



BASELINE STUDY OF THE RELATIONSHIP BETWEEN  
INJECTING DRUG USE, HIV AND HEPATITIS C  
AMONG MALE INJECTING DRUG USERS IN LAHORE



UNDCP and UNAIDS in Pakistan  
December 1999

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## GLOSSARY OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
CODA	Completely open, definitely automated (system for qualitative detection of antibodies to HIV)
ELISA	Enzyme - linked immunabsorbent assay
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IDU	Injecting drug user
ILO	International Labour Organization
IMX	MEIA from Abbott Laboratories for the qualitative detection of antibodies to HIV
MEIA	Microparticle enzyme immunoassay (system for qualitative detection of antibodies to HIV)
NGO	Non-governmental organisation
PCR	Polymerase Chain Reaction (method for detection and estimation of HIV in the blood)
SKMCH	Shaukat Khanum Memorial Cancer Hospital
STI	Sexually transmitted infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDCP	United Nations Drug Control Programme
WHO	World Health Organization

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## EXECUTIVE SUMMARY

A baseline study of injecting drug users (IDUs) in Lahore, undertaken in January and February, 1999, by UNDCP and UNAIDS, revealed an alarmingly high rate of infection by hepatitis C virus (HCV) among the study population. The study results suggest the potential for an even greater public health challenge in the form of an epidemic of human immunodeficiency virus (HIV) once the virus enters this highly vulnerable population. In addition, there is the possibility of a more generalised HIV epidemic as a result of secondary transmission through sexual activity. The study results will have important implications for the formulation of Pakistan's strategies regarding drug abuse, especially among IDUs, and for the development of appropriate and effective plans for programmes of HIV/AIDS awareness and prevention.

There is very little documentation of the extent and nature of the injecting drug abuse problem in Pakistan. Anecdotal evidence suggests that injecting is on the rise and findings from this study suggest that injecting drug use is becoming increasingly popular in the early stages of drug dependency among drug users in Pakistan. Drug treatment services are limited, and such services that are available are often not easily accessible to IDUs.

One hundred and seventy-eight of the 200 study respondents (89%) tested positive for HCV and no respondent (0%) tested positive for HIV. This extremely high HCV infection rate, combined with high rates of acknowledged needle sharing (64%) and very limited awareness of proper needle sterilisation procedures, indicates that there is a well-established chain of transmission for HCV and other blood-borne infections such as HIV in this population.

The study results also dispel the notion that drug dependents are sexually inactive, as just over half of the respondents reported involvement in sexual activity, of varying type and frequency, within the past year. In addition, nearly one-half (48.5%) of the study respondents reported having had sex with commercial sex workers. These findings are indications of the very real potential for secondary transmission to the general population through sexual activity.

Finally, the study suggests that a shift from smoking or sniffing heroin to injection of poly-drug "cocktails" is rapidly occurring. Forty-nine percent of the respondents had switched to injecting from smoking or other oral drug use within the past year. The drug cocktails being injected by the study respondents are composed of combinations of legal prescription drugs (easily available over the counter without prescription) and illegal drugs. Research in other parts of Asia indicates that diffusion of new patterns of drug use, and shifts from opiate smoking to drug injecting in particular, may be important contributing factors to rapid increases in HIV infection levels among IDUs. It can be assumed, therefore, that the possibility that such a shift is currently occurring in Pakistan may be an important early warning sign, and should be viewed as a call to action.

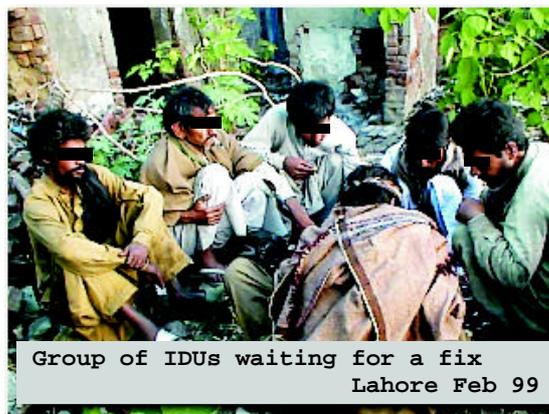
# INTRODUCTION

## 1.1 BACKGROUND

### 1.1.1 Injecting Drug Users: An Increasing Population

The increasing population of drug-dependent persons is a source of increasing concern for Pakistan. There has been a substantial increase in the number of drug dependents in Pakistan over the past years, from 1.9 million in 1986<sup>2</sup> to an estimated 3.0 million in the most recent survey.<sup>3</sup>

The social factors that have led to this explosion continue to exist and, given the present socio-economic conditions in the country, there is reason to believe that drug abuse will continue to increase until such time as effective needs-based drug-demand reduction strategies are implemented. The impact on millions of households burdened with the emotional, economic and social impact of drug abuse translates into a massive loss of useful and functional productivity, and an increasing strain on the already overburdened health and legal system.



A survey conducted by UNDCP and the ILO in 1994 revealed that there were at that time 204 drug abuse service providers in Pakistan. Most of these facilities (over 85%) are basic detoxification programmes that offer simple medical management to treat withdrawals. Some of the programmes offer a more holistic approach towards treating dependency, but the number of clients they can cater to is extremely limited and the quality of the services provided varies greatly.

In the past, the main drug of abuse in Pakistan was heroin, and the most common mode of use was by burning heroin on a foil and inhaling the fumes ("chasing the dragon" or "chasing"). However, since 1997, drug service providers in Lahore have witnessed a rapid shift in the type of drugs abused and the mode of drug use among the street drug sub-cultures. It appears to be the case that an increasing number of chronic heroin users are shifting from smoking or chasing heroin to injecting a combination of legal and illegal drugs.

This shift from using heroin in a non-injectable form to the injecting of a drug cocktail may be attributed to a combination of causes, including: the high cost of heroin and the relative affordability of legal drugs; the difficulty in obtaining heroin of acceptable quality and potency; and, the easy availability of legal, standardised-quality drugs, available without prescriptions, versus the difficulty in acquiring heroin due to its status as an illegal substance.

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2. Report of Pakistan Narcotics Board, 1986.

3. Narcotics Control Division, Government of Pakistan. National Survey on Drug Abuse in Pakistan. 1993.

### **1.1.2 Relation Between HCV Infection Rates, HIV Infection Rates and Injecting Drug Users**

The profound social implications of epidemic levels of HIV infection are well known. Like HIV, infection with HCV is a major, global, public-health problem. Because both HCV and HIV are blood-borne viruses, analysis of HCV rates may provide insight into the potential for the spread of HIV within a given study population. It is important to note that while both viruses can be transmitted through behaviours in which infected blood and blood products are exchanged, it is thought that the possibility of sexual transmission of HCV is very low.<sup>4</sup>

Currently, HIV/AIDS prevalence among the general population is low in Pakistan, whereas HCV infection rates are thought to be relatively high. Taking only officially reported cases into account, HIV prevalence as reported by the National AIDS Programme (1998) is 0.06% among the general population. Actual rates of HIV infection in Pakistan, however, are likely to be much higher than official reports suggest, and WHO and UNAIDS estimate that there are 50,000 to 80,000 HIV cases in the country. The potential for an epidemic of HIV infection should not be underestimated; epidemics among IDUs, with prevalences reaching 60—90% within a few months of the appearance of the first case, have been documented in Thailand, China, Myanmar, Malaysia and Viet Nam.<sup>5</sup> In Manipur, India, seroprevalence among IDUs jumped from below 10% to above 70% in just two years.<sup>6</sup>

A study of HCV infection rates in Punjab province (of which Lahore is the capital) revealed that 7% of the general public were infected in 1995.<sup>7</sup> In comparison, data from other studies show HCV infection rates among blood donors of 0.07% in the United Kingdom, 0.24% in Finland, 0.34% in Canada, 0.6% in the USA and 1.5% in Japan.<sup>8</sup>

There is a possibility that HIV infection can be more broadly introduced to the general population as a result of sexual interaction between infected members of high-risk groups (e.g., IDUs) and uninfected members of "bridge groups" (e.g., commercial sex workers), who can in turn transmit it to members of the general population sexually. Another mode of transmission of both HIV and HCV infections is through the selling of infected blood to blood-banks with non-existent or ineffective screening programmes, and the subsequent use of that blood in an uninfected patient.

## **1.2 JUSTIFICATION AND OBJECTIVES**

In response to the United Nations General Assembly Special Session in June 1998, the UNDCP Regional Office for South West Asia commenced the formulation of a "comprehensive drug demand reduction programme" for Pakistan (1999-2001). This programme is being formulated in close consultation with all of the concerned actors in the field of drug demand reduction in Pakistan, including Government agencies, NGOs, private

4. Crofts N, Thompson S, Kaldor J. *Epidemiology of the Hepatitis C Virus. Technical Report Series No.3; May, 1999; 40-6.*

5. Asian Harm Reduction Network. *The Hidden Epidemic: A Situation Assessment of Drug Use in South East and East Asia in the Context of HIV Vulnerability, 1999*

6. UNAIDS/WHO, 1998.

7. Luby, S. *The Relationship Between Therapeutic Injections and High Prevalence of Hepatitis C Infection at Hafizabad. The Doctor's Fortnightly, 1995; 17(12):2; cited in JCPDP Vol.6(4): 185-6.*

8. Malik IA, Butt SA, Tariq Wuz. *Hepatitis C Virus in Perspective: Where Do We Stand. JCPSP Vol.6(4): 185-6.*

sector institutions and multi- and bilateral donors. The overall objective of the programme is to reduce the demand for drugs in Pakistan.

As part of formulating and designing this programme, UNDCP is undertaking several preparatory activities. One of these activities is this baseline study on the relationship between injecting drug use, HIV and hepatitis C among male IDUs in Lahore. Results of this study will assist UNDCP in the development of specific strategies and project activities targeted at IDUs. In addition, it will provide a sound basis for HIV/AIDS programme planners to develop appropriate and effective plans for HIV/AIDS awareness and prevention.

The objectives of this study include the assessment of:

- ♦ the extent of HIV and HCV infection among the target population;
- ♦ the socio-economic and demographic profile of the respondents;
- ♦ the drug use behaviour, practices and history of the respondents;
- ♦ knowledge, attitudes and practices regarding injectable drug use;
- ♦ the sexual behaviour of the respondents; and,
- ♦ the level of general awareness among the respondents regarding HIV/AIDS and HCV.

