

Socio-Demographic Profile of Patients with Hepatitis B and Hepatitis C Infections at Maswasi, Uttar Pradesh

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Dear Editor,

Viral hepatitis B and hepatitis C are infectious diseases of global importance. According to the World Health Organization (WHO), 130 to 170 million people are chronically infected with hepatitis C virus (HCV) and 3 to 4 million new cases of HCV are diagnosed annually worldwide (1). India is the most infected country with hepatitis B virus (HBV), after China, with 40 million infected people. End stage liver diseases associated with HBV lead to 0.5 - 1.2 million fatalities per year, ranking HBV as the 10th leading cause of death worldwide (2-4). Most of the people with HBV and HCV infections in India are unaware of their disease; it puts them at a serious risk of developing cirrhosis or liver cancer, which are life threatening (1). Maswasi is the center of Rampur district in Uttar Pradesh state, India. According to 2001 Indian census, Maswasi had a population of 15 207. Males constitute 53% of the population and females 47% (5).

After approval of Institutional Committee of Majeedia Unani hospital, Jamia Hamdard New Delhi, India, a health camp for awareness, screening, and treatment of HBV and HCV was established in Maswasi village of Rampur district on 24th January 2016. Among 15 207 population of this area, 423 patients were visited in the camp specially held for HBV and HCV. Patients were screened by qualitative kits available to detect HBV and HCV antigens. Cases diagnosed with HBV and HCV were also tested by qualitative kits available to detect hepatitis B virus surface antigen (HBsAg) and hepatitis C virus antigen (HCV) to rule out the possibility of co-infection. Demographic profile of each patient and history of viral hepatitis in the family were also recorded. The collected data were analyzed for socio-demographic profile of the patients visited in the health camp.

Demographic profile of the patients was as follows:

Total number of patients visited in the camp: 423

Total number of patients screened for HBV and HCV: 245 (57.91%)

Total number of patients with HBV infection: 20 (4.72%)

Total number of patients with HCV infection: 147 (34.75%)

Total number of patients with HBV and HCV co-infection: 11 (2.60%)

1. Distribution of Patients Based on Age Range

Table 1. Distribution of Patients Based on Age Range

Age Range	Male Patients, No. (%)	Female Patients, No. (%)
0 - 9	3 (0.70)	1 (0.23)
10 - 19	19 (4.49)	24 (5.67)
20 - 29	47 (11.11)	51 (12.05)
30 - 39	39 (9.21)	52 (12.29)
40 - 49	39 (9.21)	54 (12.76)
50 - 59	19 (4.49)	22 (5.20)
60 - 69	19 (4.49)	25 (5.91)
70 - 79	3 (0.70)	2 (0.47)
80 - 90	4 (0.94)	0 (0)
Total	192 (45.39)	231 (54.60)
Grand total		423

2. Distribution of Patients Based on HBV and HCV Infections, and Screened Cases

Table 2 provides the number of cases with HBV, HCV, and HBV and HCV co-infection, and unaware cases screened for HBV and HCV. Table 2 also provides information regarding the number of infected pregnant mothers and patients with positive family history of viral hepatitis B and hepatitis C.

All the 20 patients with HBV infection (4.72%) who visited the health camp were the chronic cases. There were 4 cases with the family history of HBV infection; whereby, 2 patients (10%) had the maternal side history and 2 patients (10%) reported the disease in their sister-in-laws. Out

Table 2. Distribution of Patients Based on Hepatitis B, Hepatitis C, and Hepatitis B and Hepatitis C Co-infection, and Screened Cases

	Out of 423 Patients, No. (%)	Patients with Positive Family History, No. (%)	Pregnant Mothers, No. (%)
Hepatitis B patients	20 (4.72)	4 (20)	2 (10)
Hepatitis C patients	147 (34.75)	45 (30.61)	3 (2.04)
Unaware cases screened for hepatitis B and hepatitis C	245 (57.91)	67 (27.34)	-
Patients with hepatitis B and hepatitis C co-infection	11 (2.60)	2 (1.81)	-

of the 20 patients with HBV infection, 2 (10%) cases were pregnant; 147 (34.75%) patients with HCV infection also visited the camp. Out of the 147 patients, 45 (30.61%) patients had family history of HCV infection; whereby, history of HCV infection was observed in the mothers of 11 patients (7.48%), sister-in-laws of 8 patients (5.44%), nephews of 4 patients (2.72%), husbands of 9 patients (6.12%), and wives of 2 patients (1.36%). Out of 147 patients with HCV infection, 3 (2.04%) females were pregnant.

Among 423 cases, 11 (2.60%) patients were co-infected with HBV and HCV. Family history of HCV was observed in 2 (1.81%) of these patients.

Among 423 patients, 245 (57.91%) were unaware of their HBV and HCV infections and were screened for HBV and HCV through HBsAg and HCV kits. Among these 245 patients, 67 (27.34%) had positive family history of HBV and HCV infections. Females of the age group 40 - 49 and males of age the group 20 - 29 were more infected with HBV and HCV. Following that, the age group 30 - 39 in females, and 30 - 39 and 40 - 49 in males contained the highest number of infected patients.

Positive family history of HBV and HCV infections in the mothers of affected individual pointed toward vertical transmission or early childhood transmission through close body contact between mother and child. Poor economy was also observed as an important cause of transmission due to inadequate living space (close body contact) and unhygienic practices. Although HBV is 100 times, and HCV is 10 times more infectious than HIV (1, 2), patients with HCV were 7 times more in number than patients with HBV in the health camp; therefore, Maswasi is probably a hub for patients with HCV infection. Another important family history was observed in sister-in-laws and nephews of affected individuals. In India, more than 2 or 3 families of the same parents live together under the same roof.

Therefore, positive history in sister-in-laws and nephews could be plausibly due to close body contact and poor hygiene. History of sexual transmission was also observed between partners. Apart from these routes of transmission, history of shaving at barber shop was found in a majority of males where one shaving blade is used in multiple individuals, which could be a plausible route of transmission in the rest of cases. In some remote areas, practice of using the same syringe in multiple patients was also reported by some patients. As per available data, the major modes of HBV and HCV transmission in India are perinatal, percutaneous, and sexual routes (6).

It can be concluded that Maswasi village of Rampur district, Uttar Pradesh state, is a hub of mostly viral hepatitis C cases. Due to poor economic conditions, poor hygiene, and lack of awareness of village people in this area, vertical and subcutaneous routes are the important routes of transmission, besides sexual transmission. Awareness, screening, vaccination, and treatment strategies should be planned and implicated in such highly HBV and HCV infected areas.

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