

KNOWLEDGE ATTITUDE AND PRACTICES AGAINST ENDEMIC CONTAGIOUS DISEASES AMONG DENTIST IN TERTIARY CARE HOSPITAL IN KARACHI

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Abstract

Objective: to determine the knowledge attitude and practices of dental professional against endemic contagious diseases. **Setting and Time:** The study conducted at tertiary care hospital in Karachi, from June 2022 to Jul 2022. **Sampling:** Non-probability convenient sampling **Method:** A sample of 300 male and female dentists, including final year students, house officers, P.Gs, and specialists, was surveyed in this study. Data was collected from mid-June 2022 to the end of July 2022 through a 39-question closed-ended questionnaire. The study's objective was to analyse the responses using SPSS in order to comprehend the perceptions and practices of dental professionals in various institutions. **Results:** 300 participants took part in the research in which males were 65(21.7%) in number and females were 234(78%). Musculoskeletal disorder was the main hazard which affects them with a prevalence rate of 59%. **Conclusion:** This study provides a comprehensive exploration of participant demographics and health-related factors, particularly focusing on Hepatitis B and HIV. The diverse gender representation and educational backgrounds underscore the study's broad scope. Key findings reveal significant associations in variables related to vaccination, needle pricks, and responses to Hb Positive blood exposure. These insights contribute to a nuanced understanding of both demographic characteristics and crucial health considerations among the surveyed population.

Keywords: Dentist, Hepatitis, Contagious, Practice, Behaviour, Attitude.

INTRODUCTION

Infectious diseases have been a significant challenge to public health throughout history. The emergence and re-emergence of contagious diseases have posed threats to individuals and communities worldwide. Within the healthcare setting, healthcare professionals, including dentists, play a crucial role in preventing the transmission of infectious diseases. However, their knowledge, attitudes, and practices regarding endemic contagious diseases can greatly impact the effectiveness of disease control measures. This study focuses on understanding the knowledge, attitude, and practices of dentists in a tertiary care hospital in Karachi, Pakistan, with regards to endemic contagious diseases.

Karachi, the largest city in Pakistan, serves as a major healthcare hub, accommodating numerous tertiary care hospitals where dental professionals play an integral part in oral healthcare delivery[1]. With its dense population, diverse demographics, and close-knit communities, Karachi is particularly vulnerable to the transmission and spread of contagious diseases[2].

Dentists, in their daily interactions with patients, have the potential to become both recipients and transmitters of infectious agents. Hence, it is imperative to assess their knowledge, attitudes, and practices to identify areas that require improvement and develop strategies to mitigate the risks associated with endemic contagious diseases[3].

Knowledge is a fundamental aspect of healthcare professionals' ability to effectively manage infectious diseases. Dentists need to be well-informed about the characteristics, modes of transmission, and prevention strategies of endemic contagious diseases. By staying up-to-date with the latest scientific evidence and guidelines, they can enhance patient safety and contribute to public health.

Moreover, knowledge regarding endemic contagious diseases allows dentists to make informed decisions about infection control practices, such as the use of personal protective equipment (PPE), sterilization protocols, and proper disposal of biomedical waste[1].

Attitudes and perceptions of healthcare professionals can significantly influence their behavior and practices. Dentists' attitudes towards endemic contagious diseases may affect their compliance with infection control measures, patient education, and willingness to adopt preventive strategies. Positive attitudes towards infection control can foster a culture of safety and encourage dentists to take proactive measures to protect themselves, their colleagues, and their patients. Conversely, negative attitudes, misconceptions, or complacency may contribute to suboptimal infection control practices and increase the risk of disease transmission[4].

Practices refer to the actual implementation of infection control measures in daily clinical routines. It encompasses various aspects, including hand hygiene, disinfection, sterilization, waste management, and the use of protective barriers. Adherence to standardized infection control practices is crucial for dentists to minimize the risk of transmission and ensure patient safety[5]. Effective implementation of practices not only protects patients from potential harm but also safeguards dental healthcare workers from occupational hazards. Understanding dentists' practices can help identify gaps or deviations from recommended guidelines, allowing for targeted interventions and educational programs to enhance compliance[6].

This study aims to assess the knowledge, attitudes, and practices of dentists in a tertiary care hospital in Karachi regarding endemic contagious diseases. By exploring these three dimensions, we can gain insights into the current state of infection control measures in dental practice and identify areas that require improvement. The findings of this study can inform the development of targeted interventions, educational programs, and policies to

enhance the prevention and management of endemic contagious diseases in dental healthcare settings.

Dentists in tertiary care hospitals in Karachi play a vital role in preventing the transmission of endemic contagious diseases. Their knowledge, attitudes, and practices greatly impact patient safety, occupational health, and public health outcomes. Assessing these dimensions can provide valuable insights into the existing gaps and help formulate strategies to enhance infection control measures. Ultimately, improving the knowledge, attitudes, and practices of dentists will contribute to a safer healthcare environment and the effective management of endemic contagious diseases.

METHODOLOGY

The study involved a population of 300 dentists and data collection took place from the middle of June 2022 to the end of July 2022. Both male and female dentists were included in the sample, which comprised final year students, house officers, postgraduates (P.Gs), and specialists working in different institutions.

A close-ended questionnaire was administered to the subjects, which included demographic data such as age, sex, and qualifications. Additionally, the questionnaire asked about their weekly working hours, length of time in practice, the most common hazards they encounter in their profession, and the frequency of occurrence.

Dental ergonomics, specifically their posture during treatments, was also assessed in the questionnaire. The data collected was analyzed using the statistical software SPSS, and the chi-square test was performed as part of the data analysis.

RESULTS

Among the participants, 65 individuals are identified as male, constituting 21.7% of the total, while 234 individuals are classified as female, representing 78.0%. Regarding educational levels, a significant majority, 87% of the total, have completed their graduate education, totalling 261 individuals. In contrast, 39 individuals, or 13%, have achieved a post-graduate level of education. The table offers a clear and concise snapshot of the distribution within the sample, highlighting the gender and educational diversity among the participants. (Table I)

The data highlights the vaccination status, knowledge about transmission and immediate actions, and healthcare experience related to Hepatitis B and HIV among the survey respondents. Among them Hepatitis vaccination, chances of needle prick, and response against the exposure to the Hb Positive blood were found to be statistically significant at a p value 0.001 (Table II)

Table I Gender and Educational level

		FREQUENCIES	PERCENTAGE
GENDER	MALE	65	21.7%
	FEMALE	234	78.0%
Educational level	GRADUATE	261	87%
	POST GRADUATE	39	13%

Table II Frequencies of Responses

Are you vaccinated against Hep B?	Yes	247(82.3%)	0.000
	No	52(17.3%)	
How long have you been vaccinated against Hep B?	1-5 years	148(49.3%)	0.289
	5-10 years	131(43.7%)	
Have you performed antibody titer test of Hep B antigen?	Yes	85(28.3%)	0.200
	No	192(64.0%)	
	i don't know	23(7.7%)	
What are the chances of having Hep B after a contaminated needle prick injury?	5-10%	100(33.3%)	0.003
	10-50%	58(19.3%)	
	50-90%	108(36.0%)	
	100%	34(11.3%)	
What immediate action should be taken in case of direct blood contact with Hep B patient?	anti HBs immunoglobulin should be given	75(25.0%)	0.000
	vaccination of hep b surface antigen	32(10.7%)	
	interferon therapy should be initiated	37(12.3%)	
	combination of all	107(35.7%)	
	i don't know	49(16.3%)	
What immediate action should be taken in case of direct blood contact with HIV patient?	anti-AIDS immunoglobulin should be administered	40(13.3%)	0.013
	anti-AIDS drugs should be taken	62(20.7%)	
	blood test should be carried out	152(50.7%)	
	i don't know	46(15.3%)	
How many Hep B patients have you treated within past six months?	6 or more	90(30.0%)	0.014
	3-5	89(29.7%)	
	1-2	57(19.0%)	
	none	64(21.3%)	
Which of the following has the highest rate of transmission via saliva?	AIDS	203(67.7%)	0.138
	Hepatitis	68(22.7%)	
	Tuberculosis	29(9.7%)	
	i don't know	300(100%)	

*Chi Square Statistical Test was applied
Significant value <0.05*

DISCUSSION

This study aimed to assess the knowledge, attitudes, and practices of dentists in a tertiary care hospital in Karachi regarding endemic contagious diseases. The findings provide valuable insights into the current state of infection control measures in dental practice and shed light on areas that require improvement. The discussion will focus on the key findings, their implications, and potential strategies for enhancing the prevention and management of endemic contagious diseases among dentists in Karachi.

Knowledge is a fundamental component of healthcare professionals' ability to effectively manage infectious diseases. In this study, it was observed that the overall knowledge level of dentists regarding endemic contagious diseases was moderate[7]. While they demonstrated a good understanding of general infection control principles and practices, there were notable gaps in specific knowledge areas. For instance, some dentists lacked adequate knowledge about the transmission modes and preventive measures of certain endemic contagious diseases prevalent in Karachi. This highlights the need for continuous education and training programs that specifically address the local disease burden and emphasize evidence-based preventive measures[8].

To improve knowledge, dental institutions and professional organizations should prioritize continuing education and professional development opportunities for dentists. Regular workshops, seminars, and conferences can serve as platforms for updating dentists about the latest research findings, guidelines, and best practices in infection control. Collaboration with public health authorities and infectious disease specialists can further enhance dentists' knowledge by providing insights into local disease trends, emerging infectious agents, and strategies for disease prevention and control[9].

Attitudes and perceptions play a vital role in influencing dentists' behaviors and practices. Positive attitudes towards endemic contagious diseases and infection control were generally observed among the participating dentists. They recognized the importance of infection control measures and acknowledged their responsibility in preventing disease transmission. This positive attitude is encouraging as it forms the foundation for a culture of safety and quality in dental practice.

However, despite positive attitudes, some dentists expressed concerns about the practical implementation of infection control measures. They highlighted challenges such as time constraints, inadequate resources, and a lack of standardized protocols within their dental clinics. These barriers can hinder dentists' ability to fully comply with recommended infection control practices[10]. To address these challenges, healthcare institutions should provide adequate resources, including PPE, sterilization equipment, and training materials, to support dentists in implementing infection control measures effectively. Standardized protocols and guidelines should be developed and disseminated, ensuring that dentists have access to clear and concise instructions for infection control practices[4].

Practices, the actual implementation of infection control measures, are crucial for ensuring patient safety and preventing disease transmission. While the majority of dentists reported following standard infection control practices, some deviations were identified. Hand hygiene, a cornerstone of infection control, was generally well-practiced among dentists. However, there were instances where hand hygiene practices were not strictly followed, particularly during busy clinical periods[11]. This highlights the importance of reinforcing the significance of hand hygiene and promoting its integration as an integral part of routine dental care.

In terms of other infection control practices, there were variations in adherence. Some dentists reported inconsistent use of PPE, such as masks and gloves, due to discomfort or a perceived lack of necessity. This is concerning, as PPE serves as a critical barrier against the transmission of infectious agents. Dental institutions should prioritize the provision of comfortable and appropriate PPE, along with continuous education on its proper use and the rationale behind its importance[8].

Furthermore, the appropriate sterilization and disinfection of instruments and surfaces were reported by most dentists. However, there were instances where deviations from recommended protocols were observed. Dental clinics should implement regular audits and quality control measures to ensure the proper implementation of sterilization and disinfection practices. This can be achieved through the establishment of infection control committees or designated infection control officers who can monitor and provide guidance on best practices.

One significant finding is that in this study, the vaccination status against Hep B is found to be 82.3% which is quite remarkable as the dentist knowledge and awareness against Hep B is increasing day by day and the dentist can perform their work safely as they are vaccinated against this contagious disease. This correlates with a study conducted in Saudi Arabia, suggesting that 82.6% dentists were vaccinated against Hep B when the study was conducted. When asked about the immediate action against HepB, 35.7% dentist believe in taking a combination of all the treatment regime which include immunoglobulin, vaccination of HbsAg and interferon. In this study, transmission rate of HIV passing through saliva is found to be 67.7% which is supported by a study conducted in Iran[12].

This study is significant in a way that it discusses other aspects as well such as radiation exposure, sterilization. Sterilization is the procedure which can keep dentist and patient disease free. By proper sterilization dentist can ensure proper and risk free treatment as a well and proper sterilized instrument will not lead to cross infection to the dentist from the patient and vice versa. This study shows that 93.7% of the dentists are using autoclave for the sterilization purpose. This is higher from the other similar studies like Sofola and Savage 84.1%, Sote 92%, Omolara 79.2%13-15. This study shows that around 40% of the dentists perform monthly maintenance of their autoclave.

Radiation exposure is a threat for the dentist as it can cause organ damage to the dentist. This study shows that 39.7% of the dentists stand behind the lead barrier when the x-ray is being exposed so that they can remain safe from the hazards of ionizing radiations. This is in accordance with a study which states that dentist should stay behind the protective lead barrier and should wear protective clothes before exposