Screening for Hepatitis B Knowledge Among Dental Patients: How Much Do they Know?

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Abstract: *Aim*: Hepatitis B virus (HBV) infection is still a global public health problem. Over 2 billion people have serological evidence of past or current HBV infection. Of these cases, 350-400 million, 5-7% of the world population, suffer from chronic infection. We sought to assess knowledge levels of dental patients about the nature of HBV infection, sources of infection, mode of transmission and vaccination.

Materials and Methods: In this descriptive study a questionnaire was prepared and given randomly to 300 dental patients. All the participants were personally interviewed and anonymity was assured.

Results: Among these subjects, 67.7% had heard of HBV; 61% did not know that chronic HBV infection is usually asymptomatic; 80.3% of cases did not know that hepatitis B infection is preventable. Only 10% of patients knew that HBV can be transmitted by saliva; 52% of subjects did not have any information about hepatitis B vaccine in preventing liver disease and only 13.3% of patients had been vaccinated. More than half the patients (58.2%) believed that HBV could be transmitted by dentists and dental staffs in the dental clinics during surgeries.

Conclusion: This study indicated low levels of knowledge about the nature of HBV infection, sources of infection, mode of transmission and vaccination. Thus, more work should be done with regard to educating patients.

Keywords: Hepatitis B, Knowledge, Dental patients, Iran.

INTRODUCTION

Hepatitis B virus (HBV) infection is still a major public health problem worldwide [1]. About one-third of the world population, over 2 billion people, have serological evidence of past or current HBV infection. Of these cases, 350-400 million, 5-7% of the world population, suffer from chronic infection [1-5]. It is noted that 40% of patients with hepatitis B experience cirrhosis, liver failure and hepatocellular carcinoma. At least 500,000 persons die annually from hepatocellular carcinoma [3]. On the basis of an epidemiological study by Murray, Northern Europe, Asia and sub –Saharan Africa have low (prevalence, <2%), intermediate (prevalence 2-8%) and high (prevalence >8%) HBV endimicity, respectively [2, 6]. Blood and blood products can transmit HBV. Mahboobi demonstrated that saliva is a possible source of hepatitis A,B and C transmission [5]. Other possible ways of transmission include uncontrolled sexual contact, re-use of contaminated needles, close contact with carriers of hepatitis B and transmission from mother to infant during childbirth [7, 8]. Dental staffs carriers can also transmit infection to patients. Bocharov showed that a considerable number of cases are caused by infection of patients at dental clinics [9]. According to Mahboobi, dentists may transmit the virus to their patients more easily than other occupations [4]. For these reasons, dental patients should acquire more information on HBV. However, 30% of HBV cases cannot be associated with a definable risk factor [10].

Therefore, the aim of this study was to evaluate the degree of cognizance of dental patients regarding HBV. This issue is of importance because the patients can acquire vaccination and those who are carriers can vaccinate their family and inform their dentist prior to dental treatment preventing cross-contamination in the office.

MATERIALS AND METHODS

This descriptive study was conducted at the Department of Oral Medicine *via* a questionnaire containing 12 questions prepared according to Tripati with minor changes [11]. This questionnaire was approved by an expert committee (Assistant Professors of Oral Medicine) at the Oral Medicine Department of our dental school and distributed randomly to 300 dental patients who referred to this center for their dental problems. In this study patients younger than 15 years of age were excluded. All the participants were

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E-ISSN: 2310-998X/13

personally interviewed and anonymity was assured. The questionnaire consisted of three sections: 1) HBV awareness, 2) HBV prevention and reporting practices, and 3) demographics and personal HBV related health history. Responses were summarized in a check list and the percentage of each was calculated using SPSS software (version 13).

RESULTS

All three–hundred participants responded to the questionnaire. Among these subjects, 62% were female and 38.7% were male, with ages ranging from 18 to 63 years. However, most of the patients were between 20 and 40 year old. More than half of the

Table 1: Screening Data from Questionnaire About HBV Knowledge in Dental Patients

Variables	Percentage
heard HBV infection.	67.7%
thought HBV infection is asymptomatic.	61%
were unaware that HBV infection can lead to cirrhosis or cancer.	60.7%
did not knew that HBV infection is preventable.	80.3
believed that HBV infection is life threatening.	84.5%
knew that HBV infection **is** transmitted by blood**.**	51.3%
knew that HBV infection transmitted by saliva.	10%
did not have any information about HBV vaccination.	52%
had been vaccinated.	13.3%
believed that HBV infection is transmitted in dental clinics during dental treatments.	58.2%
who had information about transmission for HBV.	4%
who had information about other types of hepatitis.	39.2%

Table 2: Questionnaire

Questionnaire
Have you heard of hepatitis –B
Hepatitis B infection is a) symptomatic b) asymptomatic
Is hepatitis B infection temporary a) yes b) no
Is hepatitis B infection preventable a) yes b) no
What is the mode of spread of Hepatitis B a) physical contact b) body fluid c) saliva d) needle sharing e) from infected mother to child f) all of the above g) none of above
What are the steps to prevent spread of infection a) use of condom b) not sharing needles c) vaccination d) careful blood transfusion d) all of the above
Are you aware of the Hepatitis B vaccination
Are dentist and dental auxiliaries more prone to Hepatitis B *via* cross infection
Have you heard of any other type of Hepatitis
Can hepatitis infection lead to another type of hepatitis infection? If yes which type?
Chronic hepatitis B infection may lead to: a) liver disease b) cirrhosis c) membranous glomerulonephritis d) liver cancer e) all of the above d) none of the above

subjects were married and 23.6% were single and 7% were divorced. Familial history of HBV was reported in 12% of cases; 26.5% had university degrees and 3% were illiterate. All collected data about HBV knowledge in dental patients are summarized in Tables **1** and **2**.

DISCUSSION

In our report, the level of HBV knowledge in dental patients was comparable to Cheung and Ashri [12, 13]. However Wiecha and Thompson showed a lower level of HBV knowledge in their study groups [14, 15].

Lack of knowledge regarding HBV infection among general populations can be responsible for the rapid and uncontrolled spread of HBV. This point can be an important reason for the number of infected people in developing countries [14].

Also, in our study the number of women who had heard of HBV was greater than men. This result was in agreement with Taylor's studies [16, 17].

In agreement with previous studies reported by Cheung, Wiecha, Ma and Thompson, our report demonstrated that HBV knowledge was associated with higher income and increasing level of education [12, 14, 18, 19].

In this present report, 61 % of cases did not know that chronic HBV infection is often asymptomatic. This rate was reported to be 54% by Tripati [11].

According to our findings, about 61% of subjects did not know that HBV could cause liver cancer. This rate was reported to be 75.4%, 60% and 54% by Tripati, Cheung and Taylor, respectively [11, 12, 17].

Currently infants in Iran are all vaccinated for HBV. In our adult subjects, only 13.3% had received the vaccine and 80% of them did not know that the HBV infection is preventable. In accordance to this findings, Taylor and Thompson indicated a low level of HBV knowledge, screening, serologic testing and vaccination among their studied groups [15, 17].

In our study the levels of awareness about HBV transmission by different routes was close to Ashri's study performed among Saudi dental patients [13]. Our results also showed that 51.3% of cases believed that HBV was transmitted in the dental clinic during dental treatments. This rate was reported to be 49.6% among Saudi patients by Ashri [13].

CONCLUSION

This study indicated low levels of knowledge about the nature of HBV infection, sources of infection (especially for saliva) and vaccination. Also, it highlighted the need for further HBV education for the Iranian community. Furthermore, our finding can be helpful for national healthcare programs. However, we must note that spouse status should have been taken into account in the questionnaire before attributing to a dentist source and this confounder should have been accounted for; another confounder is truthfulness which cannot be excluded; thus, further study is warranted.

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Received on 20-10-2013 Accepted on 26-11-2013 Published on 30-11-2013

DOI: http://dx.doi.org/10.12970/2310-998X.2013.01.01.4