

ORIGINAL ARTICLE

Prevalence of Hepatitis B and C among Elderly Patients at Different Clinical Settings of Three Major Cities of Sindh, Pakistan

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ABSTRACT

Objective: To assess the prevalence of hepatitis B and C among elderly patients at different clinical settings of three major cities of Sindh, Pakistan.

Study Design: Cross sectional observational study

Place and Duration of Study: Department of Department of Medicine, Muhammad Medical College, Mirpurkhas from 1st November 2020 to 30th June 2021.

Methodology: One thousand and two hundred patients from three different cities of Sindh Province either gender, ages and type of hepatitis were recorded.

Results: There were 60.83% males and 39.17% females. 35.83% patients belonged to age >50 years while the prevalence rate of hepatitis was 9.16, hepatitis C 10.33 and both was 4.83%. The patients of hepatitis C was found in females than males. Hepatitis B and C was also more prevalent in more than 50 years of age.

Conclusion: The prevalence rate of Hepatitis B, C and both, however the male gender is at more risk of hepatitis possibility due to expended social life circle and other contributing risk factors such as blood transfusion, frequent physical contacts and exposure to contaminated instruments at salons.

Key words: Prevalence, Hepatitis B & C, Gender

INTRODUCTION

Hepatitis is serious disease condition that imparts great hazards to the liver and may cause liver to be inflamed and may lead to liver carcinoma that is liver cancer and liver failure.¹ The Liver is the largest organ present in human body and not only helps in storage of energy but also digest food and eliminate poison from human body.² The viral hepatitis is one of the major public health issues worldwide.³

The epidemiological studies have shown that almost 120 million people get infected with hepatitis B and 350 million from Hepatitis C infection yearly.⁴ However the prevalence of infection rate is 60% and HBV surface antigen carriers are 9.8% across the globe.⁵ There is total 5 types of viral hepatitis, namely Hepatitis A, Hepatitis B, Hepatitis C, Hepatitis D and Hepatitis E. Each of the type of virally transmitted hepatitis is caused by a completely different virus, for say Hepatitis A is caused by HAV and Hepatitis B Virus is caused by HBV.⁶ The most common of all types of hepatitis is Hepatitis C which was formerly called as non-A or non-B virus and second most common and worst disease condition to cause liver cirrhosis, an acute hepatitis usually occurs with no symptoms while hepatitis B is the most common cause of hepatitis in Asian countries, African, South American and also confers in Caribbean countries. Perhaps Hepatitis B Virus is spread throughout the globe.⁷

The hepatitis B and C are the global challenge affecting people and causing the Deaths each year from infections and hepatitis related cirrhosis and liver cancers.⁸

The entire burden of hepatitis B and C infections is even highest in developing countries where resources are limited, frequent diagnosis, patients care and treatment is not readily available. The literature showed the data for prevalence of hepatitis B is 6.5-8.5% and population with hepatitis C is 2.2-4.5 % worldwide.⁹ The Viral hepatitis B and c are blood borne infections with significant transmission via physical contact, unsafe injections, medical procedures, and sexual contacts.¹⁰

The health care-workers dealing with patients, elder patients, and sexual partners are the front-line individuals at higher risk of infections.¹¹ The virus of the hepatitis B is widespread and contagious in nature it can pass on from one person to other person and its mode of transmission is quick, HBV is the commonly caused by contact with parenteral of infected blood and body fluids likewise hepatitis C and D are also caused infected body fluids. Hepatitis A and E are transmitted through contaminated water and food products. The hepatitis b virus incidences are increasing day by day and year by year.¹²

The virus can easily be residing in body fluids such as vaginal secretions, semen and the blood. Hence, the Hepatitis B is a STD sexually and hundred times faster than HIV virus in transmission and causing infection due the more concentrating nature in blood of infective human host and carrier the robust and strong virus of Hepatitis B can reside for at least one month on any kind of surface, the main reason behind the contagious infection. Hepatitis B virus STD but can also be transmitted my other means.¹³

The health care practices should also make learn with adequate counselling skills to counsel public regarding hepatitis B virus education. However, health care agencies are playing a wide role in reducing incidence of Hepatitis B specifically by preventing it and rising awareness regarding its complete knowledge and addressing way of prevention of hepatitis B to general public. The main target is to cease down and stop all the unsafe modes of transmission of Hepatitis B and make the public as well as the health workers and trainees clear with ways prevent the hepatitis B and how to take precautions to protect one being protected from the dangers of being infected. The object of the study was to evaluate the prevalence of HBV and HBC among elder patients in different areas of Sindh.

