## **Original Research Article**

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# Knowledge, attitude and practices concerning hepatitis B infection, among medical students in urban area of Chennai, Tamil Nadu

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### **ABSTRACT**

Background: Hepatitis B is a serious, global, public health problem nearly two billion people in the world have been infected with HBV. Medical students represent a population that is at high-risk group for acquiring and spreading hepatitis B infection (HBV). Despite increasing prevalence of HBV, there is paucity of information on knowledge, attitude and practice (KAP) HBV among medical students. Objective of the study was to assess the knowledge, attitude, practices of hepatitis B infection among medical students.

Methods: A cross-sectional study was carried out from June 2017 to August 2017 on medical students at Sree Balaji Medical College, Chennai. A pretested questionnaire was used to collect the data from 200 undergraduate medical students.

**Results:** In the present study 82.5% of medical students had correct knowledge that vaccine is available for hepatitis B. Regarding spread of Hepatitis B, 92.5% said that hepatitis B spreads by blood, 91.0% said that is spread by sexual contact, 97% revealed that vaccination can prevent the hepatitis B infection. With respect to the risk factors 95.5% said that shared needle is a risk factor for hepatitis B, Regarding the vaccination status of the students for hepatitis B only 32% are fully vaccinated, 30% are partially vaccinated and 38% are unvaccinated.

Conclusions: This study showed that the knowledge and attitude of medical students are good, but practice was not sufficient only 32% of the medical students are fully vaccinated for Hepatitis B.

**Keywords:** Hepatitis B, KAP, Medical students

## INTRODUCTION

Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus which is a major global health problem. It can cause chronic liver disease and puts people at high risk of death from cirrhosis of the liver and liver cancer. 1,2 According to the recent estimates, about one-third of the world population is infected with HBV. The prevalence of chronic HBV infection greatly varies worldwide (0.5-20%), due to differences in age at the time of infection and mode of acquisition. Despite the availability of HBV vaccination since 1982, which gives 90%-100% protection against HBV infection, nearly two billion people in the world have been infected with HBV, of which 350 million are chronic carriers. As a consequence of this, approximately 600,000 die every year from HBV- related liver disease or hepatocellular carcinoma in the world.<sup>3</sup> Hepatitis B is widespread in the Asia Pacific region and 10 to 15 million of the population suffer from this disease. Since India has one-fifth of the world's population, it accounts for a large proportion of global burden of HBV. India harbors 10-15% of the entire pool of HBV carriers of the world.<sup>5</sup> The average estimated carrier rate of hepatitis B virus (HBV) in India is 4%, with a total pool of approximately 36 million carriers. Professional blood donors constitute the major high risk group for HBV infection in India, with a hepatitis B surface antigen positivity rate of 14%. Blood transfusions represent the most important route of HBV transmission among adults. However, most of India's carrier pool is established in early childhood, predominantly by horizontal spread due to crowded living conditions and poor hygiene.<sup>6</sup> The risk of occupational infections in such developing countries is intensified by a variety of factors comprising but not restricted to overcrowding in hospitals, lower Health Care Worker: patient ratios, insufficient or absence of basic safety and protection equipment, partial awareness of exposure risk of blood and body fluid, and reutilizing/reprocessing contaminated needles and sharp instruments. Health workers, especially physicians and medical students are always in direct contact with patients and are vulnerable to the acquisition of these infectious diseases. They are involved in blood transfusion, injections and surgical operations in their practices. They should be aware of the risk involved and should take appropriate precautions in dealing with patients.8 Hence present study was conducted to assess the knowledge, attitude and practice among medical students in Urban area of Chennai.

