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FREQUENCY OF HBV, HCV, AND HIV AMONG INJECTION DRUG USERS (IDUS), AND CO-RELATION WITH SOCIOECONOMIC STATUS, TYPE USE AND DURATION OF SUBSTANCE USE.

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ABSTRACT… Psychoactive drug use is a continual and chronic psychological and physical disease that is characterized by persistent substance use, regardless of detrimental results. Hepatitis B, C and HIV infections constitute serious healthcare issues worldwide. To determine the frequency of HBV, HCV, and HIV among Injection Drug Users (IDUs), visiting a tertiary care centre at Karachi, Pakistan, co-relation with socioeconomic status, type of substance use and duration of substance use. **Study Design:** A descriptive cross-sectional study. **Setting:** Psychiatry Outpatient Department (OPD), Department of Psychiatry and Behavioral Sciences, JPMC, Karachi. **Period:** 5th Aug 2016 to 5th Feb 2017. **Material and Methods:** Total 280 cases of both genders having Injection Drug Use history were enrolled in the study. Non-probability (consecutive) sampling was done. The data was analysed on SPSS version 20.0. **Results:** The average age of patients was 32.26 ±9.83 years. Majority 256 (91.4%) were male. Out of 280, 142 (50.7%) were married, 108 (38.6%) were single, 20 (7.1%) were widow and 10 (3.6%) were divorced/separated. Most of patients belonged to lower socioeconomic class. Opioids were the most common substance used and most of patients were using substance for more than 2 years. Majority of patients were preliterate or educated till primary and were jobless. HCV was predominantly present followed by HBV, HIV as 47 (16.8%), 22 (7.9%) and 9 (3.2%) respectively. **Conclusion:** Frequency of infections with HBV, HCV and HIV is quite high and alarming.

Key words: HBV, HCV, HIV, Injection Drug Use, Blood borne.

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INTRODUCTION

Psychoactive substance utilize is a continuous and reoccurring mental and physical disorder, portrayed by constant and over the top substance taking conduct and utilize, independent of unfavourable outcomes. It is seen as a mind related problem as psychoactive substances change the brain function; alter its structure and influence its capacities. These mind changes can be continuing on and can provoke various risky and blocking hones.[1] Hepatitis B Infection (HBV), Hepatitis C Infection (HCV) and Human Insusceptible insufficiency Infection (HIV) pollutions constitute certified social protection issues the world over. HBV and HCV pollutions can achieve steady liver infections, including cirrhosis and hepatocellular carcinoma, while HIV illness can realize genuine sharp and deadly diseases.[2] As showed by world wellbeing association (WHO), more than 240 million people with HBV illness and 150 million people with HCV defilement, have consistent liver related issues world-wide.[3,4] There were around 35.3 million individuals tainted with HIV in 2012[5] and 10% of the patients with HIV disease in Europe and America are co-contaminated with HBV, and about 33% of the patients with HIV infection are co-tainted with HCV.[6] Injection drug use has been accepted a basic part in parenteral transmission of HCV, HBV, and HIV. Numerous investigations have depicted high commonness of antibodies to HCV (hostile to HCV) and hepatitis B centre antigen (against HBc) among injection drug use clients (IDUs) in the United States and other countries[7] and have estimated co-contamination rates of HIV, HBV, and HCV.[8] The spread of blood borne hepatitis

and HIV infections is on the rise and keeping this in mind this study was designed to determine the frequency of Hepatitis B, Hepatitis C and HIV among patients of Intravenous Drug Use (IDU), so that strategies could be made and preventive measures could be taken to control drug use and so on to prevent the spread of Hepatitis HIV, HBV, and HCV infections.

MATERIAL AND METHODS

This is a descriptive, cross-sectional study conducted at the Department of Psychiatry & Behavioral Sciences, Jinnah Postgraduate Medical Centre, Karachi, from 5th Aug 2016 to 5th Feb 2017. The sample size of this study was 280 calculated through standard sample size calculation formula. The clients who gave consent to participate in study, both males and females between ages of 18 to 65 years and using drugs through injectable routes were enrolled. Those clients who were non-co-operative, who were already positive cases before consulting at centre or those who have history of un-protected sexual contact were excluded from study. Ethical approval was taken from institute and informed consent regarding the inclusion of patient's data in this study was obtained after assuring them of confidentially and their right to withdraw from study at any time without even mentioning any reason. A semi-structured proforma containing demographic data, type and route of substance use, presence of HIV, HBV or HCV were filled in with clients' information. The data was analyzed on SPSS version 20.