MATERIALS AND METHODS

This cross-sectional observational study was conducted at Department of Department of Medicine, Muhammad Medical College, Mirpurkhas from 1st November 2020 to 30th June 2021 in different cities of Sindh Pakistan (Hyderabad, Nawabshah and Mirpurkhas). A total of 1200 patients and their gender, age and type of hepatitis were recorded. An informed consent was obtained from the enrolled patients before the collection of data, and confidentiality of data was maintained. The data was entered and analyzed through SPSS-20.

RESULTS

Five hundred (41.7%) patients belonged to Hyderabad, 400 (33.3%) patients belonged to Nawabshah and 300 (25%) patients belonged to Mirpurkhas (Table 1). There were 63.8% males and 36.2% females belonged to Hyderabad city, 71% males and 29% females belonged to Nawabshah city & 42.3% males and 57.7% females belonged to Mirpurkhas city. According to age, maximum number of patients had age more than 50 years 37.8% followed by 28.4% between 41-50 years of age of Hyderabad city, 33.75% followed by 31% between 41-50 years of age in Nawabshah city and 35.3% followed by 33% between 41-50 years of age in Mirpurkhas city (Table 2).

There were 32 (6.4%) had hepatitis B virus, 57 (11.4%) had hepatitis C virus and 19 (3.8%) had both hepatitis B and C virus found among 500 patients in Hyderabad city, 32 (8%) had hepatitis B virus, 52 (13%) had hepatitis C virus and 21 (5.25%) had both hepatitis B and C virus found among 400 patients in Nawabshah city and 46 (15.33%) had Hepatitis B virus, 15 (5%) had hepatitis C virus and 18 (6%) had both hepatitis B and C virus was found among 300 patients in Mirpurkhas city. While overall, out of 1200 samples, 110 (9.16%) had Hepatitis B virus, 124 (10.33%) had hepatitis C virus and 58 (4.83%) had both hepatitis B and C virus (Table 3). The prevalence of hepatitis according to gender and age of different cities Hyderabad, Nawabshah and Mirpurkhas is shown in Table 4).

Table 1: Frequency of patients screening of different cities (n=1200)

City	No.	%
Hyderabad	500	41.7
Nawabshah	400	33.3
Mirpurkhas	300	25.0

Table 2: Comparison of gender and age according to different cities

Variable	Hyderabad (n=500)	Nawabshah (n=400)	Mirpurkhas (n=300)
Gender			
Male	319 (63.8%)	284 (71%)	127 (42.3%)
Female	181 (36.2%)	116 (29%)	173 (57.7%)
Age (years)			
20-30	37 (7.4%)	53 (13.3%)	21 (7%)
31-40	132 (26.4%)	88 (22%)	74 (24.7%)
41-50	142 (28.4%)	124 (31%)	99 (33%)
>50	189 (37.8%)	135 (33.7%)	106 (35.3%)

Table 3: Prevalence of hepatitis in different cities

Type of hepatitis	Hyderabad (n=500)	Nawabshah (n=400)	Mirpurkhas (n=300)
Hepatitis B	32 (6.4%)	32 (8%)	46 (15.33%)
Hepatitis C	57 (11.4%)	52 (13%)	15 (5%)
Hepatitis B + C	19 (3.8%)	21 (5.25%)	18 (6%)

Table 4: Prevalence of hepatitis based on gender and age from three different cities

