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Ministry of Health & Family Welfare, Government of India
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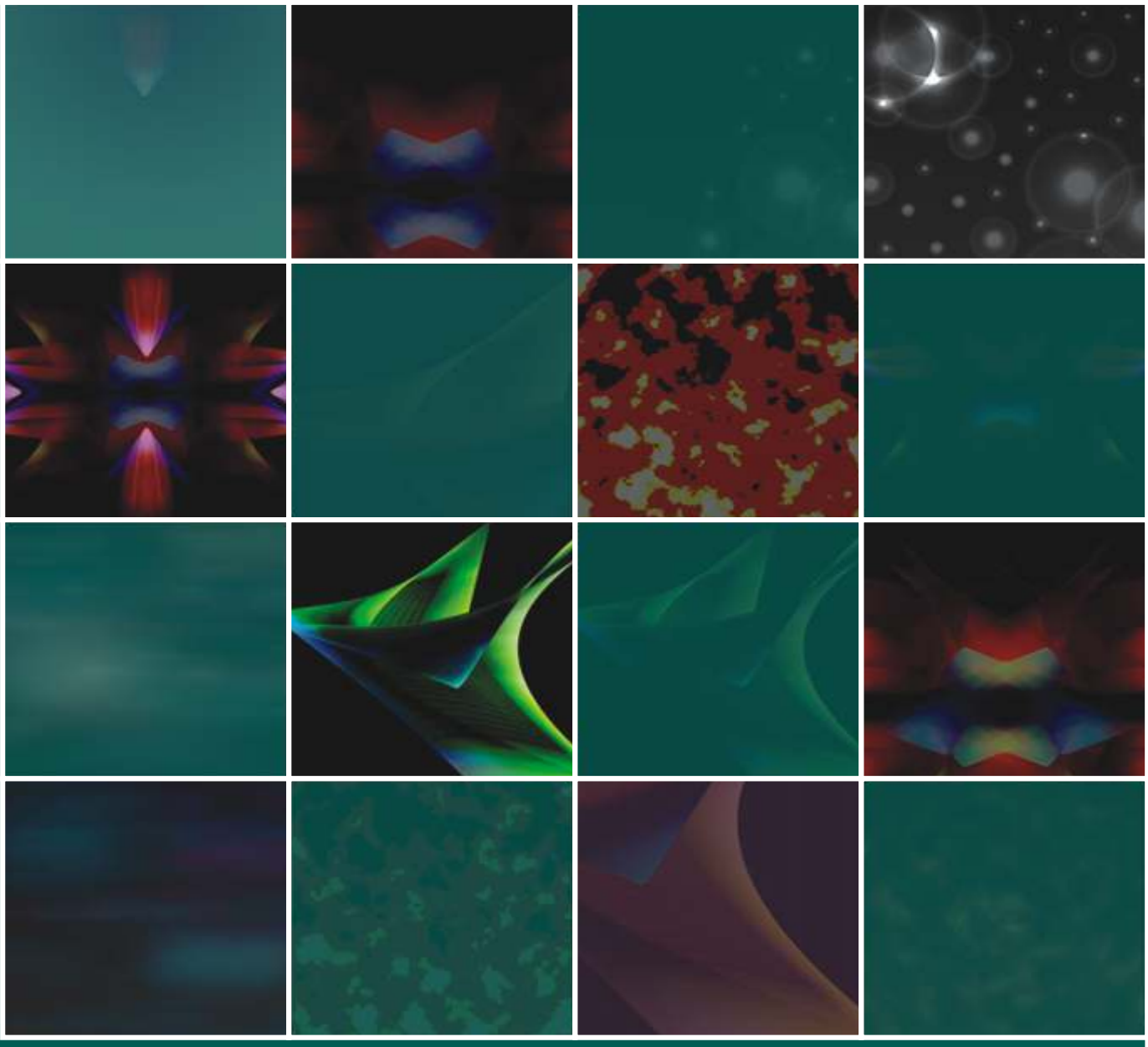
Association of Drug Use Pattern with Vulnerability and Service Uptake among Injecting Drug Users



OPERATIONAL RESEARCH

Project HIFAZAT: Strengthen the capacity, reach and quality of IDU harm reduction services

Year of Publication: 2012

Published By:
United Nations Office on Drugs and Crime, Regional Office for South Asia

Author: Dr. Atul Ambekar,

Co-investigators
- Dr. Ravindra Rao, Technical Officer, UNODC
- Anita Chopra, Scientist, NDDTC, AIIMS
- Hem Sethi, Scientist, NDDTC, AIIMS

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Designed & Printed by: Impression Communications

Association of Drug Use Pattern with Vulnerability and Service Uptake among Injecting Drug Users

"Currently 'Injecting Drug Users' (IDUs) are referred to as 'People Who Inject Drugs' (PWID). However, the term 'Injecting Drug Users' (IDUs) has been used in this document to maintain consistency with the term used presently in the National AIDS Control Programme".

Supported by The Global Fund to Fight AIDS, Tuberculosis and Malaria - Round-9 India HIV-IDU Grant No. IDA-910-G21-H with Emmanuel Hospital Association as Principal Recipient.

Preface

In India, Targeted Intervention (TI), under the National AIDS Control Program (NACP) framework, is one of the core strategies for HIV prevention amongst injecting drug users (IDUs). Apart from providing primary health services that include health education, abscess management, treatment referrals, etc., the TIs have also designated centres for providing harm reduction services such as Needle Syringe Exchange Program (NSEP) and Opioid Substitution Therapy (OST). The services under the TIs are executed through a peer based outreach as well as a static premise based approach, i.e., through Drop-In Centres (DIC) which in turn serves as the nodal hub for the above activities to be executed.

To further strengthen these established mechanisms under the NACP and to further expand the reach to vulnerable IDUs, United Nations Office on Drugs and Crime (UNODC) in India provides technical assistance to the National AIDS Control Organisation (NACO) through the Global Fund Round 9 Project (i.e., Project HIFAZAT), amongst others. In doing so, UNODC supports NACO through technical assistance in undertaking the following:

1) Conduct operational research

2) Develop quality assurance SOPs

3) Develop capacity building/ training materials

4) Training of Master Trainers

It is in this context, that a "Operational Research on "Association of drug use pattern with vulnerability and service uptake among Injecting Drug Users" has been conducted. The study aims to document the pattern of drug use, analyse the factors related to daily versus infrequent injecting and compare accessibility and availability of HIV prevention services among those who inject daily and those who inject infrequently. Additionally it was also aimed at exploring the issue of Opioid dependence among daily versus non-daily injectors. The findings are enlightening and potentially very useful. Recommendations of this report will form the basis for further program planning and designing.

This study therefore, has been conducted with a vision to serve as an invaluable tool to improve the quality of services provided to IDUs. Contributions from the Technical Working Group of Project HIFAZAT, which included representatives from NACO, Project Management Unit (PMU) of Project HIFAZAT, SHARAN, Indian Harm Reduction Network and Emmanuel Hospital Association was critical towards articulating and consolidating the study.

Acknowledgement

This operational research titled “Association of Drug Use Pattern with Vulnerability and Service Uptake among Injecting Drug Users” was conducted to strengthen the national HIV response amongst IDUs in India by establishing necessary evidences linked with injecting and drug use related patterns amongst IDUs. Understanding the opioid dependence among daily versus non-daily injectors, analysis of factors related to daily versus infrequent injecting and lastly issues of accessibility and availability of HIV prevention services among those who inject daily and those who inject infrequently are key areas which this study has tried to explore.

The UN Office on Drugs and Crime, Regional Office for South Asia (UNODC ROSA) would like to thank Dr. Atul Ambekar the Principle Investigator and author of this report, who led a team of field investigators and was instrumental in the conceptualizing, developing (of the research tools), analysis and finalisation of this report. We would also like to thank the team of field investigators which included Mr Abhishek Singh, Mr Pukhato Wotsa, Mr Rajkumar Nishikanta Singh, Ms Ramdin Puii, Mr Ronald Dorze Phanwar, Mr Sanjeev Tiwari, Dr. Sobha Mathew, Mr Sushant Kumar Pattnaik, Mr Sutirtha Dutta, Mr Upender Singh and Mr Venu Pillai.

The invaluable feedback and support received from various partners and stakeholders including NACO, Project Management Unit (PMU) of Project HIFAZAT, Emmanuel Hospital Association (the Principal Recipient of the grant “Global Fund to Fight AIDS, Tuberculosis and Malaria- India HIV-IDU Grant No. IDA-910-G21-H”), SHARAN, Indian Harm Reduction Network (IHRN) and individual experts have helped in fine-tuning and consolidating this report.

Special thanks are due to Dr Ravindra Rao, Mr. Debashis Mukherjee, Dr. Alpna Mittal, Ms. Shveta Aima and Ms. Nishtha Gupta for their assistance in coordinating and managing the various processes involved while conducting this study and during the critical stages of data entry and analysis which led to the finalization of this report.

Finally, we are grateful for the invaluable contribution of all the IDUs who acted as respondents. Without their contribution the study would not have been possible.

Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
ART	Anti-Retroviral Therapy
BSS	Behavioural Surveillance Survey
CMIS	Computerised Management Information System
DDAP	Drug De Addiction programme
DIC	Drop-In Centre
EHA	Emmanuel Hospital Association
FIDU	Female Injecting Drug user
FSW	Female Sex Worker
GFATM	Global Fund for AIDS Tuberculosis and Malaria
HIV	Human Immune-Deficiency Virus
HRG	High Risk Group
ICTC	Integrated Counselling and Testing Centre
IDU	Injecting Drug Use
M & E	Monitoring and Evaluation
MINI	Mini International Neuropsychiatric Interview
MOH & FW	Ministry of Health and Family Welfare
MP	Madhya Pradesh
MSJE	Ministry of Social Justice and Empowerment
MSM	Men who have Sex with Men
NACO	National AIDS Control Organisation
NACP	National AIDS Control Programme
NGO	Non Governmental Organisation
NSEP	Needle Syringe Exchange Programme
ORW	Outreach Worker
OST	Oral Substitution Therapy

PE	Peer Educator
PMU	Project Management Unit
ROSA	Regional office for South Asia
RTTC	Regional Technical Training Centre
SACS	State AIDS Control Society
SPSS	Statistical Package for the Social Sciences
STI	Sexually Transmitted Infection
TI	Targeted Intervention
TSU	Technical Support Unit
UNODC	United Nations Office on Drugs and Crime
UP	Uttar Pradesh
WB	West Bengal

Table of Contents

List of Tables

List of Figures

Executive Summary

Background

Injecting Drug Users (IDUs) are the population group, with highest prevalence of HIV in India. There are many variations among IDUs across India, in terms of their injecting practices and drugs which they prefer to inject. Little is known about the association of these injecting practices with vulnerabilities of IDUs who are currently receiving services from various Targeted Interventions (TIs) being operated under the National AIDS Control Program. Thus, an operational research study was conducted with the following objectives:

- To describe the drug using pattern and high risk injecting behaviours among IDUs accessing services from IDU TIs.
- To generate information on opioid dependence among IDUs in India
- To study the association between injecting pattern (i.e. daily vs. non-daily) and rates of opioid dependence, high-risk behaviours, knowledge, attitudes and availability / accessibility of services.
- To study the association of type of drugs injected with injecting pattern, risk behaviours, opioid dependence, service access and utilization etc.

Methodology

In this cross sectional study, data was collected by trained interviewers – using an especially designed semi-structured questionnaire – from 1000 IDUs who were receiving services from the TIs, spread across 22 sites (11 states) of India. Attempt was made to minimize any selection bias by employing a combination of random and purposive sampling techniques. Clearance was obtained from the ethics committee of All India Institute of Medical Sciences, New Delhi. Informed consent was obtained from all respondents. The process of designing, implementing and analysing the study took about three months (June to August 2012).

Findings

Socio –demographic profile

Out of 1000 IDUs, 100 were female. Mean age of the respondents was 33 years; almost half of the respondents were between the ages of 26-35 years. About 46% were married while 42% were never married. A minority (15%) were illiterate. Most had at least some years of formal education. “Unskilled worker” was the most common (36%) occupational category. A majority (75%) were employed at least in a part-time work.

Drug use profile

A majority of respondents reported using a variety of drugs 'ever' in their lives. Tobacco use was almost universal and about three-fourth reported using alcohol in last one year. Other non-injecting, non-opioid drugs used in the last one year were: cannabis (61%) and oral pharmaceutical sedatives (44%). A large proportion also reported using a variety of non-injecting opioid drugs in last one year: heroin (46%), oral pharmaceutical opioids (51%) and opium (17%).

Among injecting opioid drugs, in last one year, use of heroin was most common (52%), followed by buprenorphine (36%), pentazocine (26%) and D-propoxyphene (22%, limited largely to the some North-Eastern states). Overall, in the last three months, most common drug injected was heroin (36%). There were some interesting regional variations regarding choice of drugs for injections: Out of four North-Eastern states, in two states (Manipur and Meghalaya) heroin was the predominant drug, while in the rest (Mizoram and Nagaland) it was injecting D-propoxyphene. Orissa had predominant pentazocine injectors while in the neighbouring West Bengal, almost everyone reported injecting buprenorphine.

When data on age of onset of use of various drugs was analysed, a step-ladder pattern of progression of drug use career is evident which follows the trail of: legal drug → 'softer' illegal drug → 'harder' illegal non-injecting opioid →injecting opioid. Data reveals that the first legal drug used by majority was tobacco (at 15 years of age); first illegal, non-injecting drug used by majority was cannabis (at 19 years of age); while heroin was the first illegal drug injected by a majority (at 25 years of age).

Injecting pattern and practices

As many as 43% of respondents reported injecting 'daily'. The proportion of respondents who injected less frequently was: 'About 3-4 days per week' – 25%; 'About 1-2 days per week' – 18%; 'About 2-4 days per month' – 11%. A small minority (3%) injected rarely, 'about once a month or so'. Thus, data on some key parameters was analysed comparing these two categories: Daily injectors (430 respondents) and Non-daily injectors (535 respondents). Just like the injecting frequency in terms of 'number of days of injecting' per month, there were variations in 'number of times injected per day' as well. Considering last three-month period, while 25% of the daily injectors reported injecting "4 or more times a day", only 3% of the Non-daily injectors reported so. Indeed, a large majority of daily injectors (65%) reported injecting "2-3 times a day", while a majority (65%) of non-daily injectors reported injecting "once a day".

Data also revealed that a substantial proportion of non-daily injectors used some other drugs on the day of non-injecting, including opioids (used by 66%). In both the categories (daily and non-daily injectors), an overwhelming majority (98%) could satisfy the standard diagnostic criteria for opioid dependence syndrome.

The findings indicate the importance of peer group in initiation and progression of injecting career. An overwhelming majority (90% of daily injectors and 94% of non-daily

injectors) reported that their first injection was administered by an experienced peer. The most common reason cited for first injection was also the pressure/encouragement by a friend or peer. The peer influence apparently continues in the injecting career; about 50% of both daily as well as non-daily injectors reported injecting 'with their friends' when asked about the most common injecting situation in last three months.

Sharing of injections

Overall about 79% respondents reported sharing either one or more among needles/ syringes or paraphrenalia, 'ever'. This proportion was slightly higher in daily injectors than non-daily injectors (82% vs. 78%). An interesting finding was that first sharing occurred within a month of onset of injecting for a majority of respondents (82% - 88%). The last instance of sharing of injections was within last three months, for about one-fourth of respondents. A sizable proportion reported experiencing adverse consequences of injecting; the trend was towards more daily injectors experiencing adverse consequences than non-daily injectors.

Services received

The mean duration for which the respondents were in contact with the TI was about 32 months in case of daily injectors and about 35 months in case of non-daily injectors. An overwhelmingly large majority has received the interventions/services which can be regarded as 'core' IDU TI interventions (i.e. 'Needles and Syringes', 'education/information about safe injecting', 'education/information about HIV', 'Condoms', 'general health check-up/general medical treatment', 'DIC' and 'referral for HIV testing/Treatment'). A service which was received by a small minority of respondents was: 'Referral for Drug treatment' (12%), though as many as 38% of non-daily injectors and 56% of daily injectors reported receiving in-patient treatment for drug dependence 'ever' in their lives.

Data indicates that numbers of needles and syringes being received by the IDUs from the TIs are less than required; just about half of daily injectors receive needles and syringes 'daily' from the TI. While about 47% of non-daily injectors reported their injecting frequency to be about '3-4 days per week', only 27% reported receiving needles / syringes as frequently as they injected. About 57% (n=244) of daily injectors and 52% (n=278) of non-daily injectors reported that they had to rely on other sources of needles and syringes too, besides the Needle Syringe Exchange Programme (NSEP) of the TI. These other sources included peddlers and pharmacies. About half of daily injectors also reported reusing their own injecting equipment, while one-fourth reported borrowing from their peers.

Knowledge and awareness

More daily injectors reported knowledge of various consequences of injecting as compared to the non-daily injectors. Knowledge and awareness regarding HIV/AIDS were equally high in both the categories of respondents.

Conclusion and Recommendations

The "IDU" is not a homogenous identity in India

The findings of this study once again document the fact that there are considerable variations among IDUs in India - in terms of their drug use practices, the frequency with which they take drugs and the type of drugs they use. Indeed what is common across most IDUs in India is their preference for injecting opioid groups of drugs and their clinical diagnosis of opioid dependence. Thus, looking at the variety of injecting practices the following recommendations can be made:

Customise the intervention package as per the needs of clients

Rather than relying on a fixed formula for number of injecting equipment distributed, there should be enough flexibility so that the needs and demands can be met adequately. The guiding principle should be 'each injecting act should involve use of new injecting equipment'. The estimation of requirements of needles and syringes made in this study suggests that a typical TI with a target of 400 IDUs would need to distribute about 50 sets of needles and syringes per IDU per month, while the CMIS data suggests that we are distributing, on an average, about 11 to 15 sets per IDU per month.

Another unmet need of IDU clients appears to be the need of drug-treatment. This need can be met by establishing and strengthening formal linkages with drug treatment centres operated by Ministry of Social Justice and Empowerment (MSJE) and Drug De Addiction Programme of Ministry of Health and Family Welfare (DDAP, MOH&FW). Additionally, appropriate capacity building of IDU TI staff could ensure that some drug-treatment needs can be met at the IDU TI level itself.

Intensify the 'core' IDU interventions

The 'core' service provided by the IDU TIs – needle syringe exchange – needs to be strengthened. Other avenues for providing new needles and syringes could be explored. This may involve (a) considering a partnership with drug peddlers and (b) secondary distribution outlets like pharmacies.

Address special needs of special populations

Female IDUs (FIDUs) may be especially vulnerable on account of certain social and structural factors. Whether the same model which exists for 'regular' IDU TIs can be replicated in entirety for FIDUs is still not very clear and it should be a topic for further scientific enquiry.

The Onset of injecting takes some time; the onset of sharing does not! So, 'catch them young'

A substantial period of time is elapsed by the time people enter the intervention programs. Even the outreach based interventions (like IDU TIs) are able to get people entered into the program only when they have spent about 5-6 years as injecting drug users. This may be on account of a TI simply not existing in the neighbourhood or an existing TI failing to reach out to IDUs early in their careers. Appropriate modifications in the program must be made so that IDUs can be reachedout early in their injecting careers.

Non-injecting Opioid users constitute a distinct risk group which should be provided appropriate interventions

Even if IDUs enter the intervention net as early as within the first year of starting injecting drug use itself, this may not suffice since a majority start sharing within a month of onset of injecting. Since peer groups are so important in initiating and maintain the IDU careers, with a peer-driven intervention, it should not be very difficult to reach out to even the non-IDU opioid users (who remain at risk of switching to injecting). The interventions for non-IDUs may constitute education and information about: safer methods of drug use; risks associated with injecting (aimed at prevention of onset of injecting) and help in accessing drug treatment, and a very specific and effective intervention: OST for non-injecting opioid dependent drug users provided either by the TIs or by the drug treatment centres operated by MSJE/DDAP, MOH & FW should be seriously considered.

The process of learning from and modifying our programs should continue

The finding indicates the importance of collecting and analysing data on pattern of drug use by the IDUs. Efforts should be made so that the routine Monitoring and Evaluation (M & E) programs are able to capture the trends and patterns of drug use so that various elements of the program can be modified accordingly. Besides routine M & E activities, such research studies at periodic intervals are very important. In future, the issues which could be addressed by the researchers could include: Pattern of switching from non-injecting to injecting route, 'stability' of the label of 'IDU', special needs of FIDUs, types of syringes and needles preferred by the IDUs and impact thereof and feasibility and effectiveness of expanding the avenues for needle/syringe access.

