



## AWARENESS REGARDING HEPATITIS B AND ITS PREVENTION AMONG HEALTH CARE WORKERS AND MEDICAL STUDENTS IN TERTIARY HEALTH CARE SETUP IN HIMACHAL PRADESH

**Dr. Aditya Rana**

JR, MD Microbiology, Department of Microbiology, DRPGMC Kangra at Tanda.

### ABSTRACT

**Introduction:** Hepatitis B is a significant disease affecting hundreds of millions of people. There are an estimated 257 million people living with chronic hepatitis B infection (CHB) in the world. India accounts for 10-15 % of the entire pool of Hepatitis B carriers in the world. hepatitis B carriers in India account for 50 million. Hepatitis B infection is one of the most important occupational hazards among the medical students and healthcare workers (HCW's) due to their risk of exposure to infected bodily fluids and blood. **Materials & methods:** It is a cross sectional hospital based study. Study was done at the Department of Microbiology, DRPGMC Kangra at Tanda. 200 HCW and medical students were included in the study who fulfill the inclusion criteria. **Results:** A total of 200 subjects were included in the study, out of which 89(40.5%) were males and 119(59.9%) females. Male to female ratio was 1:1.4. Vaccinated subjects were 167(83.5). Doctors were more aware about Hepatitis B as compared to other occupations. **Conclusion:** Sensitization about Hepatitis B virus to health care workers and medical students entering the health institution is very important. In our study we found a lack of adequate knowledge about this disease in Class IV workers. Vaccination is one of the easiest ways to prevent this deadly virus. Facilities for vaccination should be provided free of cost to healthcare workers and students at the time of joining the health institution.

**KEYWORDS :** Hepatitis B, Health care workers (HCW), Awareness, Vaccination.

### INTRODUCTION

It is a significant disease affecting hundreds of millions of people. There are an estimated 257 million people living with chronic hepatitis B infection (CHB) in the world [1]. Asia and sub-Saharan Africa bear most of the burden of CHB, accounting for more than three quarters of the people with CHB in the world [2]. According to the 2016 Global Burden of Disease's study, chronic HBV infection accounts for about 42% of all liver cancer deaths [3]

India has intermediate endemicity of hepatitis B with hepatitis B surface antigen HBsAg prevalence between 2% and 7%. Seroprevalence studies in 161 countries from 1965 to 2013 indicated that 3.6% of the world's population had chronic Hepatitis B infection. India accounts for 10-15 % of the entire pool of Hepatitis B carriers in the world. hepatitis B carrier in india accounts for 50 million.[4]

Hepatitis B infection is one of the most important occupational hazard among the medical students and healthcare workers(HCW's) due to their risk of exposure to infected bodily fluids and blood.The risk of contacting HBV by health care workers is four time greater than that of general adult population. The highest rate are seen among dentist,physicians , laboratory workers ,dialysis workers, cleaning service employees and nurses.[5]

Therefore awareness ,knowledge, and preventive measures for Hepatitis B is of important concern in health care setup.

### METHODS

This study was conducted in the Department of Microbiology at Dr.Rajendra Prasad Government Medical College (DRPGMC) & Hospital Kangra at Tanda ,Himachal Pradesh. A total of two hundred HCW and medical students were included in the study. This study was done over a period of one year. It was a cross sectional hospital based study.

### INCLUSION CRITERIA:-

Randomly selected male and female , students and health care workers of DRPGMC & Hospital Tanda at Kangra, who are willing to give consent who were aged more than 18 years.

### EXCLUSION CRITERIA:-

Persons less than 18 years and unwilling to give consent.

### Questionnaire:

The questionnaire was developed to assess the HBV awareness. There were five questions on HBV awareness.

1. Mode of spread of HBV infection?
2. Association with cancer?
3. Which is more dangerous HIV/HBV/Equal?
4. Is there a high risk of HBV to HCW?
5. Duration of protection from vaccine?

### RESULTS

Total of 200 HCW and medical students participated in the study. Out of 200 samples 146 were HCW and 54 were medical students. Characteristics of the study population (N = 200) are presented in table 1.

**Table 1: Distribution of demographic factors and HBV related experience(N=200).**

Age	N	%
18-30	119	59.5
31-40	31	15.5
>40	50	25
<b>Gender</b>		
Male	81	40.5
Female	119	59.9
<b>Occupation</b>		
Doctors	72	37
Student	54	27
Class IV workers	38	19
Nurses	21	10.5
Technicians	15	7.5
<b>Work experience</b>		
Nil	54	27
<5 years	73	36.5
5-10 years	32	16
>10 years	41	20.5
<b>Vaccination</b>		
Yes	167	83.5
No	33	16.5

The ratio of male to female participants was 1:1.4 and majority 59.5% were between 18–30

years old. In our study Doctors were in majority 37% and technicians were at least 7.5 %. Seventy three (36.5%) subjects had work experience of <5 years. Predominance was seen with 167(83.5%) subjects being vaccinated for Hepatitis B vaccine.

