ORIGINAL ARTICLE

Correlates of Injection Initiation among Drug Users in Punjab, Pakistan

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ABSTRACT

Background: In Pakistan, like many other developing countries, situations surrounding drug users have not been well addressed. In the earlier period there has been an extensive transition from conventional method of drug use (chasing, smoking, sniffing) to injecting drugs in Pakistan, which has also played a significant role in increasing epidemics of hepatitis B virus, hepatitis C virus (HCV) and HIV/AIDS among this high risk group. Present study assessed the impact of demographical characteristics, drug use behaviors and sexual activities on the initiation of injection among drug users in Pakistan.

Methods: Sample comprised of 533 male drug users, 313 of whom were injecting drug users was collected through cross sectional survey at five different cities of Punjab, Pakistan. Logistic regression was used to explore the risk factors of injection initiation.

Results: Significant factors associated with initiation of injection were age, being single, street survival, low income, illiteracy, juvenile arrest history, earlier age of drug initiation, type of drug used first time, multiple sex partners, earlier age of sexual experience and casual sex partners increased the risks of injection initiation. In addition, poor knowledge about the prevalence of HIV increased the likelihood of transition to injection.

Conclusion: Risk factors of Injection initiation were associated to a number of demographic characteristics, drug use and sexual behaviors. The results of the study will be helpful for authorities in making the policies for preventing or delaying into transition.

Keywords: DUs, IDUs, transition of drugs, Risk factors, Cross sectional survey, Adjusted odds ratio.

INTRODUCTION

Drug injecting is commonly a group activity among Injecting drug users[1]. The common practice is to utilize same needle and syringe for all or some of the members of the group. If one member of the gathering has HIV disease, the contamination would promptly enter the remaining members. The possibility of contamination through the injecting route is much higher than sexual course of transmission. Subsequently once HIV enters into the circle of injecting drug users, the spread inside the IDU community is fast[2]. In Asia, 16% of the HIV cases are injecting drug users and this trend has increased tremendously in Pakistan[3,4]. Approximately, 75% of the countries are from developing nations where drug injection has now been accounted[5]. HIV/ AIDS are also prevailing in Pakistan at higher rate for last few years[6]. Injecting drug users (IDUs) infuse drugs into veins. Worldwide drug users had the tendency of switching from drugs to injection due to, cheaper in cost, more abusing and less time consuming[7].

Asia houses more drug users (43%) than any other continent in the world. More than 70% of the HIV and 90% of the hepatitis C contamination has been accounted for in some Asian countries and various people are also living with both infections[8]. In Pakistan, 65% of the drug users now inject drug users that exposed to a high risk of HIV due to sharing syringes/needles[9]. The prevalence of Hepatitis C among IDU's in Lahore is very high (89%)[10]. The first epidemic of HIV among injecting drug users was registered in June 2004 in Larkana, a city of Sindh Province Pakistan. There were 17 out of 183(9.3%) injecting drug users tested HIV positive[11]. From 2003 to 2007, HIV prevalence among IDUs increased from 0.3% to 23% and has reached 42% in 2011[12]. In Faisalabad and Sargodha, the prevalence of HIV was reported 52.5% and 51.3% respectively[13]. Studies in numbers have explored the factors associated with route transition from traditional mode of drugs into injecting drug use; however most of them are accomplished in the developed world[14-19]. Risk factors associated with injection initiation in

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developing countries have not been well addressed[20]. This research was planned to study the transition of drug users to intravenous drug among the male inhabitants in different cities of Punjab, Pakistan.

MATERIALS AND METHODS

Cross-sectional survey (2013-14) was conducted at five cities (Lahore, Faisalabad, Gujranwala, Sargodha and Jhang) of Punjab, Pakistan. The sample size comprised of 533 male drug users, 313 of whom were injecting drug users in contrast to the 220 drug users who were not injecting drug user. The data was collected from the different dropping centers of Non-government organizations or hot spots identified by the Non-government organizations where drug users could be approached. Drug users found at the 'problem area' were contacted, and were explained about the purpose of the study. Consent was taken from respondents before the collection of the data. A questionnaire was designed on the basis of information collected from focus group discussions, in-depth interviews and systematic literature review. All the data was enter, screened and analyzed using SPSS v21. Odds ratios and 95% confidence intervals were calculated.