### ***1.3 METHODOLOGY***

The study methodology included two major components:

- ♦ the serological testing of respondent blood samples in order to ascertain levels of HIV and HCV infection; and,
- ♦ a knowledge, attitude and practice survey of the sample group.

#### ***1.3.1 Selection of the Study Implementation Organization***

*Nai Zindagi*, a Pakistani NGO which provides a range of innovative drug demand reduction services in Lahore, Islamabad and Rawalpindi, were selected to implement the study. Their selection was based on consideration of their experience and familiarity with IDUs, with drug-related health care providers, with international agencies and with the existing infrastructure of support activities related to the study.

#### ***1.3.2 Selection of the Laboratory for Serological Testing***

Shaukat Khanum Memorial Cancer Hospital (SKMCH) was selected to perform the serological testing due to the sound reputation of its laboratory, its technologically advanced equipment and the co-operation and flexibility offered by them to collaborate with the study.

#### ***1.3.3 Questionnaire Pre-testing and Finalising***

A questionnaire was developed by the consultants based on the objectives of the study. It was pre-tested in Lahore with four IDUs. Subsequent to this, changes were made to

improve the effectiveness of the questionnaire.

#### **1.3.4 Identification and Enrollment of Injecting Drug Users**

Street counsellors identified three sites in Lahore where injecting drug use commonly occurs. These sites were visited by the study team and IDUs were asked to become part of the study. All IDUs who participated in the study did so under conditions of informed consent and confidentiality, and were given a priority to enroll in *Nai Zindagi's* detoxification, rehabilitation and aftercare program.

Clothes, food and vitamins, along with tea and cigarettes (as desired), were provided to those who participated in the study. A nominal payment for "expenses" (Rs. 70) was paid to each respondent. Immediately prior to administration of the survey the study was carefully explained and any questions were answered. A medical doctor was available to attend to those requiring medical assistance. Any respondent who did not wish to continue in the study was allowed to withdraw.

#### **1.3.5 Administration of the Questionnaire**

Each respondent was allotted a serial number before the questionnaire was administered. This number was written on both the questionnaire and the blood sample collection bottle. A trained team member administered the questionnaire to each respondent in private.

#### **1.3.6 Blood Sample Collection**

After administering the questionnaire, the group were transported to SKMCH for sample collection. Laboratory staff collected blood samples following strict sample collection procedures.

#### **1.3.7 Serological Testing**

Initial screening for HIV was carried out using Abbott IMX, Microparticle Enzyme Immuno Assay (MEIA). According to the testing strategy recommended by UNAIDS and WHO<sup>9</sup>, any serum found reactive on first assay should be retested using the ELISA test. This procedure was not required for this study due to the absence of HIV-positive samples. Screening for HCV was conducted using Abbott IMX Microparticle Enzyme Immuno Assay (MEIA). Testing for borderline positives was performed on Abbott IMX, MEIA and CODA Bio-Rad Automated Enzyme Immuno Assay (EIA) Analyser. The laboratory tested one borderline sample on PCR also.

#### **1.3.8 Test Results**

Test results were made available to respondents both at the *Nai Zindagi* centre and from the street counsellors. Respondents were allowed access to the results by disclosing their names and serial numbers. Post-test counselling was offered to all respondents, though some

9. "Revised Recommendations for the Selection and Use of HIV Antibody Tests". WHO/UNAIDS, 1997.

chose not to avail themselves of it.

**1.3.9 Protection of Privacy**

All possible precautions were taken to protect the privacy of the respondents. Survey questions were asked individually in a private environment. Test results were made available only to those who provided a previously agreed code number.

## STUDY FINDINGS AND DISCUSSION

### 2.1 LABORATORY RESULTS

#### 2.1.1 Results of Serological Testing

One hundred and seventy-eight of the study respondents (89%) tested positive for HCV. No respondent (0%) tested positive for HIV.

#### 2.1.2 Testing Procedures

All samples were first screened for HIV. Negative results were assumed to be decisive and no retesting was undertaken.

Of the 178 samples that returned a positive result for HCV during the initial screening (by IMX Abbott MEIA), 14 were borderline positive. These 14 were subsequently retested using the same testing procedure and the results indicated that all 14 were positive for HCV infection. All 14 were subjected to a second retesting using CODA EIA Analyser. The results of this testing indicated 2 negative samples. The serum for one of these negative samples was then retested using PCR, found to be positive, and categorised as positive. The second sample was of insufficient quantity to be tested using PCR. However, because this sample had tested positive twice using IMX, it has been categorised as positive.

This extremely high HCV infection rate, in combination with the high frequency of reported needle sharing (64%) and the respondents' limited understanding of sterilisation procedures, indicates that there is a well-established chain of transmission for HCV and other blood-borne infections such as HIV in this population.

**Table 1. Laboratory Test Results for HIV Screening**

Test Procedure for HIV screening	Negative	Positive
IMX Abbott MEIA	200	Nil

**Table 2. Laboratory Test Results for HVC Screening**

First Procedure for HIV screening	Total Samples Tested	Negative	Positive
First screening by IMX Abbott MEIA	200	20	178
Re-Testing of border line positives by IMX Abbott MEIA	14	0	14
Re-Testing of border line positives by IMX Abbott MEIA	14	2	12
Re-Testing of border line positives by PCR	1	0	1

## 2.2 DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

### 2.2.1 Gender and Religion

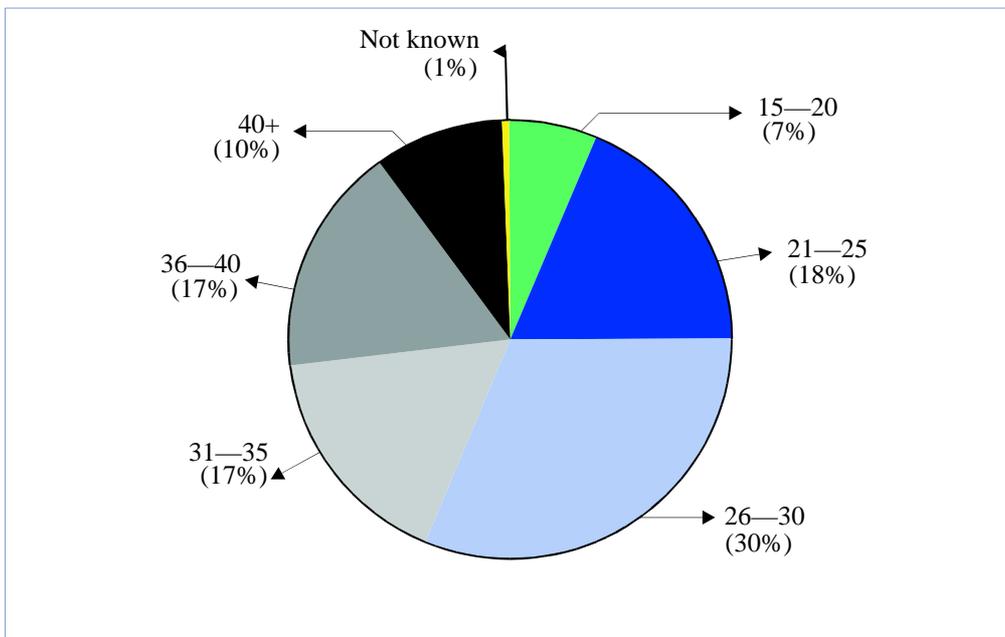
All the study respondents were male. Female IDUs were not included in the study. This decision, however, does not mean that there are no female IDUs in Pakistan.

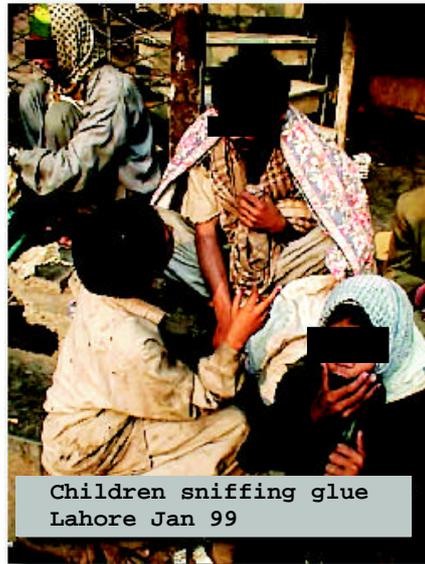
With the exception of one respondent who was Christian, all of the respondents were Muslims. Respondents were not selected with regard to their religion. However, this proportion is considered to be a reflection of the general population of Pakistan.

### 2.2.2 Age

The age distribution among the respondents varied between 15 and 41+ years. While 48% of the respondents were between the ages of 26 and 35 years, 25% were between the ages of 15 and 25 years.

Figure 1 Distribution of Age Groups (in years)

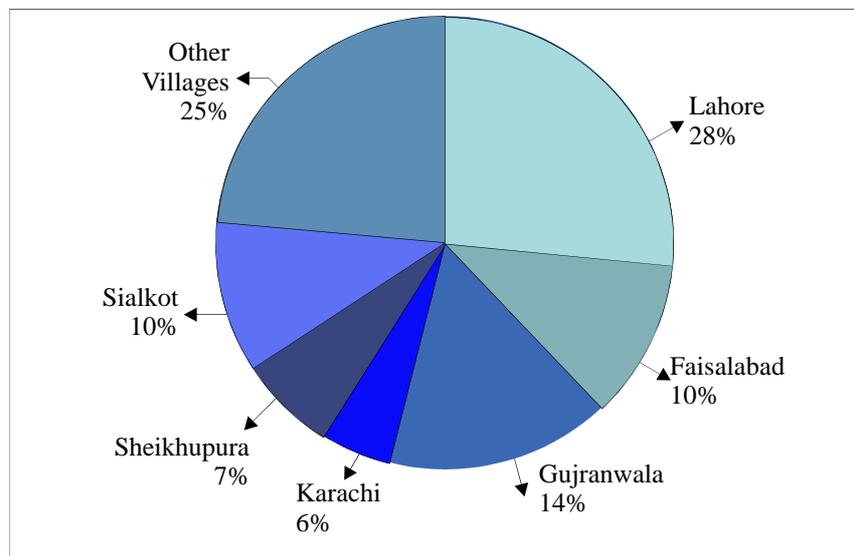




### 2.2.3 City of Origin

Among the 200 respondents, almost 30% were native to Lahore and 94% were from within Punjab province. The remainder of the respondents had moved to Lahore from another location. Those who had moved to Lahore from elsewhere had done so within the last 1-6 years.