1 Introduction

For some time now, Injecting Drug Users (IDUs) are regarded as an important group vulnerable for acquiring and transmitting HIV infection in India. As per the latest data available from National AIDS Control Organisation (NACO), HIV prevalence among IDUs is over 12%, which is one of the highest among the High Risk Groups (HRGs) in India (NACO and NIMS, 2010). The surveillance data also show declining HIV infections among Female Sex Workers (FSWs) but unacceptably high HIV prevalence among IDUs (Ambekar, 2012).

It is known (though largely anecdotally) that injecting practices are different in different parts of India. In the North-East region, the Injecting practices are characterized by a predominance of injecting either heroin or D-propoxyphene. In other parts of the country, injection of pharmaceutical opioids like buprenorphine and pentazocine (in combination with other sedatives) is commonly reported (Ambekar and Tripathi, 2006; Sarna et al 2007; Larance et al, 2011). Additionally, it has also been found that in India, not all IDUs report injecting daily. In the Behaviour Surveillance Survey (BSS) conducted in 2006, the proportion of IDUs who reported not injecting daily ranged from 20 – 50% (ORG Centre for Social Research, 2006). These rates of those who report 'not injecting daily' differed in different parts of the country. A study conducted in Punjab and Haryana also reported that the proportion of IDUs not injecting daily ranged from 9–35% (Ambekar and Tripathi, 2008). It is not clear whether on non-injecting days these non-daily injectors remain drug-free or use some other drugs. Additionally, hardly any study on IDUs in India has attempted exploring how many IDUs meet the criteria for diagnosis of Drug Dependence Disorder.

NACO has responded to the IDU – HIV problem by scaling up 'Targeted Interventions' (TIs) for IDUs throughout the country. NACO defines IDU as "a person who has injected (in the non-medical context) at least once in the last three months". Needle Syringe Exchange Programme (NSEP), Opioid Substitution Therapy (OST) and other HIV prevention and treatment services are provided through the TI either directly or through referral linkage mechanism. An important criterion for initiation into OST is that the IDU client should be diagnosed as opioid dependent. Currently there are about 280 IDU TI interventions and about 70 OST centres operating in the country (Ambekar, 2012).

Rationale of the study

While it is well established that injecting drug users are vulnerable to HIV infection in India on account of risky injecting practices, the pattern of drug use by injecting route and its association with vulnerability to blood-borne infections, accessibility and availability of services, and opioid dependence is not well studied in Indian settings. It is not clearly known whether those who inject opioid drugs irregularly, continue to use opioids through other routes in the intervening period. Some anecdotal reports suggest

that some clients may use alcohol or cannabis in the intervening period (i.e. on the days they do not inject opioid drugs). In such a scenario, it would be important to understand whether these irregular (non-daily) IDUs are opioid dependent and hence eligible for OST. Additionally, the factors associated with intermittent injecting are also not clearly understood. Finally, it needs to be studied whether the irregular IDUs are in regular contact with the TI service providers and whether they receive services when they need it the most. The vulnerability to contract HIV infection of those injecting irregularly also needs to be studied especially in comparison with those injecting daily. In addition, the relationship of Type of injecting drug with risk behaviours, service access and opioid dependence also needs exploration. The answers to these questions would help the national programme in devising appropriate responses for all categories of IDUs, tailored to their needs as per their drug use pattern.

Thus, it was proposed to conduct an operational research to explore the profile of injecting drug users, the pattern of drug use and risk behaviours, analyse the factors related to injecting frequency, accessibility and availability of HIV prevention services among IDUs, and prevalence of opioid dependence among them.

2 Methodology

2.1 Objectives of the study

- To describe the drug using pattern and high risk injecting behaviours among IDUs accessing services from IDU TIs.
- To generate information on opioid dependence among IDUs in India
- To study the association between injecting pattern (i.e. daily vs. non-daily) and rates of opioid dependence, high-risk behaviours, knowledge, attitudes and availability/ accessibility of services.
- To study the association of type of drugs injected with injecting pattern, risk behaviours, opioid dependence, service access and utilization etc.

2.2 Study design

This was a multi-site, cross-sectional study

2.3 Data collection

A team of trained interviewers conducted field visits to selected intervention sites. Using the records maintained at the TI, a sample of IDUs was selected and interviewed. The semi-structured interviews schedule looked into:

a) Socio-demographic profile

b) Life-time drug-use pattern

c) Knowledge, attitude and behaviours

d) Service availability, accessibility and uptake

2.4 Sampling

A purposive sampling framework was followed in selection of the sites for field visit, bearing in mind the time-line for visit and documentation, as well as regional representativeness at the national level. Both male IDU and female IDU intervention sites were chosen for collection of data.

The sites from where data was collected are listed in the table below. As can be seen from this table, data was collected from 22 sites from 11 states, spread throughout the country. Out of a sample of 1000 IDUs, 100 were planned to be female. Data was collected from IDUs already accessing services from the NGOs working with the National AIDS Control Programme at these sites. For choosing the sample of IDUs for interviews at each site, a combination of random and convenience sampling strategy was employed to avoid a selection bias. Initially, about half of all the IDUs registered with the TI were

chosen randomly. This resulted in a list of 150-300 IDUs at each site. Thereafter, among those chosen randomly, a convenience sample of 50 was interviewed, after screening for inclusion criteria and obtaining informed consent.

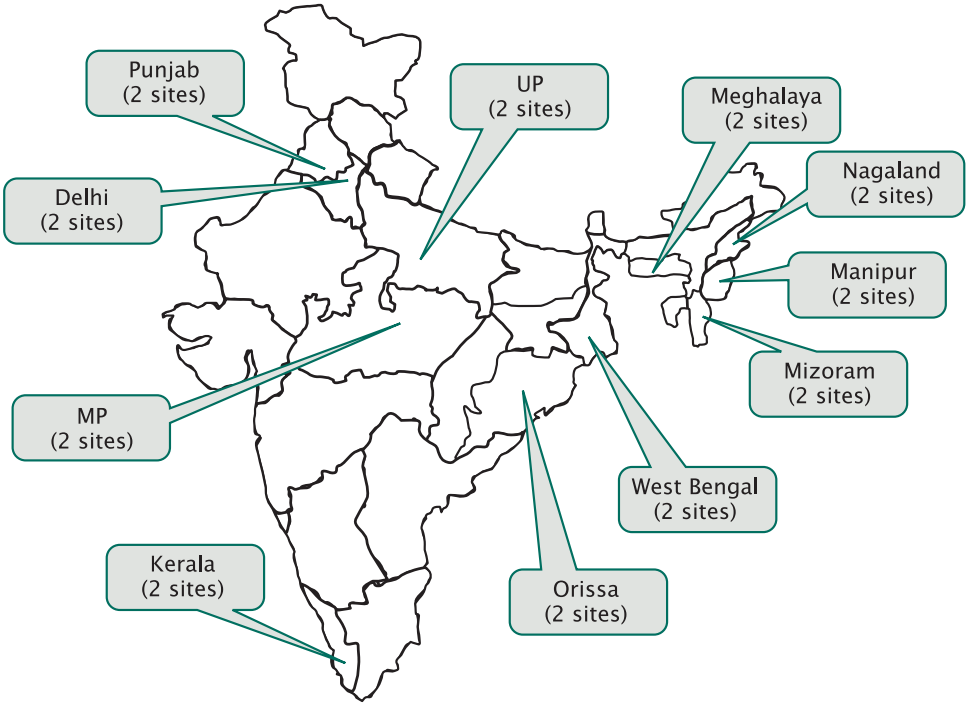
2.5 Inclusion criteria

- **Age:** more than 18 years
- **Current IDU:** History of having injected any psychoactive drug in a non-medical context at least once in preceding three months
- Registered in the TI for at least preceding six months [1]
- Willing to participate and provide informed consent
- No major illness and disability hampering the communication

2.6 Exclusion criteria

- Not having injected any psychoactive drug in a non-medical context at least once in preceding three months
- History of having received OST from the TI Programme in preceding 12 months
- Registered in the TI for Less than six months
- Not willing to participate
- Not able to communicate

Figure 1: Map of India showing the states from where data was collected



[1] Though it may appear fallacious that someone registered in TI for six months would not fall into the definition of current IDU used here (i.e. having injected within last three months), this criteria was applied to ensure that they we include only those who are currently actively injecting. We did not want to include someone registered with the TI more than six months back, but has stopped injecting now (more than three months back).

Table -1: States, sites and the sample size

Sl. No.	State	City / Site	No. of IDU TIs for data collection	Sample size	No. of Subjects interviewed
1	Manipur	Imphal	1 MIDU	50	50
		Imphal	1FIDU	25	25
2	Nagaland	Kohima	1 MIDU	50	50
		Dimapur	1FIDU	25	25
3	Mizoram	Aizawal	1 MIDU	50	50
		Aizawal	1 FIDU	25	25
4	Meghalaya	Shillong	1 MIDU	50	50
		Shillong	1 FIDU	25	25
5	West Bengal	Kolkata	1 MIDU	50	50
		Kolkata	1 MIDU	50	50
6	Orissa	Bhubneshwar	1 MIDU	50	50
		Bhubneshwar	1 MIDU	50	50
7	Madhya Pradesh	Sehore	1 MIDU	50	50
		Narsinghpur	1 MIDU	50	51
8	Kerala	Trivandrum	1 MIDU	50	50
		Calicut	1 MIDU	50	50
9	Delhi	Delhi	1 MIDU	50	50
		Delhi	1 MIDU	50	50
10	Punjab	Amritsar	1 MIDU	50	50
		Ludhiana	1 MIDU	50	50
11	Uttar Pradesh	Lucknow	1 MIDU	50	50
		Sitapur	1 MIDU	50	50
	TOTAL		**22**	**1000**	**1001**

MIDU = Male IDU; FIDU = Female IDU

2.7 Ethical issues

- Privacy and confidentiality was maintained during the data collection and analysis process.
- None of the respondents interviewed were subjected to any experiment or intervention.
- Participation in the study was purely voluntary in nature. Informed consent was obtained from all the subjects.
- Decision of a subject to participate or decline, had no bearing on services being provided in any manner.
- Clearance from an ethical perspective was obtained from the institutional ethics committee of AIIMS, New Delhi.

2.8 Analysis

All the data was tabulated and analysed to generate frequency tables. Appropriate analytical techniques have been employed to study the association between drug use pattern and other variables (high risk behaviour, diagnosis, and knowledge / attitude and service utilisation). Data Analysis was conducted using SPSS Version 15.0.

2.9 Time Line

The following time line was followed in the study:

Table 2 : Time Line

Activity	Completed by
Developing the protocol and research tools	June 2012
Identification and Training of interviewers	June 2012
Data Collection	July 2012
Data Entry, cleaning and Analysis	August 2012

2.10 Implementation arrangements

The team from NDDTC AIIMS coordinated this multi site project. Since all the implementation sites were NGOs working in the field, NDDTC AIIMS obtained the ethical clearance for all the participating sites.

The Principal Investigator from NDDTC AIIMS (AA) was responsible for developing the methodology, the data collection tools, training of interviewers, data analysis and drafting of the final report.

In addition to above, the Principal Investigator and co-investigators from AIIMS were responsible for :(i) communicating with the Ethics Committee of AIIMS for the purpose of ethical clearance and (ii) data analysis.

NACO provided the feedback on methodology, data-collection tools, as well as draft report. NACO also facilitated the data collection process by guiding the choice of sites for data collection and addressing the administrative bottle-necks, including assisting in generating the list of random sample of IDUs.

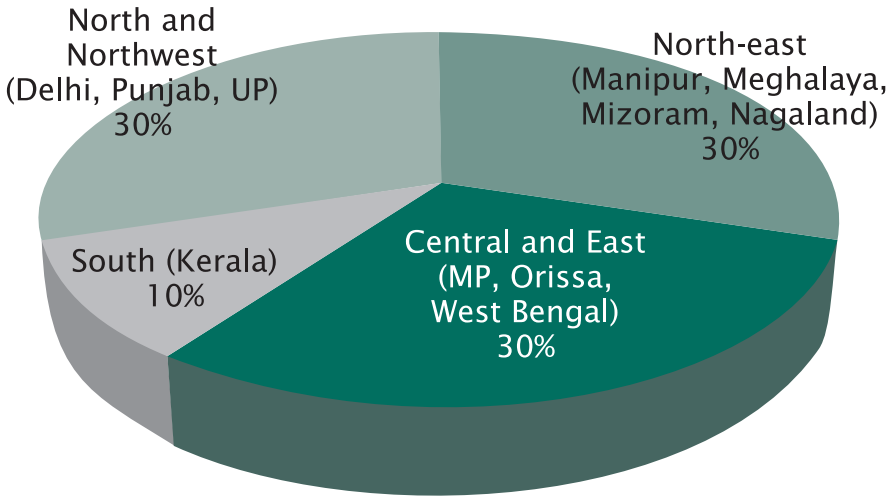
Co-investigators from UNODC, ROSA provided the feedback on methodology, data-collection tools, as well as draft report. They also handled all the logistics and implementation related aspects, including identifying and recruiting the field researchers (interviewers), training of interviewers, travel and other logistic support to interviewers for data collection, data collation, communication with all the stakeholders,generating the list of random sample of IDUs and developing the final report. All the expenses related to implementation were borne by UNODC, ROSA with support from the GFATM Round 9 HIV grant.

3 Findings

3.1 Description of the sample

As envisaged in the research protocol, the target sample size was reached at all the sites and the sample distribution across various regions of the country has been presented in the chart below. It must be noted that all the female IDUs, who were part of the study, were contributed by the four North Eastern states.

Figure 2: Distribution of sample: n=1001



3.2 Socio-demographic profile

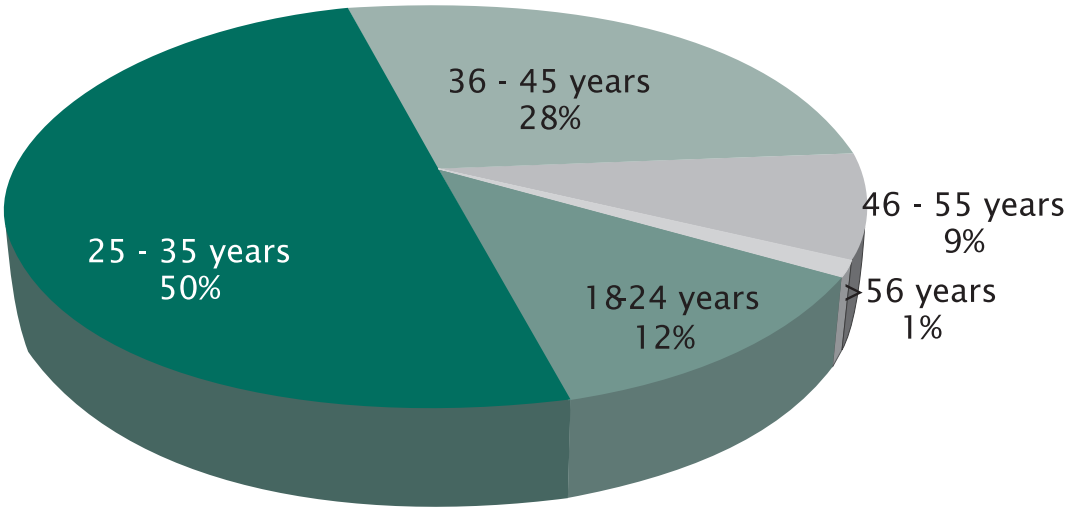
Age

Since the minimum age as per the inclusion criteria was 18 (and no maximum age was specified), the age range of the sample was between 18 and 84 years[2]. The mean age was around 33 years with a SD of 8.2 years. The chart below shows, the distribution of respondents across various age groups. As can be seen in the chart, almost half of the respondents are between the ages of 26-35 years.

However there were some regional variations here. In general, the trend was towards younger respondents from the North Eastern states. Thus, 85% from Nagaland, 81% from Mizoram and 78% from Meghalaya were less than 35 years of age.

[2] The 84 year old was an outlier.

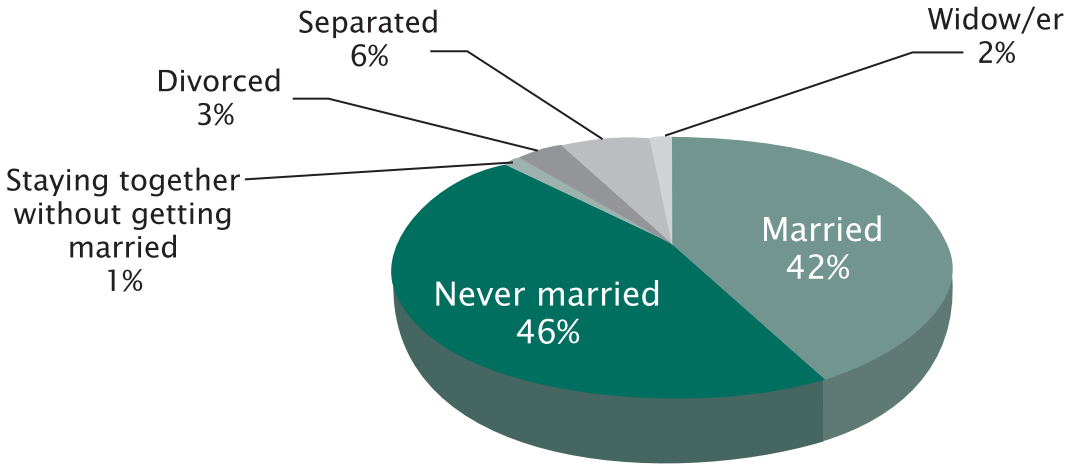
Figure 3 : Distribution of sample by age groups



Marital status

The largest proportion was of respondents who were 'never married' (46%), followed closely (42%) by those who were 'married'. A minority belonged to other categories.

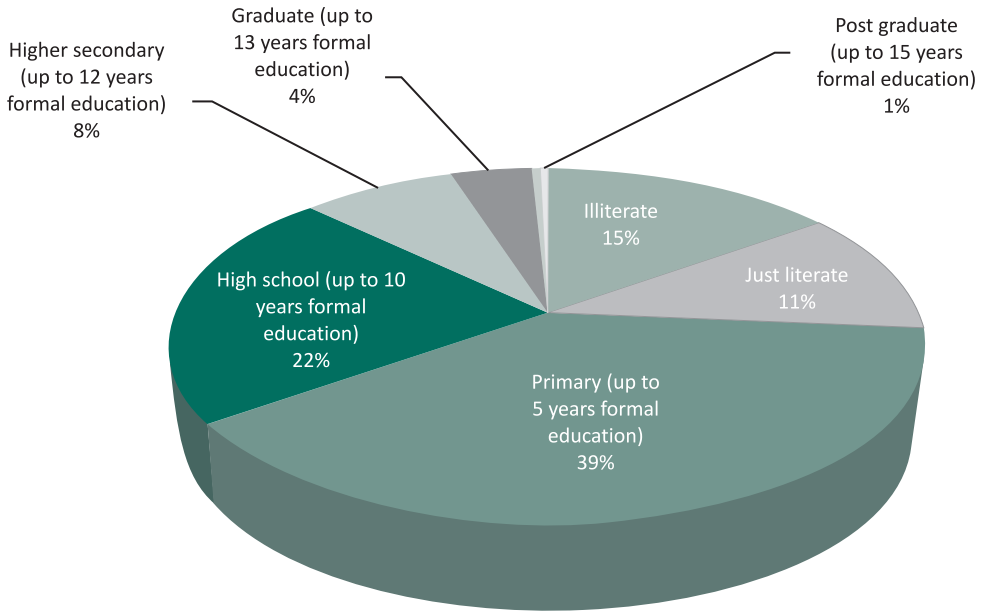
Figure 4 : Marital Status



Educational status

Only a minority (15%) were illiterate. Most had at least some years of formal education. However, respondents with higher education were again in a minority. Interesting regional variations were seen. As many as one-third of respondents from Punjab were illiterate, while 42% from Delhi were illiterate. From states with known high literacy figures in the general population (North-Eastern states and Kerala) the trend was of higher educational status of the respondents.