RESULTS

A total of 280 clients, diagnosed cases of Drug Injection Users (DIUs) were included in this study. Most of the patient's age was between 19 to 38 years. The average age of the patients was 32.26 ± 9.83 years. Out of 280 cases majority 256 (91.4%) were male and 24 (8.6%) were female. Among 280 cases, 142 (50.7%) were married, 108 (38.6%) were single, 20 (7.1%) were widow and 10 (3.6%) were divorced/separated. Majority of patients were preliterate, about 48.5% were preliterate and 24.6% were educated till primary. Only 12.5% were educated up to middle and 7.1% were matriculated. Out of 280 cases 32.5% were unskilled professionals who work as laborers, 21.4% were jobless and doing nothing but using substances. Household substance users were 10.4% and 11.1% were those people who had job but were not working. Some of the clients were brought by family 47.1%, some came by themselves 27.5% and some 25.4% were referred by friends. Among 280 patients majority 124 (44.3%) were the cases of Opioids use followed by multiple substances 123 (43.9%), the cases of Benzodiazepine were 11.1% and Cannabis were only 0.7%. Most of patients 67.5% were belonging to lower socioeconomic class whose monthly income was less than 15,000 per month, 27.5% were earning between 15,000 to 30,000 per month and only 5% were having monthly income of above 30,000. Among 280 cases of substance users Hepatitis C (HCV) was present in 16.8% followed by Hepatitis B (HBV) as 7.9% and HIV as 3.2%.

Presence of	Frequency	%
None	180	64.3
HCV	47	16.8
HBV	22	7.9
HIV	9	3.2
Total	280	100.0

Table-I. Prevalence of HCV, HBV and HIV

		Socioeconomic Class			Total	P-value
		Less than 15000 per Month	15 to 30 Thousand per Month	30,000 to 100,000 per Month		
HIV	No	175	71	12	258	0.653
	Yes	14	6	2	22	
Total		189	77	14	280	
HBV	No	168	64	13	245	0.358
	Yes	21	13	1	35	
Total		189	77	14	280	
HCV	No	145	57	9	211	0.553
	Yes	44	20	5	69	
Total		189	77	14	280	

Table-II. Association of HIV, HBV and HCV with Socioeconomic class

		Type of Substance use				Total	P-value
		Cannabis	Opioids	Benzodiazepine	Multiple substances		
HIV	No	2	115	30	111	258	0.623
	Yes	0	9	1	12	22	
Total		2	124	31	123	280	
HBV	No	2	110	30	103	245	0.214
	Yes	0	14	1	20	35	
Total		2	124	31	123	280	
HCV	No	1	95	24	91	211	0.803
	Yes	1	29	7	32	69	
Total		2	124	31	123	280	

Table-III. Association of HIV, HBV and HCV with type of substance use

		Duration of Substance Use		Total	P-value
		Less Than Two Year	More Than Two Year		
HIV	No	46	212	258	0.110
	Yes	1	21	22	
Total		47	233	280	
HBV	No	43	202	245	0.365
	Yes	4	31	35	
Total		47	233	280	
HCV	No	41	170	211	0.038
	Yes	6	63	69	
Total		47	233	280	

Table-IV. Association of HIV, HBV and HCV with duration of substance use

DISCUSSION

This study has shown the frequency of Hepatitis C, Hepatitis B and HIV as 16.8%, 7.9% and 3.2% respectively. The frequency of HCV is 16.9% while a national survey conducted in 2005 had revealed HCV frequency 88% and 91% in IDUs of Karachi (Sindh) and Lahore (Punjab), respectively[9], the large difference could be due to, this is a hospital based study and those who are already diagnosed may have not approached for treatment and the population taken is only those who have visited for consultation purpose and the previous study was of survey type, however further research regarding this is needed. Another study conducted in 2003 evidenced HCV frequency of 93% and 75% among injection drug use (IDUs) of Lahore (Punjab) and Quetta (Baluchistan), respectively. While Achakzai et al in a smaller study in 2004 showed HBV, HCV, and HIV prevalence of 6%, 60%, and 24% respectively in the IDUs of Quetta[10], while this study has shown the prevalence of HBV, HCV and HIV as 7.9%, 16.8%, 3.2% respectively, which is quite low rate but the reason could be that this is one centre based study and the finding in this study may be quite incidental. Researches from Lahore and Larkana had assessed correlates of injection drugs use and HIV transmission. They had searched risk factors such as presence of an IDU friend, reuse of same syringe, cost of current drug and poly drug use.[11] In this study the HIV was prevalent as 3.2% with history of friend using injectable substance together. Another study within Pakistan has revealed the prevalence of Hepatitis B antigen 2.4% and Hepatitis C antibodies 3.0%[12], which is low as comparable to our study but again the difference is of methodology and population studied.

In another study at Eastern Anatolia, Turkey in 2015 has observed the frequencies of HBsAg and anti-HCV among drug addicts were 2.6%[13] and 9.4%, respectively which is comparable with our study, in the said research, no HIV positive was found among drug users but in our scenario the HIV is more prevalent. A study from Quetta Pakistan has shown the frequency of HBV, HCV and HIV among IDUs as 43%, 44.7% and 0.33%[14] respectively, which is somehow comparable with ours though the morbidity of HBV and HCV in our

study is lower than that. In high risk groups like drug abusers, particularly injection drug users (IDUs) a survey conducted by NACP shows 0.5% sero-prevalence of HIV and 91.8% sero-prevalence of HCV in IDUs in Lahore and a sero-prevalence of 23.3% of HIV and 88% of HCV in Karachi during 2005.[15] However in current study, the frequency of HBV infection is 9.7% and HCV is 16.9% which is less than that detected at Karachi and Lahore previously, in this regard further research is warranted.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Muhammad Ilyas Jat	Concept, Design, Statistical analysis & Editing of manuscript.	
2	Ghulam Rasool Rind	Data collection, Result writing and manuscript writing.	