



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1406268>Available online at: <http://www.iajps.com>

Research Article

**FREQUENCY OF HEPATITIS B, HEPATITIS C AND HIV
AMONG DRUG ADDICTS AT DOST FOUNDATION
PESHAWAR**¹Abdul Malik, Aman Ullah, ¹Jalal Khan, ¹Alam Khan¹Institute of Paramedical Sciences Khyber Medical University, Peshawar**Abstract:****Objectives:** To find out the prevalence of Hepatitis B, Hepatitis C and HIV in drug addicts.**Study design:** Cross sectional study**Study Setting and duration:** Samples were collected from Dost Foundation non government nonprofit organization in Peshawar Khyber Pukhton Khowa Pakistan during the period of August 2017 to January 2018.**Methodology:** By ICT Rapid Strip Test 120 drug addicts were examined for the Deduction of HBsAg, Anti HCV and Anti HIV antibodies in the laboratory of Institute of Paramedical Sciences Khyber Medical University, Peshawar, Pakistan.**Results:** The 120 drug addicts were male and into two categories i-e Injecting drug user (IDU) and Non-Injecting drug user (Non-IDU) with further division into above 18 years and below 18 years old. HBsAg, Anti HCV and Anti HIV in IDU is 38.5%, 12.3 % and 13.85% respectively while in non-injecting drug users HBsAg, Anti-HCV and HIV is 25.45%, 3.65% and 1.8% respectively. HIV infection was found significantly increased in IDU than non-IDU's.**Conclusion:** HBV, HCV and HIV infections are more prevalent in drug users. Although these infections are also higher in general population but drugs users exceed limits compared to them.**Key words:** HBS, HCV, HIV, ICT, drug user.*** Corresponding author:****Abdul Malik,**Institute of Paramedical Sciences Khyber Medical University,
Peshawar**E-mail:** abdulmalik52113@gmail.com**Mobile:** +923023090524

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Please cite this article in press Abdul Malik et al., *Frequency of Hepatitis B, Hepatitis C and HIV among Drug Addicts at Dost Foundation Peshawar.*, Indo Am. J. P. Sci, 2018; 05(08).

INTRODUCTION:

Hepatitis B & C are potentially life threatening and highly infectious diseases, leads to hepatocellular carcinoma and liver cirrhosis. [1,2]. Another alarming and body fluids borne virus human immune deficiency virus (HIV) have very deleterious effects on human health because this virus destroy immune system of the body [3]. These life intimidating infectious diseases are transmitted through transfusions, surgical equipments, dental procedure, unprotected sex, sharing of needles and household items like toothbrushes, razor and from the infected blades of barbers [4]. The outcome of these anomalies depends on different factors like immunity status, age but genetic fickleness of virus is the main focus of research recently [5]. The reason may be lack of appropriate health services or poor financial status and inadequate public attentiveness about transmission of major infectious diseases including HBV, HCV and HIV [6]. These communicable diseases are among the most substantial troubles in the world, approximately 172-250 million people use illicit drugs of these mostly are in the age range of 15-64 years [7]. It is estimated that 30% and 3% of the world population have serologic confirmation with HBV and HCV [2, 8]. A report in 2007 showed that needle drug use was the third most threat aspect for HIV contagion in United States [9].

In Pakistan the number of drug abuser increases rapidly during the last three decades, according to National Health Survey on drug abuse report in 1993 there were 3 million drug abusers across the country Afghan refugees contribute to this pool as they considered it as a tradition and for recreation purposes [10, 11]. 32 years before first case of HIV was diagnosed in Pakistan, since that time Pakistan is now one of the four countries in Asia along with Indonesia, Malaysia and Philippine where HIV epidemics expands with new number higher every year than preceding year [12]. Previously a study conducted in Karachi Pakistan showed that the prevalence of Hepatitis B and C is also considerably higher in illicit drug users [13].

The data is inadequate on occurrence of HCV, HBV and co-infection with HIV in drug abusers. Drug addicts are possible source of infection and are a serious threat for their surroundings. It is significant to investigate and put of further spread of these infections by precautionary measures and suitable control.