RESULTS

Descriptive results are presented in Table 1 and 2. The age of the drug users was from 16 to 70 years with 33.30 ± 9.7 years and their monthly income was 4172±3301 rupees. Majority of the respondents were single (58.9%) and illiterate (48.2%). The occupation was coded into two categories as street survival (53.5%) and others (46.5%) that includeddaily wages worker, self-business, friends and family support and the street survival included the trading of sex for money or drugs, selling drugs, theft. Approximately 58.2% of the respondents had some juvenile arrest background to whom 31.6% were drug users and 68.4% were injecting drug users. The ratio of homeless injecting drug users (IDUs) was almost double in comparison to drug users (DUs).

The respondent's age of drug initiation was ranged from 9 years to 55 years with 18.0±5.6 years. Marijuana (54.6%) was the most common initiation drugs followed by Alcohol (14.6%) and majority of them used drugs at street (81.2%).

The respondent's age at the time of first sexual experience was ranged from 10 years to 35 years with 17.6 ± 4.2 years. Most of the respondents had two or more sex partners (63.8%). Majority of the respondents were not aware about the prevalence of HIV (72.2%) and Hepatitis (63.6%) before initiation of drugs. About two-third of the respondents shifted to injecting drugs were not aware about the prevalence of HIV before drug initiation.

Table 1: Distribution of Study Population for Demographic Factors

	N (%)	IDU(%)	DU (%)	χ2(Sig.)
City				
Lahore	88	57(64.8)	31(35.2)	-
Jhang	182	90(49.5)	92(50.5)	
Faisalabad	98	71(72.4)	27(27.6)	
Gujaranwala	81	30(37.0)	51(63.0)	
Sargodha	84	65(77.4)	19(22.6)	
Age				
≤ 25	120(22.5)	64(20.4)	56(25.5)	5.555 (.062)
26 ~ 35	238(44.7)	153(48.9)	85(38.6)	
>35	175(32.8)	96(30.7)	79(35.9)	
Marital status				
Single	314(58.9)	215(68.7)	99(45.0)	29.954 (.000***)
Married	219(41.1)	98(31.3)	121(55.0)	
Income (Rs.)				
≤3000	238(44.7)	151(48.2)	87(39.5)	13.411 (.001**)
3001~5000	179(33.6)	111(35.5)	68(30.9)	
>5000	116(21.8)	51(16.3)	65(29.5)	
Religion				
Islam	509(95.5)	301(96.2)	208(94.5)	0.789 (0.374)
Others	24(4.5)	12(3.8)	12(5.5)	
Occupation				
Street Survival	285(53.5)	186(59.4)	99(45.0)	10.805 (.001**)
Others	248(46.5)	127(40.6)	121(55.0)	
Education				
Illiterate	257(48.2)	168(53.7)	89(40.5)	17.928 (.000***)
Primary	105(19.7)	67(21.4)	38(17.3)	
Above Primary	171(32.1)	78(24.9)	93(42.3)	
Homelessness				
Yes	183(34.3)	124(39.6)	59(26.8)	9.386 (.002**)
No	350(65.7)	189(60.4)	161(73.2)	
Juvenile Arrest				
Yes	310(58.2)	212(67.7)	98(44.5)	28.542 (.000***)
No	223(41.8)	101(32.3)	122(55.5)	

p < 0.05; ** p < 0.01;* p < 0.001*

Age, marital status, income, occupation, education, homelessness, juvenile history, age of drug initiation, place of drugs, age at first sexual experience and multiple sex partners were significantly associated with injection initiation (P<0.05).Religion, Drug used first time and sexually raped or assaulted were not statistically significant in the current analysis. Awareness of HIV before initiating drugs was also played a significant role in preventing injection initiation.

Table 3 demonstrated that age of the respondent was independently correlated with IDU in the presence of other variables, drug users with age 26~35 years were more likely to switch to injection in comparison to their young associates (AOR=2.38). Comparing to drug users with married status, those with single civil status (AOR=2.90) had a higher risk of injection initiation. Comparison to those with higher education, illiterate (AOR=3.77) and primary level of education (AOR=3.87) increased the chances of transition to injection.

The result showed that street survivals had 2.09 times more chance to injection initiation in comparison to others. Comparing to drug users with income above 5000 rupees, those with income 3001~5000 (AOR=2.30) had a higher risk of injection initiation. Drug users with income less than 3000 rupees had 2.12 times more chances to transit to injection in comparison to the drug users with income greater than Rs.5000. The main reasons mentioned by the respondents of switching from heroin or other drugs to injecting legally obtained substances, sometimes in combination with illegal substances, are economics (they are less expensive).

