

Knowledge, Awareness and Attitude among Dental Students about Hepatitis B Infection

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Abstract

Hepatitis B virus transmission in a dental setting more commonly occurs due to inadequate/improper use of safety measures by the dentist. This particular study is done to evaluate the hepatitis B virus infection related awareness among dental graduate students in a University Dental College, India. A validated questionnaire regarding the awareness about hepatitis B infection, various infection control measures and about the vaccination for hepatitis B was distributed among the students of different year of study in undergraduate dental graduate program. The data extracted were tabulated and analyzed. There is need for improving the knowledge among the clinical students, mainly on transmission of virus through salivary contact. The overall awareness among the students is only fairly satisfying, which signifies the need for including Hepatitis B virus related-education programmes in the syllabus and implement them on a regular basis in the curriculum.

Keywords-HBV, Hepatitis B Vaccination, Cross infection control

INTRODUCTION

Hepatitis B Virus (HBV) infection is a global public health problem. Nearly two billion people in the world have been acutely infected by HBV and there are nearly 350 million people chronically infected. Of these 350 million at least one million die annually from HBV-related chronic liver disease, including cirrhosis and liver cancer. However, the significance and magnitude of the problem vary from country to country. [1]

While the prevalence of HBV ranges between 5-10% in South East Asia and one per cent in Northern Europe and America, the situation in India is somewhere in between with nearly 3-4% of the population infected by the virus. HBV is 50 to 100 times more infectious than HIV.[2] In India, about four per cent of the population are estimated to be HBV carriers giving a total pool of approximately 36 million carriers.

Hepatitis B is caused by Hepatitis B virus (DNA virus). Hepatitis B causes the most serious type of viral hepatitis. The case fatality rate is approximately one per cent. Acute disease causes symptoms like nausea, vomiting, abdominal pain, fatigue, dark urine, yellowing of skin and eyes. Hepatitis B is transmitted by contact with blood, body fluids and sexual contact with infected individuals. Hepatitis B virus does not spread by contaminated food or water, and cannot spread casually in the workplace.

High rate of HBV infection occurs in spouses of acutely infected persons, sexual promiscuous individuals, persons who require repeated transfusion and health care personnel exposed to blood. The highest incidence of disease is in younger adults, and most HBV infections are acquired through unprotected sex with HBV-infected partners or through shared needles used for injection drug use.[3] Because of highly sensitive virologic screening of donor blood, the risk of acquiring HBV infection from blood transfusion is one in 2,30,000.[4]

A study on transmission of HBV from a surgeon to his patients suggests that a surgeon with hepatitis B may have infected 28 of his patients with hepatitis B virus.[5] The

first serological marker to appear in serum is HBsAg. On disappearance of HBsAg, antibody to HBsAg (anti-HBsAg) appears in the serum. Other serological markers are anti-HBc, HBeAg and anti-HBe. The most serious complication of viral hepatitis is fulminant hepatitis, hepatitis B accounts for more than 50% cases of fulminant viral hepatitis. The other most important complication is the risk of hepatocellular carcinoma. About 80% of Indian patients with hepatocellular carcinoma have hepatitis virus-associated liver disease.[5] No specific treatment is available for acute illness caused by Hepatitis B. Antiviral drugs are approved for the treatment of chronic hepatitis B.

Chronic hepatitis B in some patients is treated with drugs like interferon or lamivudine. The incidence of HBV can be reduced by giving proper education regarding its transmission and immunizations to the public, all healthcare workers (HCW), and students. Data regarding the level of knowledge and awareness of hepatitis B infection varies among many dental institutions. Hence this forms the base of the present study which aimed to analyze the awareness of hepatitis B infection among the clinical students in our private university.

MATERIALS AND METHODS

Year of Study

The study was conducted during the academic year in July 2015.

Study Population and Location

This study was conducted among the dental students who were attending the third year, Final year, and internship (fifth year trainee) of graduate program in Saveetha Dental College and Hospital, Saveetha university, Chennai.

Inclusion and Exclusion Criteria

The students who were present at the day of the particular study and were willing to participate were included in the study and those who were not willing to participate were excluded from the study.

Study Sample Size

All the third year, final year, and intern students who were present at the day of study were considered as the sample size for the study.

Questionnaire

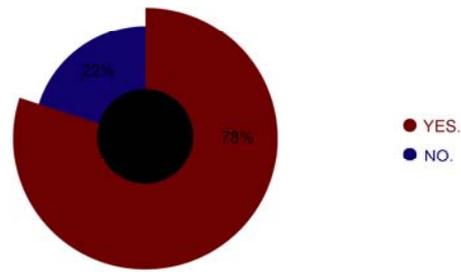
A validated questionnaire was distributed among all the students of the study. This is a self-reported questionnaire which takes about 10 mins for completion. This included questions about the awareness on hepatitis B infection and the preventive measures taken by the dentist to protect both patients and dentists from hepatitis infection and also about hepatitis B vaccination.

RESULTS:

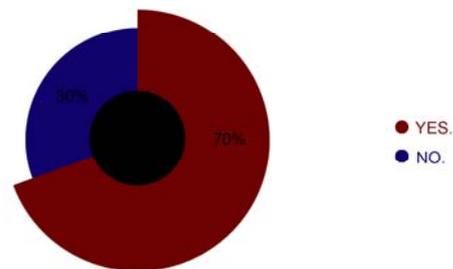
Among 100 students who participated in the study, 90% of them knew that the transmission of hepatitis B infection was through needle stick injuries and the remaining 10% were not sure. About 72% of the participants were aware of the universal precautions against hepatitis B virus and about 47% of the participants were following personal protection equipments during treatment on a regular basis.