The aim of Research was to know about the frequency of Hepatitis B, Hepatitis C & HIV in drug abusers who came to Dost Foundation for Rehabilitation. To know about the status of above mentioned infections is very important because of its risk to society. According to the best of my knowledge there is no data in Peshawar regarding these infections in drug users. Also the relative analysis of IDUs and DU's will help to understand the association of these infections with the route of drugs used.

METHODOLOGY:

Cross sectional study was conducted to find out the prevalence of HBV, HCV and HIV infections among illicit drug users. A total of 120 convenient samples were collected during the period August 2017 to January 2018 in **Dost Foundation** non government nonprofit organization in Peshawar Khyber Pukhton Khowa where male drug abusers were selected as a population. Samples were tested by serological immune chromatographic techniques (ICT) for HBs Ag, HCV Ab and HIV in laboratory of **Institute of Paramedical Sciences Khyber Medical University Peshawar**.

Statistical Analysis

The Chi square test was used to find the difference in prevalence between IDU's and non-IDU's.

A P-value of less than 0.05 was considered as significant.

RESULTS:

A total 120 drug addicts were male. They were divided into two categories i-e Injecting drug user (IDU) and Non-Injecting drug user (Non-IDU) with further division into above 18 years old and below 18 years old.

The percentage of positive cases of HBs, Anti HCV and Anti HIV in above 18 years age was 39%, 07% and 09% while in IDUs the percentage of positive cases was 40.3%, 9.7% and 12.9% similarly the percentage of positive cases in Non-IDUs was 36.8%, 2.6% and 2.6% respectively. As shown in table 3.1. In below 18 years age the percentage of positive cases of HBs, Anti HCV and Anti HIV was 0%, 15% and 5% similarly the percentage of positive cases in IDUs was 0%, 66.7% and 33.3% while in Non-IDUs the percentage was 0%, 5.9% and 0% respectively. As shown in table 3.2.

The overall percentage of positive cases of HBs, Anti HCV and Anti HIV was 32.5%, 8.3% and 8.3%. The total positive of IDUs was 64.6% while in Non-IDUs the total percentage was 30.9%. As shown in table 3.3.

In our study HBsAg, Anti HCV and Anti HIV in IDU is 38.5%, 12.3 % and 13.85% respectively while in non-injecting drug users Anti-HBs, Anti-HCV and HIV is 25.45%, 3.65% and 1.8% respectively. The

prevalence of HBsAg in IDU and in Non-IDU is increase non-significantly as P value is 0.12 mean greater from 0.05 and similarly the prevalence of Anti HCV in IDU and Non-IDU is also increase non-significantly as P value is 0.08 also greater from 0.05 while in Anti HIV the prevalence of IDU and Non-IDU is increase significantly as P value is 0.01 which mean that HIV is significantly prevalent in IDU as shown in table 3.4.

Table 3. 1: Distribution of HBV, HCV, HIV, in Injecting Drug User (IDU) and Non Injecting Drug User (Non-IDU) in Above 18 years old.

| Test | Total Cases n = 100 | | IDUs n = 62 | | Non-IDUs n = 38 | |
|----------|------------------------|----------|----------------|-----------|--------------------|-----------|
| | Positive | Negative | Positive | Negative | Positive | Negative |
| HBsAg | 39(39%) | 61(61%) | 25(40.3%) | 37(59.7%) | 14(36.8%) | 24(63.2%) |
| Anti HCV | 07(07%) | 93(93%) | 06(9.7%) | 56(90.3%) | 01(2.6%) | 37(97.4%) |
| Anti HIV | 09(09%) | 91(91%) | 08(12.9%) | 54(87.1%) | 01(2.6%) | 37(97.4%) |

Table 3. 2: Distribution of HBV, HCV, HIV, in Injecting Drug User (IDU) and Non Injecting Drug User (Non-IDU) in Below 18 years old.

| Test | Total Cases n = 20 | | IDUs n = 03 | | Non-IDUs n = 17 | |
|----------|-----------------------|----------|----------------|-----------|--------------------|-----------|
| | Positive | Negative | Positive | Negative | Positive | Negative |
| HBsAg | 00 | 20(100%) | 00 | 03(100%) | 00 | 20(100%) |
| Anti HCV | 03(15%) | 17(85%) | 02(66.7%) | 01(33.3%) | 01(5.9%) | 16(94.1%) |
| Anti HIV | 01(5%) | 19(95%) | 01(33.3%) | 02(66.7%) | 00 | 17(100%) |

