



CODEN [USA]: IAJPBB

ISSN: 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

<http://doi.org/10.5281/zenodo.3893763>

Available online at: <http://www.iajps.com>

Research Article

INCIDENCE RATE OF HUMAN IMMUNO-DEFICIENCY VIRUS AND HEPATITIS B & C INFECTIONS IN DRUG ADDICTS AT SHAIKH ZAYED HOSPITAL RAHIM YAR KHAN

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Article Received: April 2020

Accepted: May 2020

Published: June 2020

Abstract:

Objective: The aim of this study is to determine the rate of incidence of HIV (Human Immuno-deficiency Virus) & Hepatitis (B & C) in drug addicts in Shaikh Zayed Hospital Rahim Yar Khan.

Methodology: This research work carried out in Shaikh Zayed Hospital Rahim Yar Khan. A sum of 453 drug addicts got admission in the ward from August 2017 to December 2019. The data about their past history was gathered on a well-organized form and screening of these patients carried out for HIV and hepatitis infections. In addition, the utilization of three different types of screening methods as Unigold, Biline & Determine carried out for the screening of HIV.

Results: There were 98.0% (n: 394) male and 2.0% (n: 8) females. The average age of the participants was 32.20 ± 8.80 years. Overall rate of incidence of HIV was 21.10%, HCV was 34.30% and HBV was 3.20% in drug addicts. Among positive HIV drug addicts, 84.70% patients used drugs through the injections in comparison with the 15.30% patients who were taking drugs through oral methods. The relapse rate of use of drug was very high as 83.30% in all drug users. Among these drug addicts, 47.20% were present with past history of treatment whereas other 52.80% never sought any therapy. The past history about drug abuse in family showed that 32.20% drug addicts were present with other family members who were also drug addicts. Furthermore, approximately 11.40% drug addicts were present with past history of transfusion of blood.

Conclusion: Prevalence of HIV, HBV and HCV in drug addicts particularly those patients who used drugs through IV injections. The rate of relapse was also very high and past history of use of drug in the family may also prompt a person towards becoming a drug user.

KEYWORDS: Prevalence, Addict, Human Immuno-Deficiency Virus, Relapse Rate, Injection, Hepatitis Viral Infections.

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Please cite this article in press Muhammad Irfan et al., *Incidence Rate Of Human Immuno-Deficiency Virus And Hepatitis B & C Infections In Drug Addicts At Shaikh Zayed Hospital Rahim Yar Khan.*, Indo Am. J. P. Sci, 2020; 07(06).

INTRODUCTION:

Blood-borne infections due to viruses are serious problem of health in the intra-venous drug users. The use of alcohol and drugs prone the users at high risk of acquiring hepatitis viral infections. The most important health threats among drug addicts who use drugs through IV injections are HBV and HCV infections. Intra-venous drug addicts suffer from different health issues including psychological illness and HIV infection and thus needing health care from various healthcare providers. About 0.80 to 1.40 million population is living with infection of HBV and 2.70 to 3.90 million population is living with HCV infection in USA [1]. Persons who are suffering from HBV and HCV infections, they at high risk to acquire some other diseases as HIV infection transmitted through IV drug use [2]. In 2008, there was an estimation that there were total 15.90 million IV drug users in whole world, with 3 million people living with the infection of HIV. Drug addiction has strong association with HIV infection or AIDS from the start of this epidemic. This epidemic is increasing among the IV drug addicts with incidence of 20.0% approximately. National data states the infection rates in some important cities from 15.0% to 50.0% in the estimated 150000 IV drug addicts in our country, Pakistan.

Viral hepatitis is a contagious complication and those persons, who are in direct contact with surfaces, and equipment contaminated with blood having infection are at high risk of acquiring infections of HBV and HCV and which can cause severe damage to liver and leads to death after some years of infection [4]. Some research works have showed that IV drug addicts are more likely to acquire infection of HCV. People got infection of HCV through the direct contact of the blood of the persons already present with this infection and sharing of injections by drug users [5]. AEM (Asian Epidemic Modelling) carried out a research study in the complete year of 2015 and discovered that in our country Pakistan, the main reason of transmission of HIV among injecting drug addicts is the utilization of contaminated syringes. Estimated range of the amount of the injecting drug addicts was from 104804 to 420000. Overall rate of incidence of HIV was approximately 40.0% in different cities, including Faisalabad as 52.50%, Dera Ghazi Khan as 49.60%, Gujrat as 46.20%, Karachi as 42.20% and Sargodha as 40.60% [6].

