei sub-tribe, a little less than one-fifth (14%) belonged to Ralte and the other sub-tribes consisted of less than one-tenth of the total respondents.

In this study, more than half of the respondents were unmarried (54%). The divorced group was the second highest (24%). The third highest group was married group (14%). Widowed were small in number (5%) and the lowest group was remarried (3%). Only few respondents were married (14%) in which most of them got married during the age between 18-24 years (26%). Only 11% of the respondents got married at the age between 24-34 years and only few respondents got married at the age between 14-18 years.

Findings indicated that nuclear family elicit more respondents comprising more than half (59%) and less than half of the respondents belonged to joint family (41%). Majority of the respondents belonged to stable family (85%) followed by broken family (10%). The remaining of the respondents (5%) belonged to reconstituted/step family. The findings indicated that IDUs do not necessarily belong to broken family. The findings revealed that majority of the respondents belonged to an APL group comprising of more than three-fourth (86%), followed by BPL members (12%). AAY members were the lowest comprising a minority (1%) of the respondents.

Majority of the respondents (90%) used to smoke and only one-tenth (10%) of the respondents were free from smoking. More than half of the respondents (53%) started smoking at the age between 14-18 years. One-fourth (25%) of the respondents started smoking before they reached 14 years. Only few respondents (11%) started smoking at the age between 18-24 years. Only one percent (1%) of the respondents started smoking at the age between 24-34 years. The mean age for male smoker respondents was 14.83 years and for female smoker respondents was 13.92 years. As a whole, the mean age for respondents was 14.47 years. More than two-third of the respondents (64%) used to smoke 1-10 cigarettes per day. Less than one-fourth of the respondents smoked 11-20 cigarettes per day. Only some respondents (3%) smoked 21-30 cigarettes per day.

More than two-third of the respondents (77%) consumed alcohol and less than one-third of the respondents (23%) were free from alcohol. Majority of the respondents (41%) started consuming alcohol at the age between 14-18 years. Less than two-tenth of the respondents (15%) started consuming alcohol at the age of 18-24 and more than one-tenth of the respondents (13%) started consuming alcohol before they reached 14 years. Less than one-tenth of the respondents started consuming alcohol at the age of 24-34 years.

Maximum of the respondents (44%) started doing drug at the age of 18-24 years and more than one-fourth (39%) respondents started doing drug when they were within the age of 14-18 years. Among the respondents only few (10%) started doing drug at the age between 24-34 years. The minimum number consisted of the respondents who started doing drug before reaching 14 years (7%).

More than two-third of the respondents (68%) were engaged in pan eating and more than three-fourth of the respondents (85%) consumed heroin. A little more than one-tenth of the respondents (13%) consumed ganja. Only one-tenth of the respondents (10%) consumed cough syrup and more than one-third (43%) of the respondents consumed parvon. Majority (68%) of the respondents engaged in pan eating and one third (43%) of them consumed parvon.

More than half of the respondents (54%) who consumed heroin, used it for multiple times. A little less than two-tenth (19%) of them shared with their friends and only a small number (12%) used it for a single time. Among the respondents who consumed ganja and cough syrup used it for single time. Among the parvon users, maximum of them (24%) shared with their friends and only few of them (9%) used it multiple times.

Majority of the respondents (73%) said that they re-used the equipment due to irregular supply of the equipment while few respondents (11%) of them re-used the equipment due to uncomfortable accessing of the equipment. Only a small number said that they re-used the equipment due to high cost.

Majority of the respondents (87%) said they had problems due to drug use and only few respondents (13%) said they did not face problem due to drug use. 13 percent (13%) of the respondents said that they had abscess due to drug use and one-fourth (25%) of them faced social problems. More than half of the respondents (57%) faced family problems which showed that drug use did not only affect the user but it also affects their family. Majority of respondents (67%) faced personal problems due to drug use.

All the respondents said that they wanted to give up and overcome the drug addiction. Majority of them (61%) wanted to overcome by medical help and followed by those who wanted to overcome by spiritual help (25%). Only small number (3%) said they wanted to overcome by counselling and there were some (11%) who did not respond this part.

The male IDUs networks had larger female members proportion as compared to the female members in the networks of female IDUs. In terms of age there was no significant difference in the composition. The average age of the members of the networks was worked out to 38 years for male IDUs and 39.94 years for female IDUs. The female IDUs family networks were more homophiles as compared to the male IDUs family network in terms of gender. In the male IDUs networks about 35 percent of their family members were male; in the female IDUs family network 52 percent of their families were female. In the structure of the family network of male and female IDUs no significant difference could be observed. In the degree as well as density of the networks there was no significant difference between the family members of male and female networks.

Almost all the respondent (98%) stayed with their family and only few (2%) did not stay with their family. The reasons for not staying with their family were due to divorce and abandoned by family.

