Original Article

Knowledge, Attitude and Practices of Dental Practitioners against Hepatitis B in District Faisalabad

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ABSTRACT

Objective: To assess the knowledge, attitude and practices of dental practitioners against Hepatitis B in district Faisalabad.

Methodology: This descriptive cross-sectional study was conducted from 1st August 2019 to 31st January 2020. Sixty four dental practitioners who are practicing in Allied hospital Faisalabad and DHQ hospital Faisalabad were recruited by using simple random sampling technique, included in this study. The data was collected through self-administered questionnaires.

Results: Mean age ± SD of the respondents was 31.6±2.8 years. On account of assessing knowledge, 52 dentists strongly agreed for proper hand washing in the prevention of Hepatitis B. For using barriers like gloves, gown and masks, 56 of the respondents strongly agreed. For using puncture-resistant containers for sharp disposal, 25 of the respondents strongly agreed. For using protective eye wares 46 agreed. Fifty nine of the respondents strongly agreed for the proper sterilization of instruments in the prevention of Hepatitis B. On account of practices against Hepatitis B, 52 respondents were vaccinated against hepatitis B. Twelve were not vaccinated. Forty six out of 52 had completed the course of vaccination. Five out of 52 failed to recall the history of their vaccination but 6 did not completed the course.

Conclusion: A good percentage of dental practitioners have been vaccinated against hepatitis B. However, there is a need to increase this percentage, so that maximum number of dentists that come in direct contact with the persons could be prevented against this fatal disease.

KEYWORDS: Knowledge, Attitude, Practices, Hepatitis B, Dental Practitioners.

INTRODUCTION

Pakistan is facing one of the world's top burdens of chronic hepatitis and mortality due to hepatocellular carcinomas, liver failure and cirrhosis. Hepatitis B virus is the major cause of hepatic diseases.[1] It is a life threatening liver infection which has become a major health problem all over the world and is a source of other chronic infections and diseases as well. It can lead to liver cirrhosis, hepatocellular carcinoma and has played significant role in increasing mortality rate. Vaccine against hepatitis B has been introduced after 1980 which is effective in more than 90% of cases. The vaccine also acts against cirrhosis and chronic diseases.[2]

The virus can exist for almost one week outside the human body. Once it enters into the body it completes its incubation period of almost 75 days. Incubation period varies from one month to six months. Hepatitis B can be detected within one to two months and can transform in to chronic state.[3] Virus spreads from infected blood, semen, or other body fluids to non-infected person. Transmission from infected mother to child, sex with an infected partner, infected to a non-infected child through negligence is common in spread of disease.

It is well documented that almost two hundred and forty eight million people are suffering from chronic HBV infection among the 2 billion people infected with HBV worldwide.[4] Pakistan is highly endemic with HBV with nine million people infected

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with HBV with a steady rise in infection rate. Severity depends upon the age at which the person becomes infected. Eighty percent of infants infected during the first year of life develop chronic infections. More than 30% of the children less than 6 years of age, get infected with chronic infections. Less than 5% of infected adults have the chronic infection. More than 20% of chronically infected adults have liver cirrhosis or hepatocellular carcinoma.[5] acute hepatitis B has no specific treatment other than symptomatic treatment. Proper and complete nutritional balance should be maintained. Care has taken when fluids are wasted through vomiting and diarrhea. Different drugs are used in the treatment of chronic hepatitis B infection. These drugs include oral antiviral agents. The progression of cirrhosis can get slow through treatment.[6]

Vaccines are protagonist in spread of hepatitis B. It has been described by world health organization that hepatitis B can be transmitted to infants transplacentally from mothers. Vaccination is done in 6, 10 and 14 weeks along with pentavalent vaccine.[7] Some of the most common causes of hepatitis B in Pakistan are the transfusion of unscreened blood, improperly sterilized examination instruments, medical devices. Reuse of infected syringe by the health care providers is also a major source of infection in Pakistan.[8] Researchers are conducting studies in Pakistan in which the prevalence of hepatitis B are studied. According to that research, more than 2% of hepatitis B HBsAg has recorded. In every province, there are more than 28 districts which have a higher prevalence of hepatitis B.[9]

This study aimed to assess the knowledge, attitude and practices of dental practitioners against Hepatitis B in district Faisalabad.