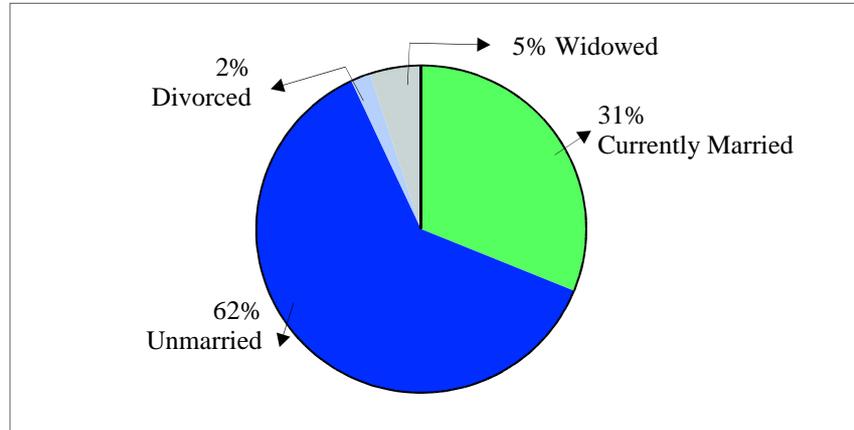
**Figure 2 City of Origin**



### 2.2.4 Marital Status

Thirty-eight percent (70) of the respondents were married at the time of their interview. Of the married respondents, 90% had been married for more than 6 years.

**Figure 3 Marital Status**



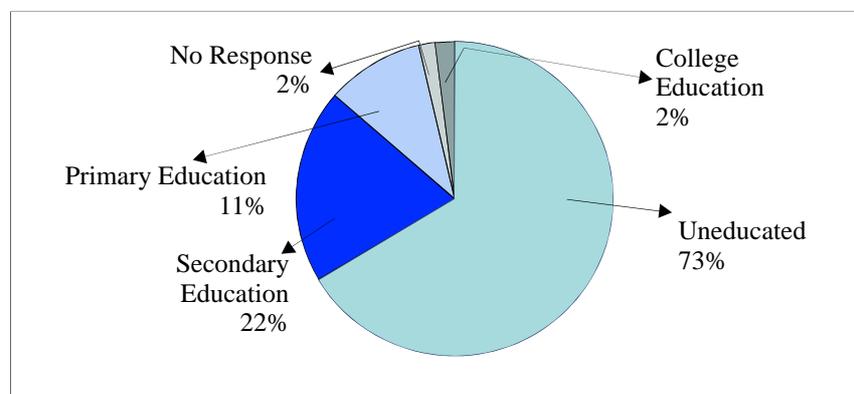
**2.2.5 Habitation**

Fifty-nine percent of the respondents reported living alone, while 23% stated that they lived with "friends". In this context, "living with friends" could mean living in communal quarters, in shared rooms, in abandoned buildings, factories or in the parks. Only one respondent conceded to living on the street. Sixteen percent of the respondents claimed to live with joint and nuclear families, with joint families being the more common arrangement. This is significant in that it confirms continuing social contact between the IDUs and different elements of the general population.

**2.2.6 Education**

Of the 200 respondents interviewed, 126 (63%) were not formally educated and could neither read nor write. This suggests that prevention activities aimed at reducing the transmission of HIV and HCV for this population group need to focus more on verbal and/or visual aids rather than written materials. Thirty-five percent of the respondents had a minimum of a primary education and could therefore derive some benefit from written materials.

**Figure 4 Level of Education**

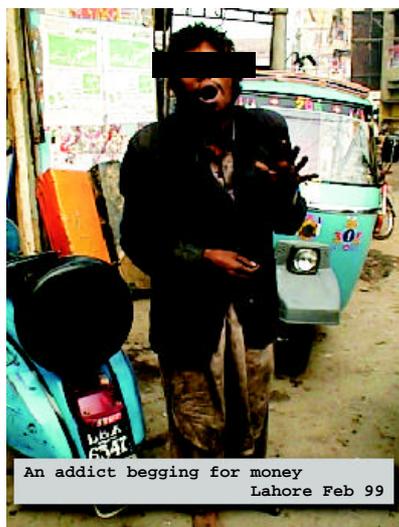
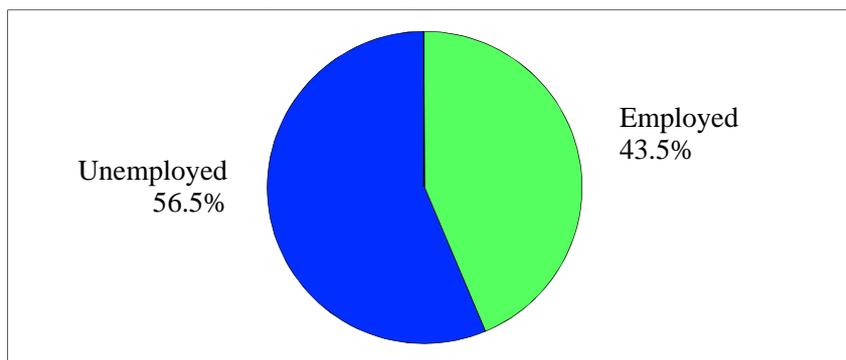


### **2.2.7 Present Status and Nature of Employment**

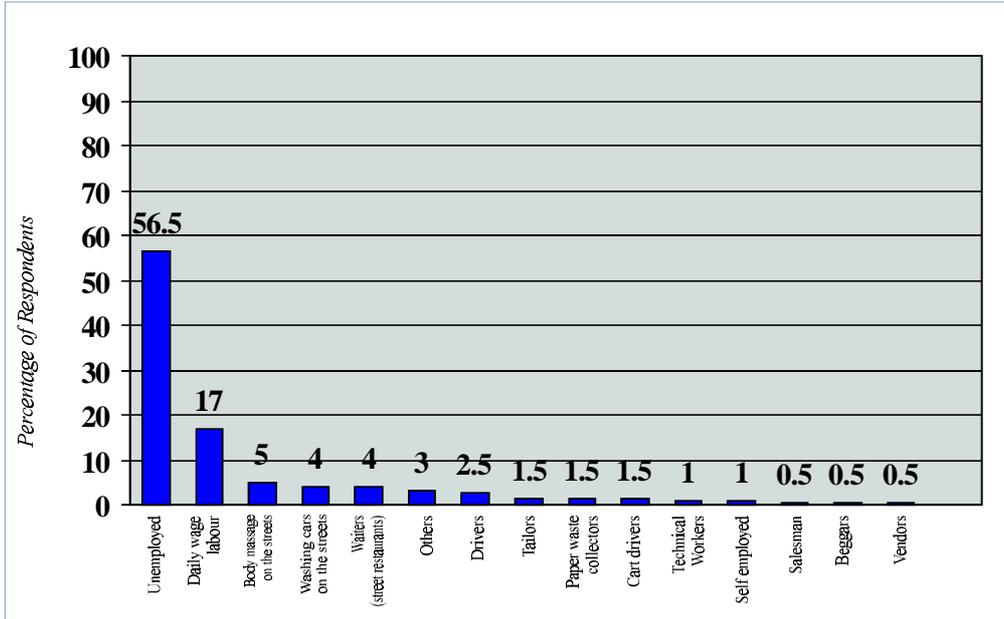
More than half (56%) of the respondents were not employed at the time of their interviews. It is possible that at least some of the remaining 44% who claimed to be employed are meeting their daily expenses through income from irregular jobs and other means: even begging is considered by some persons as a form of employment.

The source of income for nearly 30% of those who considered themselves unemployed was reported as families and friends. Income from selling their own blood is the second highest source of income and accounts for slightly more than 6% of the respondents. (It seems clear, based on the levels of infection found in the sample population, that infected blood could be collected from those who are selling.) Only 1% of respondents claimed that they generate income from drug "pushing". Drug-pushing is often considered to be a common source of income among users, but this appears not to be the case among this group. It is possible, however, that study respondents were less than candid regarding this issue due to fears of future investigation by law enforcement agencies.

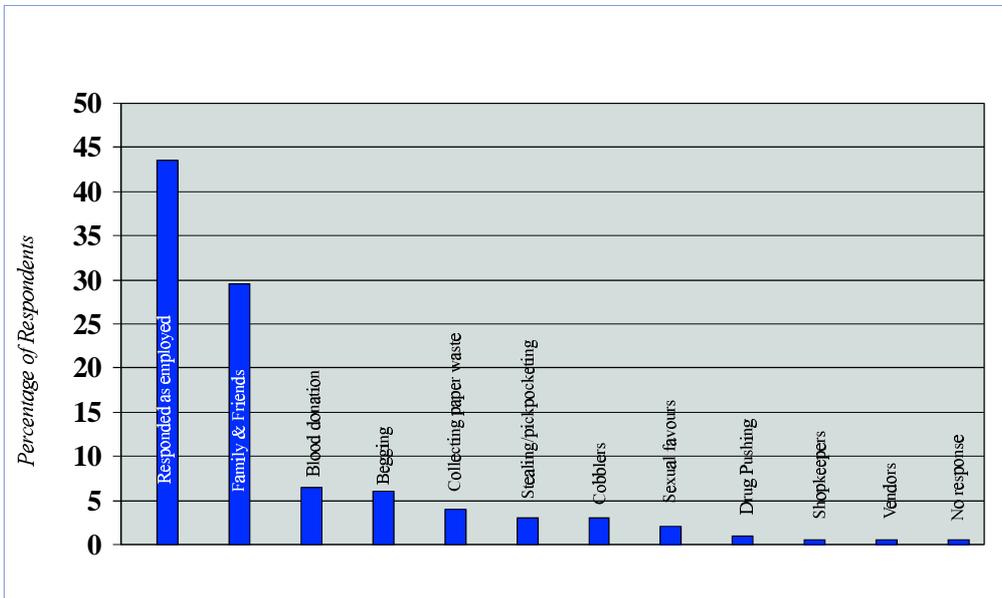
**Figure 5 Employment Status**



**Figure 6 Nature of Employment**



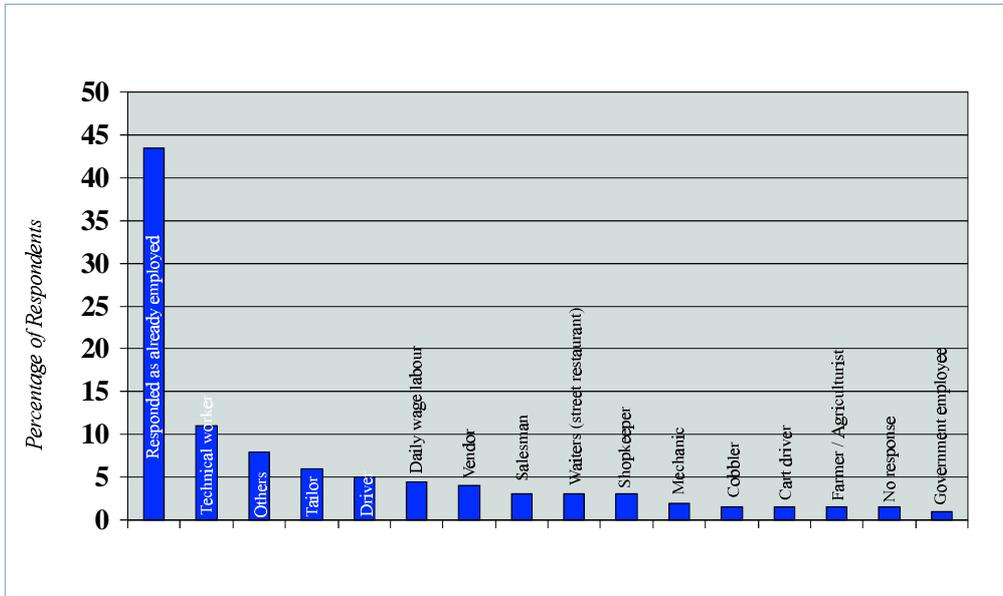
**Figure 7 Source of Income for Unemployed**