Among the respondents, male associated more with male (mean 90.5), female associated more with female (mean 62.8). Among the respondents, the minimum age group of male was 24.3 and maximum 28 in the peer group. The minimum age group of female was 17 and the maximum age group was 19.5. Among the respondents, more than half (55.7%) male were unmarried, less than half (47.1%) female were unmarried. Among the respondents, majority of the male (91.7%) associated with friends, majority three-fourth (75%) of the female associated with friends. Among the male respondents, the majority of the respondents educational status of their peers was Higher Secondary (mean 32.3) and for female respondents, the maximum educational status of their peers was Undergraduate level (mean 25.8). Presbyterian occupied the maximum status for both male (mean 84.4) and female peers (mean 60). The maximum sub-tribe for male and female peers was Lusei (mean 57.4 for male and mean 42.5 for female). Male respondents had only friend relationship with most of their friends (mean 91.7) and have both friend and kin relationship with little friends (mean 14.4). Female respondents had only friend relationship with majority of their friends (mean 75) and had both friend and kin relationship with few friends (mean 16.2).

Among the male respondents, the highest risk behaviour in the peer networks was sex work (mean 84.9) followed by alcohol use (mean 75.3). The next highest risk behaviour was

tobacco use (mean 73.5), followed by injecting drug use (mean 62) and followed by premarital sex (mean 44.9). The two lowest risk behaviours were drug use (mean 8.7) and HIV (0.6). Among the female respondents, the maximum risk behaviour in the peer networks was sex work (mean 77) followed by tobacco use (mean 57.9). The next highest risk behaviour was injecting drug use (mean 57.2), followed by alcohol use (mean 56.5) and followed by premarital sex (mean 46.1). The two lowest risk behaviours were drug use (mean 11) and HIV (mean 7). The degree of the structure of the peer networks among male respondents (mean 2.2) was higher than the degree of the structure of the peer networks among female respondents (mean 1.67). The density of the structure of the peer networks among male respondents (mean 0.35) was also higher than the density of the structure of the peer networks among female respondents (mean 0.24).

It was found out that there was a relationship between age and alcohol use (0.31) at 0.01 level of significance in Pearson's R and there was also relationship between age and ganja use (0.23) at 0.05 level of significance in Pearson's R. In the composition of peer network minimum age, maximum age and average age were all associated with alcohol use respectively (0.34), (0.31) and (0.33) at 0.01 level of significance in Pearson's R. In the marital status, there was relationship between divorced and alcohol use (0.41) at 0.01 level of significance and there was a relationship between unmarried and pan use (0.23) at 0.05 level of significance in Pearson's R. In the risk behaviour among peers, there was a relationship between HIV and pan use (0.20) at 0.05 level of significance in Pearson's R.

There was a relationship between age and alcohol use and ganja use and also revealed that there was a peer network in terms of age and alcohol use. On the other hand, there was a relationship between divorced and alcohol use, this may be due to frustration among the divorced respondents.

Majority the respondents (77%) liked to be with their friends and less than one-fourth of the respondents (23%) did not enjoy being with friends. More than half of the respondents (58%) spend their time with friends by chatting and less than half (43%) used their time with friends by drinking alcohol. More than one-fourth of the respondents (29%) shared their time with friends by doing drug together and only few (8%) used their time with friends by playing games.



A little less than half of the respondents (48%) had sexual partner while more than half of the respondents (52%) did not have sexual partner. Among those partners a little less than one-fifth (17%) engaged in drug use and the rest (83%) were free from drug use. Majority of the respondents (89%) were free from HIV and the rest (11%) were HIV infected. A little less than one-tenth (8%) of the respondents got HIV from unsafe sex, while 4 percent (4%) got it from sharing of needles with HIV infected persons. Among the HIV infected respondents all their families knew about their infection. Only 2 percent of the respondent's family faced problems because of the infection and the problem they faced were refusal of the family members and did not like to mingle with the society.

The HIV infected respondents did not face much problem due to the infection. The problems they had faced were excluded from social gathering (2%), abandoned by spouse (2%), abandoned by family (1%), being denied in at religious rites/services (1%), lost respect with the family and in community (3%), being threatened with violence (3%) and being given poor quality health services. More than one-third (37%) suggested that self-discipline can help to get away from drug abuse.

### **Conclusion and Suggestions:**

More than half (60%) of the total respondents were male while a little less than half (40%) were female. Majority of the respondents consisted of both the age group between 18-24 years and the age group between 24-34 years (44%). The highest (43%) educational level attained by the respondents was H.S.S.L.C. Majority (100%) of the respondents were Christians by faith with maximum number of respondents (83%) affiliated to the Presbyterian denomination. Majority of the respondents (62%) belonged to Lusei sub-tribe. Majority (54%) of the respondents were unmarried. Majority (26%) of the married respondents got married at the age of 18-24 years. Majority (59%) of the respondents belonged to nuclear family. Majority (85%) of the respondents belonged to stable family. Two-third (63%) of the respondents comprised of medium size family. More than three-fourth (81%) lived in their own house. More than half (56%) of the respondents lived in a house having 1-5 rooms. Majority (86%) of the respondents belonged to an APL group comprising of more than three-fourth of the respondents.

