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Research Article

# EVALUATION OF THE KNOWLEDGE AND ATTITUDE OF DENTAL STUDENTS TOWARDS HEPATITIS B INFECTION

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### ABSTRACT

**Background:** Knowledge of infectious diseases is very important to any health personnel as they come in constant contact with the transmission materials as well as infectious patients during their clinical practice. To evaluate the level of knowledge and attitude towards hepatitis B infection among dental students.

**Materials and methods:** The study was included of 413 dental students of 1<sup>st</sup> to 4<sup>th</sup> year and also included of internship students. They were divided into 2 groups according to year of study. Group I consists of 218 students of 1<sup>st</sup> and 2<sup>nd</sup> year and group II consists of 195 students of 3<sup>rd</sup>, 4<sup>th</sup> and internship students

**Results:** The senior year students were having more knowledge and attitude towards Hepatitis B infection as compared to that of the 1<sup>st</sup> and 2<sup>nd</sup> year students. (Students t test) But still the 3<sup>rd</sup>, 4<sup>th</sup> and internship students were lacking in knowledge as most of the students were having their scores between 9 to 12.

**Conclusion:** There is need to increase the knowledge and attitude towards viral infections like Hepatitis B infection. For this the topic knowledge should be included from the first year syllabus or awareness programs should be carried out.

**Keywords:** Dental students, Hepatitis B infection, Infectious diseases.

### INTRODUCTION

Hepatitis B infection is a fatal infection caused by the virus called Hepatitis B virus. It is a global problem of health and serious type of infection amongst the viral infections<sup>1</sup>.

Hepatitis B infection is an acute systemic type of infection with having major pathology in the liver. It also had the life time risk of complications such as chronic hepatitis, cirrhosis and hepatocellular carcinoma in subjects with chronic HBV infection<sup>2,3</sup>. But, the outcome of HBV infection depends on the result of dynamic interaction between the virus, hepatocytes and host response. The virus is usually present in greater concentration in blood, saliva, serum, serous exudates, semen, vaginal fluid and most other body fluids<sup>2,3</sup>.

Prevention of the infection and their control are very essential components for providing a safe environment for patients and staff within a dental practice<sup>4,7</sup>.

In the dental healthcare setting, there are certain special circumstances and opportunities that were more vulnerable to the transmission of such microorganisms to dental healthcare professionals and to dental clinical students<sup>7</sup>.

In the past two decades, a growing demand to educate patients with HB infection has been reported in the scientific

literature.<sup>8</sup> Therefore this study was planned to evaluate the level of knowledge and attitude in dental college students towards Hepatitis B viral infections.

### MATERIALS AND METHODS

The study was included of 413 students studying in the dental college from 1<sup>st</sup> to 4<sup>th</sup> year and including internship doing students. The students were divided into 2 groups. Group I contains 218 students of 1<sup>st</sup> and 2<sup>nd</sup> year, while group II contains 195 students of 3<sup>rd</sup>, 4<sup>th</sup> and internship. Out of 413 students, 256 were female students and 157 were male students. The study was carried out with the help of specially prepared questionnaires which were validated by doing pilot study. Ethical committee approval was taken before start of the study and informed consent was taken from all the participants.

Total 15 questions were formed and each correct answers were given score 1 and incorrect answer were given score 0.

All responses were collected and tabulated and statistical analysis was done with the help of IBM SPSS statistics version 20 using students t test.

## RESULTS

The comparison of the scores of the group I and group II dental students had shown that the knowledge of the senior students of the 3<sup>rd</sup>, 4<sup>th</sup> and internship students were more as compared to the students of the 1<sup>st</sup> and 2<sup>nd</sup> year students and the result was statistically highly significant. (Students t test, P<0.001)

But the scores of the senior students group were studied, it was found that they were also lacking in their basic knowledge of the Hepatitis B infection and its spread.

## DISCUSSION

Dental health care practitioners are at a constant risk of infections caused by the various micro-organisms like M. tuberculosis, hepatitis B, hepatitis C viruses, streptococci, staphylococci, herpes simplex virus type 1, HIV, mumps, influenza, and rubella<sup>9</sup>.

In a dental clinic, infections can be transmitted through various routes, such as direct contact with blood, oral fluids or other secretions; indirect contact with contaminated instruments, operatory equipment or environmental surroundings; or contact with airborne contaminants present in either droplet splatter or aerosols of oral and respiratory fluids. Hepatitis-B Virus (HBV) is a major worldwide cause of severe diseases like acute and chronic liver infection, cirrhosis, and primary hepatocellular carcinoma<sup>9</sup>.

The most efficient method to improve the health status is the prevention of the diseases. Immunization programs are highly effective and prevents the individuals at risk of transmission of infections<sup>10</sup>.

Hepatitis B virus has known to be an occupational hazard for dentists in several decades.<sup>10</sup> The emergence of the blood-borne pathogens and the increasing number of infected patients who are the increasing interest in dental health care compel the dental professions to have thorough knowledge about contagious diseases and the dental management of the care of health workers presenting with HBV patients.<sup>7</sup>

Continual transmission of these diseases may be due to a number of reasons including: missing of opportunities for prevention, lack of awareness about their prevalence and prevention (vaccination), misdiagnosis, absence of medical care and poor health outcomes in infected people<sup>11</sup>.

Although vaccines against HBV infection are available since 1982 and are shown to be 95% effective in preventing infection, still a dearth of adequate knowledge of Hepatitis B infection and vaccine exists in India<sup>12</sup>.

This lack of compliance to knowledge and attitude towards hepatitis B vaccination among health workers calls for concern among people seeing that the only way to prevent HBV infection among health workers is through effective vaccination program and adherence to universal precaution which often times cannot be guaranteed<sup>13</sup>.

