

Knowledge and Practices of Dental Surgeons Working in Private Clinics about Hepatitis B and C

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ABSTRACT

Background: Hepatitis B and C viruses are extremely infectious and significant work-related hazard for health care workers. The dental practices mostly include direct exposure to body fluids of patients and contact with instruments and material infected with hepatitis B and C viruses.

Aim: To evaluate the knowledge and practices of dental surgeons regarding hepatitis B and C working in the private clinics.

Method: It was a cross-sectional descriptive study carried out during January, 2017 among 120 dental surgeons of Multan. Data was collected through questionnaire, which was entered in SPSS ver 20.0.

Results: Out of 120 dental surgeons, 90% were males and 75.8% were above 30 years old. Among them, 100.0% had adequate knowledge regarding hepatitis B and C transmission. Only 39.2% dental surgeon used disposable gloves and syringes for safety purposes and majority (75.8%) attended workshops regarding management of hepatitis B and C. 100% dental surgeons imparted knowledge about adequate sterilization of instruments to their staff.

Conclusion: Among dental surgeons, knowledge about hepatitis B & C and its transmission was satisfactory. Dental surgeons were fully awareness regarding diagnosis procedure, sterilization and safety precautions against hepatitis B and C. Further effectors are required to create awareness among dental surgeons regarding WHO guidelines of hepatitis B and C management.

Keywords: Blood transfusion, Sterilization, Screening, Virus, Hep-B & C, HCV, Saliva, Fluids

INTRODUCTION

Hepatitis B and C virus infections are leading public health dilemma, the most widespread blood-borne contagions and taking place endemically in all areas of world. Globally the burden of viral infections of hepatitis B and C is generally present: about one-third population in the world has been suffered from HBV infection, according to estimation 350 to 400 million individuals have infection and one million mortalities occurred due to diseases associated with hepatitis B. As per WHO estimation, hepatitis C virus infects above 185 million individuals and death rate will continue to rise for more than next twenty years¹.

A great burden of disease is being faced by Pakistan i.e., 4 to 7% of HCV and 3-4% of HBV prevalence reported by numerous surveys conducted in the country. Globally, the frequency of HBV new cases is declining after complete vaccination. But still illiteracy and knowledge about its transmission are significant factors responsible for disease².

During dental procedures, spread of infection can occur via direct exposure to saliva, blood, fluids, airborne droplets having infective agents or through indirect contact like infected objects namely

equipments, instruments and environmental surfaces³.

The incidence of hepatitis B virus infectivity is elevated among dentist than general people, particularly among those with surgical expertise. The work-related risk of HBV infectivity via infected blood in cutting or piercing accidents among dental surgeons differed between 6% and 30%⁴.

Dental surgeon, their students and paramedical staff are at increased risk of contact with HBV mainly since dentistry involves broad and intensive utilization of small sized but sharp instruments which can become easily infected with contaminated blood during insidious procedure which is believed significant mode of HBV transmission. Previous studies indicated that exposure risk for dentist is virtually 3 to 4 times higher, and for unimmunized surgical experts, almost 6 times higher than general people⁵.

Numerous reports have described hepatitis B and C viruses transmission to patients from dental surgeons regardless of development of universal safety measures⁶.

Most of the individual contaminated with life threatening HCV could have caught it in routine dental therapy. Health activists advised that present practices in the dental surgery, comprising the method instruments are sterilized are not quite enough to eliminate the chance of spread of highly

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transmittable virus among patients. The spread of hepatitis C virus can take place through inappropriate cleaning and handling to dental tools⁶.

To reduce the chance of cross contamination in dental clinic, certain suggestions have been made by professional health care agencies. These suggestions comprise regular use of the barrier methods (masks, gloves), proper sterilization of the dental tools, vaccination against hepatitis C virus, and universal safety measures, dentist's compliance of these suggestions and programs of infection control have been currently studied in various parts of world. Results of these studies demonstrated gaps in a few dentist's knowledge about transmission mode of communicable diseases, infection risk from needle injuries and knowledge regarding safety measures that prevent from hepatitis B and C virus transmission⁶.

Globally, the Hepatitis B and C virus infections are serious causes of liver illness and health policymakers struggle to control these infections by formulating strategies. Dental surgeons can play their imperative roles in preventing infection of hepatitis B and C viruses. Hence, present study is carried out to evaluate the knowledge and practices of dental surgeons about hepatitis B and C working in private clinics of Multan.

MATERIAL AND METHODS

It was a cross-sectional descriptive study carried out among 120 dental surgeons of Multan. Simple convenient random sampling was utilized. Data was collected through questionnaire, which was entered into computer software SPSS version 20.0. Frequencies and percentages were calculated and data was presented in tables and graphs. Confidentiality of the data was ensured and proper consent was obtained before data collection.

RESULTS

Table-1 describes that among 120 dental surgeons, 29 (24.2%) were ≤ 30 years old and most of them 91(75.8) were > 30 years old. Among the respondents, 108(90%) were males and 12(10%) were females. Similarly 41(34.2%) respondents had professional experience ≤10 years and majority 79(65.8%) had > 10 years professional experiences.

