



## **Incidence of HIV infection amongst intravenous drug users in the Urban and Peri-Urban areas of Kohat, Khyber Pakhtunkhwa, Pakistan**

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### **ABSTRACT**

Illicit drug use has become an increasing public health and social concern in the past decades worldwide. Human immunodeficiency virus (HIV)/AIDS, associated with intravenous drug use (IDU) and needle sharing to a large extent, has become one of most stunning tragedies in human history. A descriptive and analytical study was conducted to find out the human immunodeficiency virus/ (HIV) acquired immunodeficiency syndrome amongst the intravenous drug users (IDU's). The data of intravenous drug users (IDU's) was collected from DHQ hospital Kohat through questionnaire. A rapid test using Immuno chromatographic techniques (ICT) for HIV screening was done and the positive patients were referred for confirmatory diagnosis on PCR. Among the 105 injection drug users 100% were male with median age 32 years, of which 55.24% were married, in which majority of the drug users were illiterate (57.14%). 50.47% of the subjects were jobless. This disease is spreading continuously without knowing the extent of transmission; therefore, stringent strategies must be evolved and implemented for the prevention and control, otherwise with the alarming degree of propensity the AIDS in Pakistan may raise to higher proportion with higher endemicity ratio.

**Key words:** immunodeficiency virus, Intravenous, syndrome, transmission

### **INTRODUCTION**

AIDS has gained its global importance since 1981 [1]. The HIV/AIDS infection is becoming medical, social in the world and every country is facing this problem [2]. AIDS makes the body's immune system weak and it is a group of health problems that make up this disease [3]. The immune system starts killing its own cells resulting the weakening of the immune system. Other diseases also attack including flu, tuberculosis, herpes, staph infections etc in this way he person is unable to fight against diseases, resulting into the death of the patient. It can slow down by using preventative medicines, known as anti-retroviral drugs but there is no known cure for AIDS but [4]. Injection drug use represents a major route of infection for HIV, accounting for up to 80% of new HIV infections in Eastern Europe and central Asia [5].

Every year 2.27 million peoples die including both adults and children [6]. As global health problem more than 33 million people are living with HIV/AIDS and among those more than 5 million

are living in Asia [7]. Approximately five million new cases of HIV infection founded in 2005 and worldwide 40.3 million adults and children are living with HIV/AIDS [5] including 17.5 million were women [6]. It can be observed from above estimates that HIV disease a serious international threat to public health. In 2007 survey 2.5 million people were found to be newly infected with HIV including 420,000 children under the age of 15 and 2.1 million were adults. Approximately 2.1 million deaths occur till 2007 including 1.7 million adults and 330,000 children under the age of 15. Asian countries bear 7.4 million people infected with HIV/AIDS and 6 million are in south Asia [7].

It is becoming health, social, economic, cultural, and political challenge humans [8]. There is also an increased shift towards injecting drug use among drug addicts in the country [9]. In 1987 first case of HIV was detected in Pakistan the population behavior is highly risky and unsafe with further threat of HIV spread. Policies and programs need to be organized for control of HIV/AIDS. In Pakistan HIV prevalence is increasing among those

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who use drugs by injecting drugs [10]. HIV prevalence in Quetta among injecting drug users has reached 24% [11]. HIV prevalence among injecting drug users increased from under 1% in early 2004 to 26% in March 2005 In Karachi [10]. Among female workers HIV prevalence in Karachi was 2% in 2005 while in Lahore and Rawalpindi it is below 1% [11]. About 12% HIV prevalence in Sargodha and 10% in Faisalabad has been observed [12] and 8% in Larkana [13]. HIV/AIDS is one of the major leading causes of deaths in India and Pakistan. TB and diarrhea are opportunistic infections responsible for the death in AIDS patients [14]. Geographic factors including population mobility, accessibility and transmission to urban areas, and geographic distribution of populations are also responsible for the spread of HIV infection at greater risk. [15]. The injection drugs are the primary modes of HIV transmission among women and having sex with a person have HIV, and a person with hemophilia. 76 per cent cases have been reported through high-risk heterosexual contact [16]. Pakistan, the world's second most populous Muslim nation is facing the HIV/AIDS epidemic. It is estimated that prevalence of opioid use in country is about 628,000. Among these 484,000 (77%) are heroin users. Injecting drug use among drug addicts in the country is also increasing at high rate. Pakistan border with Afghanistan is the problems associated with heroin use in Pakistan. Afghanistan is one of largest opium producers [9]. Therefore, the study was performed to determine the HIV incidence amongst intravenous drug users (IDU's) in the urban and peri-urban areas of Kohat Khyber Pukhtoonkhwa, Pakistan.

**METHODOLOGY**

The study area was the urban and peri-urban areas of Kohat. This descriptive and analytical study was carried out from August 2012 to January 2013 at Anti Retro Viral centre District Head Quarter (DHQ) Hospital Kohat The sample population comprised of males who are injection drug users (IDUs). During the research span 105 injection drug users (IDU's) from different urban and peri-urban areas of Kohat were screened on a rapid test using Immuno chromatographic techniques (ICT) for the

HIV (www.alere.com). The positive HIV patients were further referred for confirmatory diagnosis of the diseases on PCR. All clients participating in the study signed an informed written consent. The consent form was addressing the purpose of the study and their willingness to participate in the study. Also all clients were informed that, there was no financial gain obtained by participating in this study. The study was granted ethical approval from the department of Microbiology, Kohat University of Science and Technology for the perusal as per schedule.