In our study we had observed that the group I students of 1<sup>st</sup> and 2<sup>nd</sup> year were lacking in their knowledge as compared to that of group II students. This may be because 1<sup>st</sup> and 2<sup>nd</sup> year students are not exposed to clinical departments until 3<sup>rd</sup> years and that's why they were not having sufficient knowledge about Hepatitis B infection.

Also, we have found that though 3<sup>rd</sup>, 4<sup>th</sup> and internship students were having more knowledge as compared to non-clinical student of 1<sup>st</sup> and 2<sup>nd</sup> years, they also not having 100% scores. There is need of lot of improvement in the knowledge levels of these students. This observation was also found in study done by Akbulut N et al<sup>7</sup> and Todorova TT et al<sup>14</sup>. Bansal et al<sup>5</sup> also done study of knowledge of hepatitis B infection in 1<sup>st</sup> year dental college students and found that 84.9% students were aware regarding the spread and 47.8% had not taken their vaccination of the hepatitis B.

Kasetty S et al<sup>16</sup> had done study of knowledge of hepatitis B infection among dental practitioners and dental interns. They had also found the similar finding of lack of knowledge among the dental professionals.

Poor compliance of health workers to hepatitis B vaccination is an issue that deserves serious attention. There is a need for health education campaigns for health workers so that they can understand the risks that they are exposed to base on the nature of their work<sup>13</sup>.

## CONCLUSION

Hepatitis B is fatal health hazard to both the patients and health care workers and it is very essential to achieve 100% immunization coverage by hepatitis B vaccination by provision of immunization facilities by the Government and it can be made necessary for all the health care workers legally. Also all the personals in the health care settings should be motivated and educated for the prevention methods and occupational safety. As the students act as a source of knowledge for their families and also for the patients, more of the efforts are needed for the development of the knowledge of these students.

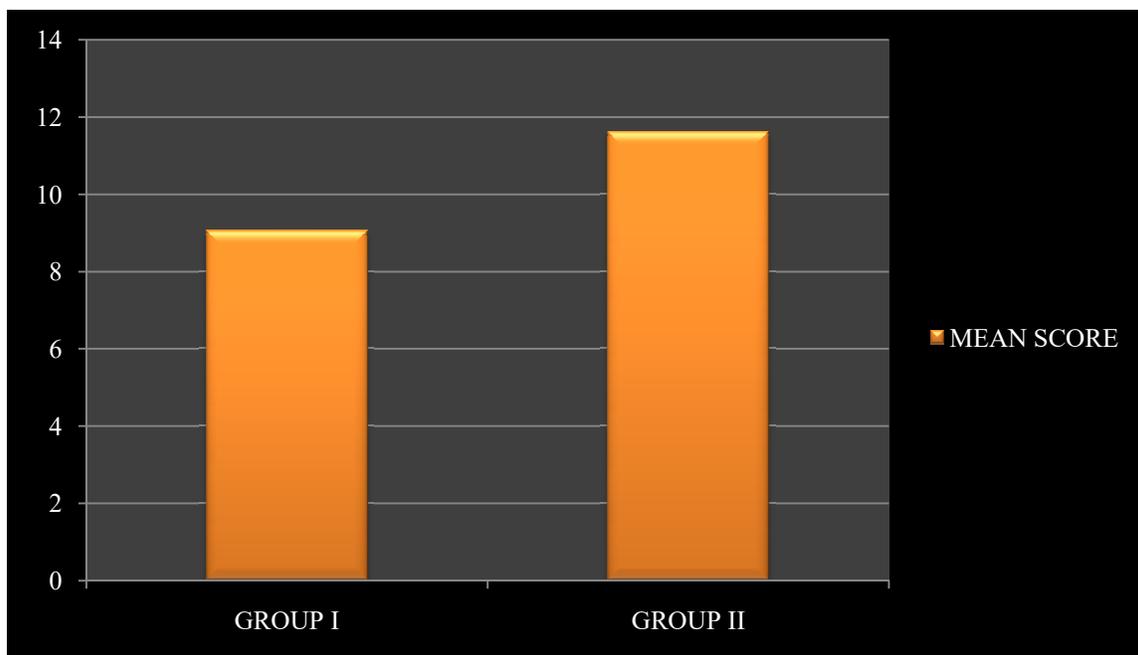
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**Table 1: Mean score of the responses to the questionnaires of the group I and group II and their comparison done by using students t test**

Group	Number of students	Mean SD	T value	Interpretation
I	218	9.06 ± 2.61	12.0978	P<0.001*
II	195	11.62 ± 1.45		



Graph 1: Comparison of the mean scores of the group I and group II students

**Appendix:** Questionnaires used to study knowledge and attitude towards Hepatitis B infection.

Sr. No.	Questions
1	Is hepatitis is a viral disease? Yes No
2	Is the mode of spread of Hepatitis B infection is blood borne Yes No
3	Do they affect the liver primarily? Yes No
4	Can these be spread by un-sterilized needle or instruments? Yes No
5	Do you have knowledge of any clinical features of this disease? Yes No
6	Can this disease causes liver cancer? Yes No
7	Is there any vaccine available to prevent this disease? Yes No
8	Should Hepatitis patients be isolated? NO Yes No
9	Is there any treatment of this disease? Yes No
10	Whole medical staff working with blood and body fluids in contact should be vaccinated? Yes No
11	Are you aware that many of the patients can remain asymptomatic after getting infected with Hepatitis B? Yes No
12	Apart from instrument sterilization, disinfection of dental chair is required? Yes No
13	Do you wear gloves before touching membranes and non-intact skin of patient? Yes No
14	Do you use protective mask to protect yourself when treating patient. Yes No
15	Do you bend needles after injections and discard them into a medical waste container. Yes No

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