Table 2 highlights the dental surgeons' knowledge regarding Hepatitis B and C. Among the dental surgeons, 100% were aware about hepatitis B

and C, its transmission through dental procedures or needle pick, sterilization & diagnosis procedures and adoption of safety measures at clinic while 98.0% dental surgeons were also aware regarding WHO guidelines.

Table-3 asserts the practices of dental surgeons regarding Hepatitis B and C. Among the respondents, 117(97.5%) took history from patients regarding hepatitis B & C before procedure, 47(39.2%) used disposable gloves and syringes, 73(60.8%) sterilized dental instruments, 91(75.8%) attended workshops regarding management of hepatitis B and C, 100% dental surgeons passed on knowledge to their staff regarding complete sterilization of dental equipments while only 21(17.5%) maintained patients record and 16(13.3%) respondents imparted health education about hepatitis B and C to prevent patients and themselves from hepatitis B and C infection.

Table 1: Socio-demographic characteristics of respondents

	Frequency	%age
Age		
≤ 30 years	29	24.2
> 30 years	91	75.8
Sex		
Male	108	90.0
Female	12	10.0
Professional experience		
≤ 10 years	41	34.2
> 10 years	79	65.8

Table 2: Knowledge of respondents regarding hepatitis B and C

	Frequency	%age
Knowledge regarding hepatitis B & C		
Yes	120	100.0
No	0	0.0
Awareness about hepatitis B & C transmission through needle prick / dental procedures		
Yes	120	100.0
No	0	0.0
Knowledge regarding sterilization procedure for hepatitis B & C		
Yes	120	100.0
No	0	0.0
Awareness regarding diagnosis procedure of Hep. B and C		
Yes	120	100.0
No	0	0.0
Knowledge regarding adoption of safety measures at clinics against hepatitis B & C		
Yes	120	100.0
No	0	0.0
Knowledge regarding WHO guidelines of hepatitis B & C management		
Yes	109	90.8
No	11	9.2

Table 3: Practices of respondents about hepatitis B and C

	Frequency	%age
Patients history of hepatitis B & C before procedure		
Yes	117	97.5
No	3	2.5
Safety measures adopted by dentists to prevent hepatitis B & C infection among patients		
Disposable gloves and syringes	47	39.2
Sterilized dental equipments	73	60.8
Attended any workshop regarding hepatitis B & C management		
Yes	91	75.8
No	29	24.2
Impart knowledge to staff regarding adequate sterilization of dental tools to protect patients from Hepatitis B & C infections		
Yes	120	100.0
No	0	0.0
Maintenance of patients record at clinic		
Yes	21	17.5
No	99	82.5
Health education to patients regarding hepatitis B&C		
Yes	16	13.3
No	104	86.7

DISCUSSION

Dental surgeons are at great risk of acquiring hepatitis B and C infections. Current study was conducted to evaluate the knowledge and practices of dental surgeons regarding hepatitis B and C working in private clinics of Multan. To obtain adequate results, a total of 120 dental surgeons participated in the research and found that significant majority (75.8%) of dental surgeons was above 30 years and only 24.2% were ≤ 30 years old. A similar study conducted among dental surgeons by Solaiman and colleagues (2013) showed almost comparable results who reported that 63.3% dental surgeons were above 30 years old and 36.7% were less than 30 years old.^[9] Study disclosed that 90.0% dental surgeons were males and 10.0% were females. The findings of the study undertaken by Solaiman and colleagues (2013) also demonstrated that males dental surgeon were in majority (74.2%)⁹.

Imperative role of professional experienced cannot be overlooked because it helps dental surgeons to adopt safety measures more adequately. Study showed very encouraging results that 65.8% respondents had more than 10 years and 34.2% had upto 10 years professional experience. This is in contrast to the findings of the study carried out by Okoh and Saheeb (2017) who asserted that 44.4% dental surgeon had > 10 years and 55.6% had ≤ 10 years work experience¹⁰.

It is significant to mention that all the dental surgeon were fully aware about hepatitis B and C. Another study performed by Kakoei and his partners (2007) also asserted that dental surgeons had enough knowledge regarding hepatic B and C¹¹.

Study divulged that all dental surgeons were aware about mode of transmission, diagnosis and sterilization procedures, safety measures but some of them had no knowledge about WHO guidelines. Another study conducted by Kasetty and associates (2013) confirmed that 58.2% dental surgeons had knowledge regarding diagnosis and investigation procedures of hepatitis B and C¹².

When practices of dental surgeons were assessed regarding hepatitis B and C, study showed very encouraging results that 97.5% respondents took history from patients regarding hepatitis B and C before procedure. Same results were also obtained from a study conducted by Batool and coworkers (2012) who reported that 97.1% dental surgeons took hepatitis B and C history from patients⁶.

Use of disposable syringes and gloves prevents both patients and dentists from contagion. It is appalling to note that only 39.2% dental surgeons used disposable syringes and gloves during treatment. The results of the study performed by Qudeimat and teammates (2006) exhibited better scenario that disposal syringes and gloves were used by 100% dental surgeons¹³.