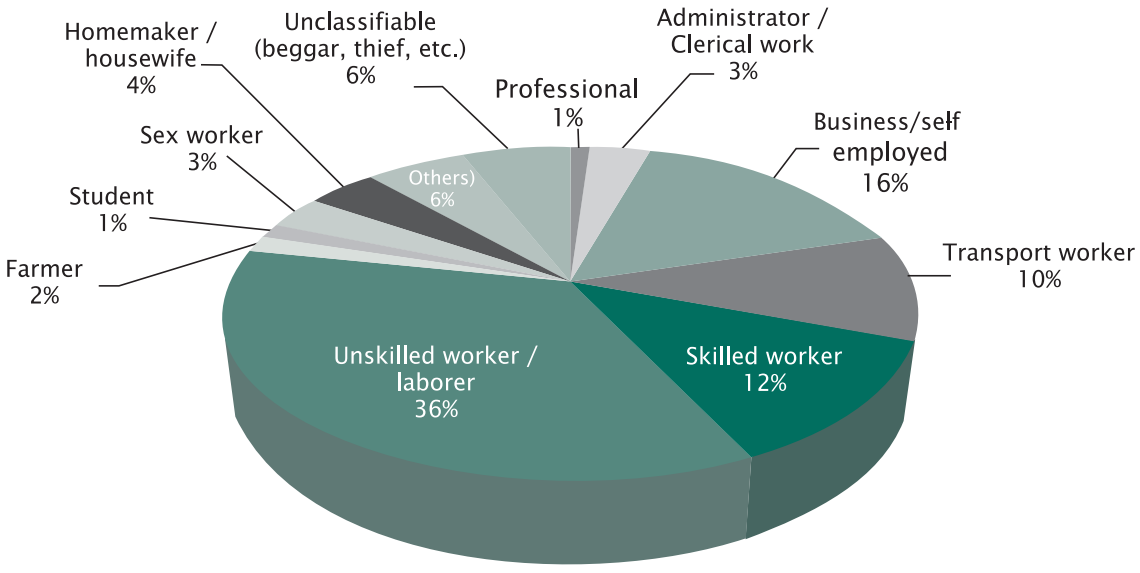
Figure 5 : Educational Status



Occupation

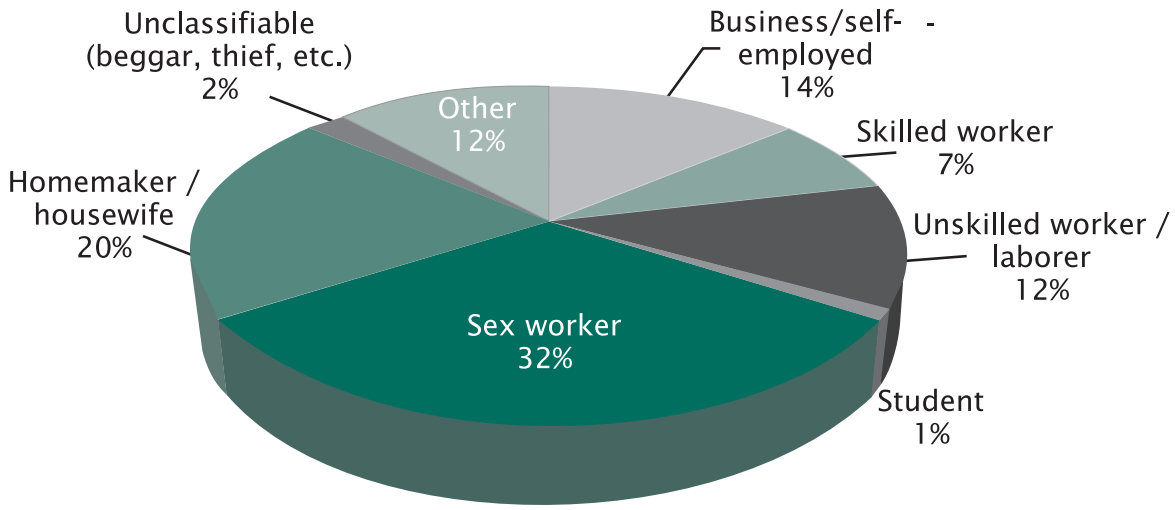
The largest category was comprised of unskilled workers (36%). About 16% were self-employed, and 12% were skilled workers. A small minority was distributed across other occupational categories.

Figure 6 : Occupation



However, it was notable that among the female IDUs, the distribution across occupational categories was distinctly different. As many as one-third FIDUs, described their occupation as 'sex workers'. Of these sex workers, a large proportion (about 50% of sex workers) was from one particular site in Manipur.

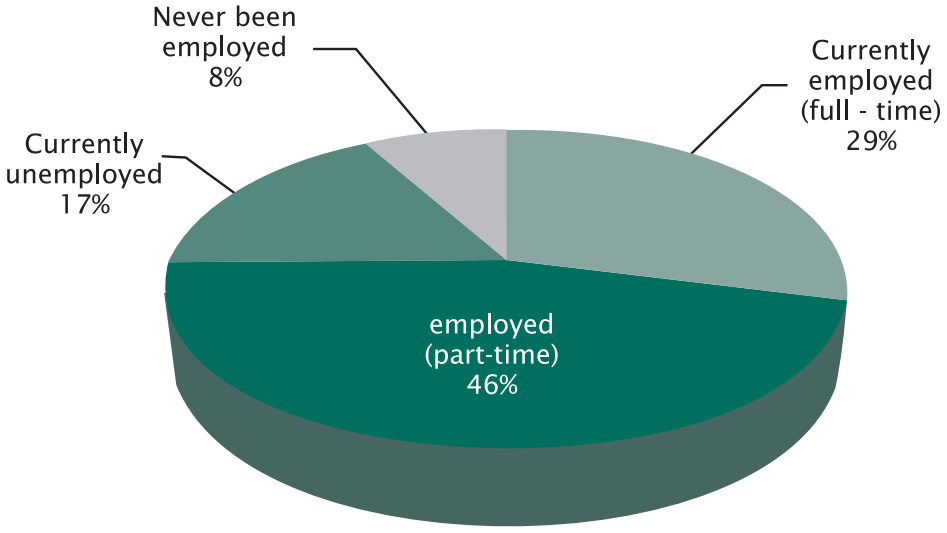
Figure 7 : Occupation: Female IDUs



Employment status

Only a small minority was unemployed; otherwise a majority was employed at least in a part-time work. Among regional variations, sample from Delhi had highest proportion of unemployed (39%), while in MP, just one person out of 100 was currently unemployed and no one was 'never employed'. From Punjab too, just 7% were unemployed while rest were employed at least on part time basis.

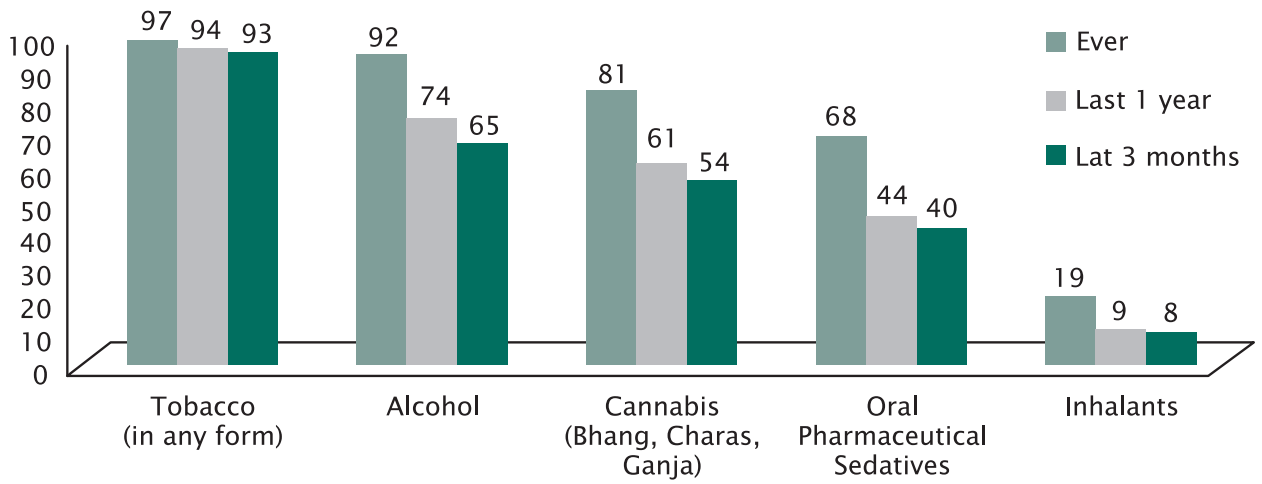
Figure 8 : Employment Status



3.3 Drug Use pattern

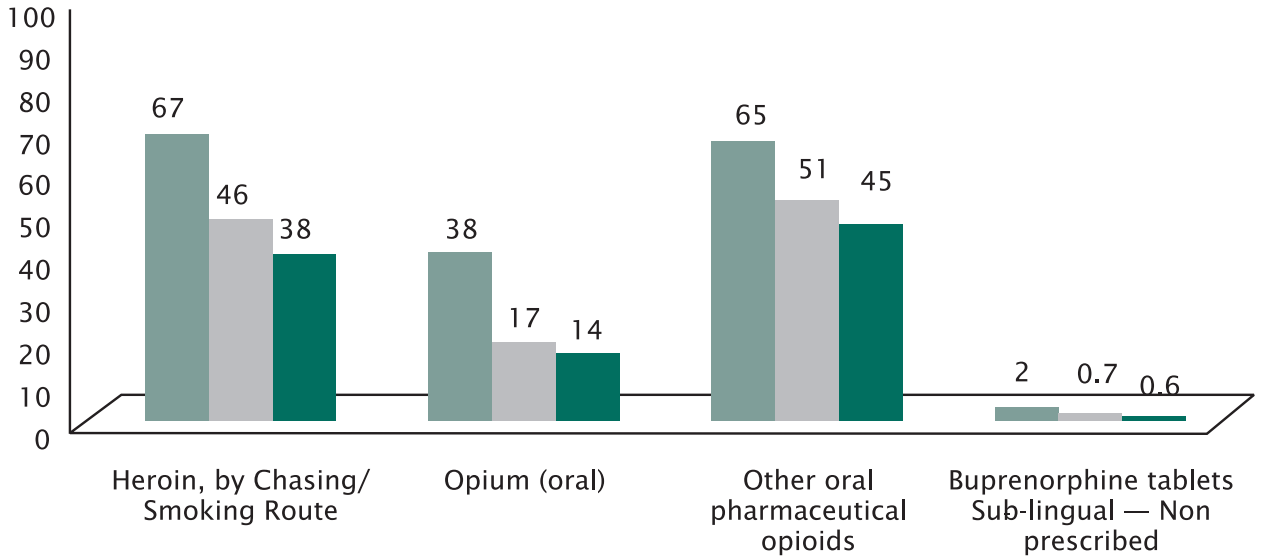
The following chart shows the prevalence of different non-injecting drugs used by the respondents.

Figure 9 : Pattern of non-injecting, non-opioid use (in %)



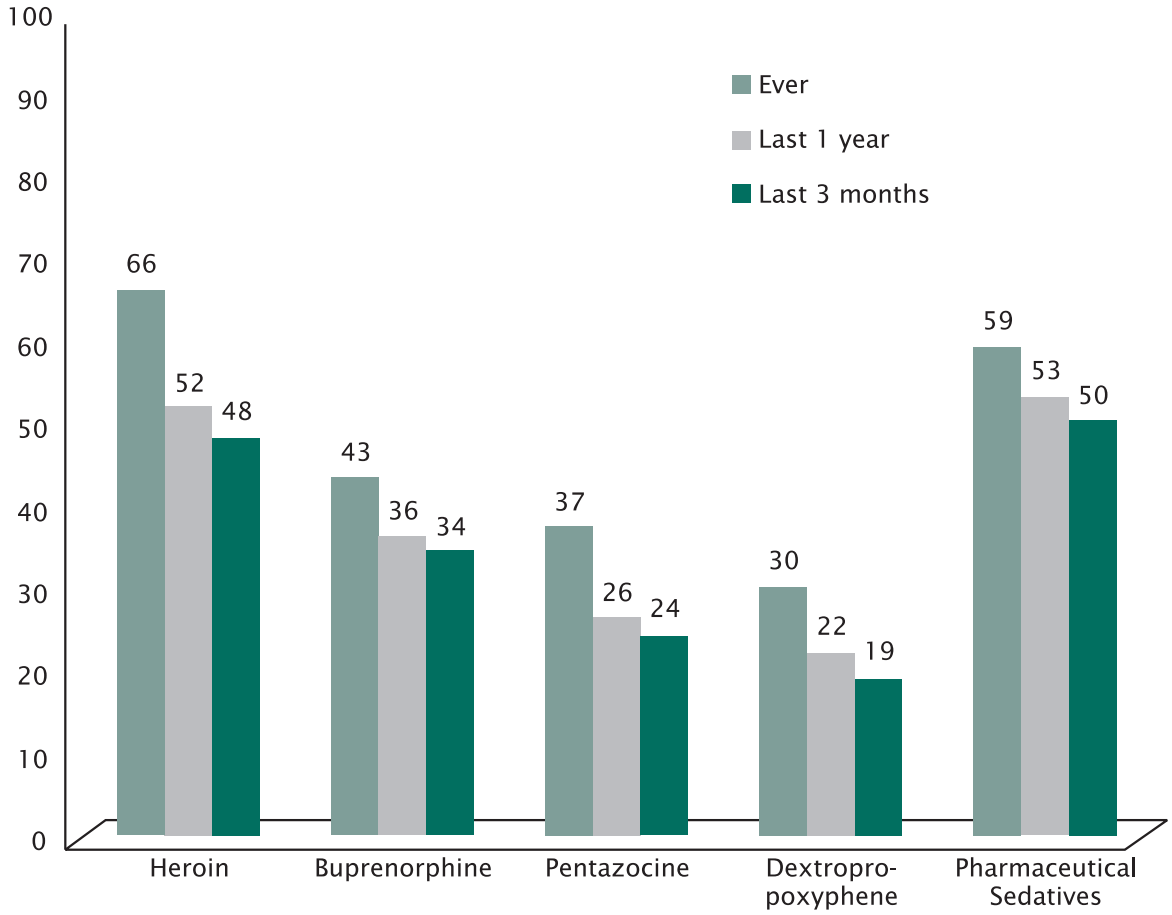
As can be seen, a majority of respondents reported using a variety of drugs 'ever' in their lives. These included a variety of opioid as well as non-opioid drugs. Apart from legal drugs (tobacco and alcohol), cannabis and (non-prescription) oral sedatives were used by a large proportion. Among various non-injecting opioids, heroin and (non-prescription) oral pharmaceutical opioids were used by a large proportion. However, it was interesting to note that only a minuscule proportion reported using sub-lingual buprenorphine tablets without a prescription.

Figure 10 : Pattern of non-injecting opioid use (in %)



As seen from the chart below, among injecting drugs, a variety of opioids including pharmaceutical opioids were injected by the respondents. As a single drug though, the largest proportion was of heroin injectors.

Figure 11 : Pattern of Injecting Drug Use (in %)



However there were some interesting regional variations regarding preference of drugs being injected. From Punjab and Orissa, practically no one reported injecting heroin 'ever'. On the other hand in all the North Eastern states and in MP, practically no one reported injecting buprenorphine 'ever'. Only a very small minority reported injecting pentazocine 'ever' from the North-Eastern states, while in Orissa and UP, almost everyone reported injecting pentazocine at least once in their life. As expected, 'ever' injectors of D-propoxyphene were predominantly from the four North-Eastern states, but surprisingly about 1/4th from Delhi, UP and West Bengal also reported injecting D-propoxyphene 'ever'.

The chart below shows, most common drug injected (total sample) in the last three months. While overall, injecting heroin was reported by the largest proportion (36%), there were striking regional variations. The table below shows the most common drug injected in different states, along with percentage of respondents reporting the use of that drug. As can be seen from the table, even a regional pattern cannot be discerned in choice of drug for injecting. Out of four North-Eastern states, in two states (Manipur and Meghalaya) heroin is the predominant drug, while in the rest (Mizoram and Nagaland) it is injecting D-propoxyphene. Orissa had predominant pentazocine injectors while in the neighbouring West Bengal, almost everyone reported injecting buprenorphine.

Figure 12 : Most common drug injected in last three months

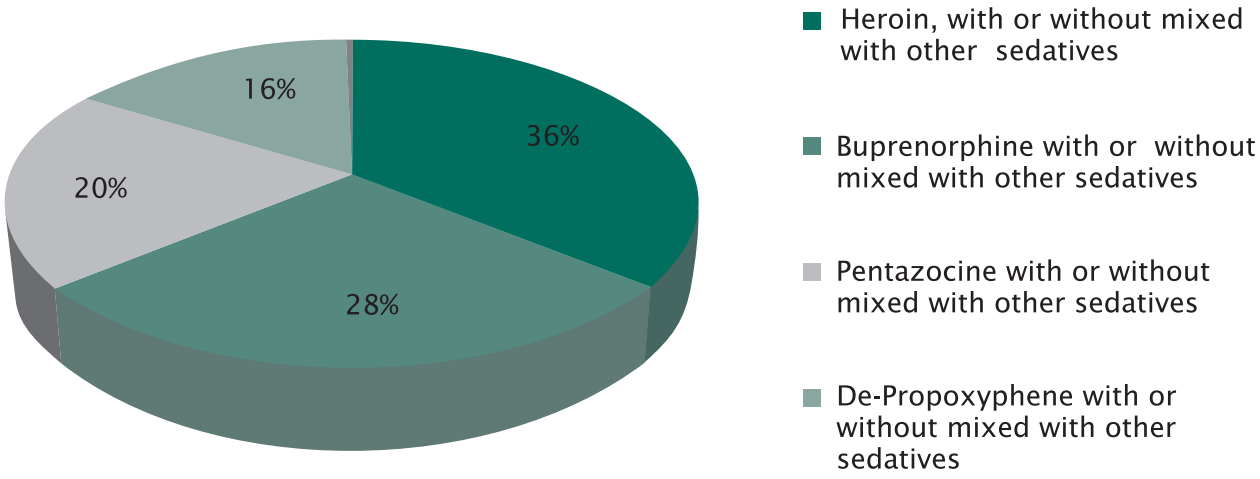


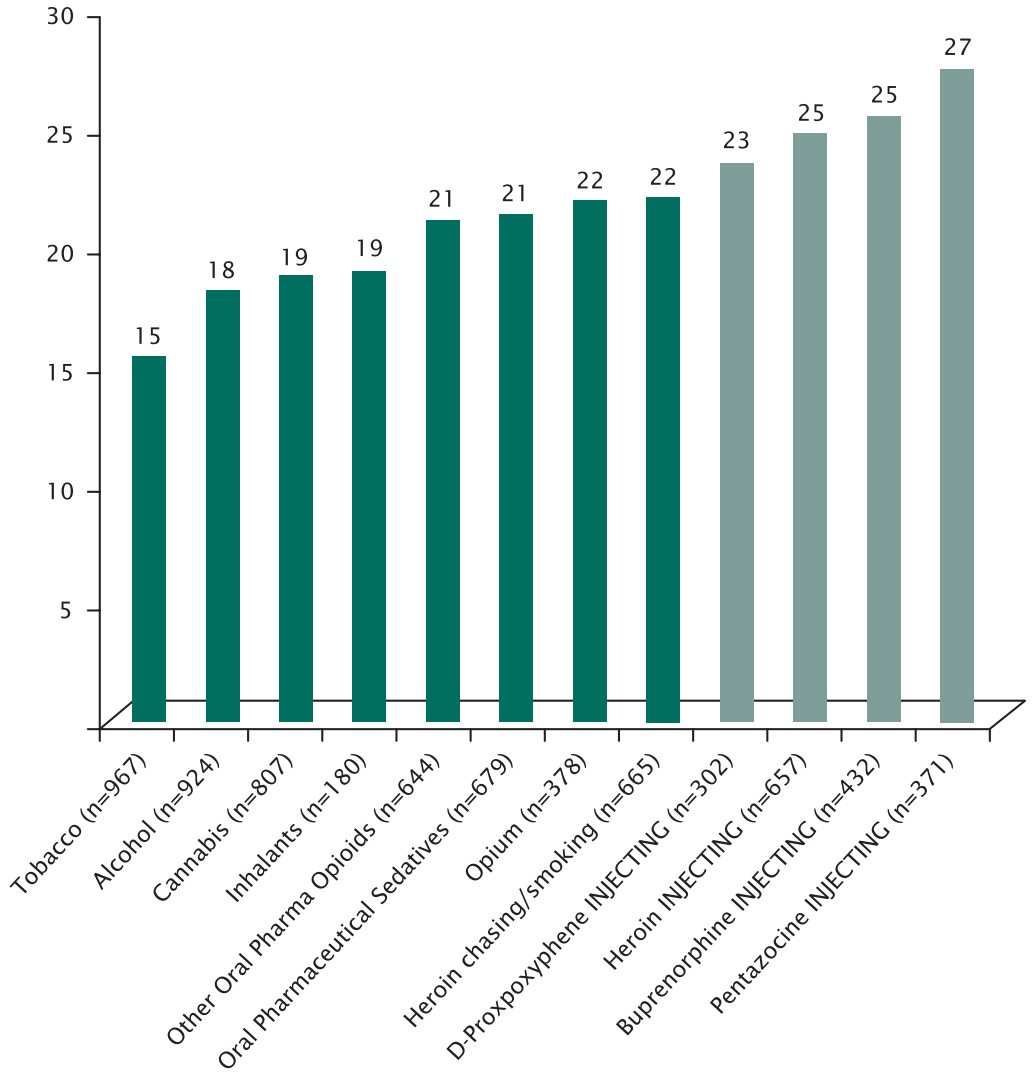
Table 3 : Most common drug injected in last three months

State	Most common drug injected in last three months (percentage of respondents reporting)
Delhi	Buprenorphine (56%), Heroin (35%)
Kerala	Heroin (91%)
Manipur	Heroin (100%)
Meghalaya	Heroin (80%), D-Propoxyphene (20%)
Mizoram	D-Propoxyphene (90%)
Madhya Pradesh	Heroin (50%), Pentazocine (50%),
Nagaland	D-Propoxyphene (100%)
Orissa	Pentazocine (97%),
Punjab	Buprenorphine (98%),
Uttar Pradesh	Pentazocine(49%), Heroin (30%), Buprenorphine (21%)
West Bengal	Buprenorphine (92%)

Age of onset

The first drug of use for most respondents was tobacco. This was followed by onset of alcohol, proceeding to use of non-injecting drugs and then finally use of drugs through injecting route as evident in the chart below showing mean age of onset. A step ladder pattern of progression of drug use career is evident which follows the trail of legal drug → 'softer' illegal drug → 'harder' illegal non-injecting opioid → Injecting opioid. It is interesting to note that onset of injecting drugs is preceded by onset of non-injecting opioid drugs.