METHODOLOGY

It was a descriptive cross-sectional study carried out on dental practitioners of Allied hospital Faisalabad and DHQ hospital Faisalabad. The stud was approved by ethical review board of Government college University Faisalabad. The data was collected from 1st August 2019 to 31st January 2020 by using simple random sampling technique, one by keeping all ethical issues in written form and taking informed written consent by the participants. Dental practitioners who had been working as regular employees in the selected hospitals were included in the study. The undergraduate dental students and non-dental health professionals were excluded from this study. Knowledge was assessed by questions focusing on sign and symptoms, transmission, and role of vaccination regarding prevention of Hepatitis B. Each response was scored as 'yes' or 'no'. The attitude about dentists at risk for hepatitis B was assessed among respondents**.** Response of the participants was scored as "strongly agree" or "agree". Practices towards hepatitis B prevention were assessed by asking questions about the schedule and dose of vaccine. Each response was scored as 'yes' or 'no'.

A self-structured questionnaire was developed and a pilot study was done on 5 persons to test the reliability of the questionnaire. After making the necessary changes a final questionnaire was developed and administered among 100 practitioners but complete responses were received from only 64 dental practitioners (n=64). Incomplete responses were also excluded from the study.

Statistical Analysis: The data were analyzed using SPSS version 20. The descriptive statistics were presented in the form of frequencies, bar chart, mean and standard deviation. The questions assessing knowledge, attitude and practices of dental practitioners were presented in the form of frequencies and percentages. The practices indicators were tested by using chi-square test of independence. A p-value <0.05 was considered as showing statistically significant results.

RESULTS

A total of 64 respondents were included in this study. Mean age ± SD of the respondents was 31.6 ± 2.8 years. 12 (18%) of the respondents were males, and 52 (82%) of the respondents were females. Among all dental practitioners, 27 (42.19%) were married, 31 (48.44%) were unmarried, 2 (3.13%) were widow and 4 (6.25%) were divorced. Qualification profile of the respondents showed that 32 (50%) were graduate in dental sciences (BDS), 17 (26.56%) had done BDS & Fellow of College of Physicians and Surgeons (FCPS), 6 (9.3%) had done Master BDS & Master in Dental Surgery/Science (MDS) after BDS, 5 (7.81%) had done BDS, FCPS and MRCP, 4 (6.25%) had done BDS and MCPS degrees both. Further results of the study are given below.

The participants' responses on various questions assessing knowledge about hepatitis B transmission and vaccination are shown in Table I. Out of the 64 dental practitioners, majority, 52(81.25%) of them strongly agreed for the role of proper hand washing in the prevention of Hepatitis B. For the role of using Barriers like gloves, gown and masks in the prevention of Hepatitis B, majority, 56 (87.5%) of

respondents strongly agreed. For role of using puncture

Table I: Knowledge about hepatitis B transmission and vaccination (n= 64)

Indicators of Knowledge	Yes (%)	No (%)
Dentists are at higher risk of HBV infection than general population	64 (100)	00 (0%)
The causative agent of Hepatitis is a virus?	60 (93.75)	4 (6.25)
Hepatitis B may lead towards cancer/cirrhosis	47 (73.43)	17 (26.56)
Hepatitis B can be spread by:		
Invasive equipment	62 (96.9)	2 (3.1)
Dental procedures	58 (90.62)	6 (9.37)
Blood transfusion	63 (98.43)	1 (1.5)
Saliva	56 (87.5)	8 (12.5)
Unsterile tattooing	44 (68.75)	20 (31.25)
Personal contact	63 (98.43)	1 (1.5)
Mother to child	58 (90.62)	6 (9.37)
Patient to dentist	57 (89.06)	7 (10.93)
Dentist to patient	28 (43.75)	36 (56.25)
High number of dentists experience needle stick injury frequently	62 (96.9)	2 (3.1)
HBV transmission from patient to dentists and vice versa can be prevented with the use of gloves	63 (98.5)	1 (1.5)

Table II: Attitude towards preventive measures(n= 64)

