

PREVALENCE OF HEPATITIS C VIRUS AND HUMAN IMMUNODEFICIENCY VIRUS IN INJECTION DRUG USERS OF KHYBER PAKHTUNKHWA, AND FACTORS AFFECTING ITS OCCURRENCE

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Abstract

Objective: Our main objective was to find out the prevalence of Hepatitis C virus and Human immunodeficiency virus and its co presence in injection drug users. We have to show the difference of occurrence of these viruses in injection drug users who had sexual relation with female sex workers or male sex with male, and those who had not; those who share the syringe and those who do not. Condition related epidemiology to be sought out.

Materials & Methods: This cross sectional analytical study with sub groups of cases and controls on the basis of presence or absence of different variables in injection drug users, was carried out in the rehabilitation center of Dost Welfare Foundation situated in the district Peshawar. Total study duration was 6months. Convenience sampling was done and patients age greater than 15 years, male sex and abusing injection drugs for at least one year were selected. Patients age less than 15 years, not consenting or not completing the interview were excluded. Individuals numbered 57 were selected and interviewed for the questions in the Pro forma (questionnaire). The lab results were obtained from the laboratory and register of Dost welfare Foundation. Results were prepared by manually analyzing data and presented through MS Word.

Results: The results showed that the prevalence of Hepatitis C virus among injection drug users was 26.3% (95%CI=14.8% to 37.7%) and that of Human immunodeficiency virus was 15.8% (95%CI=6.3% to 25.2%), while 5.3% of the injection drug users were co-infected with Human immunodeficiency virus and Hepatitis C virus. Among the injection drug users 52.6% shared the syringes or other drug equipment and among them 30% (odds ratio=1.5) had Hepatitis C virus, 13.3% (odds ratio=0.67) had Human immunodeficiency virus and 3.3% had both Hepatitis C virus and Human immunodeficiency virus. Similar number of injection drug users had unlawful sex with FSW/MSM i.e. 52.6% and among them 23.3% (odds ratio=0.72) had Hepatitis C virus and 23.3% (odds ratio=3.8) had Human immunodeficiency virus. Injection drug users that had unlawful sex as well as sharing the syringe and other drug equipment were 31.6% and among them 38.9% had Hepatitis C virus and 11.1% had Human immunodeficiency virus.

Conclusion: The Hepatitis C virus prevalence among injection drug users in our study population is not as common as in other parts of this country. Human immunodeficiency virus seems to be more prevalent in injection drug users in our study area as compared to other parts of this country. Sharing syringes or other drug equipment is an important risk factor for Hepatitis C virus and unlawful sex for Human immunodeficiency virus.

Keywords: Injection drug users. Human immunodeficiency virus. Hepatitis C virus. Syringes. Female sex workers.

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INTRODUCTION

Recent reports regarding prevalence of human immune deficiency virus (HIV) and hepatitis C virus (HCV) in injection drug users (IDUs) in Pakistan is

alarming and extensive research is needed to evaluate the potential for spread of these viruses and to find out the risk factors in order to be avoided. We have studied different national and international articles which show that injecting drug and specially using the used one and sharing syringes is the main cause of HCV and second common cause for HIV among injecting drug users and general population. We are working to find the prevalence of HCV and HIV in IDUS; to provide base to any research work for associating different risk factors; and to prove or disprove any work carried out to relate the IDUS and general population for HCV and HIV.

An article published by Journal of medical association Pakistan and carried out by people of national institute of health in collaboration with Pakistan medical research council and world health organization says that prevalence of HCV is 13.0% and 10.3% in high risk groups (including commercial sex workers and IDUS). A newspaper "Pakistan Observer" published on 8th august, 2012, "World Health Organization (WHO) has rated Pakistan as 2nd Country in the world having high rates of chronic infections". About 8.6 Million Pakistanis are affected with Hepatitis C, the WHO report said. An article published in 2006 shows that 88% of IDUS in Lahore and Quetta were HCV positive and none were HIV positive¹. Another report shows that 57% +/-17.7% IDUs in Pakistan are infected with HCV². The prevalence of HIV in IDUs in Rawalpindi and Abbotabad was reported as much as 2.6% and 0% respectively, while HCV was 17.3% and 8% respectively³.

The statistics shows a grim picture. HIV and HCV have entered into the IDUS population and percentages are very high. There are potentials for spread of these viruses into the general population. This is because most of the injectors have still social interaction with their relatives, especially their wives, and friends. They do donate blood when needed by their friends and relatives. The vertical transmission to their children has potential to create families infected with HCV and HIV. The injectors have a high desire for sex and most of them have encounters with female sex workers. A single FSW if infected can infect hundred other individuals; FSW and its seekers are also up the hill in Pakistan and in Peshawar.

The injection method of drug abuse has probably come here from Punjab. This region is at more risk

because it is surrounded by the poppy cultivating regions, where every other drug is available and can be easily transported to the city. Moreover, there is no drug regulatory authority working effectively in this region so every type of medicinal drug is available for the people to abuse. This is the reason that the no. of drug users and Injection drug users are increasing and so will increase the no. of HIV and HCV cases. Another factor worth mentioning is that the people here are mostly illiterate and they know very little about the impacts of their practices on their health so the use of used syringes, sharing syringes and other equipment is thought to be highly prevalent among IDUS which can bring up the HCV and HIV cases. US and Europe has a high literacy rate and people know more about their health, and the impact of practices they do, on their health, so if the percentage is high in these countries the situation seems to be worse in our area.

Very little is known about the epidemiology of HCV and HIV in injection drug users in Khyber Pakhtunkhwa either no research is ever done or its unpublished.

MATERIALS AND METHODS

A cross sectional analytical study with sub groups of cases and controls on the basis of presence or absence of different variables was conducted on IDUs in the rehabilitation center of Dost Welfare Foundation situated in the district peshawar where patients were admitted from Peshawar, Charsadda, Mardan, Laki Marwat, swabi, and Nowshehra.

An interviewer administered questionnaire was prepared which was approved by our supervisor and President Dost Welfare Foundation. Letter from the Community Department, Khyber Medical College, on the name of president Dost welfare Foundation Peshawar, Psychiatry unit LRH, and Mental hospital Central jail Peshawar were obtained. We conducted our study at Dost welfare foundation, Shahi Bala Peshawar as the other institutions did not allow us for study due to some administrative issues. IDUs that were undergoing rehabilitation at the said center were identified and counseled about the study. IDUs of age greater than 15 years, male sex and abusing injecting drugs for at least one year were selected. Patients age less than 15 years, not consenting or not completing the interview were excluded. Among IDUs 57 individuals consented and were selected and

interviewed for the questions given in questionnaire. The results for HIV and HCV (PCR) were confirmed from the center where the patients were admitted. The questions about sharing drug equipment, blood transfusion, dental and surgical work, and unlawful sex were specially stressed. The data was collected and analyzed; means and odd ratios were calculated for different variables. The results were prepared with MS Word.

RESULTS

The results show that the prevalence of HCV among injection drug users is 26.3% (95%CI=14.8% to 37.7%) and that of HIV is 15.8% (95%CI=6.3% to 25.2%). The co-presence of HCV and HIV among IDUs is 5.3%. Among the injection drug users 30/57 (52.6%) shared the syringes or other drug equipment and among them 30% (odds ratio= 1.5) had HCV, 13.3% (odds ratio= 0.67) had HIV and 3.3% have both HCV and HIV. The others 27/57 (47.4%) denied sharing the syringe and among them 22.2% were HCV positive, 18.5% were HIV positive, and 7.4% had both HCV and HIV. Prevalence of unlawful sexual relations with FSW/MSM was 52.6% and among them 23.3% (odds ratio=3.8) had HIV, and 23.3% (Odds ratio=0.72) had HCV. On the other hand, the IDUs who had no unlawful sex (47.4%), 29.6% had HCV and 7.4% had HIV. The study also show that 31.6% IDUs had a positive history of both sharing the syringe and unlawful sexual encounters and among them 38.9% had HCV and 11.1% had HIV.

Among IDUs, the history of dental work, surgery or blood transfusion was positive in 38.5% and prevalence of HCV in these individuals was 18.1% and that of HIV 31.8%. The individuals who had history of both dental work, surgery or blood trans-

fusion and of sharing drugs were placed in Gr1 and those who had history of only dental work, surgery or blood transfusion were placed in Gr2. In Grp1, 20% (OR=1.25) were HCV positive and 20% (OR=0.35) were HIV positive. In Grp2, 16.7% had HCV and 41.6% had HIV.

