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Research Article

KNOWLEDGE AND ATTITUDE ABOUT HEPATITIS B AMONG DENTAL PROFESSIONALS IN ACADEMIC INSTITUTIONS

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ABSTRACT

Aim: To understand the knowledge and attitude pertaining to hepatitis B in dental health care professionals.

Objective: This study aims to assess the efforts, made by dental health care professionals in colleges to prevent transmission of hepatitis B, to themselves as well as to the patients. The dental graduates are the foundation behind each new budding dentist, and their practices will be the key to continuing optimal education to new graduates. The fact that this study focuses on dental graduates, as opposed to dental students or interns makes it unique from other similar studies on hepatitis B.

Materials and Methods: A cross sectional questionnaire based study was done among dental graduates from two dental colleges in Erode and Tiruchengode respectively. The questionnaire consisted of 20 questions, to assess the knowledge, attitude, and practice for prevention among the dental professionals regarding hepatitis B infection.

Results: A total of 124 dental graduates attached to dental the institutions responded to the questionnaire. The results revealed that 87.1% of dental graduates were vaccinated for hepatitis B. Despite the high amount of individuals vaccinated, only 37.1% had got their booster dose. Hence, the measures taken to provide continued protection against hepatitis B must be significantly improved

Conclusion: The study proved that there exists a need to improve the knowledge and practice for prevention regarding hepatitis B infection, to ensure minimal transmission of the virus to themselves and to the patients. Academic institutions can take better measures to serve as an aid, to ensure the vaccination status of their staff and students.

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INTRODUCTION

Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease. The virus is transmitted through contact with the blood or other body fluids of an infected person. 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 infected¹. In India 3-4% of the population is infected by the virus, and about 4% of the population are estimated to be HBV carriers giving a total pool of approximately 36 million carrier. Hepatitis B infection possesses a major health concern and is the most common blood borne viral infection, placing health care workers and medical and dental professionals at higher occupational risk². Dentists, dental students, and their paramedical staff are at a heightened risk of exposure to HBV. This is primarily because dentistry involves extensive and intensive use of small, sharp instruments that can easily get contaminated with infected

blood, during an invasive procedure, which is the main mode of transmission of HBV³.

This study was undertaken with the objective to evaluate the knowledge and attitude regarding Hepatitis B among the dental graduates in academic institutions, as they are the guide and pillars for budding dentists. Their mode of practices will be the reflection seen in the dental students. The best way to ensure proper guidelines and vaccination measures are followed, is by the active involvement of academic institutions in constant monitoring of their staff as well as the students.

MATERIALS AND METHODS

A cross-sectional study was done among dental professionals in two colleges, in Erode and Tiruchengode respectively. Ethical committee approval was obtained prior to the start of the study. A pre-designed validated descriptive multiple choice questionnaire, was distributed among 30 dental graduates as part of a pilot study. The questions were revised accordingly

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and the study was done on a total of 124 dental graduates. Informed consent was obtained from all the participants of the study. The participants were given instructions on how to respond to the questions. The investigator was available throughout the process, for clarification of doubts. The completed questionnaires were collected personally by the investigator.

The participants of the study included BDS and MDS faculty members and post-graduate students in the two colleges. The distributed questionnaire consisted of an initial section to record the demographical data of the participants which included; their qualification, designation, gender and years of experience. The next section consisted of 20 questions, which was constructed to assess the knowledge and attitude among the dental professionals regarding Hepatitis B infection. Each question was provided with choices. Responses were graded as 0 for not providing the correct answer and 1 for providing the correct answer. The total score was calculated and tabulated. The participants were educated about the correct responses at the end of the study.

RESULTS

The completed questionnaires were collected; results were obtained and tabulated. The results obtained were subjected to statistical analysis using SPSS version 12. Chi-square analysis was carried out. P values < 0.05 were considered as statistically significant.

The knowledge regarding hepatitis B seemed to increase with increase in experience of the participants. It proved to be higher in MDS graduates as compared to BDS graduates. In regards to knowledge, 59.07% of the MDS graduates were able to provide the correct answers. Among the participants, 87.1% were vaccinated for hepatitis B (Table I).

Table I The Participants Who Are Vaccinated Against Hepatitis B

Participants	Percentage
BDS Graduates	90.2%
MDS Graduates	85.5%
Total Participants of Study	87.1%

The number of participants who thought a booster dose is necessary after the initial course of vaccination was 61% of the BDS graduates and 65.3% of the MDS graduates (Figure: I). Among the participants only 37.1% had received their booster dose. (Figure: II).

