

Knowledge, Attitude and Practice of Hepatitis B Viral Infection among Dental Students in Sana'a city, Yemen

International Journal of Dental Research and Oral Health

Original Article

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Submitted : 15 Aug 2021 ; Published : 19 Oct 2021

Abstract

Objective: *This study aimed to assess the Knowledge, Attitude and Practices regarding Hepatitis B and Infection control among clinical dental students.*

Materials and Methods: *The study was a questionnaire-based cross-sectional study. A self-administered questionnaire consisting of questions on students' knowledge, attitudes, and practices regarding HBV was used. Data of 500 participants were analyzed using SPSS (Statistical Package for Social Studies) version 25.0.*

Results: *The participants showed high level of knowledge about HBV. Also, the subjects showed negative attitude toward HBV patients. The majority reported always wearing gloves (98%), lab-coat (100%) gowns (10%), face masks (100%) and protective eye wear (5%). While (95%) of participants had been vaccinated against HBV. However, only (23%) completed the recommended 3 doses of the vaccine.*

Conclusion: *These unsatisfactory findings emphasize the necessity of continued education about HBV in order to improve knowledge, attitudes, and practices of dental students regarding HBV.*

Keywords : Knowledge; Attitude; Practice; Hepatitis B; Dental Students; Sana'a city; Yemen.

Introduction

HBV infection is a worldwide health care problem, especially in developing countries. It is one of the most common chronic viral infections that may infect the population. About 2 billion people are estimated to be infected and more than 350 million are chronic carriers of the virus [1].

HBV has several modes of transmission like through contact with infected blood or semen, from infected mothers to their neonates. In addition, it can be transmitted through the use of unsafe injections, blood transfusion, or dialysis [1]. Even though it is unethical and illegal to refuse treatment of HBV patients, some dentists may deter from treating HBV-positive patients [2].

Dental health care professionals including dental practitioners are at a high risk of infections by various microorganisms like HBV and HCV, herpes simplex virus, HIV, mumps, influenza, and rubella [3]. This risk may be accentuated by accidental injuries during patient treatment [4], thus knowledge of safety precaution and the infection control practice should be implemented among those students.

A number of studies worldwide have evaluated the level of dentists' and dental students' knowledge, attitudes and behaviors regarding infection control guidelines and precautions and found unsatisfactory response and emphasized the need for further improvement of this kind of knowledge and practice

[3-5].

In Yemen data on HBV knowledge and attitudes of dental students are lacking. Therefore, this study was conducted to investigate the knowledge, attitudes and practices regarding HBV infection among dental students in Sana'a city.

Materials and Methods

A cross-sectional survey conducted in March 2021 on 500 participants of dental students at 4th and 5th year. This survey was applied in Sana'a at 2 faculties of dentistry (Sana'a and Saba universities).

A self-administered questionnaire consisting of questions on students' knowledge, attitudes, and practices regarding HBV was used. This self-administered questionnaire consisted of 15 closed-ended questions divided into four parts. The first part screened the demographic profile of students including, age, gender, and academic level. The second part assessed the knowledge of those students regarding HBV infection and routes of transmission. The third part investigated the behavior and attitude towards HBV infection and infected patients. The last part examined the practices of students regarding protection measures against HBV as well as their HBV vaccination status.

Students were asked to fill out the anonymous self-administered questionnaire. Students, who agreed to participate in the

study, signed a consent form prior to answer the questionnaire. Data of (500) participants were analyzed using SPSS (Statistical Package for Social Studies) version 25.0.

Results

The numbers of participants were 500. 53% were female, and 47% were male (chart 1). The sample comprised an almost equal distribution of students at 4th year (48%) and 5th year dental students (52%) in the two universities together.

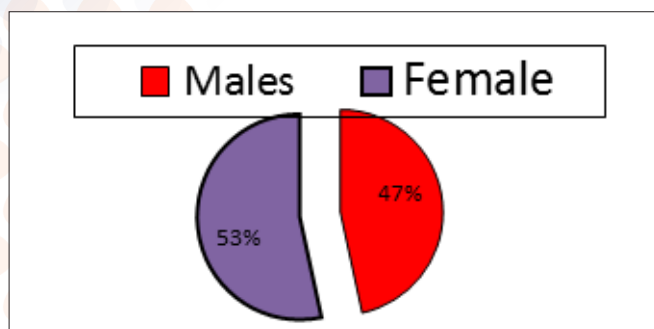


Chart 1: Demographic distribution

Table (1) represents the knowledge of students regarding the route of transmission of HBV. The answers were: Agree, Disagree, and don't know. There are 3 common modes of transmission were in the questionnaire which include: Blood, Hand piece aerosols, and Saliva. 96% of participants agreed that blood is a main way of transmission 1%disagreed, and 3% didn't know. 22% of participants agreed that hand piece aerosols can be a way of transmission, 25% disagreed, and 53% didn't know. 91% of participants agreed that saliva is a main way of transmission, 3% disagreed, and 6% didn't know.

