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## Prevalence of hepatitis B and C infection in district Mardan, Khyber Pakhtunkhwa, Pakistan

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#### Abstract

The aim of the research work was to find out the Prevalence of Hepatitis B and C Infection in District Mardan, Khyber Pakhtunkhwa, Pakistan. During the present study about 790 blood samples were collected from Hepatitis B & C patients along with their information, sex and marital status through an interview. Out of 790 patients, a total 501(125.37%) patients were found positive for HBV and HCV. Among these 414 (104.58%) and 87(20.79%) were positive for HBV and HCV respectively. From the above study, it may be concluded that HBV is dominant over HCV in district Mardan, Khyber Pakhtunkhwa, Pakistan.

**Keywords:** Hepatitis B and Hepatitis C. Antigen ICT Mardan

#### 1. Introduction

Hepatitis B and C are major public health problems in developing countries [1]. Viral Hepatitis is the infection of the liver caused by liver attacking viruses (Hepatitis A, B, C, D, E, and G) and is a major cause of morbidity and mortality [2]. Hepatitis B virus has become a universally established health challenge due to its worldwide distribution, chronic persistence and complications [3]. The major modes of HCV transmission in Pakistan are use of contaminated needles and instruments in medical practice, and unsafe blood [4]. Acute hepatitis patients who maintain a constant serum HBs Ag concentration are likely to become carriers and are at risk of developing chronic liver disease [5]. India, Pakistan, and Bangladesh have the highest rates of infection, with a prevalence ranging from 2 to 8% in different population groups [5]. The reason may be the lack of proper health facilities, poor economic status and less public awareness about the transmission of major communicable diseases including HBV, HCV [6]. Many studies have been conducted to examine the prevalence of HBV and HCV co-infection among HIV-infected individuals and intravenous drug users globally [7]. The aim of the research study was to check the prevalence of HBV and HCV in district Mardan, Khyber Pakhtunkhwa, Pakistan.

#### 2. Materials and Methods

##### 2.1 Collection of Samples

According to a survey done in laboratories in Mardan Hospital KPK Pakistan from 1<sup>st</sup> Feb 2015 to 30 March 2015. A total 790 blood samples were collected from Hepatitis B & C patients along with their information, sex and marital status were collected through an interview.

##### 2.2 Immuno-Chromatographic Tests (ICT)

In accordance with the instruction given by the manufactures, 790 serum samples were screened for Hepatitis Surface Antigen and Anti-HCV through Immuno-Chromatographic. The commoners of Hepatitis B & C in the present study were classified on the basis of questioners about Sex and marital Status [8].

#### 3. Results

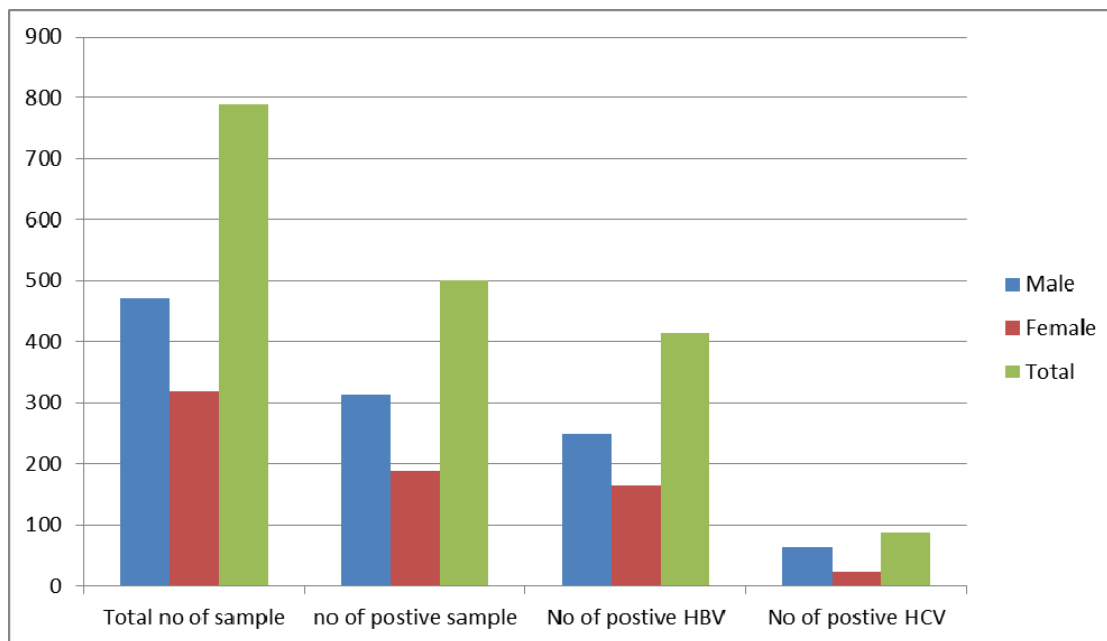
Out of 790 patients, a total 501(125.37%) patients were found positive for HBV and HCV. Among these 414(104.58%) and 87(20.79%) were positive for HBV and HCV respectively (Graph 1). Out of 790 patients, Four hundred and seventy one (471) were males and three

