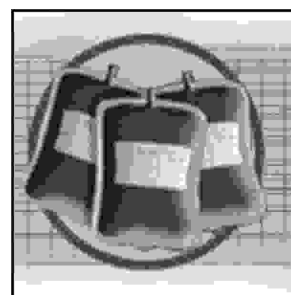


ORIGINAL

PROF-909

PREVALENCE OF HBV, HCV AND HIV IN BLOOD DONORS AT LIAQUETPUR



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ABSTRACT... drmayubkhan@hotmail.com **Objective:** To know the prevalence of hepatitis B, hepatitis C and HIV. **Design:** Observational cross sectional study. **Setting:** Blood Transfusion Center Tehsil Headquarter Hospital Liaquetpur. **Subjects and Methods:** The data of blood donors from 2001 to 2003. **Results:** Total blood donors studied were 1426. The prevalence for hepatitis B was 5.96% (CL 4.84%-7.32%) It was 0.07% (CL <0.01% - 0.44%) for HCV and zero for HIV. The prevalence of HBV in males was 6.03% (CL 4.87%-7.45%) while 5.05% (CL 1.91%-11.63%) in females ($p=0.6917$). The prevalence in 17-20 years age group was 6.4% (CL 3.92%-10.23%), 5.81% (CL 4.6%-7.33%) in 21-40 years age group and in 41-60 years age group it was 4.35% (CL 1.33%-28.19%) [$p=0.9029$]. **Conclusion:** Hepatitis B is common, hepatitis C is an uncommon health problem while HIV is not present in this area.

Key Words: Hepatitis B, hepatitis C, HIV, blood donors, prevalence

INTRODUCTION

The infections caused by hepatitis B and C viruses and the acquired immune deficiency syndrome (HIV) are not curable with the latest available treatment. All the three infections have the same mode of transmissions. The effective vaccine is available only against hepatitis B. All the three diseases may run a chronic course causing financial drain of the family and can result in the death of

the sufferer. The chronicity of Hepatitis B and C results in an increased risk of cirrhosis, hepatocellular carcinoma and chronic carrier state. Hepatitis B and C are endemic in most parts of the developing countries while HIV is spreading as an epidemic. These infections are preventable mainly by health education, safe sex, precautions in blood transfusions and the use of disposable syringes and razors etc. The screening tests

used for these infections are not 100% sensitive or specific^{1,2}. The purpose of this study is to know the prevalence of HBV, HCV and HIV.

SUBJECTS AND METHODS

This is an observational cross sectional study. There is routine screening for hepatitis B, hepatitis C and HIV at Blood Transfusion Center Tehsil Headquarter Hospital, Liaquetpur. The data of blood donors from January 2001 to December 2003 were collected from the record of Blood Transfusion Center and analyzed. Exclusion criterion was age less than 17 and above 60 years.

Graph Pad software computer program was used for statistical calculations. 95% confidence interval was

taken to define normal range. Chi Square test was applied where needed. P value less than 0.05 was taken as significant.

RESULTS

Total donors studied were 1426. Table-I shows the overall prevalence of hepatitis B as well as prevalence in males and females donors. The difference of prevalence in males and females was statistically insignificant ($p=0.6917$). Table-II shows the prevalence of hepatitis B at different age groups but the difference was insignificant ($p=0.9029$). There was one donor positive for hepatitis C giving prevalence of 0.07% (CL <0.01%-0.44%) and none was positive for HIV.

Table I. Prevalence of Hepatitis B

Sex	Total donors	positive cases	Prevalence (%)	Confidence limit (95%)
Male	1327	80	6.03	4.87%-7.45%
Female	99	5	5.05	1.91%-11.63%
Total	1426	85	5.96	4.84%-7.32%

TABLE II. Prevalence of Hepatitis B at different age groups

Age group (years)	Total donors	Positive cases	Prevalence (%)	Confidence limits (95%)
17-20	250	16	6.4	3.92%-10.23%
21-40	1153	67	5.81	4.6%-7.33%
41-60	23	2	8.70	1.33%-28.19%

DISCUSSION

The prevalence rate for hepatitis B was 5.96% (CL 4.84%-7.32%) in this study. Most of the studies, like this, are based on screening of donors at blood banks. Mumtaz et al³ and Ryas et al⁴ described the prevalence rate of hepatitis B as 5.86% and 6.4% respectively while the other studies^{5,6,7,8,9,10,11,12} in Pakistan gave prevalence rate less than 3.54%. An other study conducted at Lahore¹³ showed 2.3% mothers and 3.35% children were positive for HBsAg. The health care workers and medical students at Lahore showed a carrier rate of 6.3% for

hepatitis B¹⁴. Qasmi et al¹⁵ reported 3% individuals of Karachi were positive for HBV. Aziz et al¹⁶ showed the prevalence 2.4% for HBsAg. Review of literature in India showed the prevalence of HBV carriers was between 1% and 2%¹⁷. The prevalence of HCV and B infections was not uniform throughout India^{18,19}. The prevalence of hepatitis B in blood donors was as high as 8.1% in Malawi²⁰ and 9.3% in Brazil²¹. The studies in Georgia²² and in Saudi Arabia²³ showed the prevalence rate of 4.1% and 1.5% respectively. In this study Hepatitis B was present more in the age group of 40 to 60 years,

which was not statistically significant. Majeed et al²⁴ also described the same pattern.

The prevalence rate for hepatitis C was 0.07% in this study, which is less than any other area of Pakistan. The studies^{3,4,5,7,8,9,12,25,26,27} done on blood donors in Pakistan showed prevalence ranging from 0.82% to 6.21%. In Karachi 5-6% adults were positive for HCV¹⁶. The prevalence of hepatitis C was 7.3% in Georgia²², 6.8% in Malawi²⁰, 1% in Brazil²¹, 0.4% in Saudi Arabia²³ and 0.370 in Singapore²⁸. Most European countries reported a prevalence of HCV in the general population from 0.5% to 2%^{29,30}. Anti-HCV was found in 2.2% blood donors in Lithuania³¹, 20% in Egypt and more than 5% in some communities of Italy³². Seroprevalence of HCV among hospital based general population in India was 1.57% - 4.8%^{33,34}.

There was not a single case positive for HIV in this study. Other studies done on blood donors in Pakistan also gave a very low prevalence of HIV. Sheikh et al³⁵ gave prevalence rate of 0.22% while Asif et al¹⁵ gave 0.25% in replacement donors. Other studies^{3,7,8,10,36} gave prevalence less than 0.01% to zero. In Karachi none of person studied had antibodies to HIV¹⁶. Candotti et al²⁰ described HIV prevalence rate in blood donors 10.7% in Malawi, Treitinger et al²¹ described 0.6% in Brazil and El-Hazmi²³ zero in Saudi Arabia. The sero-prevalence rates of HIV among males and females from general population were 4.3% and 2%, and from blood bank donors were 0.14% and 0% in India³⁷.

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