It is evident that a majority of those who claimed that they were currently unemployed were at some time in the past gainfully employed and, therefore, have some marketable skills. As can be seen from Figure 8, the highest number of respondents presently unemployed were at one time technical workers, in settings such as machine and tool shops and factories. This represents, however, only 11% of the respondents; the remainder worked in a broad

spectrum of occupations ranging from skilled labourers (tailors, cobblers and mechanics) to government employees to farmers.

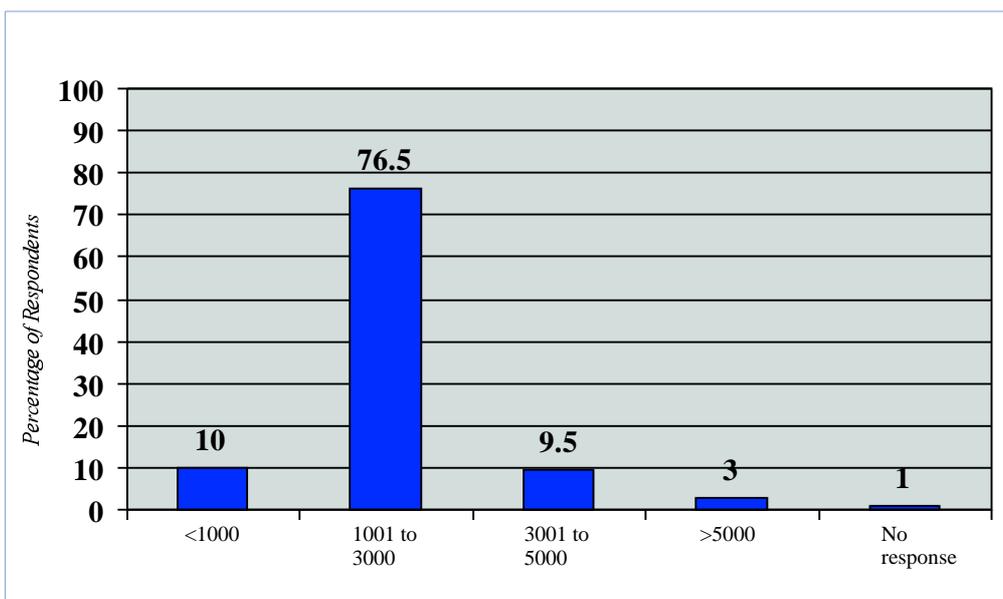
**Figure 8 Previous Occupation**



**2.2.8 Monthly income**

All respondents except two reported a monthly income. A majority (76%) generated between Rs 1,000 and Rs 3,000 per month from various sources.

**Figure 9 Monthly Income**



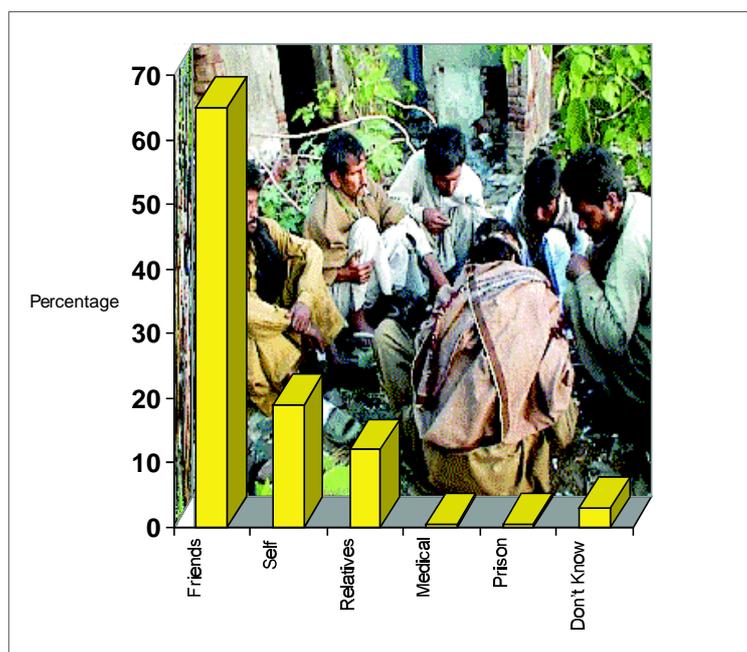
## 2.3 DRUG USE HISTORY, PATTERNS AND PRACTICES

Analysis of the drug use history, patterns and practices of the respondents revealed several important findings. Among other things, the results indicated a relatively recent shift in types of drugs used, a rapid change in mode of drug abuse from smoking and inhaling to injecting, a widespread ignorance of needle sterilisation methods and a lack of effective drug treatment or education programmes available to the IDUs.

### 2.3.1 Drug Use History

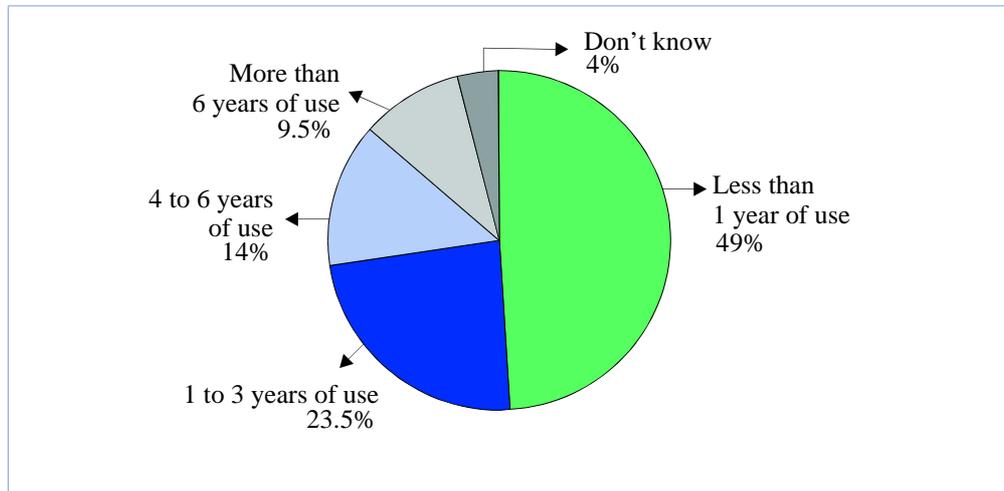
When asked to indicate the progression from the first drug ever used to the current drug of choice, the majority of respondents indicated that they had begun with *charas* (marijuana), then proceeded to alcohol, heroin and finally the injectable drug combinations. More than three-quarters of the respondents claimed to have been introduced to drugs by friends and relatives; this finding is an indication of peer and group pressure to use drugs. Almost twenty percent started experimenting/using on their own initiative and a small percentage (1%) were introduced to drugs through medical interventions or during imprisonment.

**Figure 10 Introduction to Drugs**



Almost half of the respondents began injecting drugs as their main form of drug abuse less than one year after beginning to smoke heroin or to "chase the dragon". This finding suggests that injecting drug use is becoming increasingly popular in the early stages of drug dependency among drug users in Pakistan. Among drug treatment professionals, injecting drug use has commonly been thought to mark the chronic stages of drug dependency, though this shift to earlier introduction of injecting drug use might represent a new trend among the drug using population.

**Figure 11 Years of Injecting Present Substances of Choice**



This well-defined shift from smoking and inhaling to injecting can be seen as an early warning sign of the potential for an epidemic of HIV infection among the IDUs. Recent research in other parts of Asia indicates that diffusion of new patterns of drug use, and shifts from opiate smoking to drug injecting in particular, may be important contributing factors to rapid increases in HIV infection levels among IDUs.<sup>10</sup>

Thirty percent (60) of the 200 respondents have undergone some form of drug treatment during their lives and 10% have undergone treatment more than once. These findings suggest that mere access to treatment programmes will not necessarily lead to a successful recovery outcome. The number of respondents who have sought treatment could be seen as an indication that access to drug treatment for this group of drug dependents is limited. This limitation in access could, in turn, be the result of one or a combination of reasons, including a general scarcity of treatment services for drug users or a lack of treatment services catering to the type of clientele who cannot afford to pay for care. It is also possible that this study finding could be explained by a lack of interest by this group of respondents in seeking care from drug treatment programmes. This lack of interest is not uncommon among drug users and can be the result of a number of different factors, none of which were specifically investigated by this study.