One UN survey conducted in Pakistan highlighted that 48.0% drug addicts who uses syringes for inject of drugs are present with HIV infection. The collection of the data carried out from 14 different cities. This survey reported alarming fact that twenty-four thousand drug users were HIV positive in Karachi. Moreover, 50.0% specimens in Kasur and 25.0% samples in Bahawalpur displayed the

similar results [7]. One other survey carried out on sample size of 545 HIV infected drug users. In spite of high incidence of HIV infection in the drug addicts, approximately 54.70% (n: 298) were present with infection of HIV whereas 4.20% (n: 23) were on Anti-retroviral therapy (ART) [8]. In USA and Europe, there is high prevalence of HCV infection in IV drug users. Among intra-venous drug addicts, 50.0% to 90.0% were infection from infection of HCV [9]. Our country, Pakistan is also facing the increased risk of HIV & hepatitis which may be because of adverse education quality, poverty, discrimination, ignorance about transmission of HIV infection and stigma to declare their positive status in society [10].

MATERIAL AND METHODS:

This research work was conducted in Shaikh Zayed Hospital Rahim Yar Khan. The duration of this study was from August 2017 to December 2019. We collected the history of every sample and screening of these samples carried out for infection of HIV, HBV and HCV. Among 453 drug addicts, 11.30% (n: 51) did not undergo screening and escape from hospital, therefore, we discarded their data. We took the consent of every sample after explain them the purpose of this screening. The utilization of two main sources carried out for the collection of data. Firstly, we used the self-structured history Performa for the collection of the data about age, sex, place of living, level of education, profession, children, marital status, monthly salary, social and economic status, number of offspring, birth order, total duration of addiction, source for drugs, history of drugs in family, past history of mental illness in family and other clinical diseases, status of HIV, past history of transfusion of blood, rate of relapses, issues with police, imprisonment history, previous therapies and discharge mode.

Secondly, the screening of every sample carried out for infections of HCV, HBV and HIV. All the patients with initial positive results got referrals to the special clinic of testing for the confirmation of results. Further three types of testing were used for the screening of HIV as Unigold, Bioline & Determine. SPSS V. 20 was in use for the statistical analysis of the collected information. The analysis of variables regarding demography carried out with the help of descriptive statistics.

RESULTS:

402 drug addicts were the participants of this research work. There were 98.0% (n: 394) male and 2.0% (n: 8) females with an average age of 32.20 ± 8.90 years. Most of the samples 63.20% (n: 254) were married and 73.10% (n: 294) drug users were from urban regions. About 18.40% (n: 74) addicts were present with primary, 25.90% (n: 104) had

middle, 15.20% (n: 61) ha matriculate and 34.30% (n: 138) addicts were uneducated. Regarding profession, 33.10% (n: 133) addicts were laborer and 22.40% (n: 90) addicts were doing private jobs, however 16.90% (n: 68) addicts were not performing any job. About 85.30% (n: 343) addicts were from low social and economic class. Among specimens, 21.10% (n: 85) addicts were present

with infection of HIV, 3.40% (n: 13) were present with HBV infection and 34.30% (n: 138) addicts were suffering from HCV infection. Among eighty-five drug addicts having HIV infection, 84.70% (n: 72) addicts were using drugs intravenously through injection, whereas 15.30% (n: 13) drug addicts were using these drugs orally.

Table-I: Status of Disease and Route of Drug Administration Among Drug Users With HIV, Hepatitis B & C

Disease	Status of Disease	Total (n = 402)	Route of Drug Administration	
			Intravenous	Non-intravenous
HIV	Positive	85 (21.1)	72 (84.7)	13 (15.3)
	Negative	317 (78.9)	90 (28.4)	227 (71.6)
Hepatitis B	Positive	13 (3.4)	7 (53.8)	6 (46.2)
	Negative	371 (96.6)	139 (37.5)	232 (62.5)
Hepatitis C	Positive	135 (34.3)	93 (68.9)	42 (31.1)
	Negative	262 (65.7)	65 (24.8)	197 (75.2)

Findings also shows that out of one hundred and thirty-five patients with positivity of HCV, 68.90% (n: 93) addicts were using injection for intake of drugs, whereas 31.10% (n: 42) addicts were not using injections. Results also showed that among 3.40% (n: 13) drug addicts with infection of HBV, 53.80% (n: 7) addicts were taking drugs through injections and 46.20% (n: 6) addicts were not using injection for the intake of drugs.