Mode of transmission	Response	Gender		Total (%)
		Male	Female	
Blood	Agree	225	255	96%
	Disagree	2	5	1%
	Don't know	6	7	3%
Hand piece aerosols	Agree	66	44	22%
	Disagree	55	70	25%
	Don't know	112	153	53%
Saliva	Agree	201	256	91%
	Disagree	10	3	3%
	Don't know	12	18	6%

Table 1: Response of the participants toward mode of transmission according to gender.

Table (2) describes the attitude of the students towards patients with HBV. Overall the attitude of the participants was unsatisfactory and showed a negative attitude toward HBV infected patients.

Attitude statement	Answer	Percentage
I will treat patient with HBV infection.	Disagree	98.9%
	Agree	1.1%
We have to ask the patient about HBV infection status before working.	Yes	80%
	No	4%
	I don't know	16%

Table 2: Descriptive results of the participants according to attitude statement.

Table (3) shows students' use of personal protective equipment. The vast majority reported always wearing of gloves (98%), lab-coats (100%), and face masks (100%). While wearing gowns showed a (10%) and protective eye-wear only (5%) of participants wear and significantly most of them were females.

No.	Equipment	Response	Percentage
1	Gloves	Yes	98%
		No	2%
2	Lab-coats	Yes	100%
		No	0%
3	Face Masks	Yes	100%
		No	0%
4	Gowns	Yes	10%
		No	90%
5	Protective eye-wear	Yes	5%
		No	95%

Table 3: Response of the participants toward protective equipment.

Chart (2) shows the vaccination status of the participants. (95%) of participants had been vaccinated against HBV. However, only (23%) completed the recommended 3 doses of the vaccine.

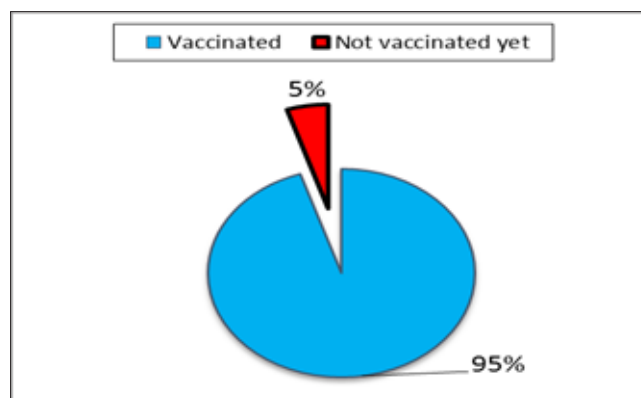


Chart 2: Vaccination status

Discussion

HBV infection is one of the most significant vocational infections that may face dental professionals, as they are frequently exposed to blood, saliva, and even suffer needle stick injuries

[6, 7]. Accordingly, in order to reduce or prevent the transmission of such microorganisms to dental health workers, a strict adherence to infection control guidelines should be applied.

This study was conducted to assess the level of knowledge, attitudes, and practice among dental students regarding HBV infection at 2 dental schools in Sana'a. Overall, dental students in the present study showed poor attitude and fair level of knowledge regarding HBV infected persons. These results were also reported in other studies [8]. Based on the results of this study, we can deduce that Yemeni dental students have a fairly satisfied level of knowledge regarding HBV infection.

In a study conducted by Alavian et al. [9], about 81.7% and 98.6% of the participants knew about the possibility of HBV transmission through saliva and from dentist to patient respectively. Interestingly, the vast majority of our participants believed that saliva is a main way of HBV transmission.

Regarding the statements on the attitude assessment, unfortunately most of the participants were inclined to choose "disagree" which actually reflect unsatisfactory or negative attitude toward HBV infected people. This finding is in disagreement with study conducted by Li et al. [8] among Chinese dental interns. However, most of our participants believed in the necessity of asking patients about serious infection including HBV infection.

In respect to the use of personal protective equipment, the response was adequate and in agreement with some previous studies in this subject [8, 10-12]. This adequate utilization of protective barriers among the participants in this study may reveal the good practice and habits cultivated once admitted to the dental school.

The finding of the present study indicated a high rate of HBV vaccination. While (95%) of participants had been vaccinated against HBV. However, only (23%) completed the recommended 3 doses of the vaccine. This rate is comparable to that reported by other studies in UAE (98.8%), Brazil (90.8%) and Canada (100%) and Saudi Arabia (90%) [8, 11, 12].

Conclusion

According to the findings of this study, there is necessity of continued education about HBV in order to improve knowledge, attitudes, and practices of dental students and Interns regarding HBV.

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