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RESEARCH ARTICLE

KNOWLEDGE ATTITUDE AND PRACTICES REGARDING HEPATITIS B INFECTION AMONG DENTAL UNDERGRADUATES, INTERNS AND POSTGRADUATES STUDENTS: A CROSS SECTIONAL SURVEY

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ABSTRACT

Background: Medical and dental professionals are at high risk of Hepatitis B virus (HBV) infection. HBV infection can be transmitted in dental practice by skin prick with infected, contaminated needles and syringes e.t.c. Limited knowledge of dental students at risk of HBV infection is the greatest obstacle in implementation of infection preventive practices. Therefore the present study was aimed to assess the knowledge attitude and practices (KAP) regarding Hepatitis B among dental undergraduates, interns and postgraduates students. **Method:** A cross sectional survey was conducted among dental students of HP Government Dental College, Shimla, Himachal Pradesh. The number of questions related to knowledge, attitude and practice was 23, 6 and 11, respectively. Students who were present on that particular day and willing to participate were included in the study. **Result:** A total of 134 students participated in the study, which included 64 undergraduates, 41 interns and 29 postgraduates. Of these 47 students were male and 87 students were female. Assessment of knowledge questions was done by scoring 1 for correct response and 0 for incorrect response. They were later graded according to score as less than 12 as poor, 12-17 as average and more than 17 as good. In this particular study the overall knowledge about hepatitis B among various years is good (mean score = 19; SD = 2.017). The level of knowledge regarding HBV was good among interns and postgraduates when compared to undergraduates. **Conclusion:** The results of this study demonstrated a satisfactory level of knowledge and attitude of dentists about HBV infections, but some gaps were observed, suggesting that higher knowledge level of dentists plays a very important role in forming the attitudes and practices regarding patients with HBV.

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INTRODUCTION

Hepatitis B infection possesses a major health concern which infects millions of people worldwide and is a common cause of liver disease and liver cancer. Hepatitis B virus (HBV), a member of the Hepadnaviridae family, is a small DNA virus with unusual features similar to retroviruses (Liang, 2009) HBV is majorly transmitted through infected blood or other body fluids and its transmission modes include vertical transmission (mother-to-child), sexual transmission, unsafe injections, and blood transfusions or dialysis (Yang *et al.,* 2015).

In India the prevalence of Hepatitis B surface antigen is 3-4.4% with over 40 million HBV carriers. In India more than 115000 people die annually due to consequences of HBV (https://www.who.int/docs/default-source/searo/india/health-topic- pdf/ factsheet- b-hepatitisday2016. Accessed on 12.1.2021). Medical and dental professionals are at high risk of HBV infection. HBV infection can be transmitted in dental practice by skin prick with infected, contaminated needles and syringes or through accidental inoculation of minute quantities of blood during surgical and dental procedures.[4] Limited knowledge of dental students at risk of HBV infection is the greatest obstacle in implementation of infection preventive practices. Therefore the present study was aimed to assess the knowledge attitude and practices (KAP) regarding Hepatitis B among dental undergraduates and postgraduates students.

MATERIALS AND METHODS

A cross sectional survey was conducted among dental students of HP Government Dental College, Shimla, Himachal Pradesh. This was an institutional based study consisting of validated questionnaire of 40 questions. The questionnaire consisted of four major parts: demographic information (name, age, and educational level), and the KAP regarding HBV infections. The number of questions related to knowledge, attitude and practice was 23, 6 and 11, respectively. Students who were present on that particular day and willing to participate were included in the study. All the third and final year, interns and postgraduates were considered as the sample size for the study. All the questions were given two options (yes/no). These questions include awareness on hepatitis B infection, vaccination and preventive measures taken by the dentist to protect both patients and dentists from hepatitis B infection.

RESULTS

A total of 134 students participated in the study, which included 64 undergraduates, 41 interns and 29 postgraduates. Of these 47 students were male and 87 students were female. Assessment of knowledge questions was done by scoring 1 for correct response and 0 for incorrect response. They were later graded according to score as less than 12 as poor, 12-17 as average and more than 17 as good. Questions and students responses of the three sections of the KAP survey are shown in Table 1,2,3. Most of the students were aware about the transmission of Hepatitis B virus through cuts and scratches (94.2%); requirement of screening of Hepatitis B virus before transfusion (94.2%); risk of transmission through needle stick injury (98.5%); availability of immunization (94.2%) and its schedule (91.3%). But only (34.78%) of students knew about the HBV carrier rate in India. When they were asked regarding the infectivity of Hepatitis B virus compared to HIV, 68.11% students knew that its more and same percentage knew whether Hepatitis B Virus transmission can be prevented by using appropriate sterilization methods.