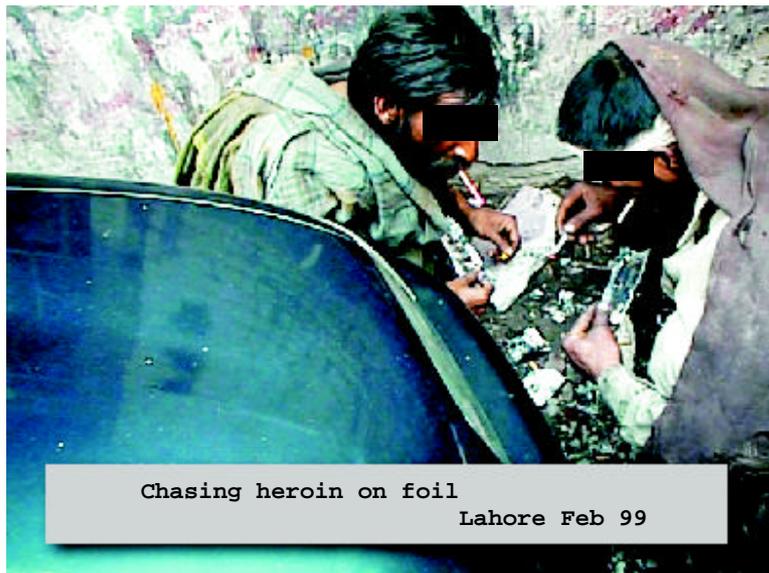
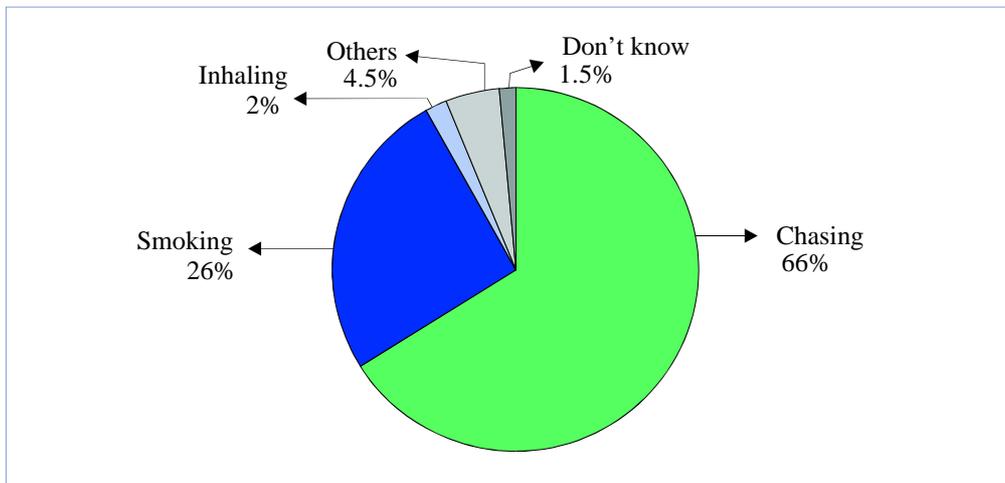
Half of the respondents reported having had physical problems symptomatic of chronic drug abuse, such as localised swelling, collapsing of veins, miscellaneous infections and adverse reactions. These problems were likely a result of extended, unhygienic intravenous drug usage and the sharing of needles among persons with a variety of health problems.

<sup>10</sup>Rhodes T, Stimson G, Crofts N, Ball A and Khodakevich L. Drug injecting, rapid HIV spread and the 'Risk Environment': Implications for Assessment and Response. *AIDS Year in Review*, 1999. (Publication pending).

### 2.3.2 Drug Use Patterns

“Chasing the dragon” and smoking have historically been the most common methods of heroin use among the sample population. At the present time, however, heroin is no longer the most common substance of abuse among this sample group of IDUs. The majority of these drug users have begun injecting a combination of legally procured injectable drugs. These combinations of drugs can include sedatives, antihistamines and anti-vomiting drugs, and often complement other drugs used, enhancing their positive effects and minimising the negative side effects.

**Figure 12 Method of Using Drugs Prior to Shifting to IDU**



Morphine is the most commonly used of the drugs injected by those in the sample population. Other popular substances are legal prescription drugs available from pharmacies, over-the-counter and without prescription, among which Temgesic (synthetic morphine) is used by 59% and morphine by 58.5%.

**Figure 13 Present Drugs Used**

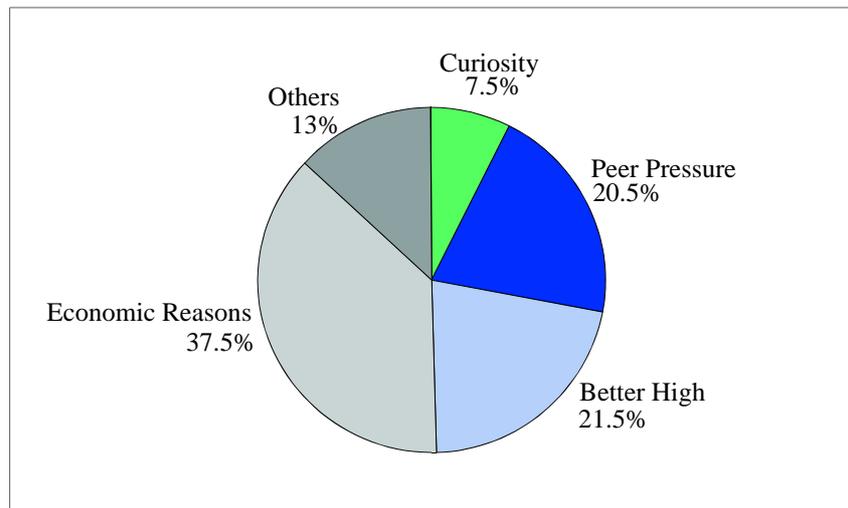
<b>Drugs Used</b>	<b>Percentage</b>
Temgesic (Opiate/Analgesic)	59
Morphine (Opiate/Analgesic)	58.5
Avil (Antihistamine)	45
Diazepam (Benzodiazepine (anxiolytic))	31
Marzine (Antihistamine)	18
Heroin (Opiate / Analgesic)	2.5
Others	12.5



The major reasons cited by the respondents for shifting from smoking heroin to injecting legally procured substances, sometimes in combination with illegal substances, are economics (they are less expensive), better "high" (greater satisfaction) and peer or group

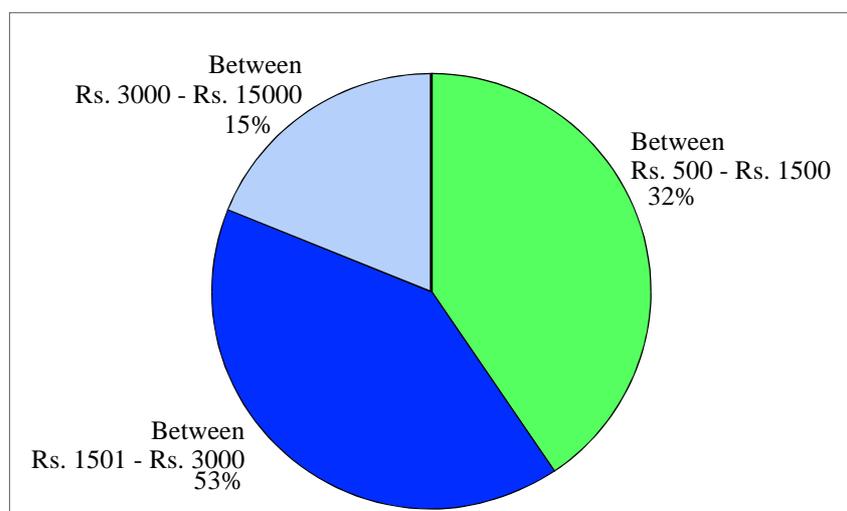
pressure to conform. Easy availability and a quality assurance of the legal substances were also mentioned as reasons for shifting to injecting drugs.

**Figure 14 Reasons for Shifting to IDU**



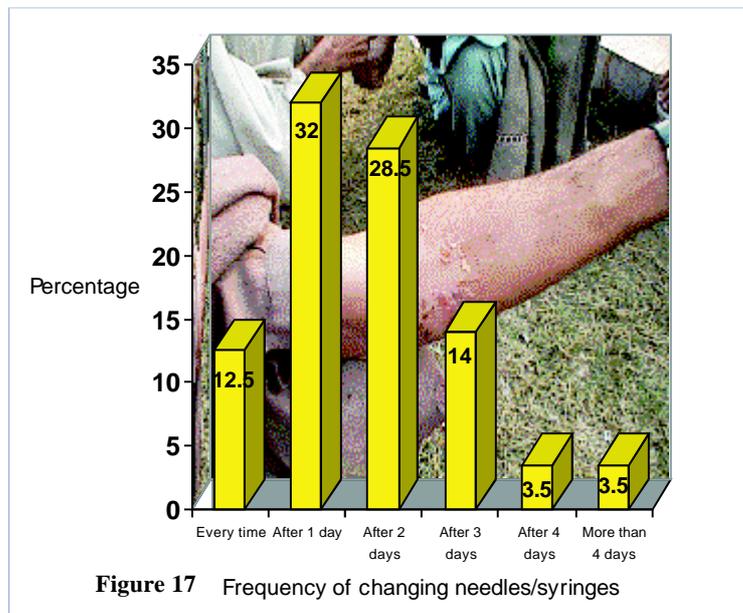
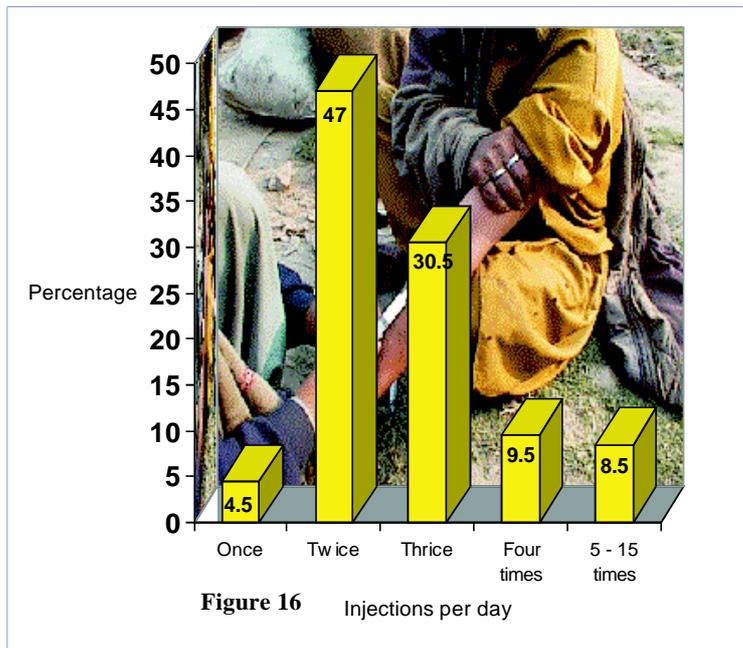
Reported monthly expenditure on drugs varies widely within the sample population. It ranges from a low of Rs 500 to a high of Rs 15,000, but a majority (85%) report expenditures of less than Rs 3,000.

