

Awareness of hepatitis b amongst dental students in a selected private dental college in Pakistan

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Abstract

Objectives: This cross sectional observational study was done to determine the current knowledge and awareness of undergraduate dental students of a private dental college regarding Hepatitis B infection.

Materials and methods: A questionnaire containing a set of 5 questions on Hepatitis B was distributed among 60 dental students of Altamash Institute of Dental Medicine, Pakistan. This survey carried out on 31st March 2015.

Results: The response rate was 100%. All 60 dental students completed the questionnaire about 86.7% of the students were aware of the Hepatitis B infection and its transmission. 99% are aware of the availability of hepatitis B vaccine and majority of the students (70.0%) were immunized against it. A vast majority (96.0%) of the students felt that awareness about immunization against Hepatitis B among the community is necessary.

Conclusion: The majority of students showed some knowledge regarding HBV transmission, risk behaviors and prevention. However, there is still some slight lack of knowledge regarding the vaccination schedule and therefor. This calls for well-structured health education programs stressing on such misconceptions.

A questionnaire survey of dental students indicates a need for health education to improve.

Keywords: Hepatitis B, dental students, Hepatitis B surface antigen, Hepatitis B titre

Introduction:

Hepatitis B is the world's leading liver infection caused by HBV (Hepatitis B virus). It is transmitted through blood, unprotected sex, shared or re-used needles and via vertical transmission (i.e. an infected mother to her newborn baby during delivery). Usually it leads to chronic infection being followed by fulminant Hepatitis D infection which is a risk factor for developing liver cancer.

There is appropriate treatment available to prevent the disease from progressing and also for prophylaxis. Worldwide, 2 billion people (1 out of 3 people) have been infected with hepatitis B. 400 million people have become chronically infected. An estimated 1 million people die each

year from hepatitis B and its complications including liver cancer¹¹.

In Pakistan, hepatitis B is reported to affect 3% of the population (over 6 million people)¹¹. However in some towns and villages in Sind and Punjab, over 20% people could be affected. Each year, approximately 100,000 new people are infected with hepatitis B. Thousands of deaths occur in Pakistan each year from hepatitis B and its complications prematurely. Being a "silent infection", it can infect people without them knowing it and can unintentionally pass the virus to others through their blood and infected bodily fluids. Acute infection with hepatitis B can last up to six months and in this time 90% of healthy adults can successfully clear the in-

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fection¹¹. During an acute infection, a person is contagious. However, the treatment option is rest and supportive medications till the patient recover from the acute episode. Once a person has recovered, they are no longer contagious and are immune to future hepatitis B infections. A person is diagnosed with chronic hepatitis B if they test positive for hepatitis B virus for longer than 6 months. There are several treatment options available in Pakistan like in other advanced countries preventing a fulminant course of disease. Complete recovery is rare. Therefore, the best preventive measure is to be immunized against Hepatitis B which starts at birth. This would also eliminate the possibility of contracting Hepatitis D as HDV virus can only infect patients who have Hepatitis B. According to World Health Organization article published in 2010, the Pakistan Medical Research Council undertook a national general population survey in 2007–2008 on the actual prevalence of hepatitis B (HBsAg) and hepatitis C (anti HCV) in Pakistan. The prevalence of HBsAg was 2.5% which makes a total of 3.25 million chronic carriers¹.

Also, according to BMJ article conducted by Gorar ZA in 2014, Hepatitis B was found to be associated with trying to bend or break a needle after use (OR=4.9; CI95 1 to 24)¹⁰. Dentistry involves the use of small, sharp instruments contaminated with blood or other fluids and dental surgeons, dental students, or house surgeons are at high risk for inadvertent skin wounds. Such accidents include the possibility of transmission of hepatitis B, hepatitis C, and human immunodeficiency virus (HIV). To decrease the risk of HBV infection, it is recommended that dental personnel receive immunization against HBV and use individual protective equipment, such as gloves, to prevent blood-borne infection transmission during dental procedures.^{6,7} The hepatitis B vaccine has been available since 1982 and, since 1990, has been recommended for healthcare workers whose activities frequently expose them to blood.⁵

Dental students should be aware of the risk involved in the treatment procedures and should take appropriate precautions in dealing with

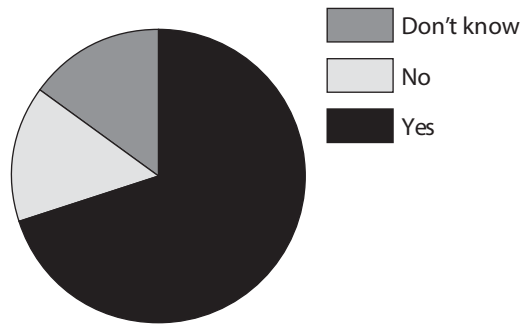
patients. Hence, the present study is aimed to assess the level of understanding and awareness about Hepatitis B Immunization among dental students at a private dental institution in Karachi, Pakistan.