Figure 13 : Mean age of onset in years, of various drugs (Number of users in the parenthesis)



Another interesting way to document the pattern of progression of drug use career has been presented in the table below. In the sample, the first legal drug used by the majority of respondents was tobacco; first illegal, non-injecting drug reported by majority was cannabis while heroin was the first illegal drug injected by a majority. Here too the progression from relatively 'softer' to 'harder' drugs is clearly evident.

Table 4 : Progression of drug use career

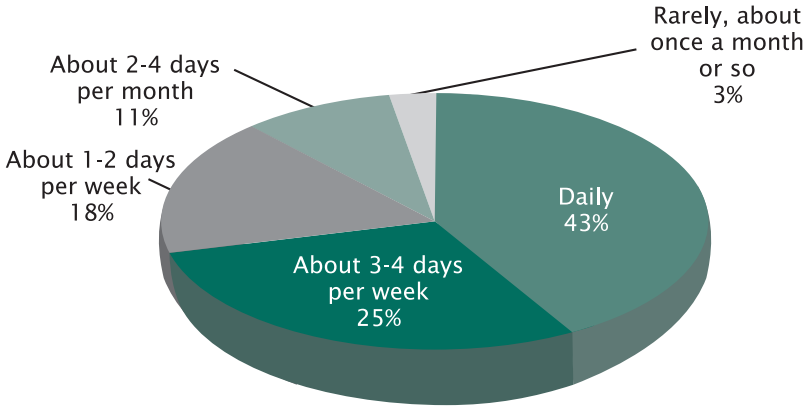
	Drug	Proportion reporting	Mean age of onset in years
1st Legal drug	Tobacco	95%	15
1st illegal NON-INJECTING drug	Cannabis	70%	19
	Oral Pharma Opioids	14%	21
1st illegal INJECTING drug	Heroin	63%	25
	Buprenorphine	18%	25
	Pentazocine	11%	27

3.4 Injection Practices

Frequency of injecting

The respondents were asked their frequency of injecting drugs considering the last three month period. As evident from the chart below, around 43% (430 respondents) reported injecting daily. The rest reported injecting with varied frequencies.

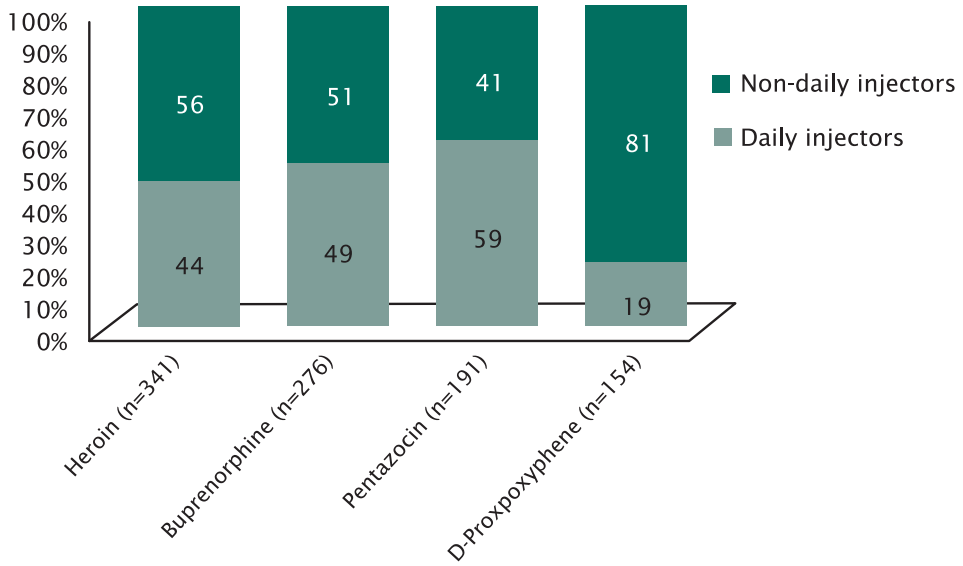
Figure 14 : Frequency of injecting - last 3 months



Since one of the objectives of the study was to assess differences between daily and non-daily injectors, on the basis of response to this questions, the sample was sub-divided in two categories: Daily injectors (n=430) and Non-daily injectors (n=535, combining those who responded that they inject “About 3-4 days per week”, “About 1-2 days per week” and “About 2-4 days per month”). The outliers reporting that they inject very rarely (“about once a month or so”, about 3%) were removed from the analysis. Thus, on the remaining parameters, a comparison between daily and non-daily injectors is being presented.

The injecting pattern was compared among daily injectors on the parameter of ‘most common drug injected’. As evident from the chart below, there was a significant difference among daily and non-daily injectors who injected D-propoxyphene.

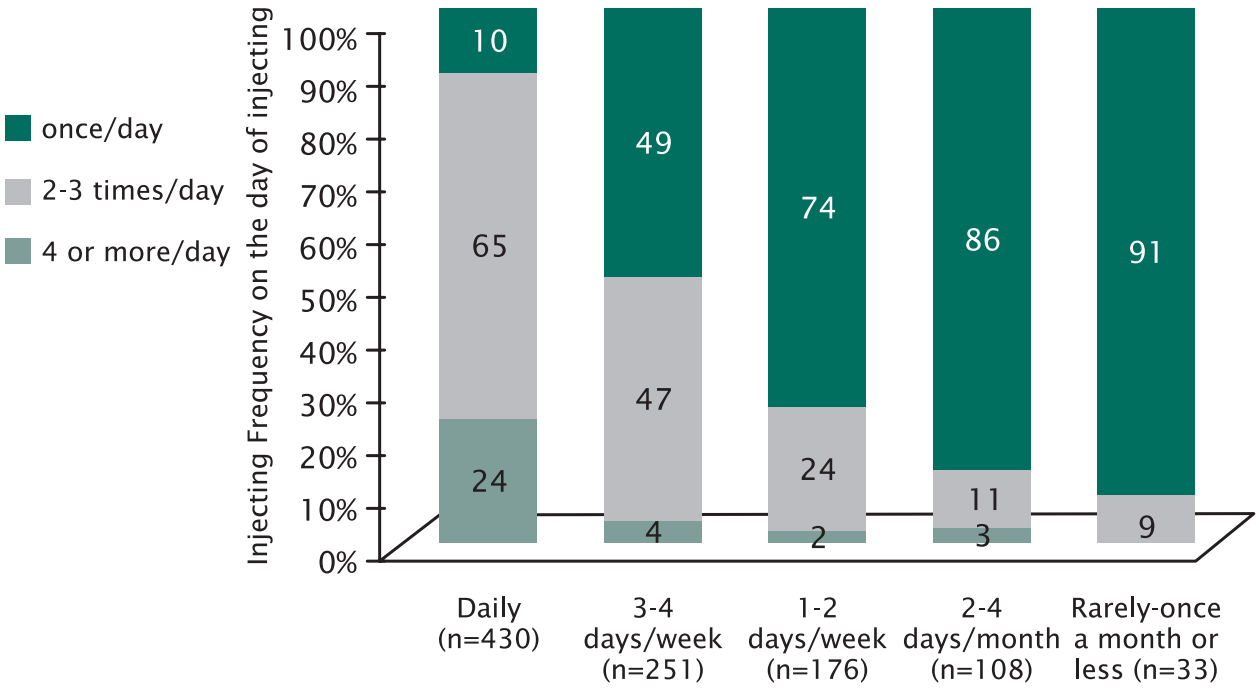
Figure 15 : Distribution of daily / Non-daily injectors, by most common drug injected



Frequency of injecting on the day of injecting

Respondents were asked irrespective of whether they inject daily or otherwise, how many times they inject during a day. Considering last three-month period, while 25% of the daily injectors reported injecting "4 or more times a day", only 3% of the non-daily injectors reported so. Indeed, a large majority of daily injectors (65%) reported injecting "2-3 times a day"; while a majority (65%) of non-daily injectors reported injecting "once a day". Even without clubbing the different categories of infrequent injecting, the same pattern remained. Among those injecting "3-4 days per week" (n=251), about 50% injected 'once a day' and about 47% injected '2-3 times a day.' Conversely among those who injected "1-2 days per week" (n= 176), a large majority, i.e. 74%, injected only 'once a day. As many as 86% of those of who injected "2-4 days per month", injected 'once a day'. Thus, the trend is clearly evident (see chart below): those who inject on fewer days in a month inject less number of times on the day they inject. In other words, numbers of instances of injecting are substantially lesser for non-daily injectors as compared to daily injectors.

Figure 16 : Number of days of injecting in a given month



Drug use pattern on the days of non-injecting

Respondents were asked whether they take any drugs on the day they do not inject and if yes, which drugs do they take. Close to 97% of 535 non-daily injectors reported taking drugs through other means on their non-injecting days. The table given below shows the proportion of non-daily injectors reporting use of various drugs:

Table 5 : Drugs used by non-daily injectors (n=535), on the non-injecting days

Drugs used by non-daily injectors (n=535), on the non-injecting days	Used by (in %)*
Heroin chasing	24
Opium	11
Non-prescribed sublingual buprenorphine	1
Cough syrups	42
Non-prescribed sedatives	37
Alcohol	72
Cannabis	44
Inhalants	5
Any Opioid	66

*Since multiple responses were possible, total exceeds 100%

Thus, on non-injecting days a variety of drugs are used, including drugs of opioid group by a substantial proportion of non-daily injectors. Overall, about 66% (n=355) non-daily injectors reported using one or the other opioid drugs, through a non-injecting route on the days that they did not inject.

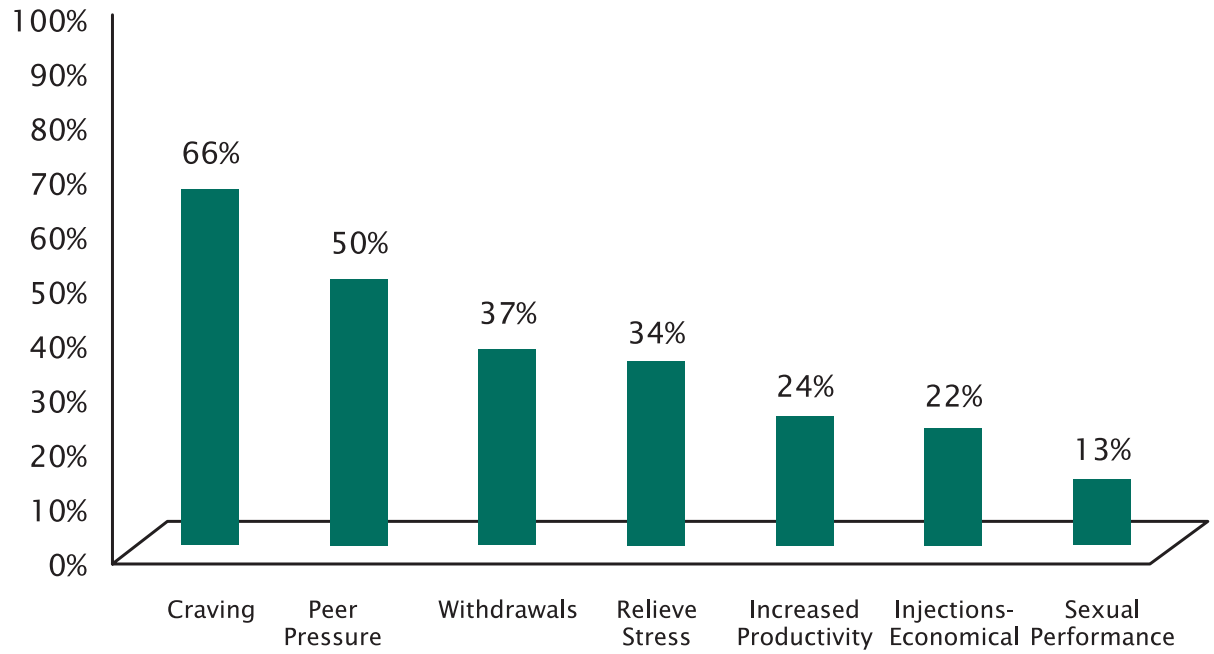
Dependence and Abuse

Though a formal diagnosis of opioid abuse or dependence was not attempted, questions pertaining to the items on Mini International Neuropsychiatric Interview (MINI) - Abuse and Dependence module (Module 'K', pertaining to opioids) were a part of the questionnaire. An analysis of the responses to these items suggested that, overall a whopping majority (98%) could satisfy the likely diagnosis of opioid dependence as per the MINI items. This proportion was similar (about 98%) in daily as well as non-daily injectors. Thus on the issue of likelihood to satisfy the diagnostic criteria of opioid dependence using formal diagnostic systems, daily and non-daily injectors do not differ from each other. This is supported from the finding that almost all the non-daily injectors do take a variety of drugs, on the days they do not inject, and a majority (66%) of these report using non-injecting opioids.

Reasons for injecting among non-daily injectors

Respondents were asked 'why do they inject' if they do not inject daily. Among the various categories of responses, 'craving' was reported as a reason by majority, as seen in the following chart. Since multiple responses were possible, the total is not 100. The finding of high prevalence of opioid dependence among non-daily injectors gets support from this finding too, that almost two-third of non-daily injectors reported 'craving' and more than a third reported 'withdrawals' as the reasons behind their injecting. 'Peer pressure' came across as another reported reason, by almost half of the non-daily injectors.

Figure 17 : Reasons for injecting among non-daily injectors (n=535)



Situation at the initiation of injecting drug use

When asked about the situation when they injected for the first time in their lives, an overwhelming majority (90% of daily injectors and 94% of non-daily injectors) reported that their first injection was administered by someone else i.e. an experienced 'friend / spouse / sex partner / client' injected them. Similarly, among reasons behind the first injection too, 83% of daily injectors and 69% of non-daily injectors reported that their friends pressurized them to try injections. Other reasons reported have been summarised in the table below:

(note: multiple responses were possible).

Table 6 : Reasons behind first injection

	Reasons behind first injection	
	Daily injectors (n=430)	Non-daily injectors (n=535)
Friend pressurized/encouraged me to try injections	83%	69%
I was curious to know the effects	49%	37%
I used Injections as a treatment	13%	3%
Non-injecting drugs were not available/costly	44%	17%
I wanted to stop taking drugs	8%	4%
My spouse / partner Pressurized me	11%	7%

Sharing of injection equipment

Respondents were asked whether they have shared needles, syringes and other paraphrenalia, 'ever' in their lives as well as within 'past three months'. Overall about 79% respondents reported sharing either one or more among needles / syringes or

paraphrenalia. This proportion was slightly higher in daily injectors than non-daily injectors (82% vs. 78%). While a higher proportion of daily injectors reported sharing ever, in general, sharing begun in more non-daily injectors with the first injection itself (see tables below):

Table 7 : Sharing of injections

	Daily injectors (n=430)	Non-daily injectors (n=535)
EVER Shared Needle	69%	58%
EVER Shared the Syringe but not Needle	45%	36%
EVER Shared vials/cooker etc. but not Needle / Syringe	56%	56%

Table 8 : First Sharing – duration after onset of injecting among those who ever shared

	Daily injectors (n=351)	Non-daily injectors (n=416)
First Sharing occurred at the **first instance** of injecting	47%	66%
First Sharing occurred almost **within a month** of onset of injecting	35%	22%
First Sharing occurred **within a year** of onset of injecting	13%	10%

Sharing in last three months

In last three months, while more non-daily injectors reported sharing paraphrenalia, a significantly higher proportion of daily injectors reported sharing needles.

Table 9 : Sharing of injections in last three months (among those who ever shared)

	Daily injectors*	Non-daily injectors*
Shared Needle in last three months	30%	13%
Shared the Syringe but not Needle in last three months	34%	15%
Shared vials/cooker etc. but not Needle / Syringe in last three months	38%	50%
* Denominator for all the calculations is different. It is comprised of only those who reported sharing that particular category of injection equipment 'ever'.		

As can be seen from the table, not all respondents reported sharing in last three months. The respondents were also asked "when was the last occasion that they shared any of the injecting equipment?"Overall, about 25% of the respondents reported sharing within last three months. Indeed, most respondents (57%) reported their last instance of sharing in last two years. The charts below show the proportion of respondents who reported the last occasion of sharing within the specific time period.

Figure 18 : Daily Injectors (n=430): Last Sharing: How many months back?

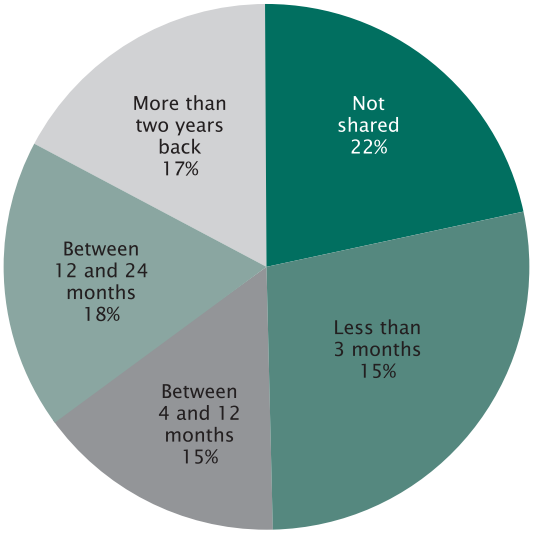
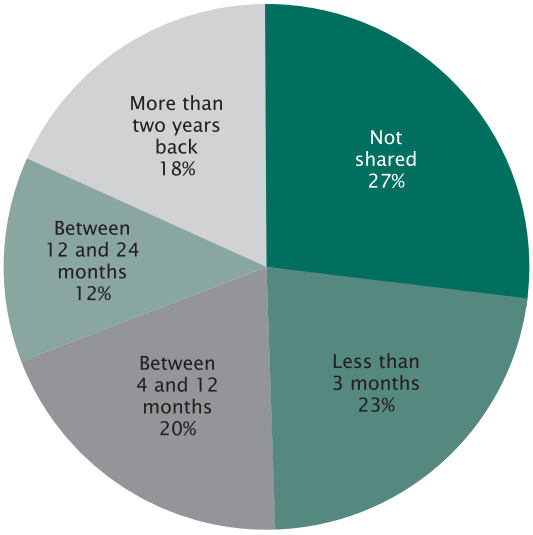


Figure 19 : Non -daily Injectors (n=535): Last Sharing: How many months back?



Injecting situation in last three months

Respondents were asked as to what has been the most common injecting situation in last three months: Do they largely inject alone or with their spouse / sex partner or with their friends? About 50% of both – daily as well as non-daily injectors reported injecting with their friends, while slightly less than half reported injecting alone. A miniscule proportion reported injecting with spouse or sex partner.

Consequences of drug use experienced

The table below presents the proportion of respondents who reported experiencing various consequences of injecting drug use. As can be seen here, the general trend is that more daily injectors report experiencing all the adverse consequences as compared to non-daily injectors.

Table 10 : Consequences of drug use experienced 'ever'

	Daily injectors (n=430)	Non-daily injectors (n=535)
Abscesses	56%	55%
Blocked veins	67%	44%
Excessive bleeding	52%	36%
Overdose	51%	31%

3.5 Services received

All the respondents were in contact with the TI for more than 6 months, as per the inclusion criteria. The mean duration for which the respondents were in touch with the TI was about 32 months in case of daily injectors and about 35 months in case of non-daily injectors.

The following table shows the proportion of respondents who reported having received various services from the IDU TIs as well as the number of months when they received that particular service for the first time.

Table 11 : Proportion of respondents who reported having received various services and number of months when they received that particular service for the first time.

