

# Knowledge, attitude and practice on hepatitis-B infection among infected patients in a Homoeopathy Medical Center in Dhaka City, Bangladesh

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## Abstract

Viral hepatitis is the commonest liver disease in Bangladesh. About 10 million people in Bangladesh have been suffering from hepatitis B. Hepatitis B is a potentiality life threatening liver infection caused by HBV. It is a major global health problem and the most serious type of viral hepatitis. The aim of this study is to assess the knowledge, attitude and practice on Hepatitis B Virus infection among the selected patients in Essence Homoeopathy Medical Center, Dhaka. A descriptive type of cross sectional study was carried out among 150 samples by using non-randomized purposive sampling technique and by the help of pretested modified questionnaire. Statistical association was calculated by chi-square test and all the Hepatitis B related data were analyzed by the help of SPSS (version 16). The study showed that 73.3% of the respondents' age ranged from 15-35 years with mean age (32.44±10.54) and of them 96.7% was found to be Muslims. Among injectable drug users (IDUs) (19.3%), 27.6% was sharing same needle. Approximately 5% of the respondents had a history of taking unscreened blood among 28% of the respondents who experienced blood transfusion. Another concerning issue was that 77% of the respondents practiced polygamy sex and among them only 38.8% used protecting device during sexual activity. Majority (70.7%) of the respondents did not take HBV vaccine. Significant statistical association was found between education and vaccination against HBV ( $p=0.000$ ). To prevent this deadly disease mass awareness has to be created among the people of active age group through media education and policy implementation.

**Keywords:** Hepatitis B Virus (HBV), IDUs, KAP, Mass awareness, Bangladesh.

## Introduction

Hepatitis B virus (HBV) is very common in Asia. Moreover it appearance in Africa and Europe is remarkable.<sup>1</sup>Viral hepatitis is the commonest liver disease in Bangladesh. About 10 million people in Bangladesh have been suffering from hepatitis B.<sup>2</sup>Hepatitis B is a potentiality life threatening liver infection caused by HBV. It is a major global health problem and the most serious type of viral hepatitis. It can cause chronic liver disease and puts people at high risk of death from Cirrhosis of the liver cancer. About two billion people worldwide have been infected with the virus and about 350 million live with chronic infection. An estimated 6,00,000 persons die to the acute or chronic consequences of hepatitis B infection. About 25% of adults who become chronically infected during childhood later die from liver cancer or cirrhosis (scarring of the liver) caused by the chronic infection.<sup>3</sup> The HBV was discovered during 1965 in Australia (it was originally named the Antigen after its discovery in indigenous Australians).<sup>4</sup>

Hepatitis B (formerly known as 'serum hepatitis') is an acute systemic infection with major pathology in liver, caused by HBV and transmitted usually by the parenteral route. It is clinically characterized by the tendency to a long incubation period and a protected illness with a variety of outcomes. Usually it is an acute self-limiting infection, which may be either sub clinical or symptomatic. In approximately 5 to 10 percent of cases, HBV infection fails to resolve and the affected individuals then become persistent carriers of the virus. Persistent HBV infection may cause progressive liver disease

## Practice Points

- Viral hepatitis is the commonest liver disease in Bangladesh. About 10 million people in Bangladesh have been suffering from hepatitis B.
- Approximately one-fifth of the patients were injectable drug users (IDUs) and 27.6% of them was sharing same needle.
- More than one-quarter of the patients received blood transfusion and approximately 5% of the respondents had a history of taking unscreened blood.
- Another concerning issue was that three-quarter of the respondents practiced polygamy sex and among them only 38.8% used protecting device during sexual activity.
- Appropriate mass awareness has to be created among the people of active age group through media education and policy implementation.

including chronic active hepatitis and hepato-cellular carcinoma. There is also evidence of a close association between hepatitis B and primary liver cancer.<sup>5</sup>

Three thousand six hundred and ten patients with acute hepatitis in two large hospitals in Dhaka city, Bangladesh, were tested for HBsAg. Besides, 780

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commercial blood donors, 126 doctors and 576 apparently healthy persons were also tested. Passive haem-agglutination technique was applied for this test. Highest incidence of hepatitis was showed among patients with post-transfusion hepatitis and doctors with acute hepatitis being 60% and 65.5% respectively. HBsAg was detected only in 15.4% of children and 27.2% of adult patients with acute hepatitis.<sup>6</sup>

