

## CHAPTER IV



### RESULTS OF THE STUDY

The analytical cross sectional study was carried out in two places of study i.e. Manipur and in Delhi, India. In the study, two hundred respondents were interviewed by trained interviewers, one hundred respondents in each place of study. The hundred respondents from Delhi were sampled from one NGO, the SHARAN (The Society for Service to Urban Poverty), the only NGO which has been involved for prevention of HIV infection among IDUs in Delhi, and from two De-Drug Addiction Centres out of Delhi's ten DDCs. Seventy-four respondents were recruited from SHARAN and remaining twenty-six respondents the two DDC, thirteen respondents from each DDC. In Manipur, all the hundred respondents were recruited from the five NGOs, out of the five NGOs which had been involved for prevention of HIV infection among the IDUs in urban areas of Imphal District in Manipur, twenty respondents from each NGO. Six types of characteristics of respondents i.e. the socio-demographic profile, family and peer factors, risk practices, knowledge, attitude on HIV infection, and utilization of health and drug treatment services were assessed. The results of the study were divided into six parts as follows:

- Part I: Socio-demographic including peer / family characteristics of the respondents
- Part II: Knowledge regarding the various routes of HIV infection
- Part III: Attitudes regarding the prevention ways of HIV infection
- Part IV: Risk practices of the respondents in the two places of study
- Part V: Utilization of health and drug treatment services
- Part VI: Associations between the risk practices and their determinants

The bivariate analysis was done using chi-square test for describing the percentage and frequency distribution of variables by place of study and to determine the association between the places of study and the various variables, between risk practices and knowledge & attitude about HIV/AIDS, risk practices and socio-demographic /peer & family factors as overall, setting the P value  $< 0.05$  and  $X^2$  and p value were given where  $<20\%$  of cells have expected count less than 5 unless mentioned as footnote. For continuous variables such as age, duration of drug injection, t-tests were performed.

There were a total of three females out of two hundred respondents in the study, two females out of one-hundred sample population in Manipur and one females out of one hundred respondents in Delhi. Thus, these results are generalized to the male population in the study.

**Part I: Socio-demographic including peer / family characteristics of the respondents**

In part one, there are four tables showing the result of the analysis. The chi-square and p value for each variable by place of study was given in each table. The unpaired t-test analysis was done to determine the association of age by place of study.

**Table 4.1: The distribution of frequency of socio-demographic & peer /family characteristics of the respondents in Manipur and Delhi along with Chi-square**

Socio-demographic profile/ Peer & family factors	Manipur N=100 ( n )	Delhi N-100 ( n )	X <sup>2</sup>	P-value
<b>1. Gender</b>				
Male	98	99	0.338	0.561
Female	2	1		
Total	100	100		
<b>2. Marital Status</b>				
Single	70	60	4.936	0.085
Married	23	23		
Separated/divorced/widowed	7	17		
Total	100	100		
<b>3. Educational level</b>				
Illiterate or no formal education	3	41	109.893	<0.01
1 <sup>st</sup> –5 <sup>th</sup> standard	26	27		
6 <sup>th</sup> –10 <sup>th</sup> standard	31	2		
11 <sup>th</sup> –12 <sup>th</sup> standard	37	2		
Undergraduate and above	100	100		
Total				

**Table 4.1: (Cont.) The distribution of frequency of socio-demographic & peer /family characteristics of the respondents in Manipur and Delhi along with Chi-square**

Socio-demographic profile/ Peer & family factors	Manipur N=100 ( n )	Delhi N-100 ( n )	X <sup>2</sup>	P-value
<b>4. Occupation status</b>				
Unemployed	44	2	109.985	<0.01
Garbage collector	0	52		
Student	18	0		
Small business employee	17	16		
Self-employed person	8	12		
Others	13	18		
Total	100	100		
<b>5. Income per month in Rupees</b>				
No income	61	0	91.065	<0.01
Up to 3000	27	85		
> 3000	12	13		
Total	100	98		
Missing value	0	2		
<b>6. Place of living</b>				
Permanent Residence	91	12	134.57	<0.01
Drug De-addiction Centre	2	20		
Public Places	0	59		
Hostel/rent house/juggi	7	9		
Total	100	100		
<b>7. Family support &amp; care</b>				
Yes	87	17	100.17	<0.01
No	12	83		
Total	100	100		

The table showed the frequency distribution of seven socio-demographic and peer/family characteristics of the respondents like gender, marital status, educational level, occupational, income level, place of living and lastly family support & care (financial and emotional) etc. in Manipur and Delhi.

