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Research Article

Knowledge, Attitude and Practices of HBV Infection in the Dental Pupils at Taif University

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Abstract

Background: The World Health Organization (WHO), states categorically that Hepatitis B infection is the world's most prevalent liver infection. Nearly forty five percent of the global population lives endemic regions [1].

Objective: To analyze the information, attitude, and practices of dental pupils regarding the Hepatitis B Virus infection at Taif university dental college institution of the Kingdom of Saudi Arabia.

Materials and Methods: A cross-sectional survey was conducted using, a validated, pretested, structured questionnaire containing 14 questions on awareness, transmission, prevention, diagnosis, treatment, vaccination status, and post-exposure prophylaxis of HBV infection. Descriptive statistics were carried out along with the chi-square test and contingency coefficient.

Result: The response rate was ranging from 92% to 100% (n = 100) a total of (100%) pupils have heard of hepatitis B disease. Only 83,3% of pupils were immunized against HBV. A total of (94.4%) of pupils knew that hepatitis B is transmitted through contaminated or infected blood transfusions. Only 63.9% of pupils knew about the precise protocols about management of the post HBV problems.

Conclusion: The overall awareness regarding HBV disease was found to be acceptable among dental pupils and Hepatitis B awareness education improved their adherence to infection control protocols.

Keywords: *Hepatitis B; Infection; Prevention; Incubation; Immunization*

Introduction

The World Health Organization (WHO), states categorically that Hepatitis B infection is the world's most prevalent liver infection. Nearly forty five percent of the global population lives endemic regions [1].

This blood borne infection places a significant occupational risk amongst the health care workers [2].

In dental setup, the possible forms by which HBV infection can be transmitted are from contact with blood or saliva of infected patients during dental procedures, while drawing blood, giving injections, or suturing, and needle stick injuries sustained while performing procedures [3,4].

Dentists are also at an increased risk of cross-infection while treating patients [5,6]. The risk of cross-infection increases more because many infected patients are unaware of their status not willing to disclose their disease status [5].

Dentist compliance with these recommendations and infection control programs has been recently studied in different parts of the world [6]. These studies indicate that there are gaps in dentist's information regarding modes of transmission, infection from needle stick injuries, and awareness about general measures which protect against HBV transmission [6].

The incidence of HBV can be reduced by proper education of its transmission and immunizations to the public, and all healthcare workers, and pupils [7]. There is no adequate data on the information of hepatitis B among dentistry pupils in the Taif, Kingdom of Saudi Arabia. Hence this forms the base of the present scientific survey which aimed to analyze the awareness of hepatitis B infection among the clinical pupils in Taif University (dental faculty).

Materials and Methods

This is an institutional-based scientific survey to determine the awareness, attitudes, practice, regarding hepatitis B infection among dental pupils in Taif, Kingdom of Saudi Arabia University. A cross-sectional observational scientific survey was conducted among the pupils. The scientific survey population comprised graduate dental pupils from all the years (second year, third year, fourth year, fifth year, sixth year and interns), except (first year) total sample size was 100. The scientific survey protocol was reviewed by the institutional ethical board. The scientific survey was conducted in a duration of 3 months from January to March 2019, the necessary permission to carry out the scientific survey was obtained from the respective authorities of the dental colleges. Informed consent was obtained from all the pupils. Before the commencement of the main scientific survey, a pilot scientific survey was conducted among 15 pupils to assess the feasibility and validity of the questioner. A pretested, structured and validated questionnaire was polled to the pupils to collect relevant data about the HBV infections.

(Questions 1 - 8), attitude (Questions 8 - 11) and practices (Questions 12 - 14) of dental pupils regarding HBV infection.

The data entry and statistical analysis were done using statistical package for social sciences (SPSS) version 14 for Windows. Descriptive statistical analysis has been carried out in this scientific survey.

Results

A total of 100 dental pupils participated in the scientific survey.

Of these 15 were -2nd year-student, 20 were 3rd-year student, 15 were 4th year student, 20 were 5th year student, 30 were 6th year student and interns. The response was 100% among 3rd and 5th-year dental pupils, 95% among 2nd and 4th-year dental pupils, 98% among 6th-year dental pupils, 92% among interns.

A total of 14 questions were asked separated into three main parts, [KAP] Information, attitude, practice. The details of the questioner are given in table 1.

In information part A, a total of (100%) pupils have heard of hepatitis B disease. Only a total of (33.3%) of the pupils knew the incubation period of HBV while (56,6%) of pupils did not know. A total of (94.4%) of pupils knew that hepatitis B is transmitted through contaminated or infected blood transfusions. A total of (25%) of pupils knew about the correct immunization intervals. A total of (52,8%) of pupils, they were aware of the risk of exposure to hepatitis before entering dental college, while (47,2%) of pupils weren't aware. A total of (91,7%) of pupils were aware of the risk of transmission of hepatitis B in their profession. A total of (63,9%) of pupils they aware of the first aid treatment in case of accidental exposure to hepatitis. A total of (22.2%) of pupils knew that hepatitis manifests as jaundice.

A total of (83,3%) of pupils reported that they were vaccinated against hepatitis B. A total of (80,6%) of pupils thy believe that the Dentist has a professional and moral duty to treat hepatitis B infected patient. A total of (58,3%) of pupils answered that Hepatitis patients

should be treated separately in a clinic, while (38,9%) of student in the negative. A total of (2,8%) of polled that they did not know. The last part is practice and the total number of questions is 3. A total of (99,9%) of pupils they use gloves in daily clinical practice, a total (99,9%) they change gloves between patients. A total of (99,9%) of pupils in daily clinical practice always use facemasks as it is a standardized protocol.