Hepatitis B is a vaccine preventable disease for which a safe, immunogenic and effective vaccine is recommended since 1982 though its implementation is still insufficient and a sizable proportion of HCWs never get vaccinated despite potential occupational risk.<sup>7</sup> The risk of contracting HBV infection in an unvaccinated person from an HBV-infected needle stick or sharp injury ranges from 6-30%.<sup>8</sup> Bangladesh belongs to the intermediate prevalence region for HBV infection. Here the lifetime risk of acquiring HBV is between 20-60%.<sup>9</sup> Studies from many groups have shown that HBV is responsible for 31.25% cases of acute hepatitis,<sup>10</sup> 76.3% cases of chronic hepatitis,<sup>11</sup> 61.15% cases of cirrhosis of liver,<sup>12</sup> and 33.3% cases of hepatocellular carcinoma (HCC)<sup>13</sup> in Bangladesh.

Hepatitis B infection is a serious blood-borne disease, caused by the HBV which attacks the liver and although in acute cases rarely results in liver failure and death; the main public health problem is that this can lead to lifelong chronic HBV infection, which may be followed by cirrhosis and/or liver cancer. Chronically infected HBV carriers are able to transmit HBV through contact with their body fluids, which includes occupational exposure to their blood and secretions, sexual intercourse.<sup>14</sup>

Mother to child transmission occurs frequently either in uterus (when the baby is still in the womb), through placental leakage, or through exposure to blood or blood contaminated fluids at or around the time of birth. Such prenatal transmission is believed to account for 35% to 50% of hepatitis B carrier's. The risk of prenatal transmission is associated with the HBeAg status of the mother. If the mother is both HBsAg and HBeAg positive, 70% to 90% of the children become chronically infected. If the mother is HBsAg positive but HBeAg negative, the risk is significantly reduced.<sup>15</sup> The aim of this study is to assess the knowledge, attitude and practice on Hepatitis B Virus infection among the selected patients in Essence Homoeopathy Medical Center, Dhaka.

## Materials and methods

The study was a descriptive type of cross sectional study. The study population was hepatitis B positive patients of different age range of Dhaka city and sample population was all the patients who were infected with HBV & visited Essence Homoeopathy Medical Centre (EHMC), which is located at 7/A Sobahanbagh, Dhanmondi, Dhaka-1207. 150 samples were taken by non-randomized purposive sampling technique. All HBsAg positive patients in EHMC who gave consent and who did not give consent and were found to be handicapped were excluded from the study. Data was collected by using a semi structured; pre-tested modified and self-administered questionnaire by face to face interview. This questionnaires contained 15 knowledge, attitude and

practice related question associated to hepatitis. Statistical Package for Social Science (SPSS) version 16.0 a computer programmed was used to analyze the collected data. Proportion was present by frequency and cross tabulation analysis.

## Results

It is found from the study that majority of the respondents (73.3%) were 15-35 years of age with mean age 32.44 ± 10.54. A bulk of the respondents (96.7%) was Muslims and married respondents were found to be 69.3%. Among the respondents 29.3% and 28% have completed higher secondary and graduation level. 38% of the respondents were service holder and majority of them (78%) had a monthly income BDT 13000-40000 (Table 1).

It was also identified that 19.3% of the respondents were IDUs and among them 27.6% was involved in needle sharing (Table 2). It was revealed that 28% of the respondents undergo blood transfusion and only a few people (4.7%) were aware of taking screened blood (Table 3). Among 87 respondents (who replied to this question) it was found that 77% were in a habit of doing polygamy and majority of them (61.2%) were not practicing safe sex while only 38.8% were practicing it (Table 4).

It was also found that most of the respondents (70.7%) did not take HBV vaccine and only 29.3% had the vaccination. Significant statistical association was found between education and vaccination against HBV (*p*-0.000) (Table 5).

**Table 1:** Socio-demographic characteristics of the respondents

Variables	Frequency (%)
<i>Age (years)</i>	
15-35	110 (73.3%)
36-50	30 (20%)
51-75	10 (6.7%)
Mean= (32.44 ± 10.54)	
<i>Religion</i>	
Muslim	145 (96.7%)
Hindu	5 (3.3%)
<i>Occupation</i>	
Service holder	57 (38%)
Teacher	8 (5.3%)
Business	28 (18.7%)
Rickshaw puller	15 (10%)
Farmer	7 (4.7%)
Housewife	15 (10%)
Student	20 (13.3%)
<i>Education</i>	
Primary	22 (14.7%)
Secondary	35 (23.3%)
Higher secondary	44 (29.3%)
Graduation	42 (28%)
Illiterate	7 (4.7%)
<i>Family Income (BDT)</i>	
8000-12000	6 (4%)
13000-40000	117 (78%)
41000-100000	27 (18%)
<i>Marital status</i>	
Single	46 (30.7%)
Married	104 (69.3%)