Out of 100 students, about 70% of them agreed that dentists being more susceptible to hepatitis B infections and about 62% of them were vaccinated against hepatitis B infections and about 78% of them use personal protection like aprons, eye wear, gloves and mask while treating patients and about 22% of them don't. About 43% of them were aware of antibody test against hepatitis B exists and around 2% of the test subjects had undergone periodic antibody tests against hepatitis B.

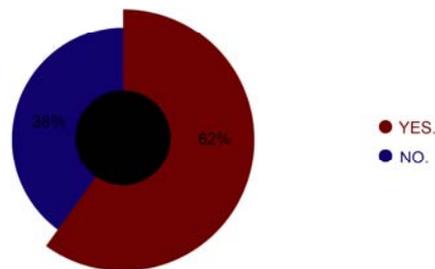
Do you use personal protection equipment during treatment?



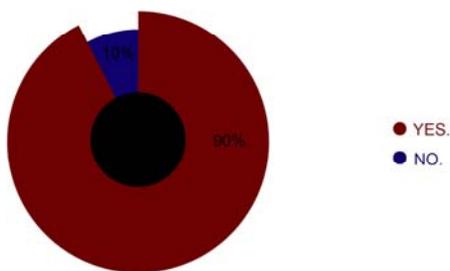
Are dentists more susceptible to HEPATITIS-B



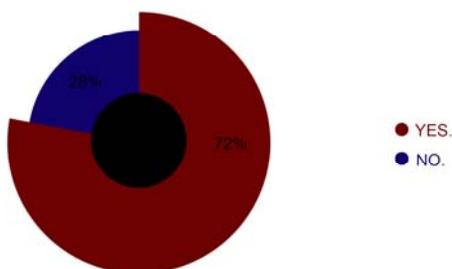
Did you get vaccinated against HEPATITIS-B?



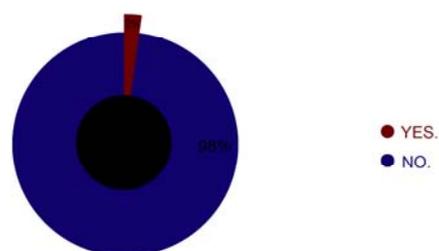
Do you know needle stick injury causes HEPATITIS-B?



Do you follow universal precautions against HEPATITIS-B while treating patients?



Do you undergo periodic antibody tests against HEPATITIS-B?



DISCUSSION:

Proper hand washing and use of barriers such as gloves, gowns, and mask are the main components of standard precautions which can minimize muco-cutaneous exposures. Reducing the manipulation of manual sharp instruments can also prevent occupational injuries. The use of puncture-resistant containers for sharp disposal is also an effective strategy. Use of protective eye wares and face mask can help in preventing blood or saliva contact during the procedure. Indirect transmission of hepatitis B virus can also occur through the dental instruments hence a proper method of sterilization needs to be educated among clinical students.

Vaccination against hepatitis B is recommended for all the dental students before they start their clinical phase and for susceptible dentists and dental auxiliary staff [4,5].

It is recommended that a policy be implemented for complete vaccination and health education for all dental students in first year in all dental colleges. However, antibody titres should be routinely checked among all vaccinated students because in some cases there are chances of non response to the first series of vaccination. Work practice management and reinforcement of universal precautions are to be done periodically.

It is of prime importance for all dental schools to conduct talks and create awareness about hepatitis B infection. Most of our students were aware of Hepatitis B infection, modes of spread which is in accordance with the study by Singh and Jain.[6] According to a study by Khan et al most of the medical students were unaware about post-exposure prophylaxis [PEP for Hepatitis B] and its importance, and our study reflects the same. [7]

In another study, about one –third of the interns had good knowledge about Hepatitis B. The majority had good knowledge regarding the mode of transmission and attitude towards HBV patients. However, there was a misconception about prophylaxis, vaccination and treatment of HBV. So there is an imperative need for health education to improve the knowledge and attitude of the interns towards Hepatitis B.[8]

Mohit Bhansal et al [9] in their study on first year undergraduate dental students from three dental colleges found that they were lacking in knowledge about HBV and most of them were not vaccinated against Hepatitis B virus, which reflects our study in which only 62% of students had Hepatitis B vaccination.

Bhuvan Nagpal et al [10], Sudhakara Reddy et al [11] in their studies conclude that the level of awareness about Hepatitis B virus infection was less and many of the dental students and professionals did not receive hepatitis B vaccination.

Hepatitis B virus infection can cause serious health problems and dentists are more prone for this condition as an occupational hazard. So the importance of using personal protective equipment should be stressed and they

must be educated and motivated to follow universal precautions.

The study highlights the need for implementing separate course in dental curriculum on communicable diseases in the first year of dental school. At the end of our study the students were given a lecture and demonstration on various universal precaution methods which they should follow when treating any patients and they were also informed about Post-Exposure Prophylaxis for HBV. The students who were not vaccinated were referred for immediate vaccination.

CONCLUSION:

Although the awareness among students who work in the clinics, about the HBV infection is satisfactory, their knowledge, attitude and practices based on the vaccines and the universal precautions and the personal protection, provide a need to educate them more and motivate them and emphasize should be made on post-exposure prophylaxis against Hepatitis B virus. This signifies the need for including Hepatitis B virus related-education programmes in the syllabus and implement them on a regular basis in the curriculum.

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