**Figure 15 Monthly Expenditure on Drugs**

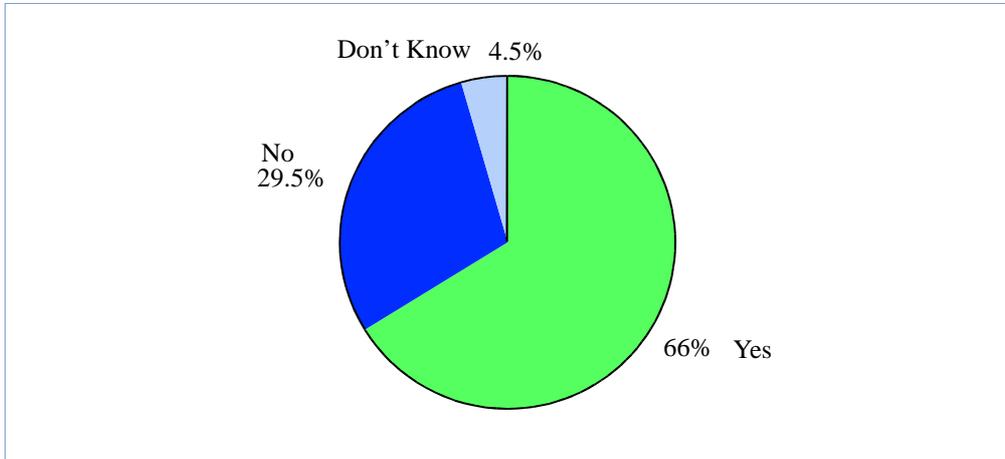


### 2.3.3 DrugUsePractice

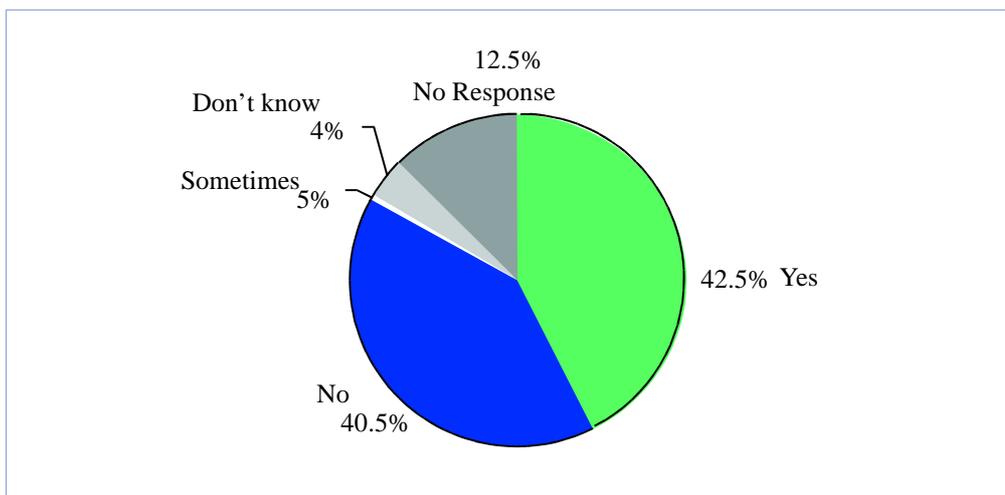
Eighty-two percent of the respondents inject between one and three times a day. All 200 respondents use disposable syringes and needles to inject, but only 12% of them use a new needle or syringe every time they inject. Sixty-six percent use the same needle all the time. This is evidence that non-sterilised and contaminated needles are being used by a large majority (88%) of the respondents.



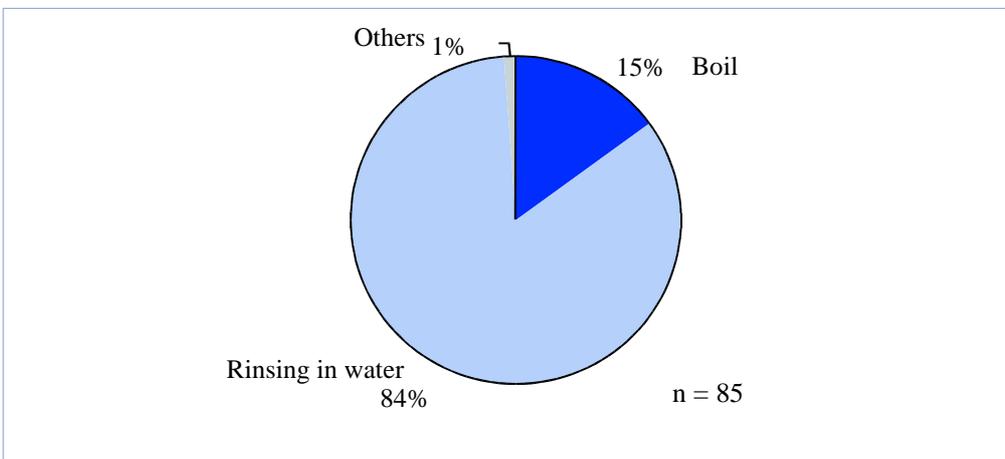
**Figure 18 Always Use the Same Needle**



**Figure19 Cleaning of Needles**

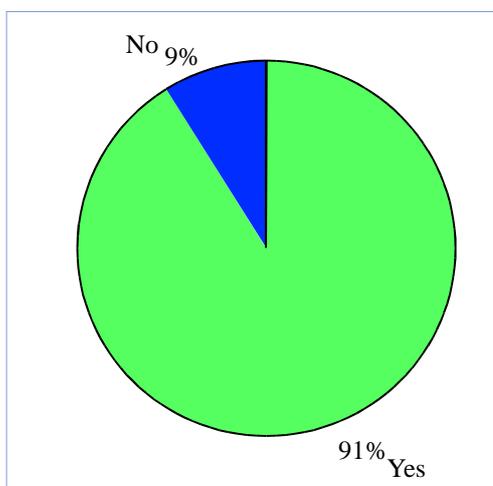


**Figure 20 Methods Used to Cleanse Needles/Syringes**

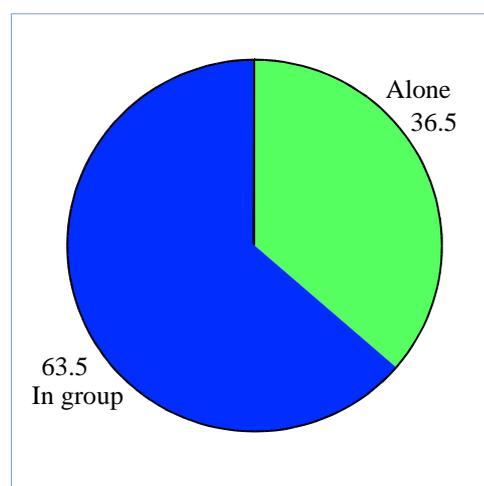


In spite of the fact that a high percentage (91%) of the respondents knew that sharing contaminated needles could cause transmission of diseases and infections, 64% continued to share needles and use drugs in groups. This could be due to, among other things, denial of the severity and magnitude of problems caused by sharing needles, by the willingness to take a risk in exchange for a high or by a desire simply to save money.

**Figure 21 Response to Question, “Can Sharing Needles/Syringes Cause Diseases?”**



**Figure 22 Manner of Injecting**



Eighty-five of the 200 respondents claimed that they washed their needles and syringes. However, of these, 83% washed them by simply rinsing them in water. Only 15% claimed to actually sterilise their injecting equipment in boiling water. This lack of awareness of proper methods of sterilising needles could be a primary cause of the high level of HCV infection (89%) among the respondents.

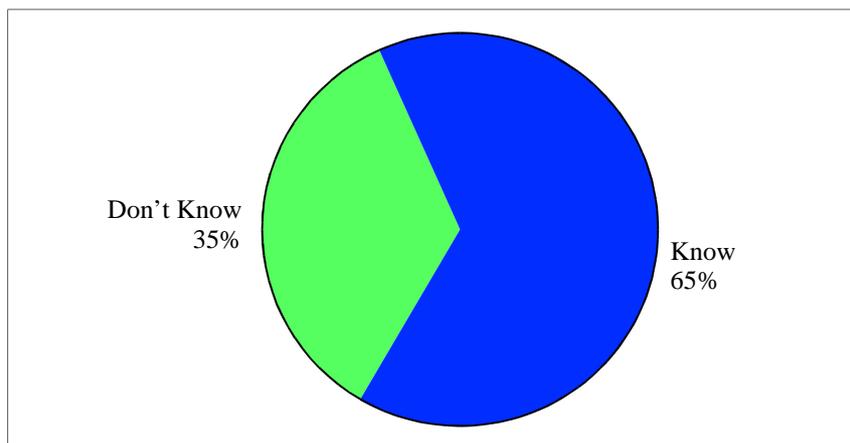
It is interesting to note that such a large proportion of the sample group (83%) made some effort, however ineffective for the purposes of actual sterilisation, at cleansing of their needles and syringes. The fact that such a large number of respondents practice some form of "sterilisation" suggests that IDUs might be receptive to programmes designed to educate IDUs about effective methods of sterilisation.

## 2.4 KNOWLEDGE AND AWARENESS OF HIV/AIDS AND HCV

### 2.4.1 HIV/AIDS

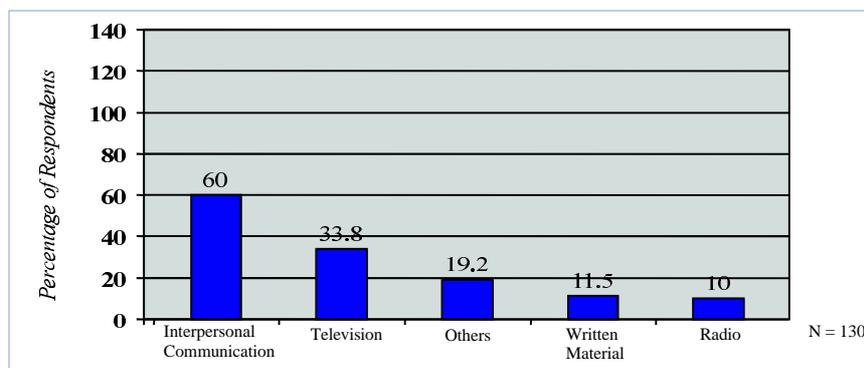
In all, nearly two-thirds of the respondents claimed that they had heard about a disease called AIDS, leaving one-third who expressed no knowledge of HIV/AIDS whatsoever. The respondents were asked a number of questions regarding their awareness of HIV/AIDS. The first question, "Have you heard about a disease called AIDS?", was unprompted and no additional information was given. Sixty-one percent responded at that time that they had heard of AIDS. These results imply that AIDS campaigns within Pakistan have managed to inform certain segments of the population about the existence of AIDS. The remaining 39% of the respondents were asked the same question but were then prompted with a hint or a reference (e.g., a reminder about an advertisement about AIDS on the television or a hint about a deadly disease that is spreading all over the world). When thus prompted, 4% more said that they did know of AIDS.