Table-II: Information Related to Drug Use (N=402)

Variables	f (%)	
Years of drug abuse	Less than a year	11(2.4)
	1-5 years	265 (58.5)
	6-10 years	6 (1.3)
	11-15 years	82 (18.1)
	16-14 years	52(11.5)
	More than 20 years	37(8.2)
Pre-Abused Drug	Cannabis	278 (59.4)
	Alcohol	41 (8.8)
	Heroin	33 (7.1)
	Opium	50 (10.7)
	White Crystal	22 (4.7)
Currently Abused Drug	Cannabis	22 (4.7)
	Heroin	124 (26.4)
	Opium	26 (5.5)
	White Crystal	136 (28.9)
	Marijuana	37 (7.9)
	Button	23 (4.9)
	Benzodia	27 (5.8)
	Alcohol	4 (0.8)
Relapse rate	Relapse	378 (83.4)
	No relapse	75 (16.6)
Previous treatment	Treatment	214 (47.2)
	No treatment	239 (52.8)
Family history of drug abuse	Present	137 (30.2)
	Absent	315 (69.5)
Family history of psychiatric illness	Present	54 (11.9)
	Absent	397(87.6)
History of blood transfusion	Present	48(11.9)
	Absent	354(88.1)
Problem with police	Yes	169(42.0)
	No	233(58.0)
History of imprisonment	Yes	143(35.6)
	No	259 (64.4)

We also discovered that 58.50% (n: 265) samples were using drugs from last five years or less whereas 18.10% (n: 82) were utilizing drugs from last eleven to fifteen years. Total 83.40% (n: 378) drug addicts stated to have relapsed in past years whereas seventy-five (16.60%) addicts did not face any relapse. Among total patients, 47.20% (n: 214) addicts had sought therapy in past. A sum of total 30.20% (n: 137) addicts stated to be present with the past history of drug abuse in members of their families and 11.90% (n: 54) addicts stated past history of mental illness in their close family members. It was discovered that 11.90% (n: 48) addicts were present with past history of transfusion of blood. Approximately 42.0% (n: 169) addicts stated issues with police and 35.60% (n: 143) addicts were present with past imprisonment history.

DISCUSSION:

In this research work, we found out that the prevalence of infection of HIV, HBV and HCV was very high in the drug addicts. One other research work conducted in 2009, surveyed five hundred and fifty-two addicts and discovered that the rate of incidence of HCV infection was 65.40%. It was also discovered that most of the samples 65.90% were sharing IV equipment and the risk of the transmission of new patients of drug addiction was very high [11]. There were total 85.30% drug users from lower social and economic class. One other research work performed on two hundred and fifty drug addicts registered in Amritsar in the year of 2012 found that 9.60% (n: 24) were present with infection of HIV, 23.60% (n: 59) addicts were present with infection of HBV whereas 14.80% (n: 37) addicts were present with infection of HCV. Most of the patients in that research work were also from low social and economic class [12]. One other research work conducted in 2007 stated that transmission of HCV is possible through blood contact [13]. There is association of HIV infection with the homelessness, previous STIs (Sexually Transmitted Infections), daily injections, front and back loading. Some other risk factors for HIV infections are use of shared syringe, cocaine injections, stating front or back loading and imprisonment [14].

A sum of total 30.20% (n: 137) addicts stated the past history of drug addiction in members of their family and fifty-four (11.90%) stated the past history of mental illness. Persons having severe psychological illness are at high of acquiring blood-borne viral diseases which normally have association with the low social and economic class, use of alcohol and drugs, gender and ethnicity [15]. White examined the incidence of HIV and HCV infections and related risk behaviors in drug users of IV injections in two cities of USA. There was high prevalence of HCV and HIV infections as 96.0% and 2.80% respectively. About 87.50% IV drug addicts stated to share their utilized injections to other addicts and 85.90% addicts obtained the utilized injections from others. Very common practices of sharing are responsible for the high transmission of both infections in future.

CONCLUSION:

The prevalence of HCV infection was high in the drug addicts particularly in those who were using these drugs through injections. Further, HIV infection was discovered to be 2nd most prevalent complication, but the rate of incidence of HBV infection was not high. The rate of relapse of drug use was much high in the drug addicts and past history of use of drugs in close family members may prompt the persons towards becoming a permanent user of these drugs.

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