Most of the IDUs were in the age group of 26-30 years with the mean age of 28.1 years. The mean duration of drug abuse was 8.8 years with most of the IDUs abusing drug for 1-4 and 4-8 years. The average no. of pricks per day was 3.5 and most of the IDUs had 3-4 pricks per day. Most of the drug abusers had 1-3 sharing partners with mean of 2.5. of the IDUs, 27/57 (47.4%) were married and 30/57 (52.6%) were unmarried. Among the married 27(47.4%) individuals, 22.2% were HCV positive and 11.1% were HIV positive.

DISCUSSION

Fortunately, as the result shows, the HCV prevalence among injection drug users is not as common as in other parts of this country where these viruses have caused epidemics, like in Lahore and Quetta where 88% IDUs were HCV positive¹. Global burden of HCV in IDUs is similar across the regions as in Europe where the Hepatitis C European Network for C-operative Research (HENCORE) group reported a prevalence of hepatitis C of 80% among intravenous drug users, while in Australia, a study carried out in Melbourne showed 74% HCV positive IDUs^{6,7}. HIV seems to be more prevalent in IDUs in our study area as its 15.8% as compared to other studies like in Rawalpindi where its 2.6% and in abbotabad where its 0%³. HIV prevalence is subject to variation in different populations and in the same population at different times. This is because injec-

Table 1: Prevalence overall, in sharing and in unlawful sex IDUs.

Prevalence of HCV and HIV in IDUs			Comparison b/w sharing and not sharing the syringes/drug equipment.				Comparison b/w IDUs having unlawful sex and no unlawful sex					
Virus	%age	95%CI	Sharing. 52.6%			Non sharing. 47.4%		Sexual Hx (52.6%)			No sex Hx	
			Virus	%age	OR	Virus	%age	Virus	%age	OR	Virus	%age
HCV	26.3	14.8-37.7	HCV	30	1.5	HCV	22.2	HCV	23.3	0.72	HCV	29.6
HIV	15.8	6.3-25.2	HIV	13.3	0.67	HIV	18.5	HIV	23.3	3.8	HIV	7.4
Co-infection	5.3		both	3.3		both	7.4					

tion practices vary widely. There are IDU populations where HIV has not yet introduced⁸. In some places it has stabilized at relatively low prevalence (<5%) while in others like Bangkok it has stabilized at high prevalence (20-50%)^{9,10}. A study reported prevalence of HCV as much as 4.5%-8% in general population. So, the prevalence among IDUs in our study may not be considered solely because of injection practices as we have not excluded the factors affecting HCV prevalence present in general population⁴.

IDUs who share syringes or other drug equipment have greater chance of getting HCV whereas for HIV this association is weak. Some studies are contrary to the results of HIV infection in patients who had sex with FSW/MSM e.g. a study report shows that the probability of infection per injection with a contaminated syringe is 0.0067, and its 3times higher than estimates of the probability of HIV transmission per vaginal sex act from a infected man to an uninfected woman⁵. This weak relation b/w HIV infection and injection drug use may be due to relatively low prevalence of HIV as compared to HCV. HIV is more prevalent among IDUs who had unlawful sex but it did not affect the prevalence of HCV much. A 10-year prospective follow-up study's (8060 person-years) findings are consistent with our results which showed no evidence of sexual transmission among monogamous couples in Italy¹¹. However, some studies suggest there is an association like in Egypt where 6% of infected individuals acquired HCV from their spouse¹².

History of dental work, surgery or blood transfusion affects the occurrence of HCV but not the HIV.

Using the injection method of drug abuse is more prevalent in the age group of 26-30 with a mean age of 28.1years. As 47.6% of the study participants were married and 22.2% among them had HCV and 11.1% had HIV, so the wives and children of these individuals are at risk of getting these infections and need further study to quantify this risk.

This study has certain limitations; especially the sample size is low. Most of the individuals have abused the injectable drugs for 1-4 years while there are some who have abused it for 17-20 years. Most of the IDUs had 1-3 sharing partners while some have 7-10. So, these extreme values would definitely affect the results.

CONCLUSION

The HCV prevalence among injection drug users in our study population is not as common as in other parts of this country. HIV seems to be more prevalent in IDUs in our study area as compared to other studies. Sharing syringes or other drug equipment is an important risk factor for HCV and unlawful sex for HIV. History of dental work, surgery or blood transfusion affects the occurrence of HCV but not that of HIV.

DISCLAIMER

This title was suggested by the Department of Community Medicine, Khyber Medical College, Peshawar. It was a compulsory work to be done by the students of 4th year MBBS. Neither the article nor any of its part is ever published or presented in conference etc.

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