S. No.	Services from the TI	Proportion who have received 'ever'		Mean number of months back when received for first time	
		Daily injectors (n=430)	Non-daily injectors (n=535)	Daily injectors	Non-daily injectors
1.	Needles and Syringes	100%	100%	29	32
2.	Education / information about safe injecting	98%	98%	29	31
3.	Education / information about HIV	97%	97%	29	31
4.	OST with buprenorphine	13%	13%	22	27
5.	Condoms	71%	83%	27	29
6.	Treatment for abscess / infection at the injection site	50%	36%	19	26
7.	General health checkup / General medical treatment	86%	79%	21	23
8.	Treatment for STIs	19%	7%	18	18
9.	'DIC'	98%	96%	25	28
10.	Referral for HIV testing / Treatment	97%	97%	21	24
11.	Referral for drug treatment	12%	11%	22	27

As evident from the table, an overwhelmingly large majority has received the interventions/services which can be regarded as 'core' IDU TI interventions (except 'OST with buprenorphine' because it is available at only few sites). Interesting trend was visible regarding abscess treatment: While overall about 55% reported experiencing abscess 'ever' in their lives, a lesser proportion reported having received treatment for the same from TI. This can be explained by the fact that the question regarding abscess was asked in terms of 'ever' while the service could have been received only after coming into contact with the TI. Interestingly the trend was toward non-daily injectors reporting a longer duration of contact with the TI as compared to the daily injectors. However, this could be a factor of having a TI in the area; TI sites from where more respondents are non-daily injectors could have been functional for a slightly longer duration. In any case this difference was not statistically significant. It is also interesting to note that a very small minority reported having received any referral for drug treatment.

On the issue of drug treatment, it was also asked on how many occasions respondents have received in-patient treatment and how many months back was the last occasion.

Table 12 : In-patient treatment for drug dependence

	Ever received	No. of occasions		Last occasion how many months back	
		Mean	Median	Mean	Median
Daily injectors (n=430)	56%	2	2	26	24
Non-daily injectors (n=535)	38%	1	0	18	12

Thus, though many respondents had received in-patient treatment in the past (significantly more daily injectors as compared to non-daily injectors), only a small minority were referred for it by the TI and that too, very long back.

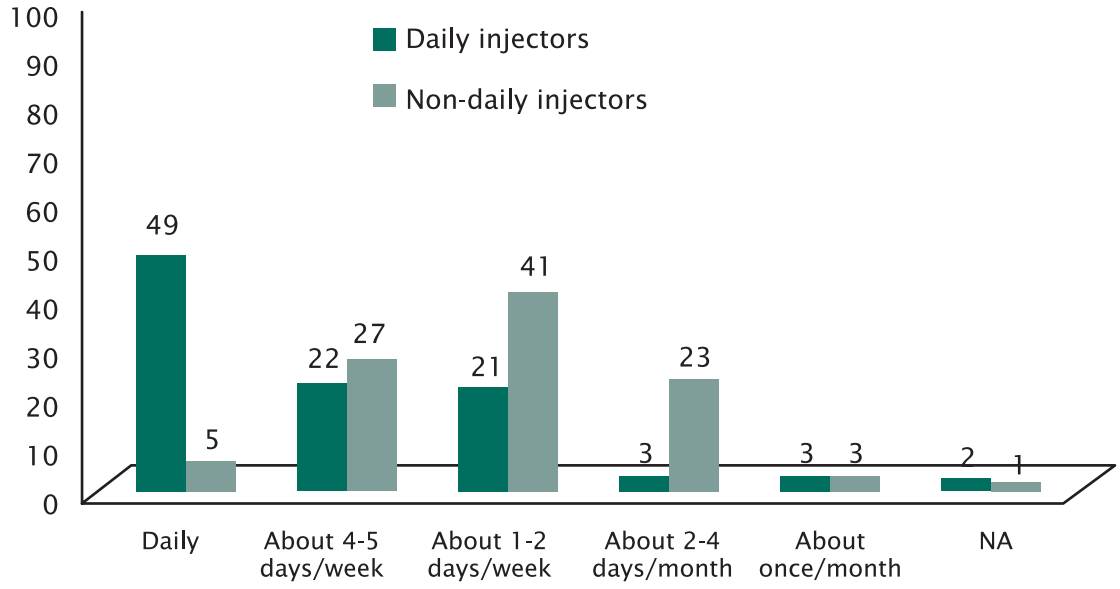
Contrasting this data with HIV testing, interesting trends emerged. It appears that HIV testing is being done quite frequently.

Table 13 : HIV testing

	HIV Testing – No. of occasions		HIV Testing – last occasion how many months back	
	Mean	Median	Mean	Median
Daily injectors (n=430)	3	3	8	5
Non-daily injectors (n=535)	2	2	8	6

Frequency of receiving needle syringes from TI

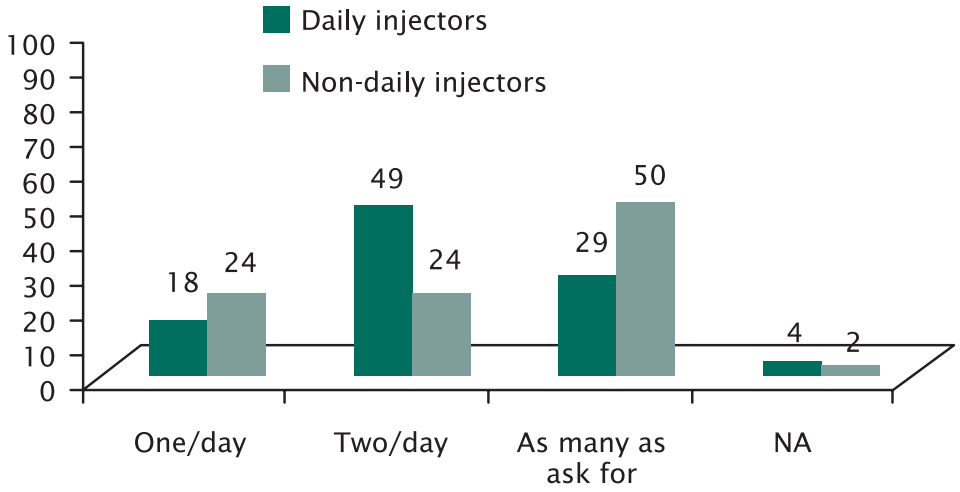
Figure 20 : Frequency of receiving needle syringes from TI (in %)



As evident from the chart, just about half of daily injectors (n=430) receive needles and syringes 'daily' from the TI. Even among non-daily injectors (n=535), the highest proportion (41%) is of those who receive needles and syringes 'about 1-2 days per week'.

Note that about 47% of non-daily injectors reported their injecting frequency to be about '3-4 days per week' but only 27% reported receiving needles/syringes as frequently as they injected. Data on number of sets received per day is also important.

Figure 21 : Number of sets of needles and syringes received per day from the TI (in %)

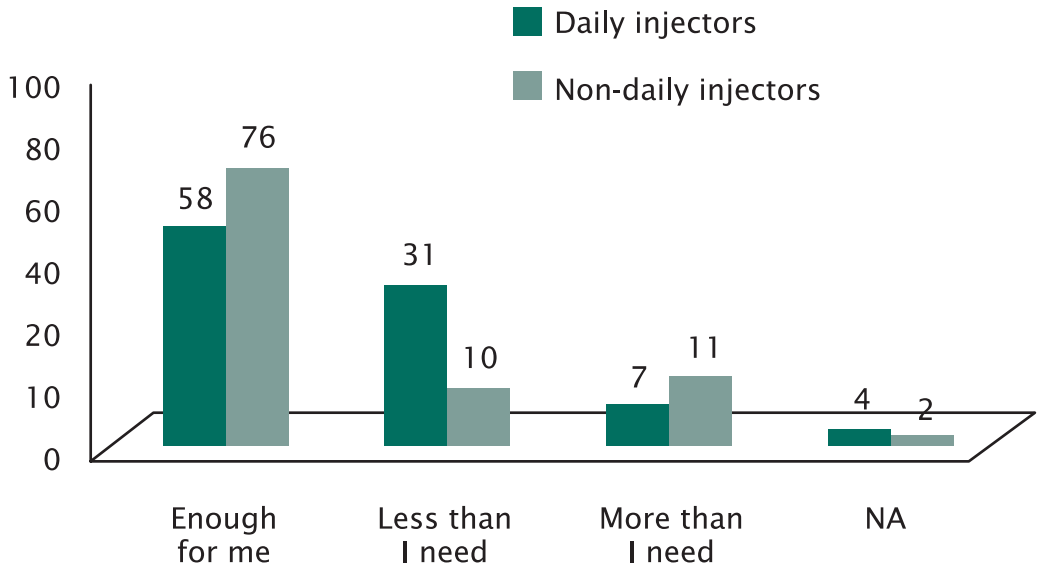


About half of daily injectors (n=430) reported receiving two sets per day while 29% reported receiving as many as they ask for. Conversely a larger proportion (50%) of non-daily injectors reported receiving as many as they ask for.

Opinion regarding adequacy of number of needles / syringes getting from TI

Respondents were also asked their opinion on adequacy of number of needles/ syringes they get from the TI. While majority in both groups reported that the number of set they received were enough for them, of concern is the finding that about 31% of daily injectors opined that they get less needles / syringes than they need.

Figure 22 : Opinion regarding adequacy of number of needles / syringes getting from TI (in %)

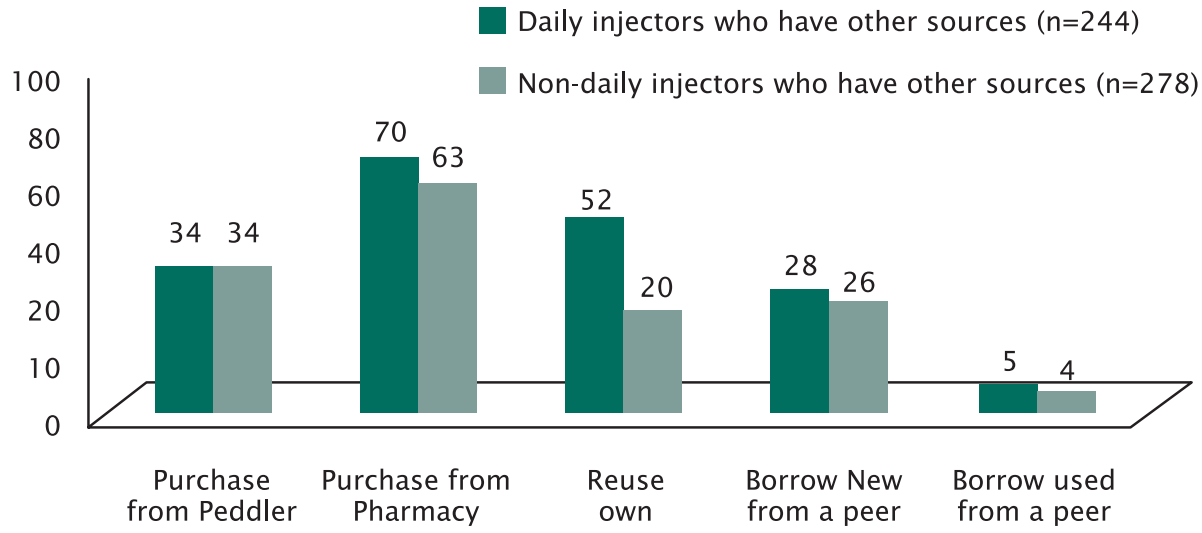


Sources of needles and syringes

About 57% (n=244) of daily injectors and 52% (n=278) of non-daily injectors reported that they had to rely on other sources of needles and syringes too, besides the NSEP of the TI. Among these other sources, proportion of respondents reporting accessing injecting equipment from various sources has been presented in the chart below.

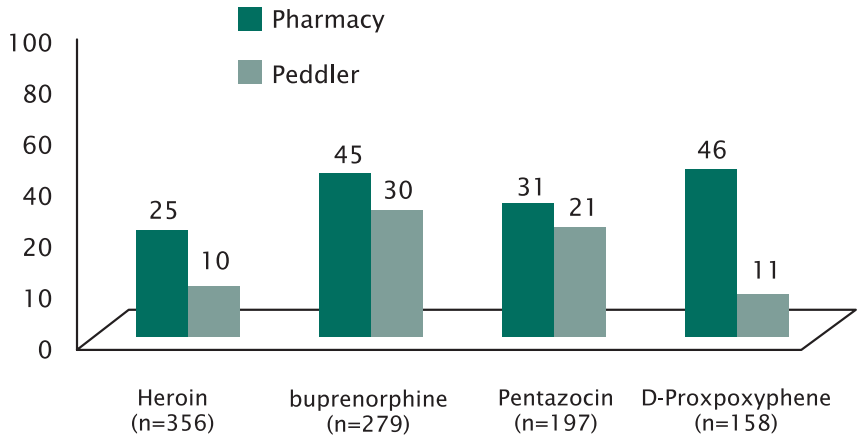
As evident from the chart, the largest proportion reported accessing injecting equipment from 'pharmacies' and about one third bought them from the 'peddlers'. More than half of the daily injectors reported reusing their own needles and syringes (in keeping with the data on higher number of episodes of injecting, presented earlier).

Figure 23 : Sources of Needles and Syringes besides TI



It was an interesting finding that though intuitively, it may be expected that since source of pharmaceutical drugs is expected to be pharmacies, more pharmaceutical opioid injectors would procure needles and syringes from pharmacies. On the other hand, heroin users (since heroin is expected to be procured only from a peddler) would be expected to procure their injection equipment from a peddler. The data surprisingly shows more heroin injectors procuring from pharmacies than from peddlers (chart below). Conversely, as many as 30% buprenorphine injectors (who were largely from Punjab, Delhi, and MP) reported peddlers as the source of needles and syringes (besides TI). Thus, choice of source of needles and syringes may be influenced by other local, structural factors rather than be governed solely by the choice of drug.

Figure 24 : Proportion of IDUs injecting various drugs, and reporting accessing injecting equipment from pharmacy or peddlers (in %)



Frequency of receiving services from TI

All the respondents were asked how frequently they receive these services: Visiting DIC, Meeting ORW/PE, or Condoms. Almost one third of daily injectors had never received condoms in last three months. Indeed in both the groups, minority respondents reported receiving any of three services more frequently than 'about 1-2 days per week'.

Figure 25 : Frequency of visiting DIC by daily and non daily injectors (in %)

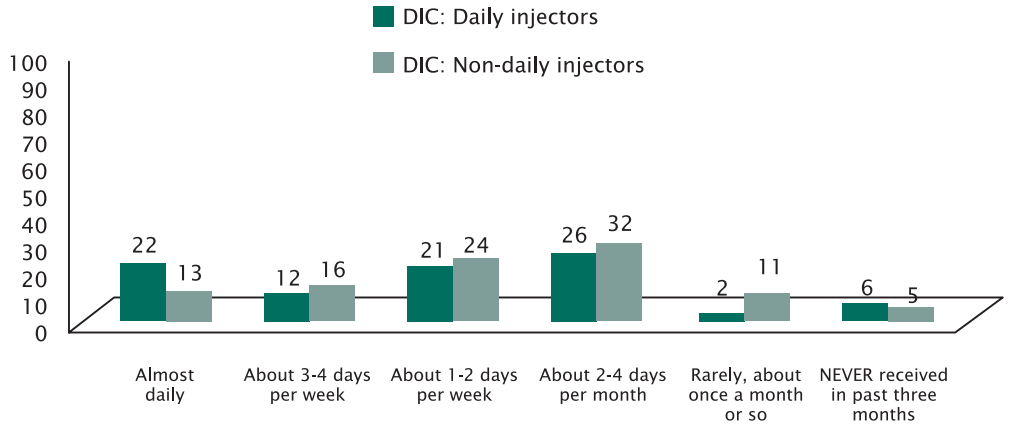


Figure 26 : Frequency of meeting PE/ORW by daily and non-daily injectors (in %)

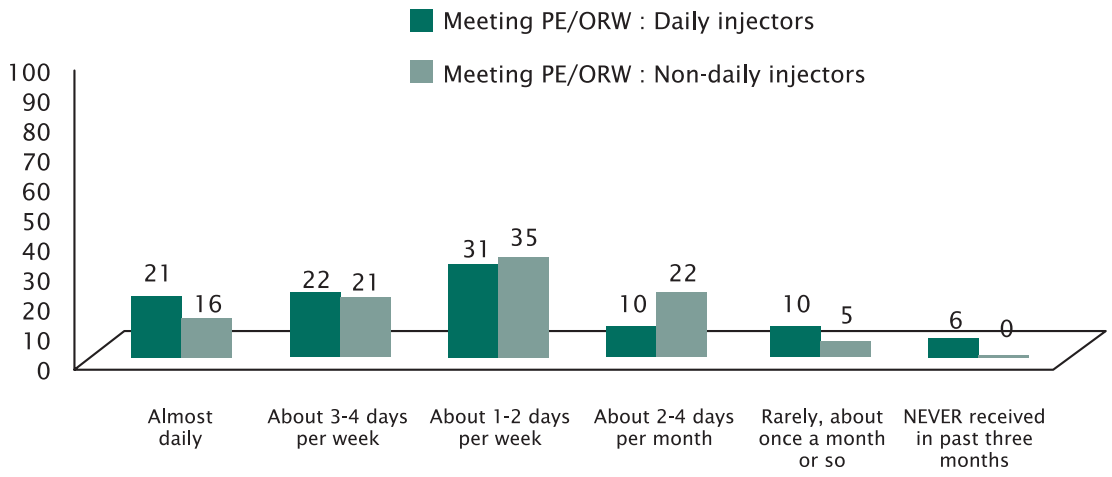
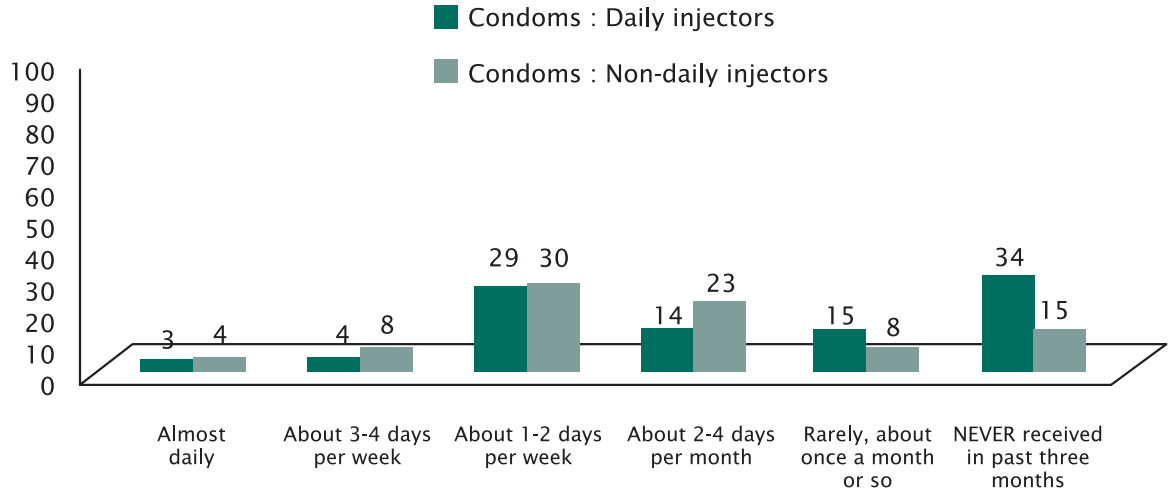


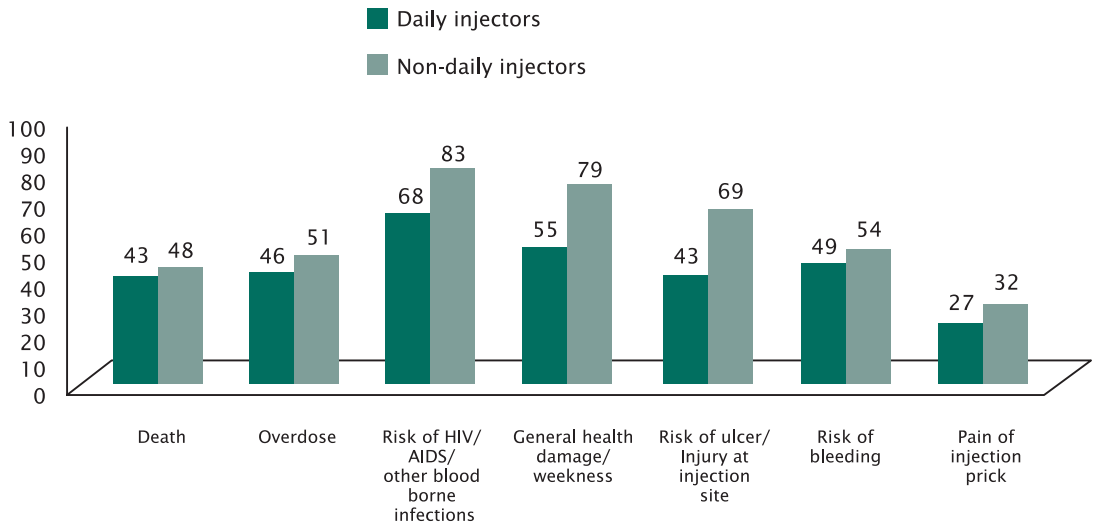
Figure 27 : Frequency of getting Condoms by daily and non daily injectors (in %)



Knowledge and awareness: Injecting Drug Use

On the issue of Knowledge and awareness related to Injecting Drug Use, more daily injectors reported knowledge of various consequences as compared to the non-daily injectors. However it was interesting to note that in both the groups, more respondents were concerned about the remote and distant (though admittedly more severe) consequences like HIV rather than more immediate consequences like pain, bleeding or ulcer.