Attitude Indicators	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Dentists should get vaccinated before starting dental practice	49	11	3	1	0
Preventive ways should be used against Hep B	52	12	0	0	0
Barriers (gloves, gown, masks) should be used	56	8	0	0	0
Puncture-resistant containers for sharp disposal	25	12	9	17	1
Use protective eye wares	12	46	5	1	0
Proper instruments sterilization	59	5	0	0	0

resistant containers for sharp disposal in the prevention of Hepatitis B, less than half 25 (39.06%) of the respondents strongly agreed, and 17 (26.56%) responded as disagree. For the role of using protective eye wares in the prevention of Hepatitis B most of the respondents 46 (71.87%) agreed. Similarly, majority, 59 (92.18%) of the respondents strongly agreed for the role of proper sterilization of instruments in the prevention of Hepatitis B (Table II). Out of 64 respondents, a significantly higher number 52 (81.3%) of respondents reported yes about protection against Hepatitis B ($p<0.05$). A significantly higher number 46 (88.4%) of respondents had completed the Hepatitis B vaccination course ($p<0.001$). Similarly, a significantly higher number 15 (83.3%) of respondents were willing to complete their vaccination schedule which was left uncompleted ($p<0.05$) (Table III). Reasons behind not completion of the course was 1) carelessness 2) dentists thought that this course was enough and not necessary to complete. When they were asked to complete the course in the future 17% reported that they will not go for the completion of the vaccination and 83% said that they will complete the vaccination procedure.

Table III: Hepatitis B vaccination profile of respondents (n= 64)

Practices Indicators	Yes (%)	No (%)	p-value
Vaccination done against hepatitis B	52 (81.3)	12 (18.7)	0.003
Course completed or not (out of 52)	46 (88.4)	6 (11.6)	0.000
Plan to get or complete vaccination (n=18)	15 (83.3)	3 (16.7)	0.036

P value ≤ 0.05 is taken as significant

DISCUSSION

The high prevalence of the blood-borne pathogens and the increasing number of infected patients convince dental professionals to have a thorough knowledge of contagious diseases and the dental management of patients with such diseases. Though there is substantial literature regarding the knowledge and attitude of dentists toward other infectious diseases, very few studies have assessed the different categories of dental healthcare professionals and their attitude toward hepatitis B infection, and very few studies have been conducted in Pakistan to assess their immunization status.[10]

The epidemiology of HBV infection varies distinctly throughout areas of the world. Hepatitis B is awfully endemic in developing regions with a large population.[11] In some areas of the world, most of the population shows past or present serological record of HBV infection. Most infection appears during infancy or childhood. Most infections in children are asymptomatic, there is little record or confirmation of acute disease related to HBV, but levels of chronic disease and liver cancer in adults are dominant.[12]

In this study, on account of assessing knowledge, 52 dentists strongly agreed for proper hand washing in the prevention of Hepatitis B. For using Barriers like gloves, gown and masks, 56 of the respondents

strongly agreed. For using Puncture-resistant containers for sharp disposal, 25 of the respondents strongly agreed. For using protective eye wares 46 agreed. 59 of the respondents strongly agreed for the proper sterilization of instruments in the prevention of Hepatitis B. The present study showed that most of the dentists were aware of the hepatitis B vaccination and its importance. The findings are comparable with the study carried out by Pandharbale et al[13] and Shitoot et al[14] which showed the awareness of Hepatitis B among dental professionals as 94% and 96% respectively. Another study conducted by Mahesh et al reported that the level of knowledge regarding the course and transmission of Hepatitis B among dental students was satisfactory.[15] A study carried out in Iran revealed that the level of knowledge, attitude and practices of dentists regarding Hepatitis B virus were moderately good.[16] On account of practices against Hepatitis B in this study, 52 respondents were vaccinated against hepatitis B. 12 were not vaccinated. 46 out of 52 had completed the course of vaccination. 5 out of 52 failed to recall the history of their vaccination but 6 did not completed the course. Dentists lacking full vaccination had reasons behind it like carelessness and dentists thought that this course was enough and not necessary to complete. Majority of the professionals strongly agreed for the preventive measures for hepatitis B. The results obtained by the study were supported by much of the literature. A study conducted by Shitoot et al in India showed that the researcher did a similar type of study among professional dentists although the results were different from the professionals being involved in the present study. Nearly one fourth of the dental professionals were not vaccinated against Hepatitis B virus, and around half of the dental professionals had not completed their vaccination course.[14]Fewer studies had been done for knowing behaviors of dentists towards preventive measures in Pakistan. Legitimate hand washing and utilization of barriers , for example, gloves, outfits, and gowns are the principal parts of the standard safety measures which can limit mucocutaneous exposures.[17] Immunization against hepatitis B should be done for all the dentists before they begin their clinical practice and for susceptible dental practitioners and dental assistant staff.

CONCLUSION

A good percentage of dental practitioners carry protection against hepatitis B. However, there is a need to increase this percentage, so that maximum number of dentists that come in direct contact with the patients could be prevented against this fatal disease and vice versa.

