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ORIGINAL ARTICLE

Trend Analysis of Hepatic Infection in Pakistan

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ABSTRACT

Objective: To determine the trend analysis of hepatic infection within recent years in Pakistan.
Study Design: Retrospective study.
Place and Duration of Study: Department of Nephrology, Mayo Hospital, Lahore 1st July 2020 to 31st December 2020.
Methodology: Five thousand patient's files were screened. It was a hospital-based study analyzing the trend from outdoor or indoor registered patient's files. The diagnosis of hepatitis infection was taken as confirmed on the basis of ELISA test positivity in situations where PCR results were not conducted. Comorbidities were also included in this study.
Results: The mean age of hepatitis B patients was 27±2.5 years while of hepatitis C patients was 44±5.9 years. The prevalence of males was found higher as compared to the females. Different age groups were observed in HBV and HCV patients. HCV targeted higher age group patients. On the other hand, hepatitis B was onset and diagnosed at earlier ages.
Conclusion: Due to upsurge in viral hepatitis within recent years, effective policies should be made to combat its adverse consequences. The hepatitis B prevalence increased up to 2.2% while hepatitis C increased up to 5% by year 2021.
Keywords: Viral hepatitis; trend; HCV and HBV; developing countries

INTRODUCTION

Hepatitis means inflammation of the liver. Liver performs many important functions including blood filtration, processing nutrients and helps in combating infections. Many contributing factors may cause hepatitis such as alcohol abuse, toxins, some medication and few viruses. Five main types of viral hepatitis known till date and categorized in two groups: blood borne (B, C and D) and water borne pathogen (A and E). Viral hepatitis is an escalating cause of morbidity and mortality and also posing serious concerns especially for developing region of the world. Asian and African countries are on surge of orofecal pathogen infection.[1-4] Approximately 90% of the children in Pakistan are infected with hepatitis A due to lack of hygienic practices and poor sanitation condition and system.[5] HEV in Pakistan is also witnessed in high number as an outbreak especially in areas where people lives in cluster and nearby water supply is contaminated.[6,7] This disease also poses catastrophic effects on pregnant females which leads ultimately leads to death I majority of the cases.[8,9]

According to the reported data of WHO, 4-5% of Pakistani population is affected with HCV. Highest incidence of HBV is found in Baluchistan and HCV in Punjab.[10-12] Histories of surgeries, blood transfusion, hospitalization, shaving in community was related with high frequency of HBV and HCV.[13,14] Incidence was also higher in rural as compared to urban areas.[15]

Keeping in consideration of its high mortality and morbidity rate, it is imperative to have accurate and reliable mean of detection. Pakistan Field Epidemiology and Laboratory Training Program (FELTP) have been established in 2009 in cooperation with center for disease control and prevention (CDC) for effective surveillance system in Pakistan. Drinking unboiled water is found to be the main cause of water borne viral transfer. This study has designed to find out the trend of HBV and HCV in Pakistan. It would prove beneficial both for policy maker and health care practitioner for timely evaluating this deadly disease.

MATERIALS AND METHODS

This study was performed in Department of Nephrology, Mayo Hospital, Lahore 1st July 2020 to 31st December 2020. The retrospective based with present and past data analysis for trend increase or decrease in hepatitis infection. It was a hospital-based study analyzing the trend from outdoor or indoor registered patient's files. The diagnosis of hepatitis infection was taken as confirmed on the basis of ELISA test positivity in situations where PCR results were not conducted. All patients despite of their age, comorbidities were included in this study. The study was initially approved from the institutional review board. Presently registered/hospitalized patient's medical files were analyzed post their verbal consent. All medical files enrolled since year 2017-2021 in gastroenterology department were completely analyzed for clinical details of each patient. The type of hepatitis infection, age, gender, year of infection was documented on a well organized proforma. The age trends during this period were also documented in context with the type of hepatitis involved. Data was analyzed statistically by using chi square tool of SPSS version 25.0 with p value <0.05 as significant.