Variable	Hyderabad (n=500)			Nawabshah (n=400)			Mirpurkhas (n=300)		
	Hepatitis B	Hepatitis C	Hepatitis B+C	Hepatitis B	Hepatitis C	Hepatitis B+C	Hepatitis B	Hepatitis C	Hepatitis B+C
Gender									
Male	12 (37.5%)	32 (56.2%)	10 (52.7%)	17 (53.2%)	31 (59.6%)	6 (28.6%)	21 (45.6%)	4 (26.7%)	7 (38.9%)
Female	20 (62.5%)	25 (43.8%)	9 (47.3%)	15 (46.8%)	21 (40.4%)	15 (71.4%)	25 (54.4%)	11 (73.3%)	11 (61.1%)
Age (years)									
20-30	2 (6.3%)	1 (1.7%)	1 (5.3%)	3 (9.3%)	2 (3.8%)	2 (9.52%)	6 (13.2%)	3 (20%)	2 (11.11%)
31-40	5 (15.6%)	5 (8.8%)	2 (10.5%)	7 (21.8%)	10 (19.3%)	8 (38%)	5 (10.8%)	5 (33.4%)	3 (16.6%)
41-50	7 (21.8%)	4 (7%)	1 (5.3%)	5 (15.6%)	12 (23%)	8 (38%)	10 (21.6%)	2 (13.3%)	4 (22.3%)
>50	18 (56.3%)	47 (82.5%)	15 (78.9%)	17 (53.2%)	28 (53.9%)	3 (14%)	25 (54.4%)	5 (33.4%)	9 (50%)

DISCUSSION

The hepatitis B and C are one of the major causes of liver diseases and severe liver complications including the hepatocellular carcinomas and liver cirrhosis.¹⁴ The study showed the prevalence of hepatitis B and C among the different small cities of Sindh, and data showed that among all included data the male gender was 63.8% and female were 36.2% similarly shown in a study.¹⁵ Where male genders are more prone towards the hepatitis compared to

females.¹⁶ The data shown that in Nawabshah, the male gender was 71% and female was 29% which is again in agreement with the study conducted previously.¹⁷ In Mirpurkhas, male gender was 42.33% and female was 57.67% which showed that the females were more compared with males unlike the study conducted in Brazil¹⁸ the age factor was one of the major objective of the study, which showed that in Hyderabad city, the maximum number of patients had age more than 50 years and its

percentage was 37.8 followed by 28.4% from 41-50years of age similar age groups were detected in a study conducted¹⁹ while in Nawabshah maximum number of patients had age more than 50 years and its percentage was 33.75 followed by 31% from 41-50years of age and in Mirpur city has maximum number of patients had age more than 50 years and its percentage was 35.33 followed by 33% from 41-50years of age.²⁰

The prevalence of hepatitis B was only 6.4% in Hyderabad city however the 3.8% patients were diagnosed with Hepatitis B+C both. The Hepatitis B was found among 8% patients in Nawab shah city which is quite a high number of cases in a small city compared with the study.²¹ Majority of patients showed hepatitis C that is 10.3%. The assessment of age difference was the main objective and Prevalence of hepatitis B was observed more among the above 50 years (56.25%), which showed the complete agreement with the study.²² The smaller number of cases were observed among the patients of 20-30 years of age. The prevalence of hepatitis C was diagnosed more i.e., 82.4% among the patients with age above 50 years such as found in a study.²³

The more numbers of Hepatitis B+C cases were found i.e., 78.9% among the patients above age of 50 years. The gender difference and association of hepatitis was also the part of this study. The data showed majority of hepatitis cases were observed among males, such as Hepatitis B+C was more (52.63%) in Hyderabad city similar results were found.²⁴ While in Nawabshah majority of cases were observed among males for hepatitis B, 53.12%, compared with females which is 46.8%. The world health organization has assessed that over the 360 million peoples are infected with hepatitis B chronically, however the 5.7 million cases are specifically found progressive with vertical transmission among people over 50 years of age.²⁵ The surveillance programs specifically for elder patients and closer attention shall be directed to the patients to avoid the further complications.

CONCLUSION

The prevalence rate of Hepatitis B, C and both, however the male gender is at more risk of hepatitis possibility due to expended social life circle and other contributing risk factors such as blood transfusion, frequent physical contacts and exposure to contaminated instruments at salons. The frequent cases were diagnosed among elder patients above 50 years of age thus the underlined causes may lead towards the developing of chronic liver diseases among elder patients when the physiology of patient is already compromised.

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