Table 3.3: over all distribution of HBs, Anti HCV and Anti HIV among drug addicts

| All test | HBs | | Anti HCV | | Anti HIV | | IDUs n = 65 | | Non-IDUs n = 55 | |
|----------|---------------|---------------|--------------|----------------|--------------|----------------|----------------|---------------|--------------------|---------------|
| | +ve | -ve | +ve | -ve | +ve | -ve | +ve | -ve | +ve | -ve |
| 120 | 39 (32.5%) | 81 (65.5%) | 10 (8.3%) | 110 (97.7%) | 10 (8.3%) | 110 (97.7%) | 42 (64.6%) | 23 (35.4%) | 17 (30.9%) | 38 (69.1%) |

Table 3. 4: Prevalence of HBV, HCV and HIV in IDU and Non-IDU

| HBV, HCV and HIV Test | IDU-Users n = 65 | Non-IDU-Users n = 55 | P Value |
|-----------------------|---------------------|-------------------------|---------|
| HbsAg | | | |
| Negative | 40 (61.5%) | 41 (75.55%) | |
| Positive | 25 (38.5%) | 14 (25.45%) | 0.12 |
| Anti-HCV | | | |
| Negative | 57 (87.7%) | 53 (96.35%) | |
| Positive | 08 (12.3%) | 02 (3.65%) | 0.08 |
| Anti-HIV ½ | | | |
| Negative | 56 (86.15%) | 54 (98.2%) | |
| Positive | 09 (13.85%) | 01 (1.8%) | 0.01 |

DISCUSSION:

HBV and HCV infections lead to life threatening liver disorders while HIV is a lethal cause of AIDS. Illicit drug users acquire HIV infection by sharing drug injections and unprotected sex. Many studies have been conducted on blood borne infections among illicit drug users in different cities of Pakistan such as IDUs treatment centers, prisons and in communities. It is well known that manipulating an effective organization approach to control the occurrence of HIV, HCV, and HBV is a huge challenge for health establishment. Thus information among different populations and predisposing factors among them will be helpful in understanding the prevalence of these infections.

A study shown that drug introduction through injection is the highest risk factor for acquirement of HBV, HCV and HIV infections [14]. Our Study shows presence of HBV, HCV and HIV (38.5%), (12.3%) & (13.85) respectively in injection drug users. In 2007, introduction of drug through injection was the third most commonly reported risk factor for HIV illness in the United States which shows IDUs are at highest risk for these infections [15]. In Pakistan Narcotics Control Board, in their first survey in 1985 estimated that there were approximately 1.3 million (33 lac) users of any matter living in Pakistan. The last evaluation of

opioid users was conducted in 2006 also supported by UNODC, using a multiplier/standard method estimated that there were 624,000 habitual opiate users and 130,000 citizens who injected drugs in the nation. These figures are yet estimated to have increased for both DUs and IDUs [16]. Infections like HBV, HCV and HIV are quite common in this group of population due to sharing injections and certain other social malpractices.

Tow case control studies in Larkana and Lahore in 2003 have assessed correlation of inject able drugs use and HIV transmission [17, 18]. They recognize risk factors that were the friends of IDU and the major one was the ruse of needle and syringes [19, 20]. A high setback rate could be associated to no planned rehabilitation programs in Pakistan. Discussion with the existing rehabilitation programs signify that as immediately as an addict enters some psychotherapy he is made to give up .IDUs comprise the most significant groups those share infected needles and other tools used in injection, , use cocaine, use gunfire galleries, keep unprotected sexual actions, and share shaving apparatus were at high risk of being infected. They not only have the maximum prevalence of infections, but also comprise a latent reservoir for these infections in the current society.

Limitations of the study are the tests were performed on ICT and the number of inject able drug users below the age of 18 years were very low.

CONCLUSION:

HBV, HCV and HIV infections are more prevalent in drug users. Although these infections are also higher in general population but drugs users exceed limits compared to them. HIV was more prevalent in IDU's than non-IDU's. These conditions are very alarming and drug users can transmit these agents to general population. The law enforcement authorities must do their best to control the use of drugs.

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