It is also found from the study that majority of the respondents (81.3%) and (73.3%) had knowledge on vulnerability of the disease and long term effect of Hepatitis B. Among 150 respondents 66.7%, 64.0%, 34.0% and 30.7% knew that spouses, children, sexual partners and co-workers are the risk group for Hepatitis B. While they had been asked about long term effects of this disease 51.3% and 59.3% mentioned it as liver cirrhosis and hepato-cellular carcinoma. All these knowledge related variables has been showed in Table 6.

## Discussion

The descriptive type of cross sectional study was carried out in order to assess the knowledge, attitude and practice on Hepatitis B Virus infection among the 150 infected patients in some selected areas of Dhaka city. A pre tested semi structured questionnaire was designed to collect the information.

From the study it was revealed that among all of the respondents 73.3% were 15-35 years, 20% and 6.7% were 36-50 years and 51-75 years with the mean age (32.44 ± 10.54). Among all the respondents 69.3% were married and rest (30.7%) were the single persons. A study carried out in Ahmedabad, Gujarat in 2012 and

revealed that most of respondents 75% were 20-35 years, 21.6% and 3.4% were 36-50 years and d 50-60 years. All the respondents 70% were married and 30% were the single persons.<sup>16</sup> The findings regarding age and marital status are almost similar in both studies.

Present study showed that among all the respondents 96.7% were Muslim and rest (3.3%) were Hindu. About 38% were Service Holder and 18.7% conduct Business, 13.3% were Student, 10% were Rickshaw puller & Housewife, 5.3% were teacher and 4.7% were Farmer. No useful data were found to compare against these factors.

Majority of the respondents (29.3%) were educated up to higher secondary level followed by 28% were graduate, 23.3% were secondary passed and rests (14.7% & 4.7%) were primary passed and illiterate respectively. In a study regarding Hospitals of Rafsanjan, in 2011 2.4% were illiterate, 8.2% were primary school students, 45.9% middle school students and 43.5% were diploma and upper level students.<sup>17</sup> There are no similarities between respondents education level of these two studies.

It was also revealed that 78% of the respondents' monthly family income was BDT. 13000-40000 and 18% and 4% respondents' monthly family income were between BDT 41000 -100000 and BDT 8000-12000. A study was done in Saudi Arabia were it was found that 5-7% of the respondents' monthly family income was more than BDT 30000 (converted from Saudi riyal).<sup>18</sup> There are no similarity between these studies two study findings.

One-fifth (19.3%) of the respondents were found to be IDUs and most of them 80.7% weren't so. Among the IDUs 27.6% used to share same needle. In a similar study concerning medical students in Iraq in 2013 showed that 71.5% respondents used same needle where 28.5% did not.<sup>19</sup> It is found from this study that our people are more aware about needle sharing than the people of Iraq, so there is no similarity between these two studies regarding needle sharing.

Present study showed 28% of the respondents undergo blood transfusion whereas majority (72%) did not go through it. In a study regarding liver patients in India 2009 showed that among all the respondents 61.6% went through blood transfusion whereas 61.4% did not go through it.<sup>20</sup> Among 42 respondents 78.6% didn't know whether they took screened blood or not, followed by 16.7% replied positively and only 4.8% took unscreened blood. A study of Haramaya University Ethiopian done in 2013 showed that 68.3% of the respondents replied positively and 31.7% took unscreened blood,<sup>21</sup> which

**Table 2:** IDUs and their needle sharing habits

Habits	Respondents (%)
<i>Injectable drug</i>	
Yes	29 (19.3%)
No	121 (80.7%)
<i>Needle sharing</i>	
Yes	8 (27.6%)
No	21 (72.4%)

**Table 3:** Transfusion history of the respondents

Transfusion history	Respondents (%)
<i>Blood transfusion</i>	
Yes	42 (28%)
No	108 (72%)
<i>Screened blood</i>	
Yes	7 (16.7%)
No	2 (4.8%)
Don't know	33 (78.6%)

**Table 4:** Sexuality of the respondents of the respondents

Sexuality	Respondents (%)
<i>Practice Polygamy</i>	
Yes	67 (77%)
No	20 (23%)
<i>Safe sex practice</i>	
Yes	26 (38.8%)
No	41 (61.2%)

