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Prevalence of HBV, HCV and HIV Infections Among Drug Users in Kandahar Province, Afghanistan

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Abstract:Background: *HBV, HCV and HIV infects millions of people around the world. Drug users is at high risk and sharing needle is a well-known risk factors for the prevalence of these infections among drug user worldwide. Blood borne diseases including viral hepatitis are important public health challenges worldwide.*
Objectives: *The main objective of this study is to determine the prevalence of HBV, HCV, and HIV among drug users in Kandahar province rehabilitation centers.*
Methods: *This study was conducted in two public and private rehabilitation centers in Kandahar province. Data was collected by interviewing drug addicts from September 2018 to September 2019. Data was statistically analyzed by using SPSS v.22.*
Results: *All 279 (100%) of drug users were male. Participant's age ranged from 17 years to 86 years and their mean age was (31.2±9.016) years. Prevalence of HBV, HCV, HIV and syphilis was (2.9%), (2.2%), (0.0%) and (0.7%) respectively. Prevalence of Co-infection of HIV/HCV, HIV/HBV, HCV/HBV and HIV/HBV/HCV was (0.0%), (0.0%), (0.4%) and (0.0%) respectively.*
Conclusions: *This study shows that the prevalence of HBV, HCV, and HIV is low among drug addicts in Kandahar province, due to no injecting of drugs. Drug addiction rate is high among police, formers, drivers, and shopkeepers. Hashish, heroin, opium and crystal are common drugs which used by drug addicts in Kandahar province.*
Keywords: *HBV, HCV, HIV, Prevalence, drug addicts, Kandahar*

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I. Introduction

Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) are liver infections, transmitted by blood, semen and other body fluid by sexual contact, sharing of needle of injection and from infected mother to her child at the time of birth. Hepatitis B and hepatitis C can be in both acute and chronic form for people. Human Immunodeficiency Virus (HIV) attacks body immune system, in result body immune system cannot fight against infections and disease[1, 2]. 257 million people are HBV infected, 71 million people are living with HCV and 36.9 million people are infected by HIV in 2017 worldwide[3–6].Drug injection is cause of 1% new HBV and 23% new HCV infections [3, 7]. 31% deaths from cirrhosis and hepatocellular carcinoma, are due to HCV infection [8]. Prevalence of HCV among drug user was 60-80% in 26 countries and >80% in 12 countries. HBV was 5–10% in 21 countries and >10% in 10 countries [9]. 9% of injectable drug users (IDUs) was HIV positive in 20 cities of united states, 50%–81% are HBV positive and 66%–93% are HCV positive in six cities of United States[10, 11]. In London HIV, HCV and HBsAg was (3.7%), (55.8%) and (1.1%) respectively among drug users [12]. In Dakar area HIV, HBV and HCV was (5.2%), (7.9%), and (23.3%) respectively among drug users [13]. In Turkey the frequencies of HBV, HCV and HIV among drug addicts were (2.6%), (9.4%) and (0.0%) respectively [14]. In Indonesia the HIV, HBV and HCV status among drug user was 4.8%, 3.2% and 34.1% respectively[15]. In Russia HIV, HCV status among people who injects drugs was 30.3% and 72.7% respectively[16]. In Bangladesh among IDUs HBV, HCV and HIV was 6.2%, 31.8% and 0.0% respectively. Among non-injectable drug user (non-IUDs) HBV, HCV and HIV was 11.6%, 5.8% and 0.0% respectively[17]. In China HIV, HCV, HBV, HIV/HCV, HIV/HBV, HCV/HBV and HIV/HBV/HCV was 25.5%, 77.7%, 19.2%, 15%, 0.3%, 7.8%, and 7.1% respectively among drug users [18]. In Uzbekistan HIV among IDUs was 29.8% [19]. In India HIV, HCV, HBV, HIV/HBV/HCV, HBV/HCV and IV/HCV was 59.6%, 90.4%, 10.8%, 6%, 4.8% and 52.4% respectively among drug users [20].In Iran HIV, HCV, HBV, HIV/HBV/HCV, HIV&HCV, HIV&HBV and HBV&HCV status was (10.7%), (34.5%), (50.7%), (6.5%), (8.7%), (7.8%) and (21.0%) respectively among IDUs [21].In Pakistan HCV, HIV and HBV among IDUs was 53.39%, 4.8% and 2% respectively, among non-IDUs HCV, HIV and HBV was 31.9%, 4.2% and 0.0% respectively [22].HIV, HCV,HBV and Syphilis was 2.1%, 36.1%, 4.6% and 1.2% respectively among IDUs in Kabul [23].In (Herat, Jalalabad, Mazar-i-Sharif) HIV, HBV and HCV status was 1.8%, 5.8%, and 36% respectively among IDUs [24].In Kandahar HBV, HCV and HIV status among adult citizen was 2%, 1%, and