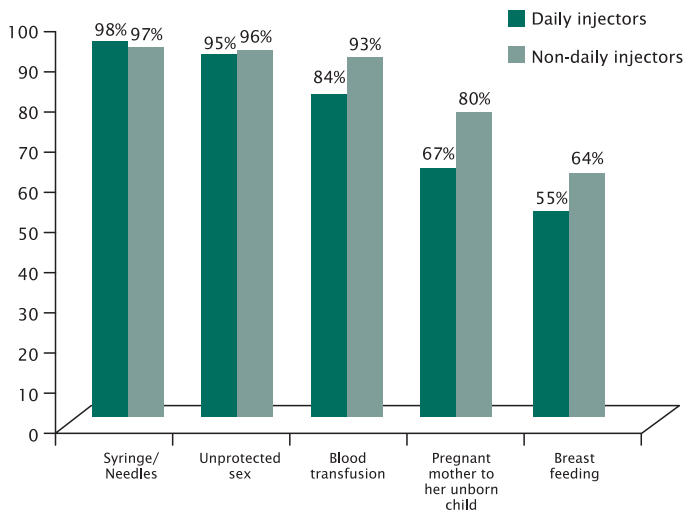
Figure 28 : Knowledge and awareness: Consequences of Injecting Drug Use (in %)



Knowledge and awareness: HIV and AIDS

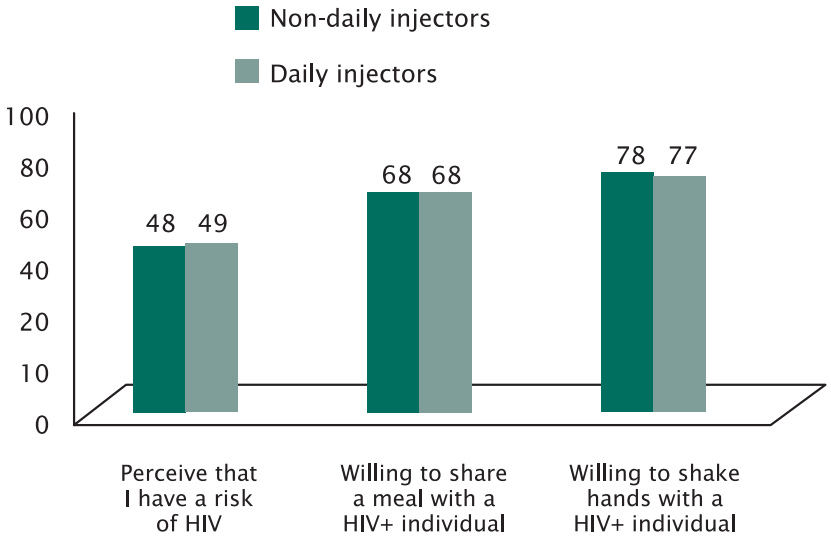
Everyone in the sample reported having heard of either HIV or AIDS. A large majority were aware of routes of transmission. It was interesting to note that awareness of injecting route was much higher than awareness of PPTCT. Surprisingly, awareness levels were better in non-daily injectors as compared to the daily ones.

Figure 29 : Awareness levels in Daily injectors and Non-daily injectors



On other parameters of attitude and risk perception both groups were remarkably similar.

Figure 30 : Risk Perception and attitudes (in %)



Summary: Daily and Non-daily injectors – similarities and differences

- On socio demographic parameters, the daily and non-daily injectors were largely similar.
- Among those who injected D-propoxyphene most commonly, a significantly large proportion (81%) was non-daily injectors.
- Daily injectors not only injected on more number of days, but on the days they injected, the numbers of injections per day were significantly more than those of non-daily injectors.
- Both the categories had almost equal proportion of respondents who could satisfy criteria for opioid dependence. However, significantly more daily injectors reported having 'ever' received in-patient treatment for drug dependence.
- More daily injectors reported sharing injecting equipment 'ever' as well as in 'last three months'.

Summary: Daily and Non-daily injectors – similarities and differences

- More daily injectors reported having experienced adverse consequences of injecting (blocked veins, excessive bleeding and overdose) as compared to non-daily injectors.
- Apart from 'treatment for abscess', (which was received by significantly more daily injectors) all other TI services were received by almost equal proportion in both the categories.
- In general, the trend was towards daily injectors receiving much lesser injecting equipment than required (as part of NSEP), as compared to non-daily injectors. While almost equal proportions in both the categories reported receiving needles and syringes from other sources like peddlers and pharmacy, a significantly higher proportion of daily-injectors reported reusing their own needles and syringes.
- Significantly more proportions of daily injectors were aware of adverse consequences of injecting as opposed to non-daily injectors, though awareness regarding HIV was almost same in both the categories.

Female IDUs: Key Findings

- Four of the sites where exclusive interventions for female IDUs (FIDUs) are being implemented (in the North-Eastern states), were purposefully chosen in the study. Overall, data was collected from about 100 FIDUs.
- The mean age of FIDUs was 31 years. Around 15% were between 18 to 24 years of age, while another 54% were between 25 to 34 years.
- About 35% were married; 25% were never married while another 27% were either divorced or separated.
- Proportion of FIDUs using various drugs 'ever' were: Tobacco - 99%; Alcohol – 97%; Heroin chasing – 52%; Oral pharmaceutical opioids – 82%; Cannabis – 25%; Oral pharmaceutical sedatives – 40%. Close to 97% had used any opioid drug 'ever' in their lives.
- Various drugs injected 'ever' were: Heroin – 87%; D-Propoxyphene – 58%. Most commonly injected drugs in last three months were also the same: Heroin – 48%; D-Propoxyphene – 51%.
- Around 30% reported injecting daily, while 70% can be categorised as non-daily injectors.
- Almost all non-daily injectors reported taking one or the other drug on non-injecting days. All the FIDUs satisfied the criteria for Opioid dependence.
- Among non-daily injectors, the most important reasons for injecting were: craving (57%) and withdrawal symptoms (29%).
- Mean age of onset of injecting was 22-23 years. As many as 96% reported that their first injection was administered by 'friend / spouse / sex-partner'. About one third started using drugs because 'non-injecting drugs were either not available or were costly'. About 19% were 'pressurised by their spouse or partner' to start injections, while about 50% reported having been 'pressurized by their friends / peers'. About 36% reported being 'curious' as the reason for start of injecting.

Female IDUs: Key Findings

- As many as 82% reported sharing any injection equipment 'ever'. Among them, about one-third reported sharing in last three months.
- Proportion of FIDUs who reported suffering from various consequences of injecting was: Abscess – 33%; blocked veins – 30%; overdose – 30%.
- The mean duration for which they were in contact with TIs was 21 months. An overwhelming majority reported having received various services from the TIs: NSEP, education about safe-injecting, education about HIV, condoms (received 'ever' by all). About 15% reported receiving treatment for abscess, and 22% received treatment for STIs. While 83% have been referred for HIV testing, only 1 respondent was referred for drug treatment.
- Only 22% reported receiving needles / syringes daily, however, 82% opined that numbers of needles and syringes that they receive are just enough. As many as 42% purchased needles and syringes from pharmacies, while 20% purchased from peddlers. About 17% reused their needles and syringes and 19% borrowed them from their friends.
- An overwhelming majority (more than 95%) were aware of all routes of HIV transmission including vertical transmission.

4 Discussion

4.1 Methodology and implementation of the study

Many studies have been conducted to explore the risk behaviour pattern of IDUs in India, including some multisite studies (ORG Centre for Social Research 2006; Ambekar and Tripathi, 2008;Ambekar et al, 2009). However, very few of them have looked at risk behaviours at such a variety of sites, which included states from which there was little data so far. A unique feature of this study was including sites as varied as Sehore in MP and Sitapur in UP. Additionally, previous studies did not look into details of the pattern of lifetime drug use (ORG Centre for Social Research 2006).

Another strength of the study was an attempt to look at the possible diagnosis of opioid dependence among IDUs. All the respondents were IDUs receiving various services in the TIs. While an assessment of all the clients is routinely conducted by the TIs at the time of initial registration, the process of assessment does not include a comment on diagnosis of drug use disorder. Thus a review of routinely collected records of TIs would fail to indicate the prevalence of opioid dependence among service recipients. In our study, inclusion of items pertaining to standard diagnostic criteria made it possible to comment on the diagnosis of opioid dependence, which is a rare feature for a community-based study (as opposed to a clinic-based study).

The sample size, though small (about 0.5% of all the IDUs estimated in India), was adequate to derive some meaningful conclusions. Additionally, this sample was distributed across 11 states in India, enhancing the geographical scope and thus potential for generalization of the study.

All the data was collected by trained interviewers who happened to be associated with the TIs. This was a strength and at the same time, a limitation. Choosing NGO TI staff as interviewers ensured that owing to their familiarity with the TI environment, data was collected quickly and smoothly. Thus, in the true spirit of an Operations Research, the study was conducted within a span of just about four months. On the other hand, a social desirability bias in the responses cannot be entirely ruled out.

There was a deliberate focus on injecting-related risks (considering that many studies in the past have commented upon sexual behaviour of IDUs in India), which left little room for exploring sexual behaviours in this study.

There was a sincere attempt to minimize the selection bias of respondents, by generating a list of registration numbers of clients in a random manner and then purposefully interviewing the respondents available from that list. However, even this technique may not have been successful in fully eliminating the selection bias. Consequently, clients who were more regularly in contact with the TI and receiving various services more

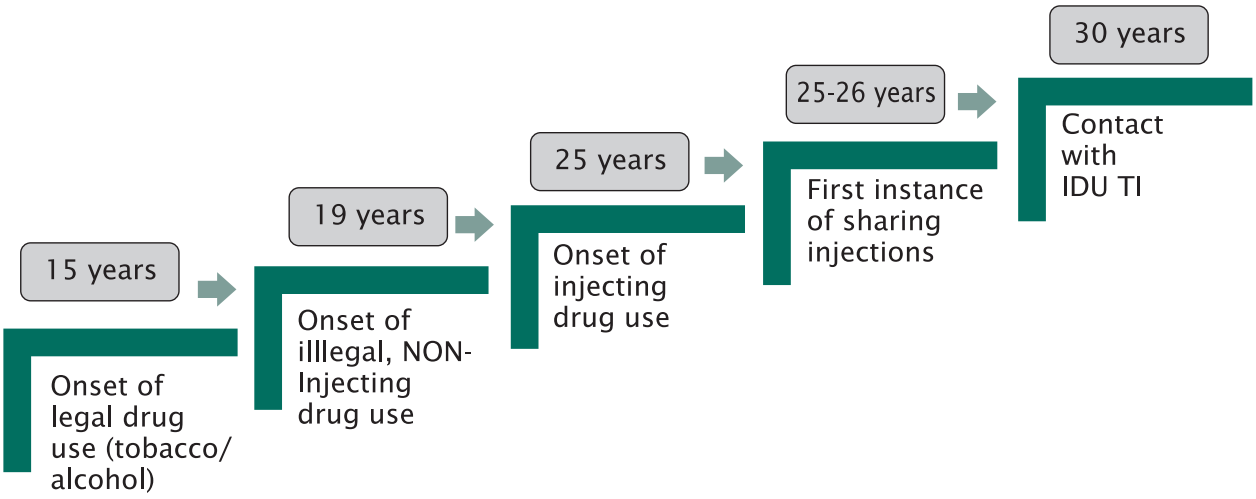
frequently would be overrepresented in the sample (since clients who are irregular in contact may not have been available for the interview). Other limitations of the study are related to the caveats associated with any such self-reported study.

It must be noted that the focus of the study was the clients of IDU TIs and not IDU TIs themselves. Thus, data on behavioural parameters from the clients was collected extensively and not the data on processes followed at the IDU TIs. The findings presented should not be seen as directly reflecting the performance of IDU TIs from where the data was collected. On process issues, there exists other body of work (Kumar et al 2011; Ambekar, 2012b; Ambekar 2012c). Indeed the findings of this study, coupled with the recommendations of the recent publications cited above should be seen as complementing each other and must form the basis for further program planning and designing.

4.2 The drug use career of IDUs in India

The mean age of the respondents at the time of recruitment was around 33 years and the mean age at which the injecting drug use started was around 25-27 years. This is similar to some previous studies (ORG Centre for Social Research 2006; Ambekar et al 2009). Thus, the respondents had been injecting for about 6-8 years before they were interviewed. Additionally, the time period for which they had been receiving services from the TIs was around 30 months (i.e. 2 and ½ years), which is about 4-6 years after the onset of IDU. There was a substantial time period of non-injecting drug use, before respondents started taking drugs through injecting route. This has been commented by earlier authors as well (Kumar, 2004). Indeed, going by the results of this study, if the various time durations are plotted on a hypothetical time-line of an IDU in India, it would appear something like the adjoining illustration.

Figure 31 : A Hypothetical time-line of drug use career of a typical IDU



Thus, as evident from this hypothetical time-line, there are multiple windows of opportunity in the drug use career of an IDU. All these opportunities must be utilized while designing and implementing various interventions. The young age of onset of legal

drugs[3] has obvious implications for the purpose of primary prevention. The time period between use of illegal non-injecting drugs and use of injecting drugs is 6 years which is long enough, during which specific interventions to prevent transition to injecting can be instituted, including evidence-based effective drug-treatment and Opioid Substitution Therapy (OST). Finally, once drug users begin injecting, a time period of up to 5 years is lost before they are engaged by the TIs. This may mean that either there was no TI in the neighbourhood or that even the existing TI reached-out to them quite late. In any case this finding shows that the response of the state is reaching late to IDUs. Thus, necessary attempts must be made to reach out to IDUs in the beginning of their injecting career. This is important since a large majority of IDUs report that the first instance of sharing was within one month of onset of injecting.

While peer pressure and curiosity came across as the most important factors behind the decision to inject for the first time, another important factor was that "non-injecting drugs were either not available or costly". Thus any drought or shortage of non-injecting drugs (like brown sugar/opioid pharmaceuticals) brought about by stringent law-enforcement activities, may inadvertently result in some users switching to an injecting route. Indeed, this risk of switch to injecting because of non-availability of non-injecting drugs, has been commented upon earlier too (Ambekar and Vaswani 2009).

4.3 Type(s) of drugs used and injected

Most of the previous work with IDUs in India has tended to ignore the use of other drugs by IDUs or has given it only a cursory attention. For instance, the End line BSS (ORG Centre for Social Research 2006), commented just upon use of alcohol and 'any addictive drug' (not defined) by the respondents. Our study documents the lifetime pattern of drug use for almost all the classes of drugs. Thus, we find that lifetime use of alcohol and tobacco is almost universal among the IDUs. Additionally, use of cannabis and oral pharmaceutical sedatives 'ever' is also reported by a majority of respondents. Only a small minority reported use of inhalants, while use of stimulants and hallucinogens was non-existent. Thus a variety of drugs are used by the IDUs, but importantly, the findings once again establish that epidemic of IDU in India is an epidemic of use of opioid drugs. All the respondents reported injecting one or the other opioid drugs. This was not only true for 'ever' use of drugs, but even when asked about 'most commonly injected drugs' an overwhelming majority (99%) reported injecting opioid drugs. It should also be noted that opioid drugs are not only used by the injecting route. When data was analysed, almost 93% of the total respondents reported that they had used any non-injecting opioid 'ever' in their lives. This data coupled with the data on time-line reported above highlights the fact that almost all non-injecting opioid users must be regarded as 'at-risk' for transition to injecting route of opioid intake.

[3] Though Alcohol has been labeled as a legal drug in the study, it must be noted that in most parts of India, legal age of drinking ranges between 18 and 25 years. Additionally in some states where study was conducted (Manipur, Mizoram, Nagaland) alcohol use is prohibited. Thus technically, drinking before the legal age anywhere would be 'illegal' and drinking at any age in certain states would be 'illegal'.

It must also be noted that use of other drugs including non-injecting opioid drugs does not cease once drug users start injecting. Many respondents reported continued use of opioid drugs through non-injecting route even after they started taking opioids through injecting route. This again points toward the primacy of 'opioid dependence' as a clinical issue among IDUs (as opposed to just injecting).

Additional finding worth noting is the high prevalence of injecting opioid pharmaceuticals. Though as a single drug, heroin figures as the drug injected by the largest proportion of respondents, a sizable proportion also reported injecting buprenorphine, pentazocine and D-propoxyphene. Indeed, if all users of pharmaceutical opioids are clubbed together, a majority (64%) reported injecting a pharmaceutical drug 'most commonly' in the preceding three months. This common practice of injecting pharmaceutical opioids in India (and indeed in South Asia) has been commented in earlier studies as well (ORG Centre for Social Research, 2006; Ambekar and Tripathi, 2008;Larance et al 2011).

4.4 Frequency of injecting and consequences

For operational purpose, during the data analysis, two categories were created: Daily injectors (about 43% of respondents) and non-daily injectors (about 53% of respondents). It must be noted however that the category "non-daily injector" is not a homogenous entity. This category was created by clubbing those who reported injecting: about 3-4 days per week (25%), about 1-2 days per week (18%) and about 2-4 days per months (11%).

One of the questions that must be grappled with, is, how valid is the distinction between 'daily' and 'non-daily' injectors, attempted in this study. On certain parameters, both the categories appear to be not very different from each other. Regarding choice of drug injected, both categories had similar distribution of heroin, buprenorphine and pentazocine injectors (though as many as 81% of De-propoxyphene injectors were non-daily injectors). Similarly, both the categories had an overwhelmingly large majority of respondents who satisfied the criteria for likelihood of opioid dependence. However on certain parameters they appeared distinctly different, which has programmatic relevance. Average numbers of instances of injecting are likely to be much higher for daily injectors as opposed to non-daily injectors. It must be noted that as many as 25% of daily injectors inject "4 or more times a day" while another 65% inject "2-3 times a day". Contrast this with non-daily injectors, among whom, 65% inject only "once a day" and just 3% inject "4 or more times a day". Among those injecting "3-4 days per week" (n=251), about 50% injected 'once a day' and about 47% injected '2-3 times a day.' Conversely among those who injected "1-2 days per week" (n= 176), a large majority, 74%, injected only 'once a day. As many as 86% of those of who injected "2-4 days per month", injected 'once a day'. This would mean that daily injectors are exposed to untoward consequences of injections more often than non-daily injectors. The argument gets further strengthened by the data which reveals that a higher proportion of daily injectors reported sharing needles 'ever' (69% vs. 58%), sharing needles 'in the last three months' (30% vs. 13%),

having experienced blocked veins (67% vs. 44%) and excessive bleeding (52% vs. 36%). In other words, daily injectors represent a group, which is in need of more intensive services from the IDU TIs.

A high proportion of respondents reported experiencing overdose. It must be noted that there was no opportunity for the researchers to objectively assess 'overdose' and it was left largely to the understanding of the respondents. Still it was surprising to note that as many as 51% of daily injectors and 31% of non-daily injectors reported having experienced overdose ever. Clearly this issue needs more attention in our programs than it is receiving now. A rich account of overdose and related issues is available from a recently published monograph (Kumar, 2012).

4.5 Opioid dependence

As stated earlier, rarely, if at all, a systematic diagnosis of Opioid dependence is generated among IDUs either in our TI programs (NACO 2007) or in the research studies on IDUs (ORG Centre for Social Research 2006; Sarna et al, 2007; Ambekar et al, 2009). Though, as a part of routine assessment before initiating OST, the guidelines do ask doctors and counsellors to indicate whether a client is dependent on any drug (Rao, 2008). In this study, items pertaining to MINI – Module 'K' (Sheehan et al, 2006), were incorporated in the questionnaire to explore the prevalence of likely diagnosis of opioid dependence among the respondents. The interviewers were trained to administer the questionnaire. The data indicated that prevalence of likely diagnosis of opioid dependence was almost universal. Moreover, there was no difference among daily and non-daily injectors on the likelihood to satisfy the criteria for dependence. Indeed, an equal proportion of daily and non-daily injectors satisfied the criteria for physiological dependence: 'tolerance' and 'withdrawal'. The finding that a substantial proportion of non-daily injectors reported using opioids on their non-injecting days, explains this high prevalence of opioid dependence. It must also be noted that when non-daily injectors were asked about the reasons for injecting, a sizable proportion reported 'craving' and 'withdrawal' as the reasons. Thus, to reiterate, the primary clinical issue among IDUs in India should be regarded as Opioid dependence (and not just injecting route of drug intake). This has obvious implications for interventions (see recommendations).