Dental surgeons are required to attend workshop and seminars to meet the novel criteria of treatment. It is important to mention that mainstream of dental surgeons participated in the hepatitis B and C workshops while all of them had investigation facility regarding hepatitis B and C at their clinics and imparted knowledge to staff about adequate sterilization of dental equipments to prevent patients from infection.

Dental professional has a legal and ethical liability regarding patients care. Proper maintenance of patients record is most significant characteristic of patients care¹⁴ while dental surgeons in Pakistan do not own this responsible. Same situation was also observed during study that 17.5% dental surgeons maintained their patients' record at clinics. The results of our study are comparable but still exhibited better situation than the study conducted by Preethi and fellows (2011) who asserted that just 12% dental surgeons maintained their patients records¹⁵.

Constant health education is essential to prevent patients from communicable diseases but this practice was not prevalent among majority of dental surgeons of study area because only 13.3% imparted health education regarding hepatitis B and C to their patients.

CONCLUSION

Among dental surgeons, knowledge about hepatitis B & C and its transmission was satisfactory. Dental surgeons were fully awareness regarding diagnosis procedure, sterilization and safety precautions against hepatitis B and C. Further effectors are required to create awareness among dental surgeons regarding WHO guidelines of hepatitis B and C management. Participation in workshop was satisfactory while utilization of disposable syringes, gloves and maintenance of patients' record were found unsatisfactory. Health department intervention and media role can play a considerable role in creating further awareness among dental surgeon regarding hepatitis B and C.

REFERENCES

1. Ibrahim AM, Mohiadeen FA, Babakir-Mina M. Prevalence, knowledge and practices of hepatitis B and C viruses among patients undergoing surgery in Sulaimani City. *J Rare Disord Diagn Ther.* 2016; 2: 6.
2. Babar FR, Yar A, Rana MJA. Knowledge, attitude and practice regarding hepatitis B & C among house officers: a study. *Pak Oral Dent J.* 2016; 36(20): 289-92.
3. Dagher J, Sfeir C, Abdallah A, Majzoub Z. Infection control measures in private dental clinics in Lebanon. *Int J Dent.* 2017; 2017: 11.
4. Ferreira RC, Guimarães ALS, Pereira RD, Andrade RM, Xavier RP, de Barros Lima Martins AME. Hepatitis B vaccination and associated factors among dentists. *Rev Bras Epidemiol.* 2012; 15(2): 315-23.
5. Peeran SW, Peeran SA, Al Mugrabi MH, Abdalla KA, Murugan M, Alsaid FM. Hepatitis B: knowledge and attitude of graduating dentists from faculty of dentistry, Sebha University, Libya. *Dent Med Res.* 2017; 5: 3-8.
6. Batool A, Sherwani MUIK, Bano KA, Aasim M. Knowledge, attitude and practices of dentists about hepatitis B and C infection in Lahore. *Pak J Med Res.* 2012; 51: 93-6.
7. Dahiya P, Kamal R, Sharma V, Kaur S. "Hepatitis": prevention and management in dental practice. *J Educ Health Promot.* 2015; 4: 33.
8. Li X, Kang H, Wang S, Deng Z, Yang T, Jia Y, et al. Knowledge, attitude, and behavior of hepatitis b virus infection among Chinese dental interns. *Hepat Mon.* 2015; 15(5): e25079.
9. Solaiman F, Ahmed S, Akhter SM, Saha AK, Uddin H, Azad AK, et al. Preventive practice on hepatitis B virus infection among dentists in selected hospitals at Dhaka City, Bangladesh. *City Dent Coll J.* 2013; 10: 13-7.
10. Okoh M, Saheeb BD. Assessment of knowledge, attitude and practice of post-exposure prophylaxis against blood-borne viral infection among dental surgeons in a teaching hospital. *South Afr J Infect Dis.* 2017; 32(1): 17-22.
11. Kakoei SH, Sheybani GHR, Mohammad Alizadeh S. Awareness and practice of Kerman dentists about hepatitis B, 2004. *J Dental School.* 2007; 25 (1): 66-72.
12. Kasetty S, Mohania A, Dwivedi D, Tijare M, Kallianpur S, Gupta S. A cross-sectional study on the knowledge of hepatitis B infection among dental professionals. *J Virol Microbiol.* 2013; 2013: 1-5.
13. Qudeimat MA, Farrah RY, Owais AI. Infection control knowledge and practices among dentists and dental nurses at a Jordanian university teaching center. *Am J Infect Control.* 2006; 34: 218-22.
14. Devadiga A. What's the deal with dental records for practicing dentists? Importance in general and forensic dentistry. *J Forensic Dent Sci.* 2014; 6(1): 9-15.
15. Preethi S, Einstein A, Sivapathasundharam B. Awareness of forensic odontology among dental practitioners in Chennai: a knowledge, attitude, practice study. *J Forensic Dent Sci.* 2011; 3: 63-6