hundred and Nineteen (319) were females. Among male patients HBV and HCV 249 (52.86%) and 64(13.58%) respectively, with overall prevalence of 414(104.58%)

Similarly, among the female patients HBV, HCV 165 (58.93%), 165(51.72%) and 23(7.21%) in table1 respectively.

**Table 1:** Gender wise prevalence of HBV, HCV.

Gender	Total no of sample	No of positive sample	No of positive sample HBV	No of positive sample HCV
Male	471	313(66.44%)	249(52.86%)	64(13.58%)
Female	319	188(58.93%)	165(51.72%)	23(7.21%)
Total	790	501(125.37%)	414(104.58%)	87(20.79%)



**Graph 1:** Gender wise prevalence of HBV AND HCV

**4. Discussion**

Viral hepatitis is the major health problem in the 3rd world countries today, including Pakistan [9]. Hepatitis B and C infections are blood borne and are transmitted through unsterilized blood transfusions, inadequately sterilized invasive medical devices and reuse of syringes [10]. The contaminated dental instruments also play an important role in HBV infection because of the presence of HBsAg in the saliva of acute and chronic hepatitis B patients [11]. In the current study the hepatitis B & C prevalences were 125.37% cases with patients having HCV as 104.58% and HBV in 20.79% cases. The results of our study are comparable to studies carried in different cities of Pakistan HBV 6.5% and HCV 11.3%, [12] Rawalpindi HBV 2.8%, and HCV 7.5%, [13] Jacobabad HBV 9.33% and HCV 14%, [14]. Present study revealed that there are high occurrence of Hepatitis B and C in man contrast to women. Prevalence of Hepatitis C is higher in males might be due to truth that men make more ordinary visits to the barber and to get injured and may share equipments. Moreover, males also like to have numerous sex contacts and go behind insecure sex. A total of 26800 individuals were screened, (mean: 36.47 ± 13.81). 2090 (7.8%) tested positive for Anti-HCV. Among these, 68.6 % (n=1433) were males while 31.4% (n=657) were females. 616 (2.3%) tested positive for HBsAg of which 401 (65.2%) were male and 215 (34.8%) were female. 75 subjects (0.28%) were positive for both HBsAg and Anti-HCV. We as a community need to be more vigilant as the disease burden of HBsAg is not decreasing in the general population and the Burden of Anti-HCV is one of the highest in the world [15].

**5. Conclusion**

The results of the present study revealed that Hepatitis B prevalence is high compared to Hepatitis C. In addition, among males high prevalence was recorded than females. It is suggested that best care should be implemented during surgical measures or treatments and blood transfusions. The further awareness movement against Hepatitis B and C infections should be approved to instruct the common people on the risk factors and route of transmitting ion in order to decrease the rate of infection.

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