The male IDUs networks had larger female members proportion as compared to the female members in the networks of female IDUs. In terms of age there was no significant difference in the composition. The female IDUs family networks were more homophiles as compared to the male IDUs family network in terms of gender. In the male IDUs networks about 35 percent of their family members were male; in the female IDUs family network 52 percent of their families were female. In the degree as well as density of the networks there was no significant difference between the family members of male and female networks. Almost all the respondent (98%) stayed with their family and only few did not stay with their family. Male respondents had only friend relationship with most of their friends (mean 91.7) and have both friend and kin relationship with little friends (mean 14.4). Female respondents had only friend relationship with majority of their friends (mean 75) and had both friend and kin relationship with few friends (mean 16.2). The degree of the structure of the peer networks among male respondents (mean 2.2) was higher than the degree of the structure of the peer networks among female respondents (mean 1.67). The density of the structure of the peer networks among male respondents (mean 0.35) was also higher than the density of the structure of the peer networks among female respondents (mean 0.24). Majority the respondents (77%) liked to be with their friends.

Majority (90%) of the respondents used to smoke. More than two-third (77%) of the respondents consumed alcohol. More than two-third (68%) of the respondents engaged in pan eating and more than three-fourth (85%) of the respondents consumed heroin. A little more than one-tenth (13%) of the respondents consumed ganja. Only one-tenth of the respondents (10%) consumed cough syrup and more than one-third of the respondents (43%) consumed parvon. Majority (73%) of the respondents said that they re-used the equipment due to irregular supply of the equipment. A little less than half (48%) of the respondents had sexual partner while more than half (52%) of the respondents did not have sexual partner. Among those partners a little less than one-fifth (17%) engaged in drug use and the rest were free from drug use. Majority (89%) of the respondents was free from HIV and the rest (11%) were HIV infected. Less than one tenth (8%) of the HIV respondents got HIV from unsafe sex. Less than one fifth (11%) of the respondents infected with HIV among them all their families knew about their infection.

There is a relationship between age and alcohol use (0.31) at 0.01 level of significance in Pearson's R. There is also relationship between age and ganja use (0.23) at 0.05 level of significance in Pearson's R. In the composition of peer network minimum age, maximum age and average age are all associated with alcohol use respectively (0.34), (0.31) and (0.33) at 0.01 level of significance in Pearson's R. There is relationship between divorced and alcohol use (0.41) at 0.01 level of significance in Pearson's R. There is a relationship between unmarried and pan use (0.23) at 0.05 level of significance in Pearson's R. There is a relationship between HIV and pan use (0.20) at 0.05 level of significance.

#### Suggestions:

- Youth are affected in the age group between 18-34 years. Therefore, awareness can be given more to the young people about the ill effects of drugs.
- Among the respondents, male have more network with female. We can educate about the importance of friendship between boys and girls.
- As smoking, alcohol and tobacco are prevalent among the IDUs, in order to prevent the habits of smoking, alcohol and tobacco, community based organizations have to frame and implement strict rules and regulations.
- Sex education should be given among the IDUs because there is risk behaviour among them.
- IDUs who share needles and syringes with other IDUs who have Human Immunodeficiency Virus (HIV) are at high risk of becoming infected with the virus. Therefore more awareness about needle/ syringe exchange programme should be given among the IDUs.
- Healthy recreation habits should be promoted among the respondents those who are frustrated due to divorce.
- Social work methods like case work and group work can be used to treat among the IDUs.
- Counselling should be given for both the IDUs and for their family. Counselling can be given to the families, individuals in neighbourhood and members of social support networks are also an important need because eventually they have to bear a major responsibility for the sick and the survivors.

- Parents need to play a crucial role in controlling drug usage among their children. Parents have to take more care in keeping the family environment congenial and harmonious.
- Educating people to have safe sex by using condoms and avoiding multiple sexual-partners. This could be done through T.V., radio, newspapers and other mass media. The required awareness can be produced through course content in the educational institutions too.
- Drug users should be persuaded to stay away from intravenous drug use.
- Narcotic Anonymous should be introduced and practiced in different rehabilitation centres.
- Government organizations and non-government organizations should help spread knowledge on HIV to different vulnerable groups through innovative and community-based approaches.
- The task being gigantic and the work that needs to be done for the patients infected with HIV or suffering from AIDS for many years being unprecedented in terms of scale and efforts, government alone cannot be expected to take up the total control programme. Non-government organizations too have to be involved in behaviour change programme.
- Before catching the infection, knowledge in the spread of HIV infection can be imparted by community-based social workers.

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