**Figure 23 Knowledge of HIV/AIDS**



Responses to a multiple-choice question regarding the respondents' sources of knowledge about HIV/AIDS showed that the majority of respondents were made aware of AIDS through communication among friends and acquaintances. While this type of transfer

**Figure 24 Sources of Knowledge About HIV/AIDS**

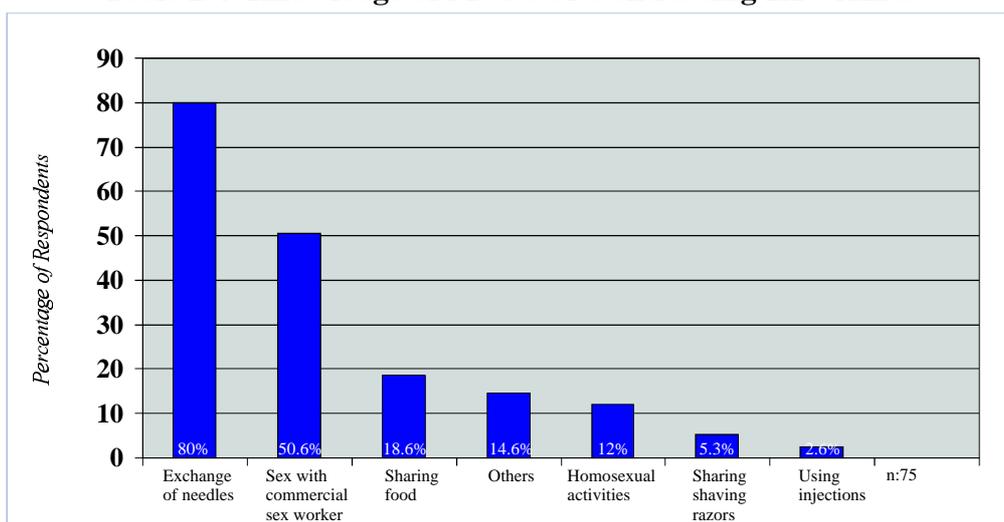


of knowledge can, at least to some extent, be expected to be incomplete and/or inaccurate, the mere fact that HIV/AIDS is discussed informally at all is a positive indication of the diffusion of information.

To further assess the extent of respondents' knowledge about HIV/AIDS, a series of multiple-response questions were asked regarding the recognition of symptoms of HIV infection or of AIDS. Only 8% of the respondents said that they were aware of any of the symptoms. Dominant among the symptoms which they felt were indicative of HIV infection were weakness, yellow skin colour, and infections. Additionally, they believed that the presence of wounds that would not heal, allergic reactions and continuous fever were symptomatic of HIV/AIDS. Eight respondents (4%) stated that they knew of a person who was suffering from HIV infection or AIDS. Weakness was reported as the main symptom in these cases, followed by pale complexion, yellow eyes, stomach upset and fever.

The respondents were asked if they had knowledge of the means by which HIV could be contracted. Among those who claimed to know of HIV/AIDS, 58% claimed that they knew how it was transmitted. Further questioning revealed that of the 58%, almost two-thirds believed that HIV was contracted through sex with a commercial sex worker or through homosexual sex. Nineteen percent of the group claiming knowledge of HIV/AIDS thought that HIV was contracted through sharing of food with an infected person. Of the total sample population of 200 respondents, only 60, or 30%, answered that sharing needles could result in HIV transmission.

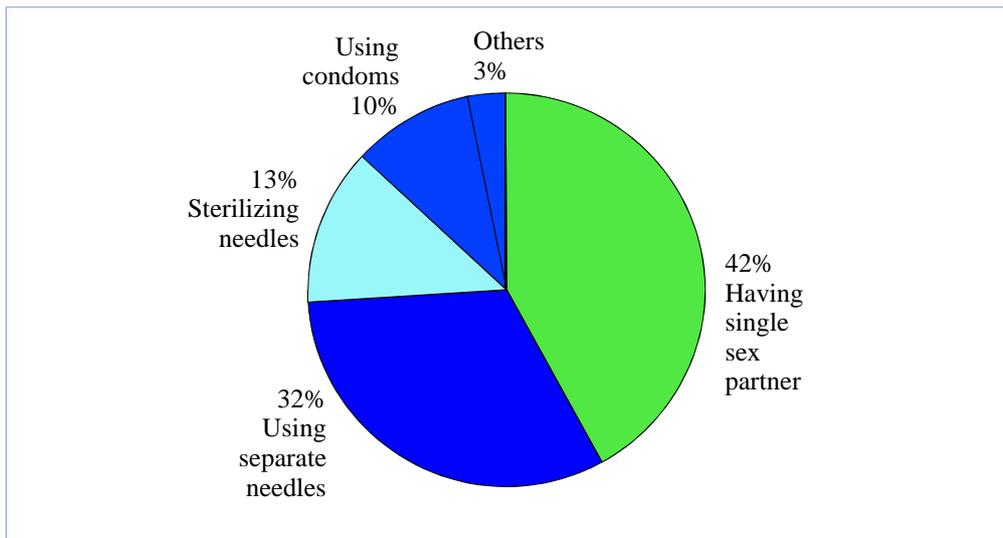
**Table 2.4 Knowledge of Modes of Contracting HIV/AIDS**



A number of survey questions were asked of the respondents to determine if they knew about methods to safeguard themselves and others against infection by HIV. Of the 200 respondents, 140 (70%) stated that they did not know of methods to guard against exposure to HIV infection. Of the 60 respondents who did know of preventivemeasures, 25 (42%)

believed that having sex with a single partner was a safeguard, and 19 (32%) indicated that using separate needles would protect them from infection. Using condoms and sterilising needles were considered effective safeguards by 6 (10%) and 8 (13%) respondents, respectively.

**Figure 26 Methods of Guarding Against HIV Known to Respondents**



It is clear that the respondents did not have accurate information about HIV/AIDS, and are particularly lacking in accurate information about actual symptoms and specific prevention methods. Of the 60 respondents who claimed to know of preventive measures against HIV infection, having a single sex partner was reported as the best method of *preventing* HIV/AIDS. When queried about ways of *contracting* HIV, 80% of the respondents felt that sharing needles was a mode of transmission, and 51% felt that sex with a commercial sexworker could result in transmission of the virus.

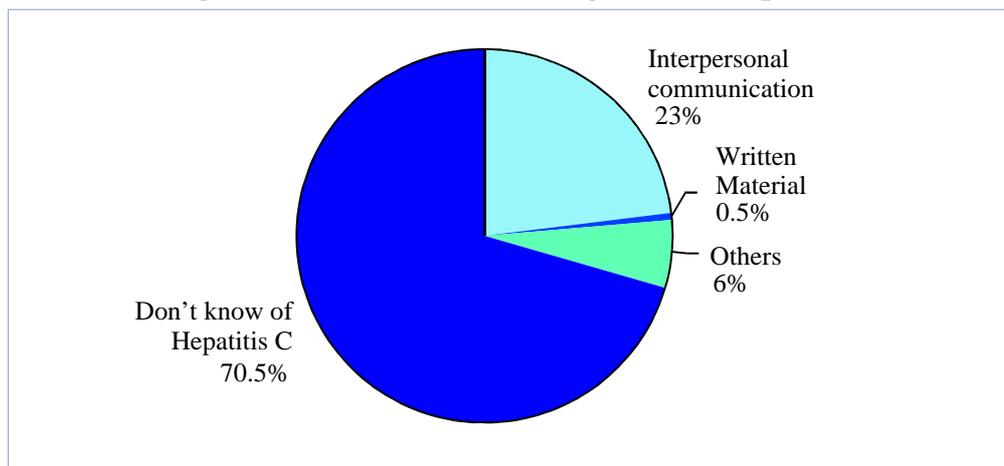
#### **2.4.2 Hepatitis C**

In a manner similar to that used to investigate respondent knowledge regarding HIV/AIDS, the respondents were asked a number of questions regarding their awareness about hepatitis C. The first question, "Have you heard about a disease called hepatitis C?", was unprompted and no additional information was given. Nineteen percent responded that they had heard of hepatitis C. The 81% who initially answered in the negative were asked the same question again, but were also prompted with a hint or a reference. When thus prompted, an additional 12.5% (making a total of 63 respondents) claimed knowledge of the disease.

Predominant among the respondents' answers regarding knowledge of hepatitis C symptoms are yellow eyes, pale complexion, and (to a lesser extent) yellow urine. It seems clear from these responses that the respondents who claim to have knowledge about this

disease are, in fact, reporting their awareness of jaundice, which is quite common among IDUs, and which is symptomatic of any number of liver disorders. The respondents' knowledge about hepatitis C was principally derived through communication with friends and acquaintances. As noted in the discussion of HIV/AIDS above, transfer of knowledge in this way can be expected to be, at least to some extent, incomplete and/or inaccurate.

**Figure 27 Source of Knowledge About Hepatitis C**



When asked if they knew how hepatitis C could be contracted, only 11 of the 200 respondents replied in the affirmative. Responses in this area were interesting largely for the profound ignorance that was exhibited. Infection with HCV was blamed on, among other things, eating hot things such as *paan* (betel leaf), cold weather, medicines and drug injections. One person felt there was no prevention at all for HCV infection. When asked if they had ever known a patient with hepatitis C, nearly 20% of the study respondents claimed that they had. Symptoms of disease exhibited by these patients were described by the respondents as including yellow colouring of the eyes and body, as well as weakness and minor abnormalities.

## **2.5 SEXUAL PRACTICE AND BEHAVIOUR**

Of the 200 total respondents, 101 (50.5%) reported that they had engaged in sexual activity within the last year. Of those 101 respondents who claimed to be sexually active, 44 reported having one sex partner within the last year, 18 reported having two sex partners and 27 reported having three or more sex partners within the last year. Of the 62 currently married respondents, 37 (60%) claimed to have regular sexual contact with their spouses.