Majority of the respondents were single in Manipur (70%) and in Delhi (60%). There was no significant association between marital statuses of the respondents by place of study. Almost all of the respondents in Manipur (97%) were literate with formal education. In Delhi 41% of them were illiterate or literate with no formal education. There were 37 respondents who were undergraduates and above in Manipur. The education level of the respondents was significantly associated by place of study. In Manipur, 44% of the respondents were unemployed while in Delhi 2% of them were unemployed. However, the main occupation of respondents in Delhi was garbage collectors unlike in Manipur where none of study subject was a garbage collector and 52% of them in Delhi were in this job. Out of the hundred respondents, 18 of them were students in Manipur while in Delhi, there was no students in the study samples. There was significant association between employed respondents by place of study with  $X^2 = 109.985$  and  $p < 0.001$ . In Manipur, 61% of them had no monthly income while in Delhi; all of the respondents had some sort of income per month. There was significant difference between income level of the respondents by place of study with  $X^2 = 91.065$  and  $p < 0.001$ . In the study sample, 91% of the respondents lived in permanent residence in Manipur while only 12% of them lived in permanent residence in Delhi. Majority (59%) of the respondents in Delhi lived in public places like at bus terminal, under fly-over & public park etc. There was significant association between place of living by

place of study with  $X^2 = 134.67$  and  $p < 0.001$  respectively. There was also strong significant differences between family support & care received by the respondents by place of study with  $X^2 = 100.17$  and  $p < 0.001$ . The family support and care was reflected by the financial and emotional support and care given by their family members. The majority (87%) of respondents in Manipur received family support and care while 17% of respondents in Delhi had received such support and care from their family members.

**Table 4.2: Distribution of sample population according to age in Manipur and Delhi by independent t-test**

Place	No.	Minimum	Maximum	Mean	SD	t	df	P-value
Manipur	100	18	36	26.57	4.42	-3.919	149.108	<0.01
Delhi	100	18	54	30.32	8.48			

The age of the respondents ranged from 18 to 54 years in the whole study population. The mean age of the respondents was 26.5 years (Minimum=18 years, Maximum=36 years) in Manipur and 30.32 years (Minimum= 18 years, Maximum= 54 years) in Delhi. The association between age with respect to place of study was statistically significant.

**Table 4.3: Distribution of sample population according to age in Manipur and Delhi (NGO) by independent t-test**

Place	No.	Minimum	Maximum	Mean	SD	t	df	P-value
Manipur	100	18	36	26.57	4.42	-3.837	102.282	<0.01
Delhi	74	18	54	30.72	8.48			

The mean age of the respondents was 30.72 years in NGO (SHARAN) in Delhi and in Manipur, the mean age of the respondents was 26.57 years. The association of age by place of study was significant at  $p < 0.001$  in Manipur and in Delhi respectively.

**Table 4. 4: The distribution of frequency and percentage of respondents by reasons for using drugs in Manipur and Delhi**

Reasons for drug use		Manipur N=100	Delhi N=100	X <sup>2</sup>	P-value
1. Out of peer pressure	Yes	41	3	42.075	<0.01
	No	59	97		
2. For enjoyment & fun	Yes	65	59	0.764	0.038
	No	35	41		
3. Out of curiosity	Yes	25	9	9.072	<0.01
	No	75	91		
4. To cope up with depression	Yes	13	34	12.265	<0.01
	No	87	66		
5. Availability of drugs/ due to family problems/to subdue anger	Yes	14	9	1.228	0.268
	No	86	91		

The table showed that in Manipur, majority (65%) of the respondents started using drugs for fun and enjoyment while in Delhi, 59% of them initiated using drug for the same reason. The second most common reason for using drugs was out of peer pressure where 41% of respondents in Manipur started using drugs out of peer influence and influence while in Delhi 34% of them had started using drugs to cope up with their depression. Out of the five reasons for initiation of drug use, four of them were significantly related to place of study.