Academic year	Number
2nd year	15
3rd year	20
4th year	15
5th year	20
6th+intern	30

Distribution of answers among academic year: of 100 dental pupils participated.

Information

1. Have you heard of hepatitis B disease? (Table 1)

Percentage

Number

Answer

100%

Yes

0%

No

2. Incubation period of HBV

Percentage

Number

Answer

0%

1 - 6 days

11.1%

1 - 6 weeks

33.3

1 - 6 Months

55.6%

I dont know

3. Is it transmitted through contaminated/infected blood transfusions?

Percentage

Number

Answer

94.4%

Yes

2.79%

No

2.79%

I don't know

4. The immunization is taken in an interval of

Percentage

Number

Answer

25%

0-1-6 month

30.6%

0-1-3-6 month

19.4%

0-1-3-6-12 month

%25

I don't know

5. Before entering the dental college, were you aware of the risk of exposure to hepatitis B?

Answer

Number

Percentage

Yes

52.8%

No

47.2%

6. Are you aware of the risk of transmission of hepatitis B in your profession?

Answer

Number

Percentage

Yes

91.7%

No

8.3%

7. Are you aware of the first aid treatment in case of accidental exposure to hepatitis B?

Percentage

Number

Answer

63.9%

Yes

36.1%

No

8. What is the prominent clinical feature of HBV?

Percentage

Number

Answer

0%

Fever

22.2%

Jaundice

0%

Nausea and diarrhoea

38.9%

There are no symptoms in 95% of cases

38.9%

I don‘t know

Attitude

1. Are you vaccinated against hepatitis B?

Percentage

Number

Answer

83.3%

Yes

16.7%

No

2. Dentists have a professional and moral duty to treat hepatitis B, infected patients?

Percentage

Number

Answer

80.6%

Yes

8.3%

No

11.1%

I don’t know

3. Hepatitis patients should be treated separately in the clinic?

Percentage

Number

Answer

58.3%

Yes

38.9%

No

2.8

I don't know

Behavior (practice)

1. In your daily clinical practice do you always use gloves?

Percentage

Number

Answer

99.9%

Yes

0%

No

99,9%

2. Do you change gloves in between patients?

Answer

Number

Percentage

Yes

99.9%

No

0%

Sometimes

0%

99,9%

3. In your daily clinical practice do you always use facemasks?

Answer

Number

Percentage

Yes

99.9%

No

0%

Sometimes

0%

99,9%

Discussion

Hepatitis B infection is a serious blood-borne disease, caused by the hepatitis B virus (HBV) which attacks the liver and although in acute cases rarely results in liver failure and death. The main public health problem is that this can lead to lifelong chronic HBV infection, which may be followed by cirrhosis and/or liver cancer. Chronically infected carriers can transmit HBV through contact with their body fluids, which includes occupational exposure to their blood and secretions, sexual intercourse. People at risk include Health service professions in contact with blood and human secretions, hemodialysis staff, oncology, and chemotherapy nurses, all personnel at risk of needlestick/sharps injuries, which includes those working in operating rooms and clinical laboratories, respiratory therapists, surgeons, doctors, dentists, medical, dental and nursing pupils [8]. This scientific survey has shown that, A total of (94.4%) of pupils knew that hepatitis B is transmitted through contaminated or infected blood transfusions and that a total of (83,3%) of pupils they were vaccinated against hepatitis B [8].

Another scientific survey conducted among first-year dental pupils among three dental colleges in Haryana, India, showed that 84.9% of the pupils were aware of the spread of HBV infection and only 23.7% of the pupils had complete vaccination against hepatitis B [9]. A similar scientific survey done in Taiwan reported that 75.0% of the dental pupils had information of hepatitis B infection, but had little, information about vaccine dosage, transmission, prevention, and precautions of HBV infection [10]. Another scientific survey done on dental pupils in Maharashtra, India indicated that they had good information about HBV infection [11]. A scientific survey done among Iranian dental pupils showed that they had a relatively good level of information about HBV infection and its control practices [12]. Another scientific survey done at the University of Dundee on medical and dental pupils showed that 99.2% of pupils were aware of HBV immunization [13]. In this scientific poll the overall level of information about HBV infection among dental pupils of various levels in graduation was fairly satisfactory in less aspects and below satisfactory levels in most aspects. The possible reason for lower level of information among first-year and second-year pupils could be owing to the lack of school-based health education for pupils in our Saudi education system, because the scientific survey has shown only (52,8%) of the student, they were aware of the risk of exposure to hepatitis B Before entering the dental college, Based on the results from this scientific survey, we infer that there is a need to improve information about HBV infection among dental student at Taif university, but the scientific survey has shown fairly satisfactory result in attitude part of questioner, and very satisfactory among practice part, the reasons for this is due to intensive education about infection control guideline during clinical practice.

Conclusion

The results of this scientific survey show that the education about Hepatitis B infection, its transmission, prevention along with update infection control practices for health care providers is paramount in improving the quality of health care delivery. The need for mandatory education of this aspect has been confirmed by the scientific survey of Bailoor Durgesh N., *et al*. in their scientific survey at Gandhinagar, Gujarat in India.

As the information in this domain was acquired by pupils it was observed that they followed infection control guidelines even more assiduously.

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