4.6 Sharing injection equipment

Numerous studies in the past have documented that a sizable proportion of IDUs in India share their injection equipment (needles, syringes as well as other paraphrenalia) and remain vulnerable (Kumar, 2004; ORG Centre for Social Research 2006; Sarna et al, 2007; Ambekar et al, 2009). This study focused exclusively on IDUs receiving services from the TIs, documents that a substantial proportion of even those registered with TIs and receiving needle / syringes and other services also report sharing of injection equipment. This practice of sharing begins immediately after onset of injecting. Additionally even after receiving services from the TIs, the sharing continues. A majority reported that last

occasion of injecting fell within preceding two years – the duration for which most have been receiving needles / syringes and other services from the TIs (about 55% received NSEP for the first time more than two years back). Given the finding that many IDUs are not receiving adequate numbers of needles and syringes from TIs, this finding of continued sharing should come as no surprise (see below).

4.7 Uptake of services from the TIs

The service uptake pattern throws up some interesting trends. The proportion of respondents having received various services from the IDU TI 'ever' is almost similar for both the groups (except for having received treatment for abscess; 50% of daily injectors have received it ever as opposed to 36% of non-daily injectors). Similarly though proportion of respondents receiving needles and syringes 'daily' is significantly higher among daily injectors (49% vs. 5%), it must be noted that just about half of daily injectors receive injecting equipment 'daily'. Even when they receive, the quantity may not be enough; as many as two third of daily injectors reported receiving two or less sets of needles / syringes from the TI (while 90% of them inject more than two times a day)[4]. It is no surprise then, that as many as 31% of daily injectors opine that they receive 'less number of injecting equipment from the TI than they need'. It can be understood as the primary reason why majority of IDUs, in addition to receiving needles and syringes from the TI, purchase injection equipment from pharmacy (more than two thirds) and peddlers (about one third). More worrying finding is that as many as 52% of daily injectors are forced to reuse their own needles and syringes and about one fourth borrow from their peers. Let us also note that many IDUs report no other source of injection equipment other than TIs (about 43% of daily injectors and 48% of non-daily injectors were dependent on only TIs for needles and syringes). Thus supply of adequate numbers of needles and syringes is of paramount importance.

It is noteworthy to mention an analysis of CMIS data which reported that though the number of needles and syringes distributed to IDUs through TIs has increased in the recent past, in the year 2010-11, a typical registered IDU received an average of just about 11 syringes per month[5] (Kumar et al 2011). Attempt has been made to estimate the total number of syringes required by a typical IDU TI, with a target of 400 IDUs, based on the principle that all injecting acts should take place with a new needle and syringe. It appears from the calculation based on the data collected in this study that a TI would need to distribute about 50 sets of needles and syringes per IDU per month (detailed calculations in the Annexure). In other words we are distributing about three to four times fewer syringes than required.

On the issue of service uptake, the frequency of receiving most of the services other than the needle syringe supply was found to be low. Just about one fifth of daily injectors,

[4] In some places there is a provision of distributing extra 'needles' if required. In the study we asked about the complete 'sets' of needles and syringes.

[5] A recent, in-house analysis (unpublished data) suggests that this may have been slightly improved to about 15 syringes per month.

visit DIC or meet their PEs / ORWs 'daily'. A similar observation about low frequency of contact with the TI was made by the analysis of CMIS data (Kumar et al, 2012). The proportion of non-daily injectors receiving these services is even lower. However there is some inconsistency in the data. If 49% of the daily injectors report receiving needles and syringes 'daily' then the combined proportion of those visiting DIC or meeting PE/ ORW is expected to be at least 49% if not more (since needles and syringes are either received largely from the DICs or from the PE/ORW in the field). However that proportion (even assuming those reporting visiting DIC daily or meeting PE/ORW daily are different respondents) comes to just around 43%. As stated earlier, this inconsistency points towards the limitation posed by using NGO TI staff as interviewers.

This inconsistency notwithstanding, the low utilisation of DIC is quite evident from the data. In an earlier study involving a survey of IDU TIs too, (Ambekar 2012) it was pointed out that average foot-fall on a typical day in most DICs of IDU TIs is not more than 5% of the total target. Assuming an average target of 400 IDUs, this would mean not more than 20 IDUs visit DIC on a given day.

Regarding other services from the TIs, it was heartening to note that an overwhelmingly large majority has been referred for HIV testing and that too on many occasions, in keeping with the trend reported in the analysis of CMIS data (Kumar et al 2012). Yet, despite almost everyone likely to be satisfying the diagnostic criteria for opioid dependence, only a small minority (11-12%) were referred for treatment of drug dependence 'ever'. Many IDUs reported having received in-patient treatment for drug dependence – on more than once occasion – in the past, which means they have received that treatment on their own, without being referred for it by the TI. Clearly, there is a demand for drug-treatment by the IDUs and there is a need to strengthen this component in our programs.

4.8 Opioid Substitution Treatment (OST)

There was an active effort on the part of the research team to avoid going into issues related to OST. Since OST is a broad and specialised area of its own – meriting an exclusive study on the topic – it was decided to not focus upon OST in this study. That is the reason why sites where OST is available or clients who are currently on OST were avoided. Still about 13% respondents did report ever receiving OST. Among these, a majority were from Kolkata (52%) and about 20% each from Kerala and Punjab. This finding should not be seen as any reflection of proportion of IDUs receiving OST in India. The scope of this study simply did not allow exploring issues related to clients of OST, without diluting the primary focus of this study. The findings of this study thus are relevant for more than 150,000 IDUs receiving services from IDU TIs in India, and not relevant for about 5000 odd IDUs on OST nationwide.

4.9 Female IDUs

The proportion of female IDUs (10% of the overall sample) was by design. In no way it can be regarded as representative since there is no robust data on numbers of FIDUs in India. Since it was known by previous studies that in the four North-Eastern states, FIDUs do exist in sizable numbers and exclusive FIDU intervention sites are in place, it was decided to purposefully include 100 FIDUs in the study. While the study did not have a primary objective of exploring gender issues related to vulnerabilities (that was the remit of other studies conducted in the recent past: Murthy, 2008), some insights do emerge from the finding of this study.

An important observation is that a substantial proportion of FIDUs (about one-third) reported their occupation to be 'sex work'. Additionally almost all reported their first injection to be administered by their 'friend / spouse / sex-partner'. This finding points towards the interface between sexual and injecting-related vulnerabilities. In terms of their injecting practices,FIDUs were not very different from male IDUs. The worrying fact is that despite having been in touch with the TIs for close to two years, a majority reported that their most recent sharing instance has been within past two years (in last three months for about one-third of them). Just like their male counterparts, a sizable proportion reported experiencing various consequences of injecting (like abscess, blocked veins and overdose), almost everyone reported features suggestive of a diagnosis of opioid dependence and their service uptake pattern was also largely similar (though a significantly higher proportion of FIDUs reported receiving treatment for STIs as compared to male IDUs). Many of them also depend on pharmacies and peddlers (like their male counterparts) for needles and syringes besides TI.

4.10 Knowledge versus Practices

On the knowledge front, the findings were indeed encouraging. An overwhelming majority could identify the routes of HIV transmission; most were aware of other harmful consequences of injecting as well. Interestingly a higher proportion of daily injectors (as compared to non-daily injectors) were aware of harmful consequences of injecting, like, risk of local complications of injecting as well as risk of transmission of various infections. Despite this knowledge,practice of sharing is reported by a substantial proportion of respondents. Let us also note that many IDUs report 'purchasing' needles and syringes from pharmacies and peddlers, in addition to receiving from the TIs. Thus, there seems to be adequate knowledge about risks of injecting / sharing and an attempt to procure new needles and syringes is also visible. The only missing link to explain the continued sharing appears to be the limited access to adequate numbers of needles and syringes.

5 Conclusion and Recommendations

The "IDU" is not a homogenous identity in India

The findings of this study once again document the fact that there are considerable variations among IDUs in India. IDUs differ from each other in terms of their drug use practices, the frequency with which they take drugs and the type of drugs they use. What is common across most of the IDUs is the preference for using opioid group of drugs, which are used by both injecting and non-injecting route. At least our sample suggested that an overwhelmingly large majority are in fact dependent on opioid drugs. Thus, looking at the variety of injecting practices the following recommendations can be made.

• Customise the intervention package as per the needs of clients

Data suggests that need for number and frequency of needles and syringes may vary across clients. Consequently, rather than relying on a fixed formula for number of injecting equipment distributed, there should be enough flexibility so that the needs and demands can be met adequately. The guiding principle should be 'each injecting act should involve use of new injecting equipment'. Additional issue regarding customization of interventions is regarding drug treatment. Despite being opioid dependent, only a small minority receive referrals for drug treatment. Necessary modifications in the program design should be made to improve this. This may involve establishing and strengthening formal linkages with drug treatment centres operated by MSJE and DDAP, MOH&FW.

It is also a myth that all manner of drug treatment can only be provided by the specialised drug treatment settings ('centres'). With adequate capacity, the clinical staff of the IDU TI itself should be able to address some of the needs of drug treatment of IDUs. A beginning has been made in this regard, and the Regional Technical Training Centres[6] (RTTCs) have ensured the inclusion of issues related to drug treatment in the training curriculum (NDDTC AIIMS, 2012) for doctors and nurses of IDU TIs. As another example of a drug treatment intervention, it has been demonstrated in the country that NGO-run IDU TIs are capable of implementing a particular type of drug treatment intervention i.e. OST, though the many issues regarding current OST program remain under-researched. Thus, enhancing the capacities of IDU TIs could expand the scope of comprehensive package of services by providing the harm reduction and some drug treatment interventions under one roof.

[6] Under project 'HIFAZAT', – the GFATM Round 9 HIV grant project – some government academic medical institutions have been designated as RTTCs and have been entrusted with the task of training doctors and nurses working with IDU TIs.

- **Intensify the 'core' IDU interventions**

The 'core' service provided by the IDU TIs – Needle Syringe Exchange – needs to be strengthened. Thus, looking at the data of fewer than required numbers of clients being met frequently and fewer than required numbers of injecting equipment being distributed; these components should be intensified in the TI. Additionally other avenues for providing new needles and syringes could be explored. Indeed the guiding principle should be improving the access to new needles and syringes (beyond just a focus on distributing them through one source – IDU TI). This may involve considering a partnership with drug peddlers (as many as one third IDUs procure injecting equipment from peddlers). Additionally, secondary distribution outlets like pharmacies could be given a serious consideration. Data suggests that a majority of IDUs do purchase needles and syringes from the pharmacies. Involving pharmacies for needle exchange has been tried out in developed as well as developing countries (Gray et al, 2012).

- **Address special needs of special populations**

FIDUs may be especially vulnerable on account of certain social and structural factors. Our data (which did not explore issues of sexual vulnerabilities to a large extent) suggests that interventions related to sexual health may be important for FIDUs. Similarly, whether the same model which exists for 'regular' IDU TIs can be replicated in entirety for FIDUs is still not very clear, though some scholarly work has tried to throw some light on this issue (Murthy, 2012). However, these issues notwithstanding, our data does point out that just like their male counterparts, FIDUs also remain vulnerable to risky injecting practices and report procuring injecting equipment from peddlers and pharmacies besides TIs. So the issue of improving the access would be important for FIDUs too. Future studies should look into appropriate program designs for FIDU interventions.

The Onset of injecting takes some time; the onset of sharing does not!

A substantial period of time is elapsed by the time people enter the intervention programs. Earlier wisdom was that it was help-seeking at the conventional, clinic-based interventions, which were accessed late by drug users. However, as this data suggests,even the outreach based interventions are also able to get people entered into the program only when they have spent about 5-6 years as injecting drug users. Moreover, the earlier finding that drug users spend about 2-10 years taking drugs through other routes of drug intake before the onset of injecting (Kumar, 2004), still holds true.

- **Catch them young**

Appropriate modifications in the program must be made so that IDUs can be reached-out early in their injecting careers. This would involve intensifying the outreach activity, and a constant focus to reach out to more and newer IDUs (even though the 'targets' may have been reached).

Non-injecting Opioid users constitute a distinct risk group which should be provided appropriate interventions

However, even if IDUs enter the intervention net as early as within the first year of starting injecting drug use itself, this may not suffice since a majority start sharing within a month of onset of injecting. Indeed, many IDUs reported that during the first instance of injecting, they shared their injection equipment. Here it would be important to pay attention to group dynamics of the drug using sub-culture. Most IDUs inject in groups and in fact report that first injection is administered by the experienced peers. Clearly IDUs of 'yesterday' have helped create IDUs of 'today'. With a peer based approach it should not be very difficult to reach out to even the non-IDU opioid users (who remain at risk of switching to injecting).The interventions for non-IDUs may constitute education and information about safer methods of drug use, risks associated with injecting (aimed at prevention of onset of injecting) and help in accessing drug treatment. In fact the most appropriate intervention currently provided to only IDUs – but which can be suitable for many non-IDU opioid users too, would be: OST. Since OST targets primarily the opioid dependence (and not just sharing per se), it would be beneficial for non-injecting opioid dependent drug users, would reduce the risk of switching to injecting route and thus would reduce the burden of injecting drug use in the future. This may require one or both of the following two approaches: (a) expand the ambit of 'IDU' TIs to 'Drug User' TIs. In other words, the TIs would be entrusted with the task of providing appropriate interventions to ALL drug users (and not just IDUs). The alternative approach (b) could be linking up with the drug treatment sector (of MSJE and MOH & FW) so that IDU-HIV issues are addressed in their programs for non-injecting treatment seekers as well. This may involve providing appropriate psychosocial interventions to drug users who are in-treatment which includes an information package about risks of injecting. Additionally outreach based education and communication activities can be initiated or strengthened even for the drug treatment centres supported by the MSJE / DDAP.

The process of learning from and modifying our programs should continue

The finding indicates the importance of collecting and analysing data on pattern of drug use by the IDUs. Efforts should be made so that the routine Monitoring and Evaluation programs are able to capture the trends and patterns of drug use so that various elements of the program can be modified accordingly. For instance though we did not look into the details of 'types' of needles / syringes required by the IDUs (gauge, size etc.), it would be important to note that those who inject a mixture of various pharmaceuticals would require larger-sized syringes. Thus, the routine data collection and reporting systems should incorporate items pertaining to types of drugs used and frequency of injecting etc. More important than merely reporting however, would be ensuring that reports and

their recommendations are timely acted-upon. For instance,as soon as a (SACS) knows that a particular area reports a change in pattern of drug use (say, from twice a day use of buprenorphine to four times a day use of D-propoxyphene), necessary changes in pattern of distribution of needles and syringes can be made.

Besides routine M & E activities, such research studies at periodic intervals are very important. In future, the issues which could be addressed by the researchers could include: Pattern of switching from non-injecting to injecting route, 'stability' of the label of 'IDU', special needs of FIDUs, types of syringes and needles preferred by the IDUs and impact thereof and feasibility and effectiveness of expanding the avenues for needle/ syringe access. Clearly learning, doing and relearning would be an on-going process.

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7 Annexure A

Operational Research

"Association of drug use pattern with vulnerability and service uptake among Injecting Drug Users"

Questionnaire

Inclusion Criteria:

- Age: more than 18 years
- History of having injected any psychoactive drug in a non-medical context at least once in preceding three months
- History of NOT having received OST from the TI Programme in preceding 12 months
- Registered in the TI for at least preceding six months
- Willing to participate and provide informed consent
- No major illness and disability hampering the communication

Exclusion criteria

- Not having injected any psychoactive drug in a non-medical context at least once in preceding three months
- History of having received OST from the TI Programme in preceding 12 months
- Registered in the TI for LESS than six months
- Not willing to participate
- Not able to communicate

Highlights of the questionnaire:

1. Target Population: The target population for the questionnaire are injecting drug users who are receiving services from the TI sites at selected locations.
2. The questionnaire provides adequate information to enable us to get a comprehensive picture of demographic and drug use profile of the individual.
3. The questionnaire is brief and concise to enable the interviewer to complete the interview within a reasonable period of time (about 30 minutes).
4. Since target population is expected to be a mixed one with respect to literacy levels, an interviewer-administered questionnaire was regarded more appropriate rather than a self-administered one.

5. The language and format of the questionnaire has been kept simple, considering the expected level of expertise of the interviewers.
6. Though the questionnaire is in English language it is expected that the trained interviewers shall administer it in the local language.
7. Most of the variables in the questionnaire, in strict statistical terms, are categorical in nature. Following analysis, it will be possible to comment upon frequency of a variable in the sample (e.g. number of subjects reporting sharing of needles in last instance of injecting).
8. All the questions are pre-coded, minimising the need for the interviewer to note down a response. This will also make the task of data entry and subsequent analysis easier. At selected places however, there is provision for noting the response of the subject as well.
9. The questionnaire itself serves as an instruction manual describing the individual questions and defining the possible responses.

Interviewer should approach the study subject in a non-threatening manner. It is advisable to establish a rapport through exchange of introduction, pleasantries and some casual conversation before beginning the actual interview, even if the respondent has been briefed about the purpose / nature of the interview by someone else.

Hello, I am (name) and I am working with UNODC and NACO. We are trying to find out the problems faced by people who use injecting drugs. We need to ask you some personal questions. Everything you tell me will be kept strictly confidential. If you agree to give the interview, it is really important that you are willing to be very truthful. Is it all right to begin?

Site ID: ___*

State:_____

Date Of Interview : __/__/____**

Interviewer ID: XX

Respondent ID Number : ___***

TI Registration Number:_____

**The site ID code refers to identity of the site where this interview is taking place. This will be a three letter code (such as DEL for Delhi).*

Interviewer ID: Initials of name of interviewer

***Date of interview is filled up as dd/mm/year*

****Respondent ID number is a two digit no. from 01 onwards*

There are multiple sections to this questionnaire. All the questions need to be filled up completely. When in doubt specify / write in detail the response rather than marking any of the options based on the guesswork.

मुझे इस प्रश्नावली के बारे में सारी जानकारी दे दी गई है। इन सवालों के जवाब देने में मुझे कोई आपत्ति नहीं है।

हस्ताक्षर या अंगुठे का निशान.....

A. Demographic Parameters

1.	1. Age (in years): How old are you?	_____years
2.	Gender	1. Male 2. Female 3. Other
3.	Marital status: Tell me whether you are	1. Married 2. Never married 3. Staying together without getting married 4. Divorced 5. Separated 6. Widow/er 7. Not Known
Married' and 'Never married' are self-explanatory terms. 'Staying together..' refers to cohabitating without a legally sanctioned relationship. 'Divorced' should be marked only when the legal formalities according to the locally applicable laws are completed. 'Separated' should not be marked if wife is away only for a small duration / for a specific reason, for example if the wife has only gone to her parent's place for child-birth or if the husband is staying someplace else for employment purpose etc.		
4.	Occupation: What kind of work do you do?	1. Professional 2. Administrator / Clerical work 3. Business/self-employed 4. Transport worker 5. Skilled worker 6. Unskilled worker / laborer 7. Farmer 8. Student 9. Sex worker 10. Homemaker / housewife 11. Unclassifiable (beggar, thief, etc.) 12. Other (specify) 13. Not Known
People who have specific professional-educational qualification in a particular field are 'professionals' i.e. Doctors, Lawyers etc. 'Administrators' are senior level people employed in service usually in managerial or supervisory capacity, while people working in offices at junior level would be classified as 'clerical workers'. Drivers, conductors, cleaners/helpers will be classified as 'transport workers'. 'Skilled workers' are people who have received formal / informal training in a particular skill such as electricians / mechanics / factory workers/ handicraftsmen etc., while menial laborers will be classified as 'unskilled workers'. Businessman, Farmer, and student are self-explanatory terms. Beggars, thieves, sex worker, etc. will be classified as 'Unclassifiable'.		
5.	Education: Tell me about your education	1. Illiterate 2. Just literate 3. Primary (up to 5 years formal education) 4. High school (up to 10 years formal education) 5. Higher secondary (up to 12 years formal education) 6. Graduate (up to 13 years formal education) 7. Post graduate (up to 15 years formal education) 8. Professional 9. Not Known
The highest level of education achieved should be taken into consideration. For example a person studied till class 7th will be classified under 'primary' while a person studied till class 11th will be classified under 'high school'		

6.	Employment status: Tell me more about your work – one month	1. Currently employed (full-time) 2. Currently employed (part-time) 3. Currently unemployed 4. Never been employed 5. Not Known
Interviewer to use own judgment depending upon the time spent by the respondent in any remunerative job, particularly the one marked in question 4. If the person is involved in more than 2 jobs consider the job in which more time is spent. If the client is involved in illegal activities such as drug peddling or pick-pocketing, it should not be considered as employment.		
7.	Residence: Where are you living these days?	1. Urban 2. Urban (slum) 3. Urban (homeless) 4. Rural
Interviewer to use his own judgment depending upon the locality the respondent is currently living in.		