**Part II: Knowledge regarding the various routes of HIV infection**

**Table 4.5: The distribution of frequency and percentage of respondents by knowledge about HIV infection and the routes of HIV transmission in Manipur and Delhi**

Statement	Type of answer	Manipur	Delhi	
		N=100 ( n )	(n)	(%)
1. HIV is a curable disease $X^2= 13.237, P< 0.01 (df = 1)$	Yes/don't know	5	22	22.9
	No	95	74	77.1
2. HIV can be transmitted from infected mother to unborn baby * $X^2= 10.450, P<0.01 (df =1)$	Yes	97	80	83.3
	No/don't know	3	16	16.7
3. HIV can be transmitted through blood transfusion from infected donors $X^2= 2.923, P=0.087 (df =1)$	Yes	99	91	94.8
	No/don't know	1	5	5.2
4. HIV can be transmitted by using unsterile needles & syringes used by infected person $X^2= 2.105, P= 0.147 (df =1)$	Yes	100	94	97.8
	No/don't know	0	2	2.1
5. HIV transmission can be prevented by correct and consistent use of condom in all kinds of sex $X^2=1.106, P= 0.293 (df at 1)$	Yes	99	93	96.9
	No/don't know	1	3	3.1



\* The answer “No” was taken as the correct answer and “ yes”/ “don’t know “ was taken as incorrect answer while in the rest of the four statements, “yes” was the correct answer and “no”/ “don’t know” was taken as incorrect answer.

In Manipur, all of them (100%) had ever heard or received information on HIV/AIDS while in Delhi, 4% of them were unaware or had not heard about HIV/AIDS. The knowledge on the curability of HIV disease was found significantly higher with  $X^2=13.237$  and  $p<0.001$  in Manipur than in Delhi where 95% of them reported that HIV was not curable in Manipur as compared to 77.1% in Delhi. The knowledge on the transmission of HIV from infected mothers to unborn baby was also found significant where  $X^2=10.450$  and  $p<0.001$  in Manipur and in Delhi where 97% of them in Manipur answered correctly as compared to 83.3% in Delhi. In Manipur, 100% of them had knowledge that using unsterile needles & syringes previously used by infected person could transmit HIV.

**Table 4.6: The frequency and percentage distribution of respondents by the level of knowledge in Manipur and Delhi**

Level of Knowledge about HIV/AIDS	Manipur N=100	Delhi N=96		X <sup>2</sup>	P-value
		( n)	(%)		
1. High level of knowledge (with scores 5/5, 100%)	92	62	64.6	21.867	<0.01
2. Low level of knowledge (with scores of 4/5, 80%)	8	34	35.4		
Total	100	96	100		

The above table showed the level of knowledge regarding HIV infection and routes of HIV transmission in each place of study where in Manipur, 92% of the respondents had high level of knowledge as compared to the respondents in Delhi where 64.6% of them had high level of knowledge. There was significant association between level of high knowledge by place of study with  $X^2=21.867$  and  $p < 0.001$  respectively.

### **Part III: Attitudes regarding the prevention ways of HIV infection**

There were four types of statements reflecting the attitudes of the respondents towards AIDS patient and prevention of HIV infection. The attitude was assessed as having high positive attitude and low positive attitudes depending on the overall scores attained by each respondents.

**Table 4.7: The distribution of frequency and percentage of respondents by level of attitude towards prevention of HIV infection in Manipur and Delhi**

Level of Attitude about HIV/AIDS	Manipur N=100	Delhi N=100	$X^2$	P-value
1. High level of positive attitude (with scores of 12-16/16 i.e.75% and above)	80	67	4.338	0.037
2. Low level of positive attitude (with scores of 7-11/16 i.e.44%-69%)	20	33		
Total	100	100		

In Manipur, 80% of them had high level of positive attitude about AIDS patient and the prevention of HIV infection while 67% of them in Delhi had high level of attitude on this regard and this association between level of attitude with place of study was found significant with  $X^2=4.338$  and  $p=0.03$ .

#### Part IV: Risk practices of the respondents in the two places of study

**Table 4.8: The distribution of frequency and percentage of respondents by types of injecting practices in Manipur and Delhi**

Types of injecting risk practices	Manipur N=100 ( n )	Delhi N=100 ( n )	X <sup>2</sup>	P-value
<b>1. Duration of drug injection</b>				
(in months)				
3-60	63	83	11.594	0.009
61-96	13	9		
97-144	14	4		
145-264	10	4		
Total	100	100		
<b>2. Frequency of drug injection</b>				
Once to more than twice/week	6	1	7.147	0.043
1-2 times/day	46	37		
3-4 times/day	42	48		
>4 times/day	6	14		
Total	100	100		
<b>3. Sharing of needles &amp; syringes</b>				
Yes	28	45	6.234	0.013
No	72	55		
Total	100	100		