**RESULTS**

Injection drug use, sex work, male– male sex, and overlap in these behaviors continue to drive the spread of HIV in most Asian countries. We have also studied the prevalence of HIV/AIDS amongst the intravenous drug users IDU's in urban and peri-urban areas of Kohat, Khyber Pukhtoonkhwa. In the total of 105 injection users there were 3 HIV/AIDS positive cases were reported. In terms of age distribution, the subject was grouped into five categories; 15 to 25 years old (15.25%), 26 to 35 years old (40%), 36 to 45 years old (26.62%), 46 to 55 years old (16.19%) and 56 to 65 years old (1.90%). The number of intravenous drug users was higher in age group of 36 to 45 years (26.62%) and the 2 out of 3 HIV positive IDU's were also lies in this age group, (Table 1). Illicit intravenous drug use is more common among married people (55.24%) and the 2 of 3 HIV positive drug users were also married and one was unmarried (Table.2). Table 3 shows that most of the intravenous drug users were illiterate (57.14%). However, the percentage of IDUs having school level education was 41.90% and least in those having college level of education (0.95%). Table 4 that mostly (52.38%) IDU's were using the used syringes and trend of multiple injection practice was common, 2 of 3 HIV positive IDU's were sharing the syringes in groups. It is reported that the higher proportion (50.47%) of intravenous drug users were having no occupation followed by labors (20%) and then shopkeepers and drivers 19.04% and 7.51% respectively, and the least of the IDU's were farmer (1.90%).

**Table 1. Age wise distribution of intravenous drug users (IDU's)**

Sr. No.	Age Group	Count	Percentage
01	15-25	16	15.23%
02	26-35	42	40.00%
03	36-45	28	26.62%
04	46-55	17	16.19%
05	56-65	02	01.90%
06	Total	105	100%

**Table 2. Distribution with the association of Marital Status of IDU's**

Sr. No.	Marital Status	Count	Percentage
01	Married	58	55.24%
02	Unmarried	47	44.76%
03	Total	105	100%

**Table 3. Intravenous drug users (IDU's) association with education level**

Sr. No.	Education Level	Count	Percentage
01	Illiterate	60	57.14%
02	School Level	44	41.90%
03	College Level	01	0.95%
04	Total	105	100%

**Table 4. Association of intravenous drug users IDU's with risk factors**

Sr. No.	Risk Factor	Count	Percentage
01	Multiple Injection Practice	55	52.38%
02	Blood Transfusion	21	20.00%
03	Hospitalization	29	27.61%
04	Total	105	100%

## DISCUSSION

Human immunodeficiency virus (HIV)/AIDS, associated with intravenous drug use (IDU) and needle sharing to a large extent, has become one of most stunning tragedies in human history. A descriptive and analytical study was conducted to find out the human immunodeficiency virus/ (HIV) acquired immunodeficiency syndrome amongst the intravenous drug users (IDU's). The HIV/AIDS infection is becoming medical, social in the world and every country is facing this problem. In diseased condition the immune system starts killing its own cells resulting the weakening of the immune system. Injection drug use represents a major route of infection for HIV, accounting for up to 80% of new HIV infections in Eastern Europe and central Asia.

It is a global health problem and more than 33 million people are living with HIV/AIDS, among those more than 5 million are living in Asia. About five million new cases of HIV infection reported in 2005 and worldwide 40.3 million adults and children are living with HIV/AIDS including 17.5 million were women. It can be observed from above estimates that HIV disease a serious international threat to public health.

In present study the HIV IDU's prevalence is total 105 injection users in which 3 HIV/AIDS positive cases were reported. As in 2005-6 about 9% of the tested injecting drugs users (IDU's) were found to be HIV positive, this percentage increased to 15.8% in 2006-2007, and it exceeded 20% in 2007-2008 [17]. As a study of HIV ADU's in Hyderabad (Pakistan) were 36.5 years and 34.6 years in Sukkur. Sharing of injection equipment for last

injection was reported by 34 (8.5%) in Hyderabad and 135 (33.6%) in Sukkur. In both cities behaviors such as injecting drugs for more than 10 years ( $p=0.00$ ) and injecting four or more times in a day ( $p=0.1$ ) were significantly associated with seropositivity of HIV infection. In Hyderabad the seroprevalence of HIV was 25.4% (101/398) and in Sukkur it was 19.2% (77/402) [18]. That are compared with our findings in which terms of age distribution, the subject were grouped into five categories; 15 to 25 years old (15.25%), 26 to 35 years old (40%), 36 to 45 years old (26.62%), 46 to 55 years old (16.19%) and 56 to 65 years old (1.90%). The number of intravenous drug users was higher in age group of 36 to 45 years (26.62%) and the 2 out of 3 HIV positive IDU's were also lies in this age group.

The current prevalence was very low as compared to previous studies conducted in Pakistan of the drug users were male having 34 years median age, they also noted matrimonial status of IDU's, and 26% of Karachi and 42% of Lahore drug users are legally married [19]. Our results of illicit intravenous drug use is more common among married people (55.24%) and the 2 of 3 HIV positive drug users were also married and one was unmarried.

## CONCLUSION

In this study the HIV/AIDS infection was recorded in different age groups, gender and mostly literacy levels and other socio-economic factors. Our questionnaire succeeded in selecting and investigating of the intravenous drug users (IDU's) Kohat region. The percentage of 2.85 HIV/AIDS infections was found amongst the selected group.

The ratio is higher in the total 562,640 population of the Kohat. According to this investigation majority of patient were sharing injections for the

use of illicit drugs, which was playing main role in prevalence of HIV/AIDS.

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