Method:

This study was conducted at the department of General Surgery, Altamash Institute of Dental Medicine which is affiliated with PNS Shifa Hospital. It was a departmental study with voluntary and consensual participation of 60 students of 3rd year BDS. A cross-sectional survey was carried out using a self-administered pretested questionnaire. Ethical approval was obtained from the institutional ethical committee. Students were informed about the study. The questionnaires were distributed in the classroom on 31st March 2015 and were collected after 20 minutes. A self-administered questionnaire was used to assess the awareness about Hepatitis B Immunization among the subjects. The questionnaire was prepared in English and was validated by test-retest method by administering it to 10 students. This was an open ended questionnaire, and the subjects were asked to write the most appropriate answer for each question. The questionnaire comprised of 5 questions on awareness about infection, its prevention and transmission, and treatment of Hepatitis B. In addition, it enquired about the hepatitis B vaccination status of the students. The data was entered into Microsoft Excel for Windows and descriptive analysis was carried out.

Result:

The response rate was 100% (60 students). Table 1 shows the gender distribution of the sample. There were 51 female and 9 male students. The knowledge about transmission measuring up to 86.7% (listing blood borne, needle prick, and vertical transmission) was recorded. About 58.3% of the students were aware of the Hepatitis B infection and its effects. The majority of the students (70.0%) were immunized by hepatitis B vaccine (complete as per schedule) compared to 99% who were aware of the existence of vaccine. As shown in Table 2, 15% were not vac-



cinated and 15% did not remember. However, only 20% were aware of the name and dose of vaccine given for prophylaxis.

Table:1

Male	09
Female	51
Total	60

Table: 2 Percentage of students vaccinated with Hepatitis B vaccine completing the course.

Discussion:

Hepatitis B virus is a high risk factor of death from cirrhosis of the liver and liver cancer. Prevention strategies include 3 stages: primary prevention of new infections (i.e. vaccines and post-exposure prophylaxis); secondary prevention of HBV transmission by appropriate sexual and sanitary practices; and tertiary prevention of the pathological consequences of chronic HBV by anti-viral treatment. The present study was undertaken in order to gain knowledge about the awareness the students had about hepatitis B infection and its effects, and the need to get vaccination against hepatitis. Since the students get exposed to clinics and patients in their third year of dental education, it is very necessary for them to get immunized against hepatitis in their preclinical years to prevent them from the infection. Therefore, this study was conducted to know how many of them had been immunized, have completed the dose, and are aware of its importance.

In the present study, even though a large number of students (70%) of the students were immunized against HBV, only 58.3% were aware of the HBV infection and its effects. 86.7% were

aware of the modes of transmission of the infection and 99% knew about the existence of vaccine. A study in India has shown that 59.7% of the dental students in first and second year had knowledge of hepatitis B infection and effects and 76.5% were aware of the transmission.⁵ A study on dental students in the Rural Dental College in Maharashtra, India, indicated that the students had good knowledge about HBV. About 94.0% of the students knew that HBV was preventable.¹² A study on Omani students showed that Hepatitis B virus infected student or colleague in the same classroom or working place was accepted by 58% of medical and 46.5% of non-medical students. However, the majority of students (63.2%) hesitated to take care of a HBV infected patient.⁶ A study conducted by Nazeer Khan et al⁷ showed that only 57.1% medical students showed excellent knowledge regarding the route of spread of hepatitis B and C. Students showing good knowledge of treatment procedures for hepatitis B and C were 48.2%. Half of the respondents (49.8%) showed good knowledge regarding spread of hepatitis by dental procedures. The study population in the present study was third year BDS students. Hence, the awareness level regarding HBV infection and its effects are sufficient when compared to the other studies where the population was comprised of third and fourth year medical and dental students, and interns. On the whole, it is to be noted that most of the students surveyed were familiar with hepatitis B infection. The health sciences students play an important role in prevention of this dreadful disease. Hepatitis B is a highly infectious disease, and many of its routes of transmission are similar to those of HIV/AIDS. Making the healthcare team aware of the epidemiology of this disease will go a long way in prevention of both these infections.

Conclusion:

Although there is sufficient evidence to show that dental students are aware of the vaccine for Hepatitis B they are still nonchalant towards the effect it has if contacted and so do little to help spread the awareness required for such a fulminant disease.

Role and contributoin of authors:

Dr Yousuf A. Lakdawala, Associate Professor Surgery Department, Altamash Institute of Dental Medicine, principal author, help in layout of the article

Dr S. Maria Fakhar, M.B.B.S, Senior Medical Officer, Surgery Department, Altamash Institute of Dental Medicine, writing of the article and discussion

Dr Zeerak Jarrar, B.D.S, House Officer, Altamash Institute of Dental Medicine, statistica analsis and collection of the references

Conflict of Interst: none

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