#### **METHODS**

A cross-sectional descriptive study was carried out among undergraduate medical students in Sree Balaji Medical college and hospital, Chennai from June- August 2017, Medical students who are willing to participate in the study were included as study population and 200 medical students were selected by simple random sampling. Sample size was calculated based on the previous study conducted by Baig et al found that prevalence to be 59%, with 95% confidence interval and 12% of relative precision. Calculated sample size was 193 which was rounded off to 200 by using formula N= 4PQ/L×L. A Pretested Questionnaire was used to collect the data regarding sociodemographic details, knowledge, attitudes and practices of hepatitis B. Informed consent was obtained from the students before the start of the study. The purpose of the study was briefly explained to the students and strict confidentiality was assured. Study was approved by institutional ethics committee of Sree Balaji Medical College. Data was entered in excel and analysed by SPSS version 20.

#### Ethical considerations

Study was approved by institutional ethics committee of Sree Balaji Medical College and Hospital. An informed consent was taken from each participants before the data collection.

## **RESULTS**

94 (47%) participants were between 18 -20 years, 106 (53%) were between 20-21 years of age. Out of 200, 104 (52%) were females and 96 (48%) male students. Table 1 shows majority of the study participants are residing in Urban area 139 (69.5%) and 61 (30.5%) in Rural area.

Table 1: Socio demographic characteristics of the study participants.

| Variables | N (%)      |
|-----------|------------|
| Age       |            |
| 18-20     | 94 (47.0)  |
| 20-21     | 106 (53.0) |
| Sex       |            |
| Male      | 96 (48.0)  |
| Female    | 104 (52.0) |
| Religion  | •          |
| Hindu     | 164 (82.0) |
| Christian | 26 (13.0)  |
| Muslim    | 10 (5.0)   |

## Knowledge towards HBV

Out of the 200 participants, Table 2 shows 77% reported that hepatitis b transmitted by virus, 77.5% agreed hep b causes liver carcinoma. Regarding spread of Hepatitis B, 92.5% Said that hepatitis B spreads by blood, 91.0% said that is spread by sexual contact, in the present study 82.5% of medical students had correct knowledge that vaccine is available for hepatitis B and 97% revealed that vaccination can prevent the hepatitis B infection. With respect to the risk factors 95.5% said that shared needle is a risk factor for Hepatitis B, 96.0% said that unprotected sexual contact is the risk factor.

Table 2: Response to knowledge related to hepatitis B.

| Knowledge  | Yes (%)    | No (%)     |
|--|------------|------------|
| Have you heard of hepatitis disease                            | 169 (84.5) | 31 (15.5)  |
| Is it transmitted by virus?                                    | 154 (77.0) | 46 (23.0)  |
| Can hep b cause liver cancer                                   | 155 (77.5) | 45 (22.5 ) |
| Can hepatitis b be transmitted by unsafe sex?                  | 182 (91.0) | 18 (9.0)   |
| Can hep b transmitted by contaminated blood and blood products | 185 (92.5) | 15 (7.5)   |
| Can hepatitis b be transmitted by unsterlized instruments      | 179 (89.5) | 21 (10.5)  |
| Is vaccine available for hepatitis B                           | 165 (82.5) | 35 (17.5 ) |
| Risk factor for Hep B is Shared needle                         | 191 (95.5) | 9 (4.5)    |
| Risk factor for Hep B Is unprotected sex                       | 189 (94.5) | 11 (5.5)   |
| Prevention of Hep B is by vaccination                          | 194 (97.0) | 6 (3.0)    |

Table 3: Responses to attitude related to hepatitis B.

| Attitude   | Yes (%)    | No (%)     |
|--|------------|------------|
| Is hepatitis B vaccine is safe and effective                               | 173 (86.5) | 27 (13.5)  |
| Should hepatitis B patients be allowed to work                             | 187 (93.5) | 13 (6.5)   |
| Should hepatitis B patients be isolated                                    | 11 (5.5)   | 189 (94.5) |
| Should hepatitis B patients be allowed to have unprotected sex             | 16 (8.0)   | 184 (92.0) |
| Should hepatitis B patients be hospitalized for full duration of treatment | 18 (9)     | 182 (91.0) |
| Should patients affected with hepatitis C Be vaccinated for hepatitis B    | 194 (97.0) | 6 (3.0)    |
| Should newborns to affected mother be vaccinated                           | 195 (97.5) | 5 (2.5)    |