**Table 5:** Association between education and HBV vaccination of the respondents

Education	History of taking HBV vaccine			p-value
	Yes	No	Total	
Primary	1	21	22	0.000
Secondary	5	30	35	
Higher secondary	11	33	44	
Graduation	27	15	42	
Illiterate	0	7	7	
Total	44	106	150	

**Table 6:** Knowledge of respondents regarding Hepatitis B and its complications

Knowledge related Variables	Respondents (%)
<i>Knowledge on vulnerability of disease</i>	
Yes	122(81.3%)
No	28(18.7%)
<i>Knowledge on risk group*</i>	
Parents	37 (24.7%)
Spouse	100 (66.7%)
Children	96 (64%)
Sexual Partner	51 (34%)
Co-worker	46 (30.7%)
General people in public place	23 (15.3%)
<i>Knowledge on long term effect of Hepatitis B</i>	
Yes	110 (73.3%)
No	40 (26.7%)
<i>Knowledge of long-term complications of Hepatitis B*</i>	
Chronic persistent hepatitis	23 (15.3%)
Chronic active hepatitis	9 (6%)
Liver cirrhosis	77 (51.3%)
Aplastic anemia	20 (13.3%)
Hepato-cellular carcinoma	89 (59.3%)
Hepatic failure	12 (8%)
Renal failure	52 (34.7%)

\*Multiple responses

shows no similarity with the current study. This difference may be as dissimilarity in awareness pattern which indicates that Bangladeshi people are less aware than those of Ethiopians.

Among all the respondents 77% practiced polygamy sex and only 23% did not practice it. Those who practiced polygamy 38.8% practiced safe sex and remaining 61.2% did not do so. So far literature search no satisfactory data were found regarding these factors to compare with the current study.

Present study also showed that most of the respondents (70.7%) did not take any vaccine against HBV and only 29.3% took HBV vaccine before. In a study of Haramaya University Ethiopia in 2013 showed that most of the respondents (86.6%) did not take any vaccine against HBV and only 13.4% took it before.<sup>21</sup> These findings are almost closer to the findings of the current study regarding HBV vaccine.

It is also found from the study that majority of the respondents (81.3%) and (73.3%) had knowledge on vulnerability of the disease and long term effect of Hepatitis B. Among 150 respondents 66.7%, 64.0%, 34.0% and 30.7% knew that Spouse, Children, Sexual Partner and Co-workers are the risk group for Hepatitis B. While they had been asked about long term effects of this disease 51.3% and 59.3% mentioned it as Liver Cirrhosis and Hepato-cellular carcinoma. Mohammad R *et al* found in their study in Malaysia that majority were aware that the clinical consequences of HBV infection include inflammation of the liver (81.6%), liver failure (78.5%) and liver cancer (85.1%).<sup>22</sup> These two results vary possibly due to different educational background of these two countries. Chi-square test revealed that there was statistical significant association between education status and history of taking HBV vaccine (p=0.000).

The study has a number of limitations. The time allocated for this study was not enough to capture the real picture.

There were some financial limitations to collect the data as no funding was available to carryout the study. Small study area could not be representing to the whole. This study only looked at the patients at EHMC, which is one of the many clinics of Dhaka city and had a small catchment area. Irregular patient visits also led to missed data.

## Conclusion

This study is a very small scale study which may not affect overall picture of HBV but represent the actual scenario and may contribute to minimize the health problem caused by HBV. This also find out that young generation is getting more infected by Hepatitis than overall patients. In case of vaccination, about one in every four people is roughly vaccinated, and most of the respondents knew about the vulnerability of disease. In case of spreading awareness, Radio and TV are playing role in preventing HBV infection. The mass awareness created by them is one of the bright sides of the entire HBV situation in Bangladesh. Trainings, seminars and other research works are helping in creating more awareness among people.

The study put forward following recommendations for the physician, scientists and policy makers to draw appropriate plan to reduce the incidence of the diseases:

- Screening for hepatitis B virus (HBV) infection in persons at high risk for infection.
- All health-care providers and students should receive hepatitis B vaccine according to current CDC recommendations.
- Vaccination (3-dose series) should be followed by assessment of hepatitis B surface antibody to determine vaccination immunogenicity and, if necessary, revaccination.
- Pre-notification of patients of the HBV-infection status of their care giver;
- Mandatory antiviral therapy with no other option such as maintenance of low viral load without therapy.

## Competing interest

The authors declare that they have no competing interests.

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