RESULTS

The present study was conducted on all the enrolled patients in gastric ward from 2017-2021 years. There were 5000 patients screened within 5 years span for hepatitis B and C infection. The study found mean age of hepatitis B patients as 27±2.5 years while of hepatitis C patients as 44±5.9 years. The prevalence of males was higher in hepatitis B and C patients enrolled within the recorded period such as 60% hepatitis B positive while 51% as hepatitis C positive males respectively (Table 1).

The trend analysis showed insignificant variance in age within hepatitis B and C groups. However, the age difference within hepatitis B and C in year 2019 to 2021 showed that a higher age trend was presented in hepatitis C patients rather than Hepatitis B which was onset and diagnosed at earlier ages (Table 2).

The yearly trend showed a significant increase (p vale <0.05) in hepatitis B and C cases from year 2017-2021. The reason for this trend increase might be due to increase screening tests than in previous years. The hepatitis B prevalence increased up to 2.2% while hepatitis C increased up to 5% by year 2021 (Fig. 1).

Table 1: Age and gender distribution of study participants

Variable	Hepatitis Infection	
	Hepatitis B	Hepatitis C
Age (years)	27±2.5	44 ±5.9
Males n(%)	60%	51%
Females n(%)	40%	49%

Table 2: Age trend of HBV and HCV patients within past few years

Age trend within years	Hepatitis B (Age in years)	Hepatitis C (Age in years)	P value
2017	35-40	32-47	0.6
2018	25-40	20-55	0.52
2019	18-35	16-68	0.05
2020	19-42	20-70	0.04
2021	21-44	21-69	0.05

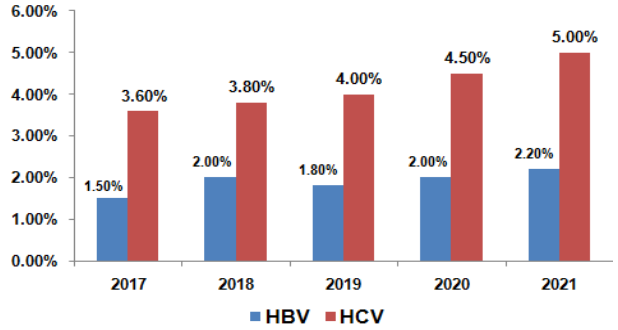

Fig 1: Trend of HBV and HCV infection within recent years

DISCUSSION

Hepatitis B and C virus cause liver damage or cirrhosis and often lead to hepatocellular carcinoma. These two infections are endemic in Pakistan and pose a serious problem and burden on country' economy. Recent statistical results have showed that, approximately 2% and 3% of the healthy donors are HBV and HCV positive, respectively. This indicates an increasing trend of HCV in recent years as compared to HBV.[16] Results of our retrospective study have demonstrated the similar trend. In northern Pakistan, frequency of HBV and HCV is ~2% and ~1% respectively. On the other hand, reported incidence of hepatitis B and C virus in southern Pakistan is 1.7% and 1.8% respectively.[17,18]

Prevalence of hepatitis B infection is lower as compared to hepatitis C virus due to vaccine availability and adequate treatment methods.[19,20] Lack of adequate knowledge and awareness, ineffective diagnostic methods, improper sterilization of surgical instruments, noncompliance of majority of the population to vaccination, poor availability of resources for treatment and expensive medical treatment are some of the reasons of its increasing trend.[16-18,21]

This adverse situation should be properly and timely addressed by healthcare policy makers to combating its deadly consequences. An effective treatment method and awareness program should be made in consideration of limitations and constraints of Pakistan's resources and economy. It could be achieved through pamphlets, seminars, advertisement in newspaper in native language and special training courses. A well-developed vaccination plan can be the other important component. Low cost treatment or medication at low price should be provided by government on mass scale to make treatment and medication feasible for entire communities.

CONCLUSION

Increasing trends of viral hepatitis has been observed within the recent years in Pakistan. There is a dire need of effective policies against increasing HBV and HCV infections due to its appalling effects and consequences. Therapeutic and preventive measures should be taken to reduce hepatitis associated mortalities and morbidities.

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