

RISK OF HEPATITIS C IN FACTORY WORKERS AND THEIR RELATIVES

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ABSTRACT

Introduction: Viral hepatitis is one of the major public health problems all over the world. HBV and HCV are both important causes of liver damage.^{1,2} B, C with a serious treat for progression to chronicity (chronic liver disease) and development of cirrhosis³ and hepatocellular carcinoma.⁴ The objective of this work was to document the frequency of viral hepatitis B and C in healthy people belonging to poor socioeconomic status with low literacy rate.

Materials and methods: The factory workers / labourers with less than 10,000 / month salary and low literacy rate and their relatives with no history, signs or symptoms of past or present illness were screened for hepatitis B (HBV) and hepatitis C (HCV) by rapid device method. The respective seropositivity was determined in terms of %.

Results: Results showed that 1.98% of the subjects were positive for HBV and 6.3% were positive for HCV, indicating that out of positive subjects for hepatitis, 76% were positive for hepatitis C versus 24% who were positive for hepatitis B, C.

Conclusion: Seropositivity for Hepatitis C is more common than hepatitis B in apparently healthy subjects belonging to specific group under investigation.

INTRODUCTION

Viral hepatitis is one of the major public health problems all over the world. HBV and HCV are both important causes of liver damage world wide.^{1,2} The most serious complications of hepatitis (B, C) are the progression to chronicity (chronic liver disease) and development of cirrhosis³ and hepatocellular carcinoma.⁴ These consume a large amount of health budget.⁵ Hepatitis C has a high propensity for causing liver disease than hepatitis B virus.⁶ Hepatitis is the underlying cause in 75% of cases of chronic liver disease in India⁷ and 23 million carriers of hepatitis B and C are reported in Pakistan.^{8,9} Chronic hepatitis C accounts for an estimated 40 – 60% of chronic liver disease and is the 10th leading cause of death even in highly developed countries like United States¹⁰. Various parenteral routes of transmission of HBV and HCV have been implicated including sharing of needles, razors, tooth brushes, injections, un-screened blood transfusions and accidental needle prick injuries in health care providers.^{11,12} Present study was planned to determine the seroprevalence of hepatitis B and hepatitis C in healthy factory workers and their relatives with poor and less literate background.

MATERIALS AND METHODS

Apparently healthy factory workers and their relatives with no previous history of jaundice or any clinical symptoms attending the blood bank as blood donors were included in the study. Three ml of ven-

ous blood sample was collected from each subject and serum was separated. The serum was tested for hepatitis B surface antigen (HBsAg) and antibodies against hepatitis C virus (anti HCV) by rapid immunochromatic test devices (Wongfu, in vitro test device) and the results were recorded. The data was analysed. Frequencies of seropositivity of hepatitis B and hepatitis C were calculated and the comparison of frequencies was made between the percentage of positivity of the two.

RESULTS

Over a period of one year, a total of 7000 subjects falling in the selection criteria were screened for hepatitis B and C. Among these 139 were found to be positive for HBsAg and 445 for HCV and 10 for both HBV and HCV. The percentage was calculated for both HBV and HCV positive subjects and was found to be 1.98% for HBV and 6.35% for HCV and 0.14% for those positive with both B and C (table 1). Among these 584 sero-positive subjects 76% were positive for hepatitis C and 24% for hepatitis B.

DISCUSSION

The prevalence of hepatitis B and C in general population of Pakistan is well established as reported in the national survey conducted by PMRC.¹³ Pakistan falls in an intermediate zone of infection for both hepatitis B and C.^{14,15} The results of present study showed a high rate of sero-prevalence of HCV than of HBV in the factory workers. A similar overall high

Table 1: Total number of subjects and the comparison between number and percentages of sero-positive HBV and HCV.

Total subjects (n) 7000	Serological Markers	Positive Subjects by Rapid Method	% of Positive Subjects
	HBV	139	1.98
	HCV	445	6.35
	HBV and HCV(both)	10	0.14

prevalence of hepatitis in Pakistan was shown by the results of the national survey¹⁶ carried out in Pakistan in year 2007 – 2008. The results of survey showed that the overall prevalence of HBV is 2.5% and that of HCV is 4.9% in the country. The results reported by Amjad¹⁷ and Hafizuddin¹⁸ also showed a similar trend of prevalence of HCV more than HBV with 5.4% HCV positivity versus 3.24% HBV positivity in young healthy adults. A hospital based study by Nafees et al¹⁹ has also shown a high frequency HCV in 3094 individuals. Our study showed a much higher prevalence of hepatitis C among factory workers than in the results of other studies carried out in general population. This could be due to a low literacy rate in these people leading to a lack of awareness about the preventive measures for this disease. Moreover, due to poverty and lack of literacy these people are more exposed to quacks, who re-use the same syringes and instruments. Our results showed 0.14% prevalence of co-infection (both B and C) as against 0.01% shown in national survey.²⁰ The finding should be alarming as co-infection indicates a more severe disease which is more difficult to treat. The very high prevalence of HCV found in the present study needs to be confirmed by a large scale study in Pakistan. Considering the results of the present study showing a high prevalence of hepatitis specially hepatitis C in factory workers, it is suggested that this poor and less literate population in Pakistan should be given special attention in terms of awareness of hepatitis. The most effective way is to educate them through trained personnel visiting the factory areas and making the workers aware of the routes of its spread. Print and electronic media can also play its role for this purpose.

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