The above table showed the injecting risk practices of the respondents like duration of drug injection, frequency of injection and sharing of needles & syringes in the last six months in Manipur and in Delhi. There was significant association between duration of drug injection in months by place of study with  $X^2 = 11.594$  and  $p < 0.001$ . In Manipur, 37% of the respondents had been injecting drug for five years or more while in Delhi; 17% of them had been injecting drug for five years or more. In Manipur, 48% of the respondents had injected drug for 3 times or more per day while 62% of respondents in Delhi had injected drug for 3 times or more per day. There was significant association between frequency of drug injection by place of study with  $X^2 = 7.147$  and  $p = 0.43$ . The rate of sharing needles and syringes in the last six months of study was 28% in Manipur and 45% in Delhi. The rate of sharing needles & syringes was significantly associated by place of study with  $X^2 = 6.234$  and  $p = 0.013$  respectively.

It was found that heroin and spasmoproxyvan (SP) were the most commonly used drugs for injecting in Manipur where 85% of the respondents used heroin and 52% of them used Spasmoproxyvon. In Delhi, 97% of the respondents used buprenorphine, 94% of them used diazepam and 51% of them used phenargan. In Delhi, the frequency of using multiple drugs including buprenorphine, diazepam, phenargan and avil (chlo-pherninamine) was more than in Manipur while a few (5%) of respondents in Manipur used fortwin (pentazocin) and morphine. In Delhi, 40% of respondents were using multiple drugs (three drugs) in the last three months of interview while 51% of them used four types of drugs for injection. The percentage of respondents who used only one type of drug for injection in Manipur was 52% while in

Delhi none of them used a single type of drug for injection.. The associations between types of drug used for injection and place of study were significant for drugs including heroin, buprenorphine, diazepam and avil.

**Table 4.9: The t-test for mean, SD for the duration of injecting drug (in months) in Manipur and Delhi**

Place	No.	Minimum	Maximum	Mean	SD	t	df	P-value
Manipur	100	5	264	64.81	60.42	-3.926	173.72	<0.01
Delhi	100	3	180	36.19	40.79			

The minimum and maximum duration of injecting drug were 5 months and 264 months in Manipur while it was 3 months and 180 months in Delhi. The association between the duration of drug injection between the respondents in Manipur and Delhi was significant at  $p < 0.001$ , and mean duration of injecting drug in Manipur was 64.81 months, SD = 60.42 while in Delhi; the mean duration of injection was 36.19 months, SD = 40.79 respectively.

**Table 4.10: The frequency of sharing of needles & syringes in the last 6 months among those who shared needles & syringes in Manipur and Delhi**

Frequency of sharing needles & syringes in the last 6 months among those who Shared N&S	Manipur N=28		Delhi N= 45		X <sup>2</sup>	P-value
	( n )	( % )	( n )	( % )		
Every time	3	10.7	1	2.3	2.254	9.324
Most of the time	5	17.9	8	18.6		
Occasionally	20	71.4	34	79.1		
Missing value	0		2			
Total	28	100	45	100		

As shown in the table, there was no significant association between frequency of sharing needles & syringes in the last six months of the respondents by place of study. The frequency of sharing needles and syringes every time, almost half of the time, occasionally were 3 (10.7%), 5 (17.9%) and 20 (71.4%) among the respondents in Manipur while in Delhi it was 1 (2.3%), 8 (18.6%) and 34 (79.1%) respectively.

There was no appreciable difference between frequency of front-loading/back loading/splitting among those who shared needles & syringes in Manipur and Delhi.

**Table 4.11: Frequency of cleaning needles & syringes in the last 6 months among those who shared needles & syringes in Manipur and Delhi**

Frequency of cleaning needles & syringes in the last 6 months among those who shared N/S	Manipur N=25		Delhi N=43		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Every time	19	76	23	53.5	6.096	0.047
Most of the time	4	16	5	11.6		
Occasionally	2	8	15	34.9		
Total	25	100	43	100		

(df = 2)

It was found that there was appreciable significant difference between frequency of cleaning needles & syringes among those who shared needles & syringes in the last six months by place of study with X<sup>2</sup>= 6.096, and p=0.047.

**Table 4.12: The frequency and percentage of respondents by using bleach for cleaning needles & syringes among those who cleaned their needles/syringes in Manipur and Delhi**

Cleaning of needles & syringes by bleach among those who cleaned N&S	Manipur N=27		Delhi N=41		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Yes	21	77.8	6	14.6	27.112	<0.01
No	6	22.2	35	85.4		
Total	27	100	41	100		

(df = 1)

The percentage of respondents using bleach as disinfectant for cleaning needles & syringes was 77.8% and 14.6% in Manipur and Delhi, which was found significant with  $X^2 = 27.112$  and  $p < 0.001$ . Bleach (5% sodium hypo chlorite) was considered the perfect disinfectant for sterilizing needles and syringes as compared to other ways of cleaning needles & syringes.

**Table 4.13: The distribution of frequency and percentage by sharing of needles & syringes in the last 6 months in Manipur and Delhi (NGO)**

Sharing of needles & syringes in the last 6 months	Manipur N=100		Delhi N=74		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Yes	28	28	32	43.2	4.3742	0.036
No	72	72	42	56.8		
Total	100	100	74	100		

There was significant association between sharing of needles & syringes in the last six months by place of study with  $X^2 = 4.374$ , and  $p = 0.036$  respectively. The respondents from NGO in Delhi who had shared needles and syringes in the last six months of the study were 43.2% as compared to 28% in Manipur.

**Table 4.14: The frequency and percentage of respondents with bleach for cleaning needles & syringes among those who cleaned their needles/syringes in Manipur and Delhi (NGO)**

Cleaning of needles & syringes by bleach among those who cleaned N&S	Manipur N=27		Delhi N=32		$X^2$	P-value
	(n)	(%)	(n)	(%)		
Yes	21	77.8	6	18.8	20.557	<0.01
No	6	22.2	26	81.2		
Total	27	100	32	100		

(df = 1)

The table showed that there was significant association between cleaning of used needles & syringes among those who shared needles & syringes with bleach by place of study with  $X^2 = 20.557$ ,  $p < 0.001$ . In Manipur, 77.8% of the respondents cleaned needles & syringes with bleach while 18.8% of respondents in Delhi had such practice.



**Table 4.15: The distribution of frequency and percentage of respondents' experience of sexual intercourse ever in Manipur and Delhi where N=100**

Ever had sexual intercourse	Manipur		Delhi		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Yes	62	62	91	91	23.390	<0.01
No	38	38	9	9		
Total	100	100	100	100		

(df = 1)

In Delhi, 91% of them had experienced sexual intercourse and in Manipur, 62% of them had such experience which was found significant with  $X^2 = 23.390$  and  $p < 0.001$ . It should be taken into consideration that the study population was older in Delhi than in Manipur.

**Table 4.16: The Independent t-test for mean, SD for age of first sexual intercourse in Manipur and Delhi**

Place	No.	Minimum	Maximum	Mean	SD	t	df	P-value
Manipur	62	11	29	20.56	4.11	-3.661	150	<0.01
Delhi	91	10	27	18.27	3.52			

There are 62 and 91 respondents in Manipur and in Delhi who had ever experienced sexual intercourse. The minimum, maximum and mean age of first sexual intercourse were 11 years, 29 years and 20.56 years in Manipur with  $SD = 4.11$ . In Delhi, the minimum, maximum and mean age of first sexual intercourse were 10 years,

27 years and 18.27 years with SD=3.52. There was significant association between age of first sex and place of study at  $p < 0.001$ .

**Table 4.17: The distribution of frequency and percentage of respondents by condom usage among those who had sexual intercourse in the last 6 months in Manipur and Delhi**

Use of condom during sex in the last 6 months	Manipur N= 52		Delhi N=41		X <sup>2</sup>	P-value
	( n)	( %)	( n)	( %)		
Yes	34	65.4	18	43.9	4.292	0.038
No	18	34.6	23	56.1		
Total	52	100	41	100		

(df =1)

The percentage of condom use in last six months among those who had sex in the last six months was 65.4% and 43.9% in Manipur and Delhi. There was significant association between use of condom in last six months and place of study with  $X^2 = 4.292$  and  $p = 0.03$ .

**Table 4.18: The distribution of frequency and percentage of respondents by number of sexual partners in last 6 months in Manipur and Delhi**

Number of sex partners in the last 6 months	Manipur N=53		Delhi N=41		X <sup>2</sup>	P-value
	( n )	( % )	( n )	( % )		
1-2	45	86.5	20	50	14.664	<0.01
3-5	4	7.7	13	32.5		
More than 5	3	5.8	7	17.5		
Total value	52	100	40	100		
Missing value	1		1			

(df =2)

Majority of respondents (86.5%) in Manipur had 1-2 sexual partners in the last 6 months while 50% of them in Delhi had 1-2 sex partners. There was significant association between the number of sexual partners and place of study with  $X^2= 14.664$  and  $p<0.001$ .

The respondents who were MSM (Men having Sex with Men) were 5 out of 59 (8.4%) in Manipur while it was 12 out of 87 (13.8%) in Delhi. There were no significant difference in male respondents who had ever had sexual intercourse with MSM (Men having sex with Men) by place of study and also using of condom with MSM among those who had sex with MSM in Manipur and Delhi.

**Table 4.19: The distribution of frequency and percentage of male respondents by having sex with CSWs in the last 12 months in Manipur and Delhi**

Having sex with CSWs in the last 12 months	Manipur N=60		Delhi N=90		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Yes	29	48.3	35	38.9	1.313	0.252
No	31	51.7	55	61.1		
Total	60	100	90	100		

(df =1)

The table showed that the percentage of respondents having sex with CSW's (Commercial Sex Workers) in the last twelve months was 48.3% in Manipur while in Delhi, it was 38.9%. There was no significant association among males having sex with CSW's in Manipur and in Delhi.

**Table 4.20: The distribution of frequency and percentage of male respondents by usage of condom with CSW's in the last 6 months in Manipur and Delhi**

Use of condom with CSW's in the last 6 months	Manipur N=30		Delhi N=35		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Yes	21	70	20	57.1	1.147	0.284
No	9	30	15	42.9		
Total	30	100	35	100		

(df at1)

Among those who had sex with CSW's, 70% of them in Manipur used condom while 57.1% of them used condom in Delhi and there was no significant difference in the two places of study.

**Table 4.21: The distribution of frequency and percentage of male respondents by frequency of condom use with CSW's among males who used condom in Manipur and Delhi**

Frequency of condom use with CSW's among those who used condom	Manipur N=22		Delhi N=21		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Every time	11	50	8	38.1	9.427	<0.01
Most of the time	10	45.5	4	19		
Occasionally	1	4.5	9	42.9		
Total	22	100	21	100		

(df = 1)

The rate of consistent condom use was 50% and 38.1% in Manipur and in Delhi which was found to be significant with X<sup>2</sup>= 9.427 and p<0.001.

**Table 4.22: The frequency and percentage of respondents by experience of sex in Manipur with Delhi (NGO)**

Ever had sexual intercourse	Manipur N=100		Delhi N= 74		X <sup>2</sup>	P-value
	(n)	(%)	(n)	(%)		
Yes	62	62	69	93.2	22.313	<0.01
No	38	38	5	6.8		
Total	100	100	74	100		

(df =1)

In Delhi, 69 (93.2%) of the respondents from the NGO, had ever experienced sexual intercourse and this was found significant between the respondents from NGOs in Delhi and in Manipur with  $X^2= 22.313$  and  $p<0.001$ .

**Table 4.23: Condom usage in last 6 months among those who had sex with CSW's in Manipur and NGO (Delhi)**

Use of condom during sex in the last 6 months	Manipur N= 52		Delhi N=30		X <sup>2</sup>	P-value
	( n)	( %)	( n)	( %)		
Yes	34	65.4	13	43.3	3.781	0.052
No	18	36.4	17	56.7		
Total	52	100	30	100		

(df =1)

There was borderline association between condom use in last six months among those having sex with CSW's and place of study with  $X^2= 3.781$  and  $p=0.052$ .

**Table 4.24: The distribution of frequency and percentage of male respondents by frequency of condom use with CSW's in Manipur and Delhi (NGO)**

Frequency of condom use with CSW's	Manipur N=22		Delhi N=13		X <sup>2</sup>	P-value
	( n)	( %)	( n)	( %)		
Every time	11	50	3	23.1	11.272	<0.01
Most of the time	10	45.5	3	23.1		
Occasionally	1	4.5	7	53.8		
Total	22	100	13	100		

(df = 2)

The table showed that there was significant difference between consistent condom use with CSW's in Manipur and in Delhi with  $X^2= 11.272$  and  $p < 0.001$ . The percentage of respondents using condom consistently with CSW's was found higher in Manipur (50%) than those respondents from NGO (Delhi) where 23.1% of them used condom consistently with CSW's.

**Part V: Utilization of health and drug treatment services**

The utilization of health & drug treatment services that were accessible to the respondents was summarized in the table 4.25 for overall comparisons between respondents in Manipur and in Delhi. In table 4.26, the utilization of health and drug treatment services that were accessible to the respondents in Delhi (NGO) and in Manipur was summarized along with chi-square and p value.

**Table 4.25: The distribution of frequency and percentage of respondents by utilization of health & drug treatment services in Manipur and Delhi**

Name of the health /drug treatment services	Manipur N=100 ( n )	Delhi N-100 ( n )	X <sup>2</sup>	P-value
<b>1. Participation at the Needle</b>				
Syringe Exchange Programme				
- Yes	74	70	0.397	0.529
- No	26	30		
Total	100	100		
<b>2. Ever suffered from STDs</b>				
- Yes	16	63	46.21	<0.01
- No	84	37		
Total	100	100		
<b>3. Free treatment for STDs</b>				
- Yes	29 (29.3)	32	0.172	0.679
- No	70 (70.7)	68		
- Missing value	1	0		
Total	100	100		
<b>4. Ever been treated related to drug use problem</b>				
- Yes	72	52	8.407	<0.01
- No	28	48		
Total	100	100		
<b>5. Currently taking part in any treatment related to drug use</b>				
- Yes	34	29	0.579	0.44
- No	66	71		
Total	100	100		



In the above table, out of the five health & drug treatment services accessible to the respondents in Manipur and in Delhi; two were significant at  $p < 0.001$ . In Manipur, 16% of the respondents had ever suffered from any signs and symptoms of STDs (Sexually Transmitted Diseases) while 63% of respondents in Delhi had ever been suffered from any signs and symptoms of STDs. There was significant association between the presence of STDs by place of study with  $X^2 = 46.21$  and  $p < 0.001$ . In Manipur, 72% of the respondents had ever been treated related to drug use in the last as compared to 52% of the respondents in Delhi. There was highly significant association between ever been treated related to drug use by place of study with  $X^2 = 8.407$  and  $p < 0.001$ .

**Table 4.26: The distribution of frequency and percentage of respondents by utilization of health & drug treatment services in Manipur and Delhi (NGO)**

Name of the health /drug treatment services	Manipur N=100 ( n )	Delhi N-74 ( n ) (%)	$X^2$	P-value
<b>1. Participation at the Needle</b>				
Syringe Exchange Programme				
- Yes	74	70 94.6	12.64	<0.01
- No	26	4 5.4		
Total	100	74 100		
<b>2. Ever suffered from STDs</b>				
- Yes	16	45 60.8	37.509	<0.01
- No	84	29 39.2		
Total	100	74 100		

**Table 4.26: (Cont.) The distribution of frequency and percentage by utilization of health & drug treatment services in Manipur and Delhi (NGO)**

Name of the health / drug treatment services	Manipur N=100 (n)	Delhi N=74 (n) (%)	X <sup>2</sup>	P-value
<b>3. Free treatment for STDs</b>				
- Yes	29 (20.3)	22 29.7	0.004	0.950
- No	70 (70.7)	52 70.3		
Total	99	74 100		
- Missing value	1	0		
<b>4. Ever been treated related to drug use problem</b>				
- Yes	72	37 50	7.966	<0.01
- No	28	37 50		
Total	100	74 100		
<b>5. Currently receiving any treatment related to drug use</b>				
- Yes	34	3 4.1	22.77	<0.01
- No	66	71 95.9		
Total	100	74 100		

In the above table, out of the five health & drug treatment services that was accessible to the respondents in the two places of study; four of them were significant. The participation at NSEP was significant by place of study with  $X^2 = 12.64$  and  $p < 0.001$ . In Delhi, 94.6% of the respondents had ever participated at NSEP while in Manipur, 74% of them had ever participated in such Programme. In Delhi, 60.8% of the respondents had ever suffered from STDs as compared to 16% of them in Manipur. There was significant association between ever suffered from STDs by place of study

with  $X^2 = 37.509$  and  $p < 0.001$ . There was highly significant association between treatment ever received related to drug use by place of study with  $X^2 = 7.966$  and  $p < 0.001$ . In Manipur, 34% of the respondents had been currently participating in any kind of treatment related to drug use and there was significant association between current participation in such treatment by place of birth with  $X^2 = 22.77$  and  $p < 0.001$  respectively.

#### **Part VI: Associations between the risk practices and their determinants**

The risk practices were categorized into injecting practice and sexual practices which were given as follows: The individual risk practices were again classified as high risk and low risk with P signifying the high risk practice.

##### **Injecting Practices:**

- P1 = High risk practice: duration of drug injection of  $\geq 60$  months
- P2 = High risk practice: frequency of injection of  $\geq 3$  times/day
- P3 = High risk practice: ever sharing of needle & syringe
- P4 = High risk practice: non-cleaning of needle & syringe
- P5 = High risk practice: infrequent cleaning of needle & syringe
- P6 = High risk practice: cleaning needles & syringes but not using bleach

##### **Sexual Practices:**

- P7 = High risk practice: having  $>2$  sex partners in the last 6 months
- P8 = High risk practice: non-usage of condom with CSWs (Commercial Sex Workers)

P9 = High risk practice: inconsistent use of condom with CSWs  
(Commercial Sex Workers)

P10 = High risk practice: ever suffered from STDs

These practices were tabulated with summary matrices with regard to high level of knowledge and high positive attitude. Results were shown in table 4. 27.

**Table 4.27: Association between the risk practices and level of knowledge towards HIV infection & routes of HIV transmission by Chi-square test**

Types of risk practices	Low level of Knowledge		High level of Knowledge		X <sup>2</sup>	P-value
	( n )	(%)	( n )	(%)		
1. P2 (Frequency of injection of $\geq$ 3 times/day)						
- No	13	31.0	75	48.7	4.202	0.04
- Yes	29	69.1	79	51.3		
- Total	42	100	154	100		
2. P6 (Cleaning of needles & syringes but not using bleach)						
- No	1	6.7	25	50	9.028	<0.01
- Yes	14	93.3	25	50		
- Total	15	100	50	100		
3. P10 (Ever suffered from STDs)						
- No	19	45.2	99	64.3	4.997	0.025
- Yes	23	54.8	55	35.7		
- Total	42	100	154	100		

Out of the ten risk practices that had been assessed to determine the associations, with the level of knowledge and attitudes, three risk practices were found to be significant with level of knowledge and attitudes. The frequency of injection  $\geq 3$  times/day was significantly associated with level of knowledge with  $X^2 = 4.202$  and  $p < 0.001$ . Higher level of knowledge was found to be associated with low risk practice (frequency of injection of  $\leq 2$  times /day). The non -use of bleach for cleaning was also significantly associated with level of knowledge with  $X^2 = 9.028$  and  $p < 0.001$  where respondents with high level of knowledge indulged in less high-risk practice or low risk practice (cleaning of N&S with bleach). The level of knowledge was significantly associated with ever suffered from STDs with  $X^2 = 4.997$  and  $p = 0.025$  and those respondents who had high level of knowledge had no such history of suffering from STDs.

**Table 4.28: Association between the cleaning of needles & syringes with bleach and level of attitude on AIDS patients and prevention of HIV infection by Chi-square test**

P6 (Cleaning of needles & syringes but not using bleach)	Low level of Attitude		High level of Attitude		$X^2$	P-value
	(n)	(%)	(n)	(%)		
Yes	19	82.6	22	48.9	7.229	<0.01
No	4	17.4	23	51.1		
Total	23	100	68	100		

(df =1)

There was no significant association of attitude regarding prevention of HIV infection with knowledge on ways in which HIV/AIDS could be transmitted.

Out of the ten high-risk practices, eight risk practices were significantly associated by place of study. The risk practices P2, P3, P5, P6, P7, P9 were found significantly associated by place of study and high risk practice was negatively associated with place of study, being low risk practices in Manipur as compared to Delhi. Only one high-risk practice P1 i.e the duration of drug injection of  $\geq 60$  months was significantly associated by place of study that showed positive association and the high-risk practice was higher in Manipur than in Delhi.

Six practices were found to have significant association with any of the socio-demographic/ family factors. The duration of drug injection of  $\geq 60$  months in IDUs was significant with age, educational level, family support. The frequency of drug injection of  $\geq 3$  times/day was also found to have significant association with occupation. The high risk practice of cleaning needles & syringes but not with bleach was significant with education and family support. There was also significant association between high-risk practice of having multiple sexual partners with education and family support. The non-usage of condom was also found to have significant association with age. Lastly, the respondents who had ever suffered from STDs were also significant with education and family support.