### Knowledge regarding Hepatitis B infection

Assessment of awareness of the study participants about Hepatitis B infection was carried on the basis of a survey. Ninety-nine(49.5%) subjects were aware about various modes of spread of HBV . In addition 61.9% responded with its association of HBV with cancer. When asked about morbid nature of HBV to HIV, 52.5% responded with HBV, 31.6% with HIV. Approximately 87% were aware of higher exposure of Hepatitis B to HCW. 35.3% of study individuals think that protection from Hepatitis B vaccine is for life long.

### Vaccination

According to our study with 200 subjects, 167(83.5%) individuals were vaccinated and 33(16.5%) were unvaccinated for Hepatitis B vaccine

### DISCUSSION

In our study we had assessed the knowledge about HBV as per the occupation, we found out of all subjects doctors 57(79.1%) were aware about mode of spread of HBV, 68(94.4%) knows association of HBV with cancers, 60(83.3%) perceives morbid nature of HBV to HIV. Out of 38 Class IV workers 34(89.5%) were not aware of HBV mode of spread, 15(39.4%) knew of its association with cancer. High morbid nature of HBV as to HIV was not known to Class IV. This might be due to lack of awareness about Hepatitis B virus infection in Class IV workers as to other HCW. Etheline et al in their study shown similar results the medical doctors were the most knowledgeable regarding HBV (76.5%)[6]

According to WHO estimates, hepatitis B vaccination coverage among health care workers varies from 18% being lowest in Africa to highest 77% in Australia and New Zealand.[7] Kumar et al in their study on health care workers at Mangalore, India showed that only 57.1% of health care worker were completely vaccinated for Hepatitis B virus.[8] Similarly Sukriti et al in their respective study showed that only 55.4% of health care workers working in a tertiary health care had their vaccination for Hepatitis B virus[9]

### CONCLUSION

Sensitization about Hepatitis B virus to health care workers and medical students entering the health institution is very important. In our study we found a lack of adequate knowledge about this disease in Class IV workers, given that awareness is usually the first step towards modification of a desirable behaviour. HBV campaigns should be organized to sensitize HCWs on this disease. The campaign can include improved mass media programs, such as broadcasting health talks and programs. Adequate sensitization will reduce the rate of stigma associated with the disease and probably the rate of new infections among HCWs and medical students. Vaccination is one of the easiest ways to prevent this deadly virus. Facilities for vaccination should be provided free of cost to healthcare workers and students at the time of joining the health institution.

### REFERENCES

1. World Health Organization: Hepatitis B Factsheet (2018). [https:// www. who. int/news-room/fact-sheets/detail/hepatitis-b](https://www.who.int/news-room/fact-sheets/detail/hepatitis-b).
2. World Health Organization: Global hepatitis report 2017 (2017) [https:// www. who. int/hepatitis/publications/global-hepatitis-report2017/en/](https://www.who.int/hepatitis/publications/global-hepatitis-report2017/en/).
3. Global Burden of Disease Liver Cancer, C., The burden of primary liver cancer and underlying etiologies from 1990 to 2015 at the global, regional, and national level: Results from the global burden of disease study 2015. *JAMA Oncology*, 2017, 3(12):p. 1683–1691. PMID:28983565.
4. World Health Organisation. Hepatitis B. Who.int. Available from: [https:// www.who. int/news-room/fact-sheets/detail/Hepatitis-B](https://www.who.int/news-room/fact-sheets/detail/Hepatitis-B).
5. Service USPH, S UU. Centers for Disease Control and Prevention. *MMWR*. 2001(50).
6. Akazong W E, Tume C, Njouom R, Ayong L, Fondoh V, Kuate J-R. Knowledge, attitude and prevalence of hepatitis B virus among

healthcare workers: a cross-sectional, hospital-based study in Bamenda Health District, NWR, Cameroon. *BMJ Open*. 2020;10(3):e031075. Prüss-Ustün A, Rapiti E, Hutin Y. Estimation of the global burden of disease attributable to contaminated sharps injuries among health-care workers. *Am J Ind Med* 2005;48:482-490.

7. Kumar KA, Baghal PK, Shukla CB, Jain MK. Prevalence of hepatitis B surface antigen (HBsAg) among Health Care Workers. *Indian J Comm Med*. 2000;25:93-96
8. Sukriti, Pati NT, Sethi A, et al. Low levels of awareness, vaccine coverage, and the need for boosters among healthcare workers in tertiary care hospitals in India. *J Gastroenterol Hepatol*. 2008; 23: 1710-1715.