Table 4: Responses to practice related to hepatitis B.

| Practice   | Yes (%)      | No (%)      |
|--|--------------|-------------|
| Have you done screening for hepatitis B?                                       | 149 ( 74.5 ) | 51 (25.5)   |
| Have you got yourself vaccinated against hepatitis B vaccine?                  |              |             |
| Partially vaccinated   | 60 (30)      | 76 (38)     |
| Fully vaccinated   | 64 (32)      |             |
| Do you ask for a new syringe before use?                                       | 191 (95.5)   | 9 (4.5)     |
| Do you ask for screening of blood before transfusion?                          | 159 (79.5)   | 41 (20.5)   |
| Have you ever participated in health education program related to hepatitis B? | 101 (50.5 )  | 99 ( 49.5 ) |

## Attitude towards HBV

Regarding the attitude among the students towards hepatitis B, Table 3 shows 86.5% had positive attitude that HBV vaccination is safe and effective, 93.5% believed that hepatitis B patients should be allowed to work, 94.5% said they should not be isolated, 92.0% agreed that hepatitis B patients should not be allowed to have sexual contact, 91.0% of the students agreed that there is no need for hospitalization of hepatitis B patients for the full duration of treatment. 97.0% of the students gave the correct answer that patients suffering from hepatitis C should be vaccinated for hepatitis B also. 97.5% of the students also agreed that newborns born to hepatitis B affected mothers should be vaccinated.

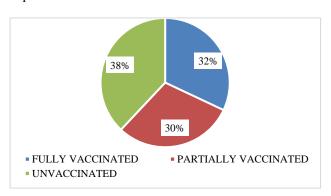


Figure 1: Vaccination status.

## Practices regarding HBV

Regarding the practice among medical students towards hepatitis B, Table 4 shows only 52% of the students had done screening for hepatitis B infection, 62% of the

students are vaccinated for hepatitis B in that only 32% were fully vaccinated for hepatitis B, 79.5% said that they will ask for screening of blood before transfusion, 50.5% of the participants had participated in the health education program regarding hepatitis B.

## DISCUSSION

HBV infection is an occupational risk for Clinicians and surgeons especially in developing countries where a carrier rate is about 4%. However, incidence of HBV infection could be brought down by creating awareness regarding its transmission and encouraging practice of immunization with hepatitis B at all health care provider levels. It is preventable by a safe and effective vaccine.

In our study 92.5% said hepatitis B is transmitted by blood and 91 % said it is transmitted by sexual contact. Similar findings have been reported among studies conducted among medical students in Ahmedabad, Karachi, North west Ethiopia. 9-11 95.5% of students said that shared needles is a risk factor for hepatitis B. Similar findings were given by WHO. 2 82.5 % of students were aware about the availability of hepatitis B vaccination. This was similar to study conducted among health care workers by S Setia. 97.0% students said that vaccination can prevent hepatitis B infection. This is similar to a study conducted by Satekge.

In our study 93.5% believed that hepatitis b patients should be allowed to work and 94.5% said that hepatitis B patients should not be isolated. Similar findings have found in a study conducted by Hussain et al found that 92.1% and 96.8% respectively.<sup>15</sup>

97% students gave the correct answer that newborns born to infected mothers should be vaccinated to prevent perinatal transmission of infection. Similar guidelines had been provided by WHO in 2015. 16 97.5% of the students gave the correct answer that patients with hepatitis C should be vaccinated for hepatitis B to prevent coinfection. This was in accordance to guidelines provided by WHO. 17

In our study only 30% are partially vaccinated, 32% are fully vaccinated and 38% were unvaccinated for hepatitis B Vaccine, similar results were found in study by Hussain et al 26.7%. <sup>15</sup>

#### **CONCLUSION**

In this present study we found that the knowledge and attitude of medical students were good, but practice was not sufficient only 32% of the medical students were fully vaccinated for hepatitis. We recommend that all students in the health profession should be vaccinated prior to their entry into professional practices

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Institutional Ethics Committee

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