**Table 4 Recent Sexual Activity**

	<b>Number of persons</b>	<b>% of total respondents (N=200)</b>
Persons reporting sexual activity in the last year	101	44.5%
Persons reporting no sexual activity in the last year	95	47.5%
No response or don't know	4	2.0%
Total	200	100%

**Table 5 Frequency of Sexual Contact During Previous Year**

	<b>Number of persons</b>	<b>% of sexually active respondents (n=101)</b>	<b>% of total respondents (n=200)</b>
1 sexual contact	44	43.6%	22%
2 sexual contacts	18	17.8%	9%
3+ sexual contacts	27	26.7%	13.5%
No response or don't know	12	11.9%	8.0%
Total	200	100%	52.5%

The majority (84%) of the sexually active respondents report that they engaged in heterosexual activity. Of these, 26 respondents reported steady or ongoing relationships and 59 reported having random relationships. Nearly one-quarter (23.7%) of the sexually active study respondents reported engaging in homosexual activity. Of these, 5 respondents claimed

to be having steady or ongoing relationships, and 19 claimed to have random relationships.

**Table 6 Nature of Reported Sexual Activity**

	<b>Number of persons</b>	<b>% of those responding to questions (n=101)</b>	<b>% of total respondents (n=200)</b>
Ongoing heterosexual relationship	26	25.7%	13%
Random heterosexual relationship	59	58.4%	30%
Ongoing homosexual relationship	5	4.9%	2.5%
Random homosexual relationship	19	18.8%	9.5%

**Table 7 Nature of Commercial Sexual Contacts**

	<b>Number of persons</b>	<b>% of those responding to questions (n=98)</b>	<b>% of total respondents (n=200)</b>
Sexual contact with female sex workers	94	95.9%	47%
Sexual contact with male sex workers	2	1.9%	1%
Sexual contact with transvestites	1	1.1%	0.5%
Others	1	1.1%	0.5%
Total		100%	100%

Ninety-four respondents reported having sexual contact with female commercial sex workers and 3 respondents reported sexual contact with male transvestites or male commercial sex workers. Nineteen of the respondents claimed that they had been paid for sex. Of these, 2 reported having been paid for sex frequently.

It is evident from these findings that there is some degree of sexual contact between the sample population and other groups and, therefore, the potential for sexual transmission of HIV and other sexually transmitted infections (STIs) exists. The potential for sexual transmission of infection to spouses is also clear, assuming marital sexual relationships are active as reported. The potential for transmission to a potentially important "bridge group", that of commercial sex workers, is equally evident and of particular importance. This bridge group could be one of the principal channels by which HIV infection reaches the general population.

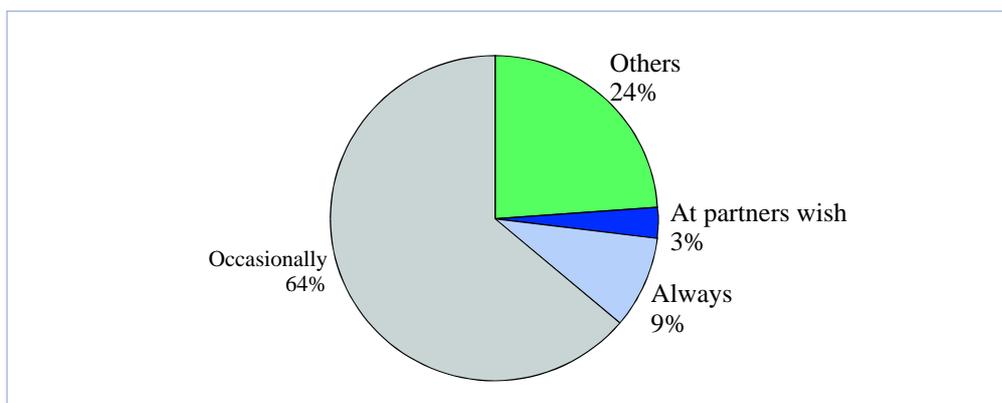
When asked if they had knowledge of condoms, 180 of the respondents replied in the affirmative. Of these, 90% believed that condoms are used primarily for family planning and 35% believed that they are used for protection against STIs.

**Table 8 Views About the Utility of Condoms**

	<b>Percentage</b>
Family Planning/Birth Prevention	90
Protection against disease	35
Others	9
Don't know	5
Total cases (n)	180

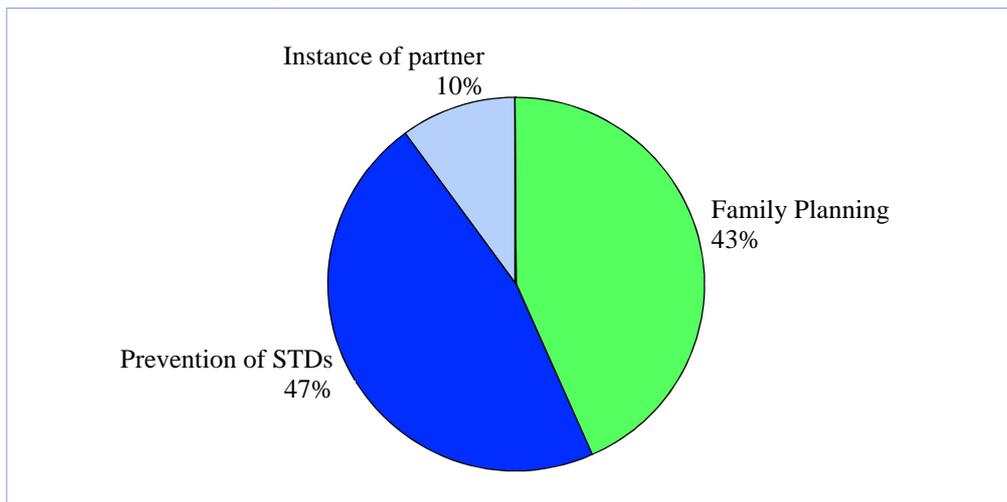
When asked how many had ever used condoms, only 35 of the 200 respondents replied affirmatively and, of these, 64% (22) said that they used them only occasionally.

**Figure 28 Frequency of Condom Usage**



Respondents reported using condoms primarily for reasons of birth-spacing and prevention of STIs. Ten percent reported the main reason for using condoms as the insistence of their partner.

**Figure 29 Reasons for Using Condoms**



Forty-six percent of the respondents claimed to have heard of STIs, in particular gonorrhoea. Thirty three (16%) of the 200 respondents had contracted an STI at some time, and 31 of these had gone to a physician or traditional healer for treatment. Two had medicated themselves.

## CONCLUSIONS

- ♦ The extraordinarily high rate of HCV infection among the respondents (89%), in comparison with the estimated rate among the general population (7%), suggests that within this sample population there exists a well-established chain of transmission for HCV and other blood-borne infections such as HIV. Although the presumption is that this chain of transmission is related to the sharing of contaminated needles and syringes, it must be noted that other potential pathways of infection (e.g., medical procedures, tattooing, haemodialysis) exist for this sample population.
- ♦ One can infer, based on the rate of HCV infection (89%) and the fact of a common mode of transmission (i.e., sharing of contaminated needles and syringes), that the potential for epidemic rates of HIV infection within this sample population is exceptionally high once the virus enters this vulnerable group.
- ♦ Injecting drug use is gaining popularity among drug users because it is cheaper, the effect is more pleasing than other forms of drug abuse such as smoking and sniffing, and there is peer pressure among other users to shift to injecting. Anecdotal evidence suggests that other reasons for the shift to injecting drug use are that the drugs are more readily available and of a standardised quality, they are legal to use, they are less stigmatising than heroin and there is a wide choice of combinations of drugs available.
- ♦ Injecting drug use is becoming increasingly popular in the early stages of drug dependency among drug users in the study. This well-defined shift from smoking and inhaling to injecting can be seen as an important early warning sign of the potential for an epidemic of HIV/AIDS among the IDUs.
- ♦ The main mode of transmission of HCV (and, by inference, other blood-borne diseases) among this sample population appears to be the sharing of contaminated needles and syringes.
- ♦ The existence of transmission links to the general population through sexual contact is evident. Half of the respondents reported sexual contacts with spouses, commercial sex workers or others.
- ♦ The use of infection prevention methods (e.g., condoms) was minimal and irregular, resulting in a vulnerability to transmission of STIs. Condoms are considered by a majority of respondents as primarily useful for purposes of child birth-spacing or prevention.
- ♦ The existence of transmission links to the general population through other routes is also evident. Respondents reported periodic selling of their blood to blood banks. In addition, a number of respondents wore tattoos (tattooing is recognised as a possible risk behaviour,

however, the efficiency of transmission is unknown), and a number of respondents reported seeking medical attention from a doctor or a traditional healer where non-sterilised medical equipment could be utilised.

- ♦ The respondents were aware of HIV/AIDS but had inaccurate and incomplete information about its transmission, symptoms and prevention methods. The respondents were mostly unaware of hepatitis C infection, and had little or no accurate information about its symptoms or methods required to prevent its spread.

- ♦ Although many of the respondents (43%) made a nominal effort to clean their needles and syringes, they were grossly unaware of proper and effective methods of sterilisation. Only 7% of the total study respondents reported that they boiled the needles and syringes in water.

## RECOMMENDATIONS

In order to reduce the spread of HIV, HCV and other blood-borne infections among the injecting drug using population in Pakistan it is recommended:

- ◆ that the Government of Pakistan, in co-ordination with the United Nations, the NGO community and other assistance programs, take all necessary actions to prevent the further spread of HCV and the potentially epidemic spread of HIV both within high-risk groups and among the general population;

- ◆ that ways of communicating to IDUs accurate messages and information about HIV and hepatitis C, in particular about the modes of transmission and prevention methods, be researched and undertaken;

- ◆ that health care programmes be initiated which focus on providing basic health care to IDUs using street-based activities and other appropriately targeted means;

- ◆ that programmes are initiated which educate and assist IDUs with appropriate infection prevention activities, in particular those that reduce the potential for transmission of blood-borne infections (for example, bleach distribution, needle and syringe exchange, condom promotion, counselling, STI management and peer education);

- ◆ that drug treatment and rehabilitation programmes be established that offer integrated and comprehensive drug treatment interventions from infection prevention, to detoxification, rehabilitation and aftercare; and,

- ◆ that steps be taken to initiate comprehensive care and support programmes which focus on providing assistance to those already infected with HIV or HCV.







