

Prevalence of Hepatitis B and C and Associated Risk Factors in Rural Areas of Punjab

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ABSTRACT

Objective: To determine the risk factors that cause HBV and HCV and their prevalence, evaluating sex and gender as well.

Study Design: Descriptive

Place and Duration: Sir Ganga Ram Hospital Lahore from 1st February 2020 to 30th September 2020.

Methodology: Nine hundred patients were enrolled in this study with chronic liver failure. After written consent was adopted, detailed demographics of patients were recorded. Hepatitis B and hepatitis C causes have been investigated for frequency and risk factors.

Results: One hundred and fifty patients had hepatitis C (HBV), 63 (7 percent) were found with hepatitis C, and 87 (9.7%) with +HBV. The calculated median age was 37.25. 150 HBV and HCV patients included men of 60 (40%) and 90 (60%) females, while 25 patients of <18 years of age. Hepatitis B and C were most commonly observed in patients aged between 20 and 35 (48 (55.17%) and 35 (55.55%) of HCV patients respectively). Most prevalence was found among women (HBV females had HCV 51 (56.7%) and 39 (47.3%). In this study, the history of patients such as age, gender, socio-economic status, literacy, poverty and use of water or pumped water, history of smoking, use of used injections drugs, history of blood donation and history of organ transplantation were also included.

Conclusion: The prevalence of HBV and HCV infections are too high in chronic liver failure patients whom had rural residency in comparison with other advanced countries. Mainly women and adults suffered from the viruses.

Keywords: Factors, HBV C, Hepatitis B, Frequency, Rural Areas

INTRODUCTION

The two most common viruses and main causes of chronic liver failure, hepatocellular carcinoma familiar to chronic liver diseases, are Hepatitis B (HBV) and Hepatitis C (HCV).^{1,2} According to World Health Organization (WHO) research, about three hundred and fifty million people have been infected with the Hepatitis B virus and one hundred and seventy million people have been found infected with the Hepatitis C virus^{3,4} and with these two killing viruses, the death ratio is too high. The ratio of HCV virus in Pakistan is quite high and Pakistan ranks second in the world in the frequency of people infected with HCV ranges from 4.5 to 8 percent.^{5,6} In the most common causes, such as blood donors, health department experts, drug abusers and patients with severe liver failure, the frequency of HBV and HCV is too high.⁷ The most common factors for the transfer of Hepatitis B and Hepatitis C viruses/infections are blood donation, use of drug syringes, organ transplantation, shaving on the outside (barber shop), surgery, dental therapy and vulnerable sexual relationships.^{8,9}

As a serious infection, HBV and HCV viruses resulted, but it remains in the body of some patient and could be the chronic liver failures. Approximately 16 to 26 percent of HBV chronic liver patients have severe liver problems, such as hepatocellular carcinoma and cirrhosis. A vaccine used to prevent HBV is used in medical treatment, but there is no vaccine or medication for the prevention of HCV.¹¹ HBV indications include loss of appetite, fever, nausea, abdominal pain, vomiting, joint pain, jaundice, and dark urine.¹⁰

MATERIAL AND METHODS

The study was done at Lahore Hospital Sir Ganga Ram. A study was conducted between 1st February 2020 and 30th

September 2020. A total of 900 chronic liver failure patients have been examined for Hepatitis B and Hepatitis C viruses' frequency and risk factors. Detailed history of pipeline water, pumped water usage, smoking history, injection drug use, history of the donation of blood and the history of organ transplant were also included in this study, such as age, gender, socio-economic situation, literature and poverty. The full data analysis was done using SPSS version 24.

RESULTS

One hundred and fifty patients had both Hepatitis B (HBV) and Hepatitis C (HCV), 63 (7%) patients were found + Hepatitis C and 87 (9.7%) patients + HBV (Table 1). The mean age calculated was 37.25 years. In 150 patients of HBV and HCV, men were 60 (40%) and 90(60%) [Table 2].

We observed most frequently Hepatitis B and C in the patients between ages of 25 to 35 years 48 (55.17%) patients of HBV and 35(55.55%) patients of HCV viruses respectively). We found most prevalence in women (HBV infection women 51(56.7%) and 39(47.3%) women had HCV) [Table 3]. Detailed history of patients such as age, sex, water or pumped water, smoking history, drug use, history, blood donation, and organ transplantation history was also included in this report (Table 4).

Table: 1 Frequency of HBV and HCV Viruses

Virus	No.	%
Hepatitis B	87	9.7
Hepatitis C	63	7.0

Table 2: Gender wise distribution

Gender	HBV-HCV	%
Males	36-24	40.0
Females	51-39	60.0

Table 3: Age wise distribution of patients

Age	HBV Patients	HCV patients
5-15	18 (20.7%)	10 (18.9%)
16-25	12 (13.8%)	8 (12.5%)
26-35	48 (55.17%)	35 (55.59%)
36-45	6 (8.9%)	6 (9.5%)
>45	3 (3.44%)	5 (7.94%)

Table 4: Table 4. Risk Factors associated with HBV and HCV

Variable	No.	%
Using pipeline water	100	11.11
Home pumped water	350	38.9
Smoking persons	140	15.55
Abuser of drug	80	8.9
Blood donor	80	8.9

DISCUSSION

The two most common viruses and main causes of chronic liver failure, hepatocellular carcinoma familiar with chronic liver diseases, are hepatitis B (HBV) and hepatitis C (HCV).^{1,2} The ratio of patients with HBV and HCV is too high in developing countries. In this study, compared to other developing countries, we observed a similar situation. We included 1050 patients related to liver diseases in this study, where we found 150 patients with both Hepatitis B and Hepatitis C viruses, respectively.

The prevalence of HBV and HCV has been observed to be too high for women compared to men. Hepatitis B and C were most frequently observed in patients aged 25 to 35 years (48 (55.17 %) HBV patients and 35 (55.55 %) HCV virus patients respectively. In women (51(56.7%) and 39(47.3 %) women had HCV), we found the most prevalence in women (HBV infection women).

A detailed history of all 900 patients was included in this study. We found 100 liver disease patients using pipe lined water, 350 patients were using home pumped water, 140 were smokers, 80 were drug abusers and 80 were donors of blood. The most common factors for the transfer of Hepatitis B and Hepatitis C viruses/infections are blood donation, use of drug syringes, organ transplantation, shaving on the outside (barber shop), surgery, dental therapy and vulnerable sexual relationships. It is similar to other HBV and HCV-related studies.^{8,9}

There is a vaccine for HBV virus treatment, but for HCV patients, there is no vaccine. An increase in the morbidity and mortality ratio may be caused.

In addition, this is not a sufficient study; for better treatment and to reduce morbidity and improve the quality of life of infectious patients, we should have to assess the significance and factors associated with this disease.

CONCLUSION

The frequency of HBV and HCV is too high as compared to other national studies. It may be due to less literacy level, poverty, less pure water, lack of facilities and lack of awareness. Government should have to take more actions regarding these two silent killing diseases.

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