# **Research Article**

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# Hepatitis B awareness and vaccination status among first year medical students

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#### **ABSTRACT**

**Background:** Hepatitis B virus is the major cause of chronic liver disease and hepatocellular carcinoma. In India 2-4% individual are chronic carrier of HBV. Hepatitis B vaccine which is highly safe and effective in prevention of HBV infection and its serious complication. Medical students are susceptible to HBV infection during exposure to clinical cases & different procedure. The objective of the study was to assess the knowledge regarding hepatitis B disease among the first year MBBS students and to know the vaccination status against Hepatitis B among the students.

**Methods:** It was a cross sectional study undertaken in the month of November 2013 among the first year MBBS students taken admission in academic session 2013-14 of VSS Medical College Burla, Sambalpur. All the first year MBBS students who were present in the community medicine theory classes on the day of data collection included as study subjects. Data were collected in a pre-designed self-administered questionnaire & it was analysed with MS excel 2007.

**Results:** Out of 150 students, 110 students were participated, 95 students (86.3%) had knowledge regarding the causative agent and organ involvement. 76 students (69%) had known about the modes of transmission. 38% knew its incubation period. People who are at risk was known to 25(22.7%) students. 78 (70.9%) students had known about the importance of vaccination. 57 (51.8%) were vaccinated & 17(15.4%) students were incompletely vaccinated.

**Conclusions:** The knowledge regarding various aspects of Hep-B among the first year medical students is inadequate. The vaccination status is poor. The non-vaccinated students should be completely vaccinated as early as possible before their clinical exposure.

Keywords: Knowledge, Hepatitis B, Vaccination, MBBS students

# INTRODUCTION

Hepatitis B is a disease that never discriminates between the rich and the poor, a disease that teaches us the moral of a balanced relationship, that paves several paths to get transmitted, right from the prick of a needle as well as from a mother to baby. 30% of the world's population or about 2 billion persons have serological evidence of either current or past infections with hepatitis B virus. <sup>1</sup> of these an estimated 350 million have chronic HBV infection and at least one million chronically infected persons die each year of chronic liver disease including cirrhosis and liver cancer. <sup>2,3</sup> The prevalence of chronic HBV infection in different studies from India ranges from 2-10%, being below 8% liver cancer. India has intermediate to high endemicity. Based on an average HBSAg positivity rate of 5% the total HBV carrier pool in India is estimated at 50 million. <sup>4</sup> Health care personnel

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represent a high risk population for HBV infection. It is the most important infectious occupational hazards which the Indian health care providers encounter. In fact HBV infection is more dangerous compare to HIV infection vis-à-vis occupational exposure is due to the fact that its transmission rate after percutaneous exposure to blood is much higher (about 50%) than that of HIV.<sup>5</sup> Medical students are susceptible to HBV infection during their exposure to clinical cases and different procedure. Since proper vaccination can prevent HBV infection, complete Hep-B vaccination is necessary for medical student. With this background the present study was carried out to assess the knowledge regarding various aspects of hepatitis B disease & to know the vaccination status of hepatitis B among the first year MBBS students.

#### **METHODS**

A cross sectional study was undertaken among the first year MBBS students, who had joined in the academic session 2013-14 of VSS Medical college. All the first year students who have attended the community medicine theory class on the day of data collection in the month of Oct-2014 were included as study subjects. After explaining the objective of the study a pre-designed self-administered anonymous questionnaires were distributed. In order to avoid sharing of information, strict instruction was given and data was collected in the presence of concerned teachers. The data were analysed with MS excel 2007.

## **RESULTS**

Table 1: General characteristics of study subjects.

Characteristics	Number	Percentage
Age in years		
18-20	92	83.6
21-23	16	14.5
24-26	02	1.8
Sex		
Male	59	53.6
Female	51	46.3
Residence		
Rural	27	24.5
Semi Urban	47	42.7
Urban	36	32.7

A total of 110 students participated in the study. Majority of the students 92(83.6%) were in the age group of 18-20 years. Among the study subjects 51(46.3%) were females outnumbering the males in a narrow margin. 83 (85.4%) students belong to urban and semi urban area.

From the table No-II it was seen that 95 students (86.3%) had idea about the organ affected in hepatitis B infection. 64 students (58.1%) were known to its causative organism and 39 (35.4%) students had knowledge about the incubation period. The correct modes of transmission

was known to 76 (69%) students. 25 (22.7%) students had knowledge about the people who are at risk from suffering hepatitis B. 80 students (72.7%) had knowledge regarding the complication of hepatitis B i.e. liver cirrhosis.

Table 2: Knowledge regarding Hepatitis B disease.

Variable	Number	Percentage
Organ affected	95	86.3
Causative Organism	64	58.1
Incubation Period	39	35.4
Modes of transmission	76	69.0
Hepatocellular Carcinoma	24	21.8
Liver Cirrhosis	80	72.7
Fulminant Hepatitis	06	05.4
People at risk for hepatitis B	25	22.7

It was known to all the students that vaccine is available. Only 36 students (32.7%) knew about the type of vaccine and route of administration. 78 students (70.9%) were aware about the importance of hepatitis B vaccination. 56 (48.2%) students were completely vaccinated & 17 students (15.7%) who had incomplete vaccination.

Table 3: Knowledge and vaccination status regarding Hepatitis B vaccine.

Hepatitis B vaccine knowledge	Number	Percentage
Vaccine available	110	100
Route of administration	36	32.7
Age group	79	71.8
Schedule for vaccine	48	43.6
Importance of vaccination	78	70.9
Vaccination Status		
Complete	57	51.8
Incomplete	17	15.7
Not Vaccinated	36	32.7

## DISCUSSION

In the present study it was found that 83.6% students were belonging to 18-20 years of age group. The levels of knowledge regarding various aspects of hepatitis B was inadequate. 57 students (51.8%) were vaccinated and 17 students (15.17%) were having incomplete vaccination. It was a matter of concern as medical students pose a greater risk group. Study conducted by Anjali Singh & Shikha Jain 63% of MBBS students were vaccinated against hepatitis B. Another study by Nazir Ibrahim & Amir Idris, the vaccination status among first year MBBS students was only 21.88%. A study conducted among the MBBS students Mumbai, the vaccination status was 42%. But in a study conducted in Orissa by Singh et al, the vaccination rate was 80% among the medical students. Another study conducted at

Lahore Medical & Dental college, Pakistan, the vaccination status against hep-B was 66%. 12

In the present study a large number of medical students were not vaccinated & some of the students were having incomplete vaccination though 51.8% students were vaccinated. According to a study on medical students conducted by Al-Ghamdi, anti-HBS levels were significantly low in many students after their primary immunizations. <sup>13</sup>

#### CONCLUSION

There is lack of awareness among the first year MBBS students regarding various aspects of hepatitis B disease and its professional hazards. Moreover a large number of students are not vaccinated and some of the students are incompletely vaccinated. These students should be vaccinated as early as possible before their clinical exposure. However anti-body titre should be checked among all vaccinated students as they represent high risk population. If it is low, they can also be vaccinated.

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