

ORIGINAL RESEARCH

Knowledge Towards Immunization among Dentist of Bhopal City

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ABSTRACT

Introduction: Health care workers are at the particular risk of several vaccine preventable diseases due to lack of knowledge or casual attitude toward infection. Which leads to a substantial percentage of morbidity and mortality among patients and dentist as well.

Materials and methods: Self-administered structured, coded questionnaire was distributed to 200 private practitioners and teaching staff in all the dental colleges in Bhopal city.

Results: Half of them are HBV vaccinated and only 27% of them are aware regarding the viability of hepatitis B virus on a dry surface.

Conclusion: The result of the present study revealed that dental practitioner has neglected attitude regarding the immunization and precaution to be taken for infected patients which may result in widespread exposure of patient and dentist to infections in the office and clinic.

Keywords: Immunization, Dentist, Dental practitioner, Hepatitis B, Infection.

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INTRODUCTION

For more than a century, health care providers' hands have been recognized as major reservoir of pathogens that may cause clinical infections. These infections are transmittable via blood, saliva and aerosols.¹

Practitioners and staff of the dental office are at a high risk of occupational hazards of infectious diseases as a result of continuous contact with infectious material during dental procedures.² In the late 1970s, several reports found that dentist were three times more likely than general population to contract hepatitis.³ With the emergence of the AIDS epidemic in the 1980s, even more stringent precautions became necessary to effectively protect health care workers and the public, leading to the recommendations by the Centers for Disease Control (CDC) concerning the prevention of HIV transmission in health care settings and universal precautions guidelines.⁴

Infections may be transmitted in the dental operatory through several routes, including direct contact with blood, oral fluids or other secretions; indirect contact with

contaminated instruments, operatory equipment, environmental surfaces, or contact with airborne contaminants present in either droplet splatter or aerosols of oral and respiratory fluids.⁵

Paramount to the prevention of infectious disease is the strict adherence to standard precautions for all patients. Dental education can play an important role in the training of dentists, helping them to adopt adequate knowledge and attitudes related to infection control measures.⁶ Keeping this in mind the need of the study was to understand the perceived role of immunization among dentist.

MATERIALS AND METHODS

Self-administered structured, coded questionnaire was distributed to 200 private practitioners and teaching staff in all the dental colleges in Bhopal city. The 200 dentists to whom the questionnaire was sent included the dentists working in the dental colleges, those having private practice, and those registered in the IDA, Bhopal branch. Out of 200 dentists to whom the questionnaire was administered, 182 responded within a week's time resulting in a high response rate of 91%. The study covers the entire population of dentists in the city. All sections of dentists including graduates, postgraduates and the private practitioners, and those associated with institutes were included in the study. Questionnaire consisting of close ended items and was divided questions related to knowledge regarding consideration for special cases and immunization.

RESULTS

Of the 182 dentists 42.8% were males and 57.1% were females. Statistically, significant difference was noted between gender and educational qualification of the participants (Table 1).

Sixty two percent dentist give importance to take a detail case history and other 30% only took for suspected patients. In case of special cases 70% of them uses a double gloves and 44% uses immediate action after direct blood contamination. Half of them are HBV vaccinated and only 27% of them are aware regarding the viability of hepatitis B virus on a dry surface. Fifty percent of them are aware highest rate of transmission through saliva (Table 2).

Table 1: Distribution of demographic details according to education and gender

Education	Dentist		Total	Chi-square	p-value
	Male n (%)	Female n (%)			
BDS	45 (57.6)	84 (80.7)	129 (70.8)	11.05	0.001
MDS	33 (42.3)	20 (19.2)	53 (29.1)	df = 1	
Total	78 (100)	104 (100)	182 (100)		

Table 2: Knowledge and precautions regarding special cases

Questions	Response	Number (n)	Percentage
Is taking detail case history important	All patients	113	62.5
	Suspected patients	55	30
	Not necessary	14	7.6
Gloves used in special cases	Single gloving	44	23.8
	Double gloving	132	70.6
	Triple gloving	6	3.2
Immediate action taken with direct blood contact with HIV patients	Ziduvudene	83	44.4
	Blood test	48	25.7
	IG administration	20	10.7
	Not necessary	5	2.7
Are you BCG vaccinated	ART	6	13.9
	Yes	157	84
	No	11	6
Are you HBV vaccinated	I do not know	14	10
	Yes	89	48.9
	No	86	47.2
Do you know how long HB virus is viable	I do not know	7	3.7
	1 day	69	40
	10-day	51	27.3
	Not viable	53	28.3
Do you know how long mycobacterium tuberculosis is viable on dry surface	Forever	9	4.8
	1 day	40	21.4
	10-day	38	20.3
	Not viable	92	49.2
Which of the following have the highest rate of transmission via saliva	Forever	12	6.4
	HIV	13	7
	TB	74	39.6
	HBV	95	50.8

DISCUSSION

According to Occupational Safety Health Administration (OSHA) all of the dental personnel should be vaccinated against hepatitis B free of charge and within 10 days of being employed.^{7,8} The results of the present study indicate that vaccination of dental personnel against hepatitis does not conform to OSHA guidelines, which might be attributed to a lack of strict regulations regarding the employment of personnel in clinics and health centers or to disregard for regulations on behalf of dental practitioners and authorities.

There was 49% of dentist who have been immunized against HBV which is slightly lower than study done by Mahdipour et al 69% in 2007.² Yet another study carried out in Tehran reported that in 2001, 72.6% and in 2002, 67.1% of dental personnel were immunized against hepatitis.⁹ Immunization of dentists before they are placed at risk for exposure remains the most efficient and effective use of vaccines in healthcare settings. Immunizations are an essential part of prevention and infection-control programs.¹⁰

The results of the present study demonstrated that only 44% of the dental practitioners had a sound knowledge of the steps to be taken in the event of direct blood contact with a HIV+ individual. Nearly half of the subjects under study were aware of the maximum survival time of hepatitis B virus on dry surfaces. An important finding in the present study was the fact that 40% of the dental practitioners under study believed that hepatitis B virus either survives for only a day on a dry surface or it does not survive at all, which is a disappointing finding. The differences in the results of these studies might be attributed to the diversity of the populations under study.

RECOMMENDATIONS

- Continuing dental education programs on infection control measures for dental students and professionals are also highly recommended.
- We recommend mandatory hepatitis B vaccination of dental professionals before exposure to clinical practice.

- Careful monitoring along with government support for insurance coverage of treatment procedure should be mandatory.

CONCLUSION

The result of the present study revealed that dental practitioner has neglected some infection control principles, which may result in widespread exposure of patient to infections in the office and clinic. There is need for creation of awareness and continuous education about immunization and use of self-protection methods.

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