Table 2: Distribution of Study Population for Drugs Use Characteristics

	N (%)	IDU (%)	DU (%)	χ2 (Sig.)
Type of drug used first time				
Marijuana	291(54.6)	164(52.4)	127(57.7)	7.057 (0.133)
Opium	54(10.1)	30(9.6)	24(10.9)	
Alcohol	78(14.6)	46(14.7)	32(14.5)	
Heroin	54(10.1)	31(9.9)	23(10.5)	
Others	56(10.5)	42(13.4)	14(6.4)	
Age of drug initiation				
≤17 yrs	277(52.0)	188(60.1)	89(40.5)	19.902 (.000***)
>17 yrs	256(48.0)	125(39.9)	131(59.5)	
Place of Drug Use				
Home	100(18.8)	46(14.7)	54(24.5)	8.222 (.004**)
Street	433(81.2)	267(85.3)	166(75.5)	
Age at First sexual experience				
≤17 yrs	131(24.6)	93(29.7)	38(17.3)	10.785 (.001**)
>17 yrs	402(75.4)	220(70.3)	182(82.7)	
Having been raped or sexually abused				
Yes	93(17.4)	58(18.5)	35(15.9)	0.616 (.432)
No	440(82.6)	255(81.5)	185(84.1)	
Casual sex partners before injection initiation				
≥2	340(63.8)	214(68.4)	126(57.3)	6.889 (.009**)
<2	193(36.2)	99(31.6)	94(42.7)	
Awareness about HIV before injection initiation				
Yes	148(27.8)	56(17.9)	92(41.8)	36.876 (.000***)
No	385(72.2)	257(82.1)	128(58.2)	
Awareness about Hepatitis before injection initiation				
Yes	194(36.4)	111(35.5)	83(37.7)	0.286 (0.593)
No	339(63.6)	202(64.5)	137(62.3)	

**p < 0.05; ** p < 0.01; *** p < 0.001*

Table 3: Adjusted Odds Ratio for Factors Associated with Initiation of Injection

	Coefficient	OR	CI
Age (years)			
≤ 25		1	Reference
26 ~ 35	0.869(.003)	2.384	1.349~4.212
>35	0.439(.169)	1.551	0.830~2.899
Marital Status			
Single	1.065(.000)	2.901	1.823~4.616
Married		1	Reference
Income (Rs.)			
≤3000	0.751(.006)	2.118	1.246~3.602
3001~5000	0.834(.003)	2.303	1.316~4.031
>5000		1	Reference
Occupation			
Street Survival	0.741(.001)	2.098	1.370~3.212
Others		1	Reference
Education			
Illiterate	1.328(0.000)	3.772	2.322~6.129
Primary	1.354(0.000)	3.871	2.153~6.960
Above Primary		1	Reference
Homelessness			
Yes	0.481(.043)	1.617	1.014~2.578
No		1	Reference
Juvenile Arrest			
Yes	0.808(.000)	2.444	1.505~3.348
No		1	Reference
Age of Drug initiation			
≤ 17 years	0.664(0.002)	1.942	1.278~2.952
> 17 years		1	Reference
Type of drug used first time			
Marijuana	1.211(.001)	0.298	0.142~0.625
Opium	-1.57(.001)	0.208	0.080~0.538
Alcohol	1.115(.011)	0.328	0.138~0.779
Heroin	0.741(.117)	0.477	0.189~1.204
Others		1	Reference
Place of Drug Use			
Street	0.36(0.153)	1.433	0.875~2.347
Home		1	Reference
Age at 1st sexual experience			
≤ 17 years	1.104(.000)	3.015	1.785~5.091
> 17 years		1	Reference
Casual sex partners before injection initiation			
≥ 2	0.733(0.002)	2.082	1.310~3.309
One or no partner		1	Reference
Awareness about HIV before injection initiation			
Yes		1	Reference
No	1.646(0.000)	5.184	3.175~8.464

**p < 0.05; ** p < 0.01; *** p < 0.001*

DISCUSSION

Less expensive injection substances increased the likelihood to injection for the drug users with lower income. In terms of current living arrangement, homelessness was found to be independent predictor of IDU. An individual is homeless if: either, there is no accommodation that they are qualified for possess;

or, it is not sensible for them to keep on possessing this accommodation. The result showed that homeless drug users had 1.62 times more chances to transit to injection as compared to those who had stable accommodation. Injecting drug users were more likely to have juvenile arrest history in comparison to DU (AOR=2.44).

Earlier age of drug initiation was significantly associated with a higher risk of transition to injection and had 1.94 times more the risk of transition into injection than those who start to use drugs at the age of 18 or older. The factor drug used first time was coded as marijuana, opium, alcohol, heroin and others where others included the inhalants, local cough syrups, tranquilizers and bhang (a drink made of cannabis plant, seeds and milk/water). The drug users who used marijuana (AOR=0.298), opium (AOR=0.21) and Alcohol (AOR=0.33) as first drug had less chances of injecting drug initiation in comparison to other type of drugs. Place of drug was not found to be significant factor in multivariate analysis.

In terms of sex behavior, the earlier age of first sexual experience had significant impact on the likelihood of injection initiation: compared to those drug users whose first sexual experience age greater than 17 years, the risk of injection initiation was about 3 times more for those experiencing sex at the age of 17 years or less. Multiple sex partners (AOR=2.08) implied higher risk of transition as compared to those who did not have any or only one sex partner. Drugs users sharing of syringe are a mobile population and this will result in the spread of blood borne diseases (Hepatitis B&C, HIV/AIDS) between people using drugs in different cities of the Pakistan.

The drug users who are not aware about the prevalence of HIV had more chance (AOR=5.18) for initiation of injecting drugs. There was no significant difference between IDU and DU in proportion of those who has experienced forced sex (sexually raped or assaulted).

Risk factors of transition into injection were established in relevance to demographical variables, drug use and sexual behaviors of the respondents. Injection initiation was increased by the following factors, Age, Marital Status, Income (Rs.), Occupation, Education, Homelessness, Juvenile arrested history, Age of Drug initiation, Type of drug used for the first time, Place of Drug Use, Age at 1st Sexual Experience, Casual sex partners before injection initiation, Awareness about HIV before injection initiation. Respondents were included from five big cities of Punjab, Punjab.

In present study average age of the respondents while responding was 33 years. Universally drug users have low rates of education. 73% of the drug users had no formal education. Study at hand revealed that 48% of the respondents were illiterate. Homelessness is the additional cause of transition of drugs suggested 53% of the IDUs as homeless. In current study 40% of the IDUs and 27% of the DUs were reported as homeless.

Occupation of the drug users is allied to injection initiation and commonly drug users are street survival. 49% of the IDUs, 88% of the DUs and 58% DUs were street survival (beggary and daily wages) respectively. Present study demonstrates 53.5% of the drug users as street survival. Respondents had no bases of earnings, compelled to use cheaper drugs (injections) to stimulate.

Preliminary age of injection initiation is also a risk for the wellbeing of drug users. The conventional age at injection initiation was nearly 19 and 17 years. The existing study specified that 52% of the respondents had age of drug initiation as less or equal to 17 years. Drug users had high rates of sexual activities in their undeveloped age. 45% of the drug users underway their first sexual practice at the age of 13 or less years, contrary to current study 24.6% of the respondents were of age less than or equal to 17 years at first sexual experience. Drugs and HIV transmitters are intersected. An estimated26.3% of the IDUs were HIV positive in Karachi, the prevalence of hepatitis B was 12(7.5%) and hepatitis C 151 (94.3%). In Faisalabad, Punjab province the HIV prevalence had stretched up to 52.5%. In Sargodha the second documented HIV outbreak was reported in 2007 more than half (51.3%) were confirmed HIV positive. In recent study most of the respondents were not aware of prevalence of HIV (72.2%) and Hepatitis (63.6%) before initiation of drugs. HIV also instigated by sharing of injection. IDUs who were injecting at public places were in more menace of needle sharing and caused more dangers for HIV as compared to those who were injecting solitary. The contemporary study indicated 81.2% of the IDUs and DUs were using drugs in exposed places.

Respondents that were younger in age or single, have low education; juvenile arrested history and having lack of awareness about Transmission ways of HIV/AIDS, were more probable to initiate injections. The drug users with fledgling age at drug start, are less matured, entrap sexual practices more. Occupation of the drug users is added component of transition into injection initiation. Most of the drug users were street survival.

The injection initiation was associated to a number of demographic, drug use factors and sexual behaviors of the respondents in Pakistan. The study had defined the risk factors of injection initiation in different cities of Pakistan and hence a better

approach to the reduction of usage of drugs would come into forth. Findings of the study are also valuable in segregating out some of the hidden factors, which were seemed insignificant. Moreover, it will help different non-governmental organizations working on drugs and harm reduction program about increasing understanding of the drug user's behaviors and in making the decisions for averting this.

CONCLUSION

Transition from drug use to injection drug use is alarming for sudden factors. Cautious practices such as access to sterile syringes, repossession and opiate exchange therapies are required to decrease high risk behaviors of IDUs in Pakistan. Awareness of the threats of injecting drugs and needle sharing should be highlighted thorough seminars, print and electronic media.

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