0.0% respectively [25]. 75.9% crack, 47.2% intranasal cocaine, 51.5% marijuana, 26.5% inhalants, 13.0% LSD, 12.7% ecstasy, and 3.7% non-injection heroine were used by drug users (DUs) in Brazil [26]. In Iran Mean age of IDUs was (36.5±10.2) years, 88.5% were male [27].Factors such as marital status, birthplace, residence, and education has no difference on prevalence of these infections [28]. In Iran 60.2% of drug users had educational levels less than high school, 67.5% were self-employed [29]. In Afghanistan addiction duration was from 73 days to 30 years. 67.6% had low economic status (less than 200 USD/month), 38% were single, 53.4% were illiterate 73.9% were jobless. 85.9% heroin, 7.6% methamphetamine crystals, 6.3% opium and 0.2% marijuana were used by drug users [30].

II. Material And Methods

This is a cross sectional descriptive study was carried out on drug users in two privet and public drug rehabilitation centers in Kandahar province of Afghanistan data was collected from September 2018 to September 2019. Data was collected from 279 drug users through face to face interview.

Study Design: This is a cross sectional descriptive study.

Study Location: Two rehabilitation centers in Kandahar province, each one Kandahar 70 beds drug treatment center and Al-Haq 20 beds hospital for drug user. Kandahar 70 beds drug user treatment center is a public drug treatment center and Al-Haq 20 beds hospital for drug user is privet hospital.

Study Duration: From September 2018 up to September 2019.

Sample size: All drug users during one year period in these two rehabilitation centers.

Subjects & selection method: All addicts were included in this study who use alcohol, hashish, cocaine, barbiturates, analgesics painkiller, hallucinogens, inhalants, heroin, illegal methadone, nasal sniff, mouth sniff, opium, crystal, tramadol and morphine. 279 drug addicts were included in this study, 271 (97.1%) from 70 beds rehabilitation center and 8 (2.9%) from Al-Haq hospital.

Inclusion criteria:

1. All drug user who admit to Kandahar rehabilitation centers for treatment.

Exclusion criteria:

1. Drug users who did not consent for the study.

Procedure methodology

After written informed consent was obtained, a well-designed questionnaire was used to collect the data from drug addicts in two rehabilitation centers of Kandahar province. The questionnaire included socio-demographic characteristics such as age, gender, nationality, marital status, occupations. Drug information and laboratory tests information was also included in questionnaire. After collection of the data, data entered into SPSS software and analyzed by the help of SPSS software.

Statistical analysis

Data was analyzed by using SPSS version 22. Descriptive statistics was used to identify mean, mode, median, standard deviation and frequencies.

III. Result

In this study 279 subjects were included 271 (97.1%) from 70 beds governmental drug treatment center and 8 (2.9%) from Al-Haq drug treatment center. All 279 (100%) participants were male. 184 (65.9%) were from urban area and 95 (34.1%) were from rural area. Participant's age ranged from 17 years to 86 years and their mean age was (31.2±9.016) years. Education level of DUs was 152 (58.1%) uneducated, 56 (20.1%) primary level, 31 (11.1%) secondary level, 28 (10.0%) high school level and 2 (0.7%) university degree. 209 (74.9%) of the participants were married and 69 (24.7%) were single, and 1 (0.4%) were separated. 226 (81.0%) addicts were employed. Profession of the participants was 49 (17.6%) were Police or military forces, 59 (21.1%) were driver, 25 (9.0%) were former, 25 (9.0%) were Shopkeeper, 19 (6.8%) were daily worker/ Labor, 10 (3.6%) were construction worker, 7 (2.5%) were backers and 85 (30.5%) had other jobs. Overall 215 (77.1%) had income in last month or the month before of interview. Overall 104 (37.3%) participants travelled to other countries among them 50 (17.9%) travelled to Pakistan, 45 (16.1%) travelled to Iran, 1 (0.4%) travelled to USA, 8 (2.9%) travelled to other Asian countries. Ethnicity of the participants was 271 (97.1%)of the participants were Pashtun, 3 (1.1%) were Tajik, 1 (0.4%) were Uzbek and 4 (1.4%) were Hzara. The residency of the participants was 184 (65.9%) from Kandahar city, 66 (23.7%) was Kandahar districts, and 29 (10.4%) was from other provinces.