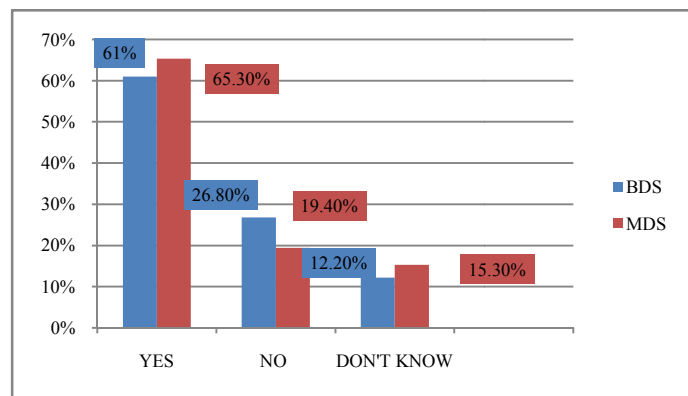


Figure I Graduates Opinion about the Necessity of A Booster Dose According To Qualification

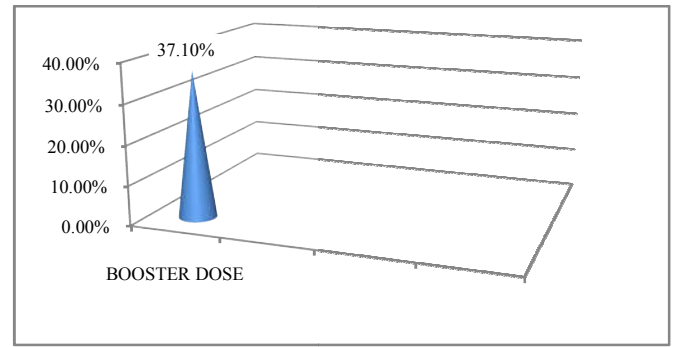


Figure II The Total Number of Participants Who Received A Booster Dose

In terms of attitude it was evaluated, that the BDS graduates exhibited better attitude in regards to treating a patient with hepatitis B. In regards to the questions concerning attitude, 72.7% of the BDS graduates expressed more concern, as well as apt following of the proper precautionary measures during routine clinical practice. 41.5% of the BDS graduates were not apprehensive about treating a patient with hepatitis B, whereas among the MDS graduates only 21.7% were not apprehensive (Figure: III).

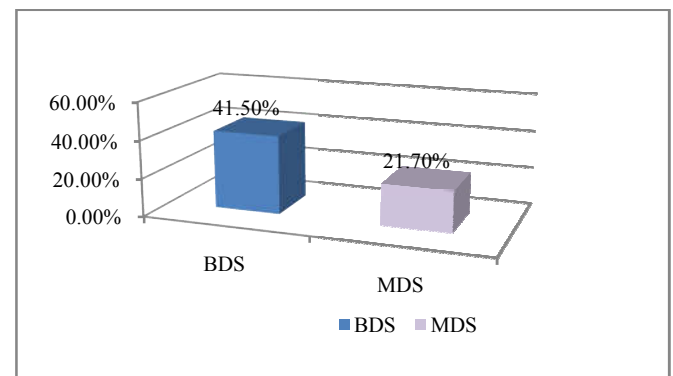


Figure III Not Apprehensive About Treating A Patient With Hepatitis B According To Qualification

The post graduate students exhibited more fear in treating hepatitis B patient than those who were academicians or both academicians and clinicians (Figure: IV).

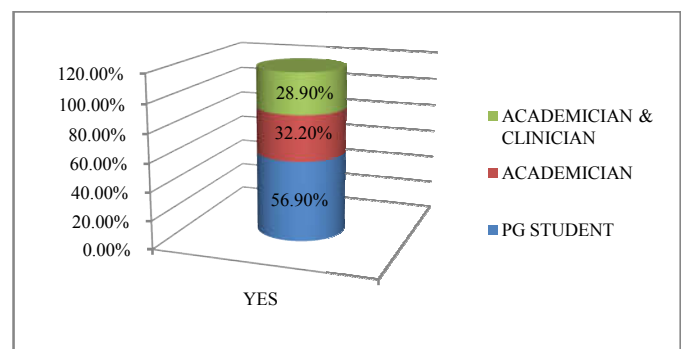


Figure IV Apprehensive About Treating A Hepatitis B Patient According To Designation

DISCUSSION

Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus (HBV). It can cause hepatocellular carcinoma and is likely to remain a serious health problem resulting in substantial morbidity and mortality for several decades to come⁴. Hepatitis B is a major global health problem and being part of a noble profession like

dentistry, we have a professional and ethical responsibility to provide treatment to patients indiscriminately. Only 41.5% of BDS graduates and 21.7% of MDS graduates think that it is their professional as well as moral duty to treat a HBV infected patient.