B. Drug Use

1. Drugs used and the life time pattern: Now I would like to know about all the drugs, which you have been consuming. Have you consumed these drug(s) in the period mentioned?

Ask specifically about all the following drug categories

S.No.	Drug	Ever in lifetime		Last one year		Last 3 months		Age at first use (in years)	Year of starting
1.	Tobacco (in any form)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
2.	Alcohol (in any form)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
3.	[Heroin (Smack, brown sugar, No. 4), BY CHASING / SMOKING route	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
4.	Opium (Afeem, Doda, phukki)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
5.	Other oral pharmaceutical opioids (proxyvon capsules, corex/phensydyl cough syrups, lomotil, tramadol etc.)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
6.	Buprenorphine tablets sub-lingual – NON PRESCRIBED	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
7.	Cannabis (Bhang, Charas, Ganja)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
8.	Oral Pharmaceutical Sedatives (Diazepam, NitrazepamNitravet, No 10, Alprax, mandraxPhenargan etc.)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
9.	Inhalants	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
10.	INJECTING Heroin (Smack, brown sugar, no. 4),	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		

S.No.	Drug	Ever in lifetime		Last one year		Last 3 months		Age at first use (in years)	Year of starting
11.	INJECTING Buprenorphine (Tidigesic / Lupegesic / Sangesic / Norphine)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
12.	INJECTING Pentazocine (fortwin)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
13.	INJECTING Dextropropoxyphene (Proxyvon, SP, Relipen) capsules / tabs	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
14.	Other INJECTING opioids (Morphine, Pethidine, Tramadol etc.)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
15.	INJECTING Pharmaceutical Sedatives (Diazepam, Avil, Phenargan etc.)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
16.	INJECTING Ketamine	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
17.	Others (specify)	1=Yes	2=No	1=Yes	2=No	1=Yes	2=No		
Mark the appropriate box as ☑ even if the respondent has used the drug only once during the specified period. If the answer is NO to "Ever in Lifetime" for all the above mentioned drug, terminate the interview and consider this interview as cancelled. 'Injectable route' refers only to use of drugs through this route in a non-medical context.									

2. The interviewer must fill-in the following table on the basis of the information collected for the table above:

Ask specifically about all the following drug categories

	Drug name (In each of the following three rows, Tick any one option only)	Age at first use
a. 1st Legal drug used	▪ Tobacco ▪ Alcohol ▪ Inhalants	
b. 1st Illegal drug used through NON-INJECTING route	▪ Cannabis (Bhang, Charas, Ganja) ▪ Oral Opium (doda, phukki etc.) ▪ Oral OPIOID Pharmaceuticals – NON PRESCRIBED(Proxyvon, cough syrups, tramadol, Buprenorphine tablets etc.) ▪ Oral SEDATIVE pharmaceuticals – NON PRESCRIBED(Diazepam, Nitrazepam, Avil, Sedyn, carisoma, Alprazolam etc.) ▪ Heroin (smack, brown sugar, no. 4) by chasing / smoking ▪ Other (Specify).....	

	Drug name (In each of the following three rows, Tick any one option only)	Age at first use
c. 1st Illegal drug used through INJECTING route (Note: Mark 'Pharmaceutical sedatives' – last option – ONLY if they have NOT been taken along with any other opioid)	▪ INJECTING Heroin (Smack, no. 4, brown sugar), ▪ INJECTING Buprenorphine (Tidigesic / Lupegesic / Sangesic / Norphine) ▪ INJECTING Pentazocine (fortwin) ▪ Other INJECTING opioids (Morphine, Tramadol, / pethidine etc.) ▪ INJECTING Dextropropoxyphene (Proxyvon, SP, Relipen) capsules / tabs ▪ INJECTING Pharmaceutical Sedatives (Diazepam, Avil, Phenargan etc.) ▪ INJECTING Buprenorphine Tablets (Addnok, Addnok-N) ▪ Other (Specify).....	

C. Injection Practices

1. Consider last 1 year period: During this period which of the following describes the drugs you MOST COMMONLY INJECTED (Mark only one):

1.	Heroin / Brown Sugar / Smack / No 4 with or without mixed with other sedatives
2.	Tidigesic / Lupegesic / Sangesic / Norphine / buprenorphine with or without mixed with other sedatives
3.	Fortwin with or without mixed with other sedatives
4.	Proxyvon / SP with or without mixed with other sedatives
5.	Other Injecting Opioids (Morphine / Pethidine / Tramadol) with or without mixed with other sedatives
6.	Addnok / Quidicttabletswith or without mixed with other sedatives
7.	Only sedatives
8.	Others (Specify)

2. Now please answer the same question as above but considering the LAST 3 MONTHS:

1.	Heroin / Brown Sugar / Smack / No 4 with or without mixed with other sedatives
2.	Tidigesic / Lupegesic / Sangesic / Norphine / buprenorphine with or without mixed with other sedatives
3.	Fortwin with or without mixed with other sedatives
4.	Proxyvon / SP with or without mixed with other sedatives
5.	Other Injecting Opioids (Morphine / Pethidine / Tramadol) with or without mixed with other sedatives
6.	Addnok / Quidict tablets with or without mixed with other sedatives
7.	Only sedatives
8.	Others (Specify)

3. Consider last 1 year period: During this period which of the following best describes your FREQUENCY OF INJECTING (Mark only one):

1.	Daily
2.	About 3-4 days per week
3.	About 1-2 days per week
4.	About 2-4 days per month
5.	Rarely, about once a month or so

4. Consider last 3 MONTH period: During this period which of the following best describes your FREQUENCY OF INJECTING (Mark only one):

1.	Daily
2.	About 3-4 days per week
3.	About 1-2 days per week
4.	About 2-4 days per month
5.	Rarely, about once a month or so

5. Consider last 1 year period: During this period which of the following best describes your FREQUENCY OF INJECTING ON THE DAY YOU INJECT (Mark only one):

1.	4 or more times a day
2.	2-3 times a day
3.	Once a day

6. Consider last 3 MONTH period: During this period which of the following best describes your FREQUENCY OF INJECTING ON THE DAY YOU INJECT (Mark only one):

1.	4 or more times a day
2.	2-3 times a day
3.	Once a day

7. Consider last 1 year period: During this period, besides Injecting drugs have you been taking drugs through non-injecting route as well. NOTE: TOBACCO AND PRESCRIBED OPIOIDS / SEDATIVES NOT CONSIDERED HERE (Mark only one):

1.	Yes
2.	No

8. Consider last 1 year period: During this period, in a given month on how many days approximately YOU DO NOT TAKE ANY DRUG (through injecting or non-injecting route). NOTE: TOBACCO AND PRESCRIBED OPIOIDS / SEDATIVES NOT CONSIDERED HERE (Mark only one):

1.	Less than 5 days
2.	About 5 to 15 days
3.	About 15 to 25 days

Note: Interviewer to check the response to this question against response to question on injection frequency above. These responses should tally with each other.

9. CONSIDERING LAST 1 YEAR, If you do not inject daily, which of the following drugs you take on your non-injecting days TOBACCO AND PRESCRIBED OPIOIDS / SEDATIVES NOT CONSIDERED HERE(More than one response possible). Mark "Yes" if the drug has been used even once.

1.	Heroin / Brown Sugar / Smack through chasing route	1= Yes	2= No
2.	Oral Opium (Afeem, doda, phukki)	1= Yes	2= No
3.	Addnok / Quidict tablets (NON-PRESCRIBED)	1= Yes	2= No
4.	Avil / Phenergan / diazepam / nitrazepam tablets (NON-PRESCRIBED)	1= Yes	2= No
5.	Cough syrups / other oral pharmaceutical opioids (NON-PRESCRIBED)	1= Yes	2= No
6.	Alcohol	1= Yes	2= No
7.	Bhang / Charas / Ganja	1= Yes	2= No
8.	Inhalants	1= Yes	2= No
9.	Others (Specify)	1= Yes	2= No

10. MINI – Drug Abuse / Dependence Module

K1: Following questions pertain to Opioids as a group. This includes:

- Oral Opioids (Opium, Pharmaceutical products like Proxyvon, Tramadol, Lomotil or cough syrups)
- Opioid taken through smoking / chasing route (Heroin / smack / brown sugar)
- Opioid taken through injecting route (buprenorphine, pentazocine, heroin)

In the following questions, interviewer should substitute the term OPIOIDS with the names of opioid drugs respondent has been using.

K2: Considering your use of (OPIOIDS), in the past 12 months: (Ask ALL the questions)

a.	Have you found that you needed to use more (OPIOIDS) to get the same effect that you did when you first started taking it?	1=Yes	2=No
b.	When you reduced or stopped using (OPIOIDS), did you have withdrawal symptoms (aches, shaking, fever, weakness, diarrhoea, nausea, sweating, heart pounding, difficulty sleeping, or feeling agitated, anxious, irritable, or depressed)?	1=Yes	2=No
	Did you use any drug(s) to keep yourself from getting sick (withdrawal symptoms) or so that you would feel better? IF YES TO EITHER, CODE YES.	1=Yes	2=No
c.	Have you often found that when you used (OPIOIDS), you ended up taking more than you thought you would?	1=Yes	2=No
d.	Have you tried to reduce or stop taking (OPIOIDS) but failed?	1=Yes	2=No
e.	On the days that you used (OPIOIDS), did you spend substantial time (>2 HOURS), obtaining, using or in recovering from the drug, or thinking about the drug?	1=Yes	2=No
f.	Did you spend less time working, enjoying hobbies, or being with family or friends because of your drug use?	1=Yes	2=No
g.	Have you continued to use (OPIOIDS), even though it caused you health or mental problems?	1=Yes	2=No

ARE 3 OR MORE K2 ANSWERS CODED YES?

Diagnose as OPIOID DEPENDENCE	1=Yes	2=No

If No, proceed

K3: Considering your use of (OPIOIDS), in the past 12 months:

a.	Have you been intoxicated, high, or hung over from (OPIOIDS) more than once, when you had other responsibilities at school, at work, or at home? Did this cause any problem? (CODE YES ONLY IF THIS CAUSED PROBLEMS.)	1=Yes	2=No
b.	Have you been high or intoxicated from (OPIOIDS) more than once in any situation where you were physically at risk (for example, driving a car, riding a motorbike, using machinery, boating, etc.)?	1=Yes	2=No
c.	Did you have legal problems more than once because of your drug use, for example, an arrest or disorderly conduct?	1=Yes	2=No
d.	Did you continue to use (OPIOIDS), even though it caused problems with your family or other people?	1=Yes	2=No

ARE 1 OR MORE K3 ANSWERS CODED YES?

Diagnose as OPIOID ABUSE	1=Yes	2=No

11. If you do not inject almost daily, what are the reason(s) behind your injecting? (Do not read the responses. Mark as per the respondent reports)

1.	Strong craving / Urge to take drugs through injections	1= Yes	2= No
2.	Withdrawal symptoms	1= Yes	2= No
3.	Peer pressure / group activity	1= Yes	2= No
4.	Non-injecting Drugs are too costly / not available or Injections are more economical	1= Yes	2= No
5.	Injections help in enhancing sexual performance	1= Yes	2= No
6.	Injections increase my productivity / efficiency	1= Yes	2= No
7.	Injections help in dealing with stress / 'mental tension'	1= Yes	2= No
8.	Others (Specify)	1= Yes	2= No
9.	NOT APPLICABLE SINCE I INJECT ALMOST DAILY		

12. Try to remember the instance when you injected OPIOIDS for the first time in your life. Which of the following best describes the situation?

1.	A friend / spouse / sex partner / client of mine injected me (who was an IDU himself / herself)	
2.	A doctor / health worker injected me	
3.	I injected alone myself	
4.	Other (specify)	

13. Do you recall the reasons – why did you start injecting? (more than one response allowed)

1.	My friend pressurised/ encouraged me to try injections	
2.	I was curious to know the effects of injections	
3.	I was given these injections as a treatment	
4.	Other (non-injecting) drugs were not available / very costly	
5.	I wanted to stop taking drugs.	
6.	My spouse / sex partner pressurised/ encouraged me to try injections	
7.	Other (specify)	

14. Have you EVER shared[7] any injection equipment while injecting drugs?

1.	Shared Needle	1=Yes	2=No
2.	Shared the Syringe but not Needle	1=Yes	2=No
3.	Shared vials/cooker etc. but not Needle / Syringe	1=Yes	2=No

Note: If Both Needles and syringes have been shared, mark 1 as "Yes"

15. If you have shared EVER, How long after initiation of injecting drug use, did you share the injection equipment for the first time?

1.	On my first instance of injecting, I shared	
2.	Almost immediately (within a month)	
3.	Within about 1 year after initiation of injecting	
4.	More than 1 year after initiation of injecting	
5.	Not applicable since Never shared	

16. In the LAST THREE MONTHS have you shared any injection equipment while injecting drugs?

1.	Shared Needle	1=Yes	2=No
2.	Shared the Syringe but not Needle	1=Yes	2=No
3.	Shared vials/cooker etc. but not Needle / Syringe	1=Yes	2=No

Note: If Both Needles and syringes have been shared, mark 1 as "Yes"

17. Consider last three months: Which of the following best describes MOST COMMON injecting situation for you? (MARK ONLY ONE)

1.	I Usually inject alone	
2.	I usually inject with my spouse / sex partner	
3.	I usually inject with a group of people	

[7] Note: Word "sharing" in this questionnaire means either of the both – lending and borrowing injection equipment.

18. When was the last occasion you shared injection equipment with others?

_____Years and _____ Months back Not applicable since Never shared

Note: Injection Equipment here refers to anything Needles / syringes / Paraphrenalia

19. Have you had ever had any injection related consequences?

A.	Abscesses?	1=Yes	2=No
B.	Blocked veins?	1=Yes	2=No
C.	Excessive bleeding?	1=Yes	2=No
A.	Overdose?	1=Yes	2=No

Overdose here means as understood by the respondent

D. Services Received

1. Since when have you been in contact with the TI (the agency which provides needles/ syringes and other services)?

.....Years and .....Months back

2. Which of the following services you have received from the TI? (Even if once)

					If, yes, received for the first time, how many months back?
1.	Needles and Syringes	1= Yes	2= No	3=NA	
2.	Education / information about safe injecting	1= Yes	2= No	3=NA	
3.	Education / information about HIV	1= Yes	2= No	3=NA	
4.	OST with buprenorphine	1= Yes	2= No	3=NA	
5.	Condoms	1= Yes	2= No	3=NA	
6.	Treatment for abscess / infection at the injection site	1= Yes	2= No	3=NA	
7.	General health checkup / General medical treatment	1= Yes	2= No	3=NA	
8.	Treatment for STIs	1= Yes	2= No	3=NA	
9.	'DIC'	1= Yes	2= No	3=NA	
10.	Referral for HIV testing / Treatment	1= Yes	2= No	3=NA	
11.	Referral for drug treatment	1= Yes	2= No	3=NA	

3. On How many occasions in your life, you have received the following:

		Number of Occasions	The most RECENT occasion was how many months back?
1.	Inpatient treatment for Drug Addiction		
2.	HIV Testing		

4. Consider past three months: How frequently do you get needles / syringes from the TI?

1.	Daily
2.	About 4-5 days per week
3.	About 1-2 days per week
4.	About 2-4 days per month
5.	Rarely, about once a month or so
6.	NOT APPLICABLE since did not take any needles / syringes from the TI in last three months

5. Consider past three months: On the days when you get needles / syringes from the TI, How many SETS of Needles / syringes you get?

1.	One per day
2.	2 per day
3.	As many as I ask for
4.	NOT APPLICABLE since did not take any needles/syringes from the TI in last three months

6. Consider past three months: Which of the following statements best describes your opinion regarding adequacy of number of needles / syringes you get from the TI?

1.	The number of needles / syringes I get are enough for me so that I can use a NEW needle / syringe for every occasion of injecting
2.	I get less needles and syringes than I need
3.	I get more needles and syringes than I need
4.	NOT APPLICABLE since did not take any needles/syringes from the TI in last three months

7. Consider past three months: Besides the TI, which are the other sources you get needles and syringes from? (MORE THAN ONE RESPONSE POSSIBLE)

1.	Purchase from peddler	1=yes	2=no
2.	Purchase from Pharmacy	1=yes	2=no
3.	Reuse own needles and syringes	1=yes	2=no
4.	Borrow NEW needles and syringes from other IDUs	1=yes	2=no
5.	Borrow USED needles and syringes from other IDUs	1=yes	2=no
6.	NOT APPLICABLE since I always get syringes / needles only from the TI		

8. Consider past three months: How often do you get the following services from the TI?

		1. Almost daily	2. About 3-4 days per week	3. About 1-2 days per week	4. About 2-4 days per month	5. Rarely, about once a month or so	6. NEVER received in past three months
A.	Visiting the DIC						
B.	Meeting the PE / ORW in field						
C.	Condoms						

9. What could be the health related harms / risks associated with injecting drug use?
(do not read out the responses. Mark as many as respondent reports)

1.	Pain of injection prick	1= Yes	2= No
2.	Risk of bleeding	1= Yes	2= No
3.	Risk of ulcer / injury at injection site	1= Yes	2= No
4.	"General health damage" / weakness	1= Yes	2= No
5.	Risk of HIV / AIDS / Other blood borne infections	1= Yes	2= No
6.	"Overdose"	1= Yes	2= No
7.	"Death"	1= Yes	2= No
8.	Other (Specify)	1= Yes	2= No

E. HIV / AIDS AWARENESS/ATTITUDE

1.	Have you ever heard of HIV/AIDS?	1=Yes	2=No
2.	Can HIV/AIDS be transmitted by sharing USED syringes/needles? *Don't know would qualify for 'No'*	1=Yes	2=No
3.	Can HIV/AIDS be transmitted by unprotected sex? *Don't know would qualify for 'No'*	1=Yes	2=No
4.	Can HIV/AIDS be transmitted by blood transfusion from an infected person? *Don't know would qualify for 'No'*	1=Yes	2=No
5.	Can HIV/AIDS be transmitted by an infected pregnant mother to her unborn child? *Don't know would qualify for 'No'*	1=Yes	2=No
6.	Can HIV/AIDS be transmitted through breast-feeding? *Don't know would qualify for 'No'*	1=Yes	2=No
7.	Can you recognize whether someone is HIV positive or not, just by looking at him / her? *Don't know would qualify for 'No'*	1=Yes	2=No

8.	Can people protect themselves from HIV to some extent by having one uninfected faithful sex partner? *Don't know would qualify for 'No'*	1=Yes	2=No

9.	Can people protect themselves from HIV to some extent by using a condom correctly and every time they have sex? *Don't know would qualify for 'No'*	1=Yes	2=No

10.	Will you shake hands with an HIV positive person? *Don't know would qualify for 'No'*	1=Yes	2=No

11.	Will you share a meal with an HIV positive person? *Don't know would qualify for 'No'*	1=Yes	2=No

12.	Do you have risk of getting infected with HIV? *Don't know would qualify for 'No'*	1=Yes	2=No

Estimating the number of syringes and needles required to be distributed by a TI in a given month

Injecting frequency - number of days of injecting per month (% of clients)	Estimated number of clients as per the injecting frequency in a TI of target 400	Injecting frequency - number of times per day on days of injecting (% of clients)			Number of syringes required			Estimated number of syringes required for the entire target population for all the injecting episodes per month	Estimated number of syringes required per client per month
		4 or more times / day	2 -3 times/ day	Once/day	For clients injecting 4 or more times per day A	For clients injecting 2-3 times per day B	For clients injecting once per day C	Total A + B + C	Total A + B + C ÷ 400
Daily (43%)	172	24	65	10	4,954	10,080	540	19,966	50
3 - 4 days/week (25%)	100	4	47	49	229	2,257	784		
1 - 2 days/week (18%)	72	2	24	74	39	412	426		
2 - 4 days/month (11%)	44	3	11	86	20	59	152		
Rarely - once a month or less (3%)	12		9	91	0	3	11		
					5,242	12,811	1,913		

Note:

- Number of syringes required (A, B and C) is calculated on the basis of no. of injecting episodes per day X no. of injecting days per month
- Estimation is based on the assumption that our sample was representative of all the IDUs accessing services from the TIs. However, as discussed earlier, frequent injectors may be overrepresented in the sample. However, this is unlikely to account for any huge variations.
- Estimation of requirement is based on the guiding principle "all injecting episodes should involve use of new needle and syringe"
- Estimation is applicable for a standard TI with a target of 400 IDUs without anyone being on OST. Clients who are on OST are expected to need fewer or no needles and syringes.