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REFERENCES

1. Butt AS, Sharif F. Viral Hepatitis in Pakistan: Past, Present, and Future. Euroasian J Hepatogastroenterol. 2016;6(1):70-81.
2. Gerlich WH. Do we need better hepatitis B vaccines? Indian J Med Res. 2017;145(4):414-419.
3. Guan R, Lui HF. Treatment of Hepatitis B in Decompensated Liver Cirrhosis. International Journal of Hepatology. 2011;2011:918017.
4. Nelson NP, Easterbrook PJ, McMahon BJ. Epidemiology of Hepatitis B Virus Infection and Impact of Vaccination on Disease. Clin Liver Dis. 2016;20(4):607-628.
5. Madihi S, Syed H, Lazar F, Zyad A, Benani A. A Systematic Review of the Current Hepatitis B Viral Infection and Hepatocellular Carcinoma Situation in Mediterranean Countries. BioMed Research International. 2020;2020 :7027169.
6. Zoulim F, Durantel D. Antiviral therapies and prospects for a cure of chronic hepatitis B. Cold Spring Harb Perspect Med. 2015;5(4):a021501.
7. Das S, Ramakrishnan K, Behera SK, Ganesapandian M, Xavier AS, Selvarajan S. Hepatitis B Vaccine and Immunoglobulin: Key Concepts. J Clin Transl Hepatol. 2019;7(2):165-171.
8. Asad M, Ahmed F, Zafar H, Farman S. Frequency and determinants of Hepatitis B and C virus in general population of Farash Town,Islamabad. Pak J Med Sci.2015;31(6):1394-1398.
9. Khan A, Afzal S, Yaqoob A, Fatima R, Haq MU, Junaid K, et al. Epidemiology of viral hepatitis B and C in Punjab, Pakistan: a multicenter cross-sectional study, 2017-18. F1000Research. 2019;8(2065):2065.
10. Wong F, Pai R, Van Schalkwyk J, Yoshida EM. Hepatitis B in pregnancy: a concise review of neonatal vertical transmission and antiviral prophylaxis. Annals of hepatology. 2014;13(2):187-195.
11. Zara B, Min Allah NU, Javed W, Siddique S, Mehmood H, Hassan F. A cross-sectional assessment of knowledge, attitude, and practices toward Hepatitis B virus infection among dentists of tertiary hospitals in Islamabad, Pakistan. Pak Oral Dent J 2020; 40(2):66-71.
12. Qu C, Duan Z, Chen K, Zou H. Reducing liver cancer risk beginning at birth: experiences of preventing chronic hepatitis B virus infection in China. Hepatoma Research. 2017;3: 228-240.
13. Pandharbale A, Gadgil R, Bhoosreddy A, Ahire B, Kunte V, Shinde M. An epidemiological study to assess the awareness of hepatitis B infection in the dental students, college staff, practitioners, and auxiliary staff in city of Maharashtra. Journal of Indian Association of Public Health Dentistry. 2015;13(2):179-182.
14. Shitoot AD, Motwani M, Chamele DP, Shitoot AP, Chamele J, Ghosh A. Hepatitis B awareness and attitudes among dental professionals in Central India. Journal of Indian Academy of Oral Medicine and Radiology. 2016;28(3):270.
15. Mahesh R, Arthi C, Victor S, Ashokkumar S. Hepatitis B infection awareness among dental graduate students: A cross sectional study. International scholarly research notices. 2014;2014.
16. Rostamzadeh M, Afkhamzadeh A, Afrooz S, Mohamadi K, Rasouli MA. Dentists' knowledge, attitudes and practices regarding Hepatitis B and C and HIV/AIDS in Sanandaj, Iran. BMC oral health. 2018;18(1):1-8.
17. Kretzer D. STANDARD PRECAUTIONS (INCLUDING HAND HYGIENE AND USE OF PPE). Policy. 2018.

Author's Contribution:

Dr. Abid Rashid	Study design, concept, results interpretation write up of results, revised and approved the articles.
Dr. Ume Habiba	Data acquisition, manuscript writing, Reviewed and approved the manuscript.
Dr. M. Asif	Study design, data collection, manuscript writing, and Revising manuscript critically for important intellectual content.
Dr. Naseem Akhtar	Data collection, manuscript writing, review the article and approved it.
Dr. Sultan Ayaz	Study design, data analysis and interpretation, revising manuscript critically for important intellectual content.
Dr. Saadia Khatoon	Study design, data analysis, and interpretation of results and formulation of all tables, revised manuscript and approved it.
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