When attitude questions were analyzed most of the students believed that hepatitis is the most widespread and important type of viral hepatitis (94%); there is mandatory screening requirement for all health personals for Hepatitis B Virus (97%) and health care professionals have a moral and professional responsibility to treat Hepatitis B infected patient (98.5%). Though only 53.7% students were willing to work in the same environment with a person infected with Hepatitis B Virus, but 97% students agreed to treat Hepatitis B Virus infected patient. After the analysis of responses to practice questions it was observed that everyone had clinical practice to use face mask (100%), but only 53.7% of students has practice of changing face masks in between patients. Most of the students were in clinical practice of using scrub / sanitizer (92.5%); they also had a clinical practice of using gloves (98.5%) and changed gloves in between patients (98.5%), but only 16.4% students used eye protective wear during their clinical practice. Though the percentage of students vaccinated / vaccination initiated is only 17.9% but the students who treated Hepatitis B Virus infected patient in the clinic was 22.3%. Hepatitis B is a DNA virus and is much stable than other RNA virus such as influenza and no mutation has been reported. In India, hepatitis B vaccine was launched in 2003 along with a birth dose within 24 hour which was expanded to the whole country in 2008 (Rathi, 2018).

DISCUSSION

There have been studies to assess the knowledge and awareness of Hepatitis B viral infection in different study settings. However, the majority of these studies limits the generalize ability of their results to the general population as well as among dental students. In this particular study the overall knowledge about hepatitis B among various years is good (mean score = 19; SD = 2.017). The level of knowledge regarding HBV was good among interns and postgraduates when compared to undergraduates. Most of the third year students were not aware of the increased risk of HBV infection in dental professionals as compared to general population. Since the students enter the clinical postings during third year of study, proper immunization and education among them can minimize the early the early transmission of HBV among dental students. Attributable reasons for poor knowledge could be inadequate training for infection control measures, inadequate supply of personal protective equipment and carelessness.

Kakouei et al. showed that lack of knowledge about the importance of sterilization can lead to infection transmission (Setia, 2013). Proper hand washing and use of barriers such as gloves, gowns, and mask are the main components of standard precautions which can minimize mucocutaneous 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 (Kakoei, 2004).

Most exposures to infected cases in dentistry are random and can be prevented through paying attention to the infection control guidelines. In some cases where contact and exposure are inevitable, timely vaccination and proper behavior can effectively prevent infection and related side effects (Ramakrishnan Mahesh, 2014). The higher level of knowledge may decrease individuals' negative attitude towards HBV (McCarthy, 2000). Saber et al. proposed a significant relationship between the level of knowledge and graduation date among dentists (Eguchi, 2013).

The need for further training can be justified by the fact that dentists need a continuous dental education in the form of lectures, conferences, workshops, and seminars in term of infection prevention and control, occupational hazards, safety measures, and sterilization that would cover theoretical and practical knowledge about patients with HBV and other relevant aspects (Eguchi, 2013; Saber, 2007; Rostamzadeh, 2018)

Conclusion

The results of this study demonstrated a satisfactory level of knowledge and attitude of dentists about HBV infections, but some gaps were observed, suggesting that higher knowledge level of dentists plays a very important role in forming the attitudes and practices regarding patients with HBV. These findings bring into notice the necessity of continuous infection control education.

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REFERENCES

Eguchi H, Wada K. 2013. Knowledge of HBV and HCV and individuals' attitudes toward HBV-and HCV-infected colleagues: a national cross-sectional study among a working population in Japan. *P Lo S One. ,* 8(9):e76921. doi: 10.1371/journal.pone.0076921.

https://www.who.int/docs/default-source/searo/india/health-topic-pdf/factsheet-b-hepatitisday2016.Accessed on 12.1. 20 21

Kakoei S, Sheibani G, Mohammad Alizadeh S. 2007. Awareness and practice of Kerman dentists about B–hepatitis, 2004. *Shahid Beheshti Univ Dent J.,* 25(1):66–72.

Liang TJ. 2009. Hepatitis B: the virus and disease. Hepatology. 49(5 Suppl):S13-S21.

McCarthy GM, Britton JE. 2000. A survey of final-year dental, medical and nursing students: occupational injuries and infection control. *J Can Dent Assoc.,* 66(10):561–567.

Ramakrishnan Mahesh, ChandranArthi, Samuel Victor, SeiramineniAshokkumar, "Hepatitis B Infection Awareness among Dental Graduate Students: A Cross Sectional Study", International Scholarly Research Notices, vol. 2014, Article ID 389274, 6 pages, 2014. https://doi.org/ 10.1155/ 2014/389274

Rathi, Akanksha, Vikas, Jitendra, Jain, Shalini et al. 2018. Assessment of knowledge, attitude, and practices toward prevention of hepatitis B infection among medical students in a high-risk setting of a newly established medical institution. *Journal of laboratory physicians*. 10. 374-379.

Rostamzadeh M, Afkhamzadeh A, Afrooz S, Mohamadi K, Rasouli MA. 2018. Dentists' knowledge, attitudes and practices regarding Hepatitis B and C and HIV/AIDS in Sanandaj, Iran. *BMC Oral Health.,* 18(1):220. doi:10.1186/s12903-018-0685-1.

Saber S. 2007. Evaluation of knowledge of general dentists about Hepatitis C viral infection in Rasht Guilan university of medical sciences.14(4):124–130.

Setia S, Gambhir RS, Kapoor V. 2013. Hepatitis B and C infection: Clinical implications in dental practice. *Eur J Gen Dent.,* 2:13-9

Yang, Shigui, Wang, Dan, Zhang, Yuelun, et al. 2015. Transmission of Hepatitis B and C Virus Infection Through Body Piercing. Medicine. 94 :893

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