Drug profile among drug addicts in rehabilitation centers, Kandahar province

Current study shows that, out of 279 DUs 117 (41.9%) were using one type of illicit drug, 99 (35.5%) DUs were using two types of illicit drugs, 31 (11.1%) were using three types of illicit drugs and 32 (11.5%) were using four types or more drugs. 6 (2.2%) DUs using alcohol, 64 (22.9%) were using Hashish, 3 (1.1%) were using cocaine, 3 (1.1%) were using Barbiturates, 1 (0.4%) were using analgesics painkiller, 1 (0.4%) were

using Hallucinogens, 1(0.4%) were using inhalants, 221 (79.2%) were using Heroin, 5 (1.8%) were using illegal methadone, 86 (30.8%) were using Mouth sniff, 1 (0.4%) were using Nasal sniff, 57 (20.4%) were using Opium, 100 (35.8%) were using Crystal, 8 (2.9%) were using Tramadol, 1 (0.4%) were using pentazocin, 1 (0.4%) were using benzodiazepines and 1 (0.4%) were using Morphine. 125 (44.8%) were smoking cigarettes. using method of drugs among addicts was 227 (99.3%) used by mouth, 2 (0.7%) used by inter-venous method. Addiction duration range was from (1-420) monthsand its mean duration was (96.9±76.417) months. Mean age at first time of drug using was (22.96±7.249) years. Relatives of 27 (9.7%) DUs were drug users. 147 (52.7%) drug users had close friend DUs and 3 (1.1%) of DUs had close friends alcohol drinker.

HBV, HCV and HIV Status

Blood ample was collected and tested for HBsAg, HCV Ab, HIV Ab and Syphilis by rapid Immune Chromatography Test (ICT) method by Voluntary Cancelling and Testing VCT laboratory of Kandahar Province. Prevalence of HBV, HCV, HIV and Syphilis was 8 (2.9%), 6 (2.2%), 0 (0.0%) and 2 (0.7%) respectively. Prevalence of Co-infection of HIV/HCV, HIV/HBV, HCV/HBV and HBV/HCV/HIV was 0 (0.0%), 0 (0.0%), 1 (0.4%) and 0 (0.0%) respectively.

Table 3.1 HBV, HCV and HIV status among drug addicts in Kandahar province rehabilitation centers (n= 279)

HBV, HCV and HIV Status		
Infection Name	Prevalence	
	Number of cases	Percentage
HIV	0	0.0
HBV	8	2.9
HCV	6	2.2
Syphilis	2	0.7
HIV/HCV	0	0.0
HIV/HBV	0	0.0
HCV/HBV	1	0.4
HIV/HBV/HCV	0	0.0

IV. Discussion

In current study most of the participants were male. Other studies in Afghanistan, Iran and London also support that especially in Afghanistan and Iran, because all these studies was hospital based and most of the female addicts don't want to get admission in rehabilitation center for treatment due to cultural issues[24, 27, 31]. This study showed that, addiction rate is high among young people, the result was same with a study conducted in Kabul [30]. Current study showed that, most of addicts were uneducated and that is supported by other studies conducted in Afghanistan and Iran[29, 30]. Current study showed that, addiction rate is high among married people. Marital status among drug addiction is different in different cities and provinces of Afghanistan but addiction rate was high among married people in Kabul and Kandahar province, because addiction rate is high among young people or in age of marriage. Addiction in Iran is high among divorced people because divorce rate is high in all over Iran based on their cultural issue[24, 28, 30]. This study revealed that, addiction rate was high among employed people because many people in Kandahar province are busy with unofficial jobs. Studies conducted in Kabul city showed that drug addiction rate was high among unemployed people[23, 30]. Current study shows that, one in ten of drug users relatives were also drug users. Study showed that, family alcohol and drug user will lead other family members to an earlier initiation of drug using and drug injection [32–34]. This study showed that, hashish, heroin, opium and crystal used most by addicts in Kandahar province. The result was same with studies conducted in Kabul, Iran and Pakistan because these drugs are available anywhere in these countries [22, 30, 35], but in china Alcohol were also used most by addicts due to their cultural issue as China is a non-Muslim country[36].This study showed that, most of drug users are non-injectable drug user in Kandahar province, because drugs which used by mouth are available everywhere in Kandahar province. And studies conducted in Kabul and Pakistan showed that most of the addicts are injectable drug users[22, 30]. This study showed that, Age at first time of drug addiction range was 22 years. This is supported by studies conducted in Kabul and china[23, 36].Prevalence of HBV, HCV and HIV was low among drug addicts in Kandahar province than studies conducted in other provinces of Afghanistan and other countries like Pakistan, Iran and Bangladesh, because most of drug addicts in Kandahar province are non-injectable drug users and prevalence of these infections are high among injectable drug users[17, 22, 24,35,37]. But result of current study was supported by study conducted among young people in Kandahar province[25].

V. Conclusion

The prevalence of HBV, HCV and HIV among drug user is high among injectable drug users than non-injectable drug users. In current study most of the drug users were non-injectable drug users, therefore the prevalence of HBV, HCV and HIV infections was lower. Drug addiction rate was high among Police, former,

drivers and shopkeeper. Also drug addiction rate was high among uneducated and young people. Hashish, heroin, opium and crystal are the common drugs which used by drug addicts in Kandahar province.

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