A dentist should follow the rationale of treating all patients as potentially infectious. It has been documented that HBV infection is the most important infectious occupational hazard in the dental profession⁵. In this study the practice of using gloves routinely after every patient, increased according to the increase in experience of the dental graduates. (TABLE II).

Table II Showing the Use of Gloves According To The Experience Of The Graduates

Experience	Use of Gloves
0-5 Years	73%
5-10 Years	88.9%
Greater Than 10 Years	100%

In a study conducted by Priyadarshini Choudhury *et al* among healthcare students in a private medical college in Odisha, universal precautions like using gloves, glasses, lab coat, mask, washing hands before and after the procedure was found to be highest in BDS students than MBBS and nursing students.⁶

Health-care workers remain at a high-risk of transmission by skin prick with infected, contaminated needles and syringes or through accidental inoculation of minute quantities of blood during the surgical and dental procedures. It is very important for them to follow proper measures of infection control and prevention⁷. Transmission of at least 20 different pathogens by injuries due to sharp instruments and needle sticks has been reported in literature⁸. The use of needle breaking instruments for disposal of used needles was seen only in 60.5% of the dental graduates in this study.

Hepatitis B vaccine is recommended in professions at increased risk for infection such as dentistry, in which direct or indirect contact with blood or oral fluids is unavoidable. The proportion of immunized dental participants in the present study was quite high (87.1 %). This was still lower than in a study done by P. Tirounilacandin *et al.*, (2009) in which it was 93.9%.⁹

It is essential that immunity be regularly checked by antibody titer measurements, thus allowing a booster dose to be administered if required. The present results showed that 86.3% of individuals did not get their antibody titer measured after the full course of vaccination (Figure V). This is much higher than in the study done by T. PAUL *et al*, in which only 43.8% had not checked their antibody titer.¹⁰

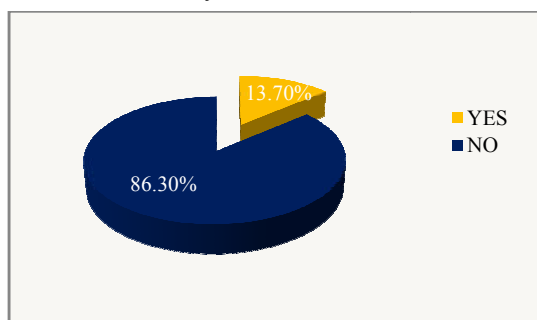


Figure V Measurement of Antibody Titer

In this study only 37.1% of the dentists who had completed the vaccination course had taken the booster dose. The distinction

between the amount of vaccinated dentists, those who had checked their antibody titer and those who had taken the booster dose is tremendous. A greater effort has to be taken either by the individual dentists themselves or by the academic institutions in which they are employed in this regard.

Hepatitis- B vaccines are made using yeast and residual quantities of yeast proteins are contained in the final product. Only 26.8% BDS graduates and 21.7% of MDS graduates are aware that persons with a history of hypersensitivity to yeast should not receive hepatitis B vaccine. This finding is similar to the study done by Aparajita D Shitoot *et al*¹¹.

The emergence of the blood borne pathogens and the increasing number of infected patients compel dental professionals to have thorough knowledge of contagious diseases and the dental management of patients with such diseases¹². The lack of knowledge among graduated professionals, especially those attached to institutions, could translate into similar deficient knowledge in the budding dentists. This will eventually result in insufficient preventive practices that enable the continuous persistence of high rates of hepatitis B infection.

CONCLUSION

The study revealed the necessity to improve the knowledge regarding the hepatitis B infection, focusing on infection control measures. Academic institutions should take the necessary initiatives to ensure the students and the staffs are properly vaccinated and provide means for monitoring the antibody titer measurements on a regular basis.

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