

# Status of Drug User in Buprenorphine Opioid Substitution Treatment (OST) Center of Kathmandu Valley

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**Abstract**—Status of drug User in Buprenorphine Opioid Substitution Treatment (OST) center of Kathmandu Valley was conducted among drug users (both IDUs and DUs) aged 18 years and above who were currently using OST with buprenorphine. This study was directed in four OST centers in Kathmandu Valley with the main objective to assess the status of drug users in buprenorphine opioid substitution therapy. Descriptive cross sectional study was conducted among 220 respondents using systematic random sampling method. Face to face, interview conducted with respondents using pre-tested, structured interview schedule. Data analyzed by statistical package for social Sciences (25 Version), visualization from R packages and results were presented in table and figures.

Most of the drug users started using the drugs during their adolescent period. The mean age of first drug use was 17.1 year. Half of the respondents started using drugs through smoking and 50% of the respondents first used the drugs under the influence of their peers and friends and more than 85% of the respondents have ever injected drugs.

**Index Terms**—Buprenorphine, Drug User, Kathmandu Valley.

## I. INTRODUCTION

Opioid are psychoactive analgesic drugs prescribed for pain relief and palliative care [1]. And the Opioid substitution treatment (OST) is the drug dependent treatment available in many forms; the most commonly used are methadone or

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buprenorphine[2]. The multicenter post marketing surveillance study conducted in India revealed that buprenorphine opioid substitution treatment is a safe treatment and cannot make serious adverse effect[3]. And also have less severe neonatal abstinence syndrome than methadone[4], as well as Buprenorphine is an effective intervention for use in the maintenance treatment of heroin dependence[5].

Obtaining attitude towards 417 participants in USA included 132 individuals entering short-term BT significantly positive attitudes towards buprenorphine than methadone[6].

A systematic review and meta-analysis of prospective observational study from earliest year to 2011, advocates that OST provide as maintenance therapy is associated with a reduction in the risk of HIV infected people having HIV[7]. The survey conducted on Malaysia revealed that 102 HIV infected prisoners 51% believed that OST is helpful to control the HIV infection[8].

Study of high risky injection practices; 296 male injecting drug user in Kathmandu, 70% reported that they could share injection equipment with multiple persons[9].

In Nepal, the Buprenorphine treatment ongoing at six sites in Kathmandu, Lalitpur, Jhapa, Rupendehi and Parsa. Contrary to the Methadone Maintenance Therapy, the Buprenorphine treatment provided solely by the NGO sector. The program funded by an international NGO Mainline, based in the Netherlands. Two NGOs in Nepal currently implementing the program: Youth Vision in Kathmandu and other sites and Happy Nepal (in collaboration with Youth Vision) in Jhapa[10].

Several study have been conducted in Nepal for opioid substitution therapy, the main objective of the research is to focus the status of buprenorphine opioid substitution therapy (OST) clients are drug users receiving OST from four clinics run by Youth Vision in Kathmandu valley.

II. MATERIALS AND METHODS

A. Study area and setting.

The study conducted in Buprenorphine OSTcenter of Kathmandu Valley. A list of drug users receiving OST from four clinics run by Youth Vision in Kathmandu valley were be collected.

B. Research Design

The study was descriptive cross-sectional study was conducted to carried out the research.

C. Sampling technique and sample Size

Systematic random sampling method was used for the data collection and the total sample size was 220.

D. Ethical consideration

The proposed study conducted; initially the consent was taken from the buprenorphine OST centre administrator for the research. Then informed and verbal consent had taken from respondents before asking him/her the questions. Similarly, the respondent should not need to answer all the questions. The respondent allowed quitting if they do not further want to respond.

Questions were not be asked in a way that hurts their dignity. The respondents should assured that the answer they had given remained private, unanimous and confidential.

E. Inclusion and Exclusion criteria

The participants were the regular visiting client of Youth Vision in Kathmandu valley had included and person below 17 years were excluded.

III. FINDINGS

The table I represents the socio-Demographic information of the respondent. Out of 220 drug users receiving OST with buprenorphine from Youth Vision. Among them 138(62.7%) located from Kathmandu Valley and rest of them 37.3% were from Lalitpur District. Most of the drug user were male 91.8% followed by female 8.2%.

The mean age of the drug user was 30 years. Whereas, exactly 37.7% were belong to age group 25-29. The educational status of the respondent seems that 97.3% were literate and only 2.7% were illiterate. Among them, more than 50% of drug user had secondary level of education and exactly 46.8% were married.

Considering about living status of drug user 212(96.4%) were lived with family and 8(3.6%) stayed along. Whereas most of them belongs to Brahmin/Chhetri ethnic group and only 2(0.9%) were from Dalit and foreign nationality, which were categorized in other group.

The main sources of family income was service i.e. 106(48.2%) followed by labor 11(5%).considering the employment status 84(48.2%) were service holder, 52(23.6)

had their own business. Among 220 drug less than one third were unemployed.

Table I. Socio-Demographic Information of the Respondent

Background Characteristics(n=220)	Frequency	Percent
<b>Districts</b>		
Kathmandu	138	62.7
Lalitpur	82	37.3
<b>Clinic</b>		
Male Clinic	209	95.0
Female Clinic	11	5.0
<b>Gender</b>		
Male	202	91.8
Female	18	8.2
<b>Age Group</b>		
<20	4	1.8
20-24	29	13.2
25-29	83	37.7
30-34	58	26.4
35-39	30	13.6
≥40	16	7.3
Mean ± SD(30.3±6.6)		
<b>Educational Status</b>		
literate	214	97.3
Illiterate	6	2.7
<b>Level Of Education</b>		
Primary	13	6.1
Secondary	111	51.9
Higher Secondary	90	42.1
<b>Marital Status</b>		
Married	103	46.8
Unmarried	117	53.2
<b>Living</b>		
With Family	212	96.4
Alone	8	3.6
<b>Caste/Ethnicity</b>		
Brahmin/Chhetri	85	38.6
Newar	59	26.8
Janajati	74	33.6
Other	2	0.9
<b>Source of Family income</b>		
Service	106	48.2
Business	71	32.3
Agriculture	15	6.8
Labor	11	5.0
Other	17	7.7
<b>Employment</b>		
Unemployed	65	29.5
Service	84	38.2
Business	52	23.6
Labor	12	5.5
Other	7	3.2

Table II represents the (59%) entered into drug habit during 15-19 years of age. among these categories, 23% male and 22% female initiated drug use even at a teenier age(10-14). There were very few (6%) said that they had begun drug use at the age of 25 years and more. Marijuana (Ganja, Chares, and Bhang) and Brown sugar were the common substance used by male beginners (31% and 31% respectively) as an entry into drug habit while Marijuana was relatively common substance used by the female beginner (61%). Brown sugar was less common for female beginners (11%). Half of male and 44 percent female entered into drug use habit by smoking the substance. One out of three male (32%) as against one- fifth female (22%) initiated drug use by

consuming the drug orally. Moreover, more than double female (28%) than male (12%) started using the drug by sniffing. Very few respondents who were currently injecting drugs directly entered into injecting habit from the start (both male and female (5%).

**Table II Distribution of the Respondent with History of Drug Use**

First time of Drug Using	Gender		
Age(years)	Male (%)	Female(%)	Total (%)
< 10	2(1.0)	0(0.0)	2(0.9)
10-14	47(23.3)	4(22.2)	51(23.2)
15-19	118(58.4)	11(61.1)	129(58.6)
20-24	22(10.9)	2(11.1)	24(10.9)
≥ 25	13(6.4)	1(5.6)	14(6.4)
<b>Mean age at first drug use = 17.1</b>			
<b>Types</b>			
Ganja	65(32.2)	11(61.1)	76(34.5)
Brown Sugar	62(30.7)	2(11.1)	64(29.1)
Valium/Tablets	48(23.8)	2(11.1)	50(22.7)
Phensidyl	6(3.0)	0(0.0)	6(2.7)
White Sugar	5(2.5)	3(16.7)	8(3.6)
Chares/Heroin	5(2.5)	0(0.0)	5(2.3)
Tidigesic	5(2.5)	0(0.0)	5(2.3)
Norphine	4(2.0)	0(0.0)	4(1.8)
Opioids	2(1.0)	0(0.0)	2(0.9)
<b>Route</b>			
Smoking	102(50.5)	8(44.4)	110(50.0)
Orally	64(31.7)	4(22.2)	68(30.9)
Sniffing	25(12.4)	5(27.8)	30(13.6)
Injection	11(5.4)	1(5.6)	12(5.5)
<b>Duration(years)</b>			
≤ 5	8(4.0)	4(22.2)	12(5.5)
6-10	57(28.2)	10(55.6)	67(30.5)
11-15	70(34.7)	2(11.1)	72(32.7)
≥ 16	67(33.2)	2(11.1)	69(31.4)
<b>Influenced/Enforced</b>			
Friends	122(60.4)	12(66.7)	134(60.9)
Curiosity	62(30.7)	2(11.1)	64(29.1)
Entertainment	15(7.4)	2(11.1)	17(7.7)
Family Problems	2(1.0)	0(0.0)	2(0.9)
Girl/Boy Friends	1(0.5)	2(11.1)	3(1.4)

As for the duration of drug used, almost all the respondents had been using drug for more than five years. Of them, over a third male had been using drug for 11-15 years (35%) and similar number of male are using it for 16 years and above (33%). On the other hand, Majority of female (56%) had been using the drug the drug for 6-10 years, while half of the male than female were using the drug for the same period(28%). Friends either inspired or enforced to take drug for majority of the respondents (61%) more than 29

percent started-taking drug out of curiosity. Very few started taking drug for pleasure (8%)

**Fig. 1 Distribution of Respondent with Drug use while using OST**

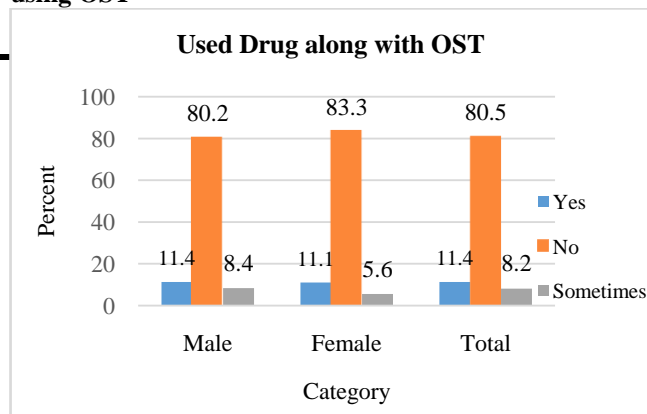


Fig.1 represents 83% female and 80% male did not use drugs during OST. However, 11percent instances of respondents using drugs even after taking OST were reported in the study. Higher proportion of male (8%) than female (6%) have using drug sometime while in OST.

**Table III Distribution of the Respondents with the History of Injecting Drug Use**

Category	Male (%)	Female (%)	Total (%)
<b>Ever Injected Drug</b>			
Yes	172(85.1)	13(72.2)	185(84.1)
No	30(14.9)	5(27.8)	35(15.9)
Total	202(100.0)	18(100.0)	220(100.0)
<b>Age at First Injecting</b>			
10-14	8(4.7)	0(0.0)	8(4.3)
15-19	66(38.4)	8(61.5)	74(40.0)
20-24	68(39.5)	3(23.1)	71(38.4)
≥ 25	30(17.4)	2(15.4)	32(17.3)
<b>Total</b>	<b>172(100.0)</b>	<b>13(100.0)</b>	<b>185(100.0)</b>

The above table III represents in 84% of the drug user injected drug in past. Above 44% of them started to use injecting drugs adolescence and before turning 20 years of age. Among them approximately 60% female and over 43% male started injecting drug in 15-29 years. The man age of drug injection was 20.8 years for male and 19.8 years for female.

**Table IV Distribution of the Respondents types of Drug Injected**

Types of drug*	Frequency	Percent
Heroin/Brown sugar	118	63.8
Phenergan/Avil diazepam or other drugs	119	64.3
Tidigeisc/lupigestic/ Buprenorphine/Norphine	129	69.7
Tidigesic/lupigesic Norphine along with Phenargan/Avil or Diazepam by injection	156	84.3
Proxyvon Spasmoproxyvon (SP)	35	18.9
Avil only	59	31.9
Diazepam only	68	36.8
Pethidine/Fortwin	18	9.7
White sugar	1	0.5
Cocaine	1	0.5

\* Multiple Response

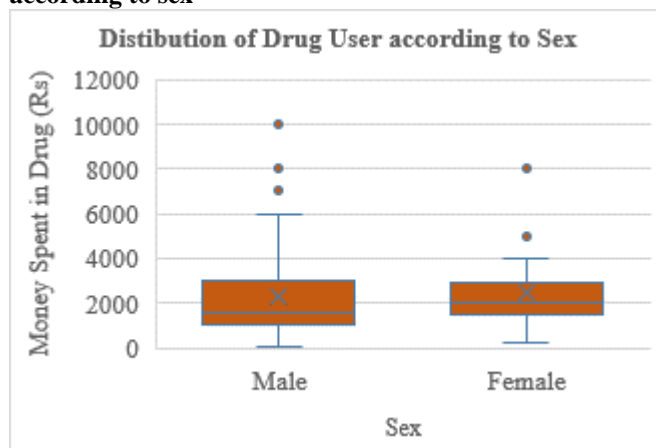
The above table shows the multiple types of drug used by the drug user among 704 responses most (84.3%) of used the combination of drugs, i.e. Tidigesic/Lupigesic Norphine along with Phenargan/Avil or Diazepam by injection and very small and equal proportion of used White sugar and Cocaine (0.5%).

**Table V Distribution of Respondents Injecting Drug while in OST**

Category	Frequency	Percent
Yes	26	11.8
No	194	88.2
<b>If Yes(n=26)</b>		
Insufficiency of Buprenorphine	11	42.3
Rapture	10	38.5
Forced by friend	5	19.2
<b>If No(n=194)</b>		
Sufficiency by Buprenorphine	112	57.7
Never injected	47	24.2
Clean	28	14.4
Family reason	4	2.1
Not getting	3	1.5

Considering about the respondents injecting drug while in OST. Among the 220 respondent 88.2% never injected drug while taking OST. Among 57.7% were satisfied with OST and 24.2% said that they had never injected the drug.

**Fig 2. Distribution of Money spend by Drug User according to sex**



**Fig 3. Distribution of Expenditure according to Age**

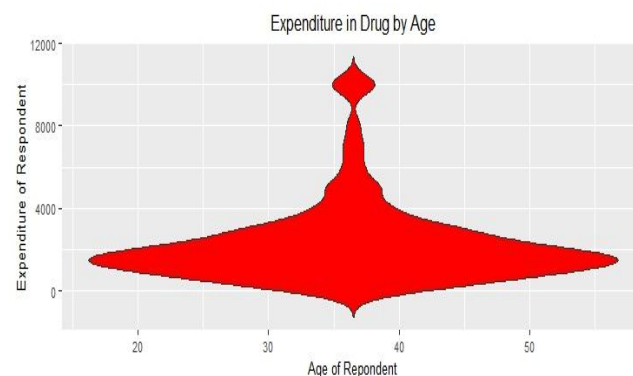


Fig.2 shows the distribution of money spend by the drug user according to sex. The median expenditure for male and female were Rs. 1150 and Rs. 2000. The minimum and maximum expenses ranges from Rs 88 to Rs 10000 for male and Rs. 200 to Rs. 8000. Which showed the ranges of expenditures were wider in male than female. Furthermore, the fig 3. Shows that distribution of expenditure by age, most of the drug user spend less than Rs. 2000 and most of the drug user lies in the age group of 35-40.

Table VI represents the distribution of the respondent with financial management for drug, majority of the respondents reported that they managed money from family members (57%), while slightly less than that informed that they spent from their own income (56%) one fifth managed their expenses with the help of their friends (21%). Some drug users admitted of stealing/ Selling of utensils of home to meet their drug expenses (9%). Double of the female (17%) than male (8%) reported of stealing/selling utensils of home to meet their drug expenses. Very few male (1.5%) and none of female stated that they used to meet their drug expenses by selling drug (1.5%). About four-fifth of the drug user spend almost all the money they had earned for the

drug (79.5%). Nearly one-fifth spend fifty percent of the money they had earned on drug (18%)

**Table VI Distribution of Respondents with Financial Management for Drug Use**

	Sex		Total (%)
	Male (%)	Female (%)	
<b>Ways of Managing Money For Drug Use From*</b>			
Self-Income	117(57.9)	6(33.3)	123(55.9)
Family Members	118(58.4)	8(44.4)	126(57.3)
Get from Friends	40(19.8)	7(38.9)	47(21.3)
Stole/Selling Utensils of Home	16(7.9)	3(16.7)	19(8.6)
Selling Drug	3(1.5)	0(0.0)	3(1.4)
<b>Amount of Money Spent from earnings on Drug use</b>			
Almost all	161(79.7)	14(77.8)	175(79.5)
About half	35(17.3)	4(22.2)	39(17.7)
About 25%	2(1.0)	0(0.0)	2(0.9)
Less than 25%	1(0.5)	0(0.0)	1(0.5)
NR	3(1.5)	0(0.0)	3(1.4)

\* Multiple Response

#### IV. DISCUSSIONS

Opioid substitution treatment (OST) is still controversial, despite positive results. The issue of diversion to the illicit drug market is a cornerstone in the criticism typically voiced against the treatment. Little research is available concerning how professionals who work in OST view the issue of diversion[11].

In the present study, we found that some similarities the age at first drug using by the respondent was 17.1 years and above 50% were employed, which is similar to the nationally published survey report by ministry of home affairs drug control program reported (15-19) years was the age for first drug intake and more than 50% drug user were employed[12]. However, this findings of our study contradictory to some recently publish paper[13, 14].

Our study has some important strengths first of all we enrolled from different socio economic representatives of different districts. Secondly, the findings of the study have great role to stakeholders and policy makers. However, the study have some limitations such as small sample size and study setting is only in two districts.

#### V. CONCLUSION

This study showed that majority (91.8%) male received the OST and the mean age of the respondent was 30 years. Considering about education status most of the respondent

were literate (97.3%). The main sources of family income was service and service is the main employment status.

The mean age of first time of using drug was 17.1 years and initiated from Ganja (Hashish) and main route was smoking enforced by friends. Considering about injecting drug above 80% of the drug user at teenage.

While taking OST just 11% started to injecting drug again and above 85% thinks they were highly satisfied with OST as Buprenorphine and they had ever injected the drugs. Almost eighty percent of respondent spent almost all their income on drug use.

#### ACKNOWLEDGMENTS

We thank all study participants and research assistants that contributed to this study. We are also gladful to Youth Vison Nepal. Additionally we want to remember Mr. Sudip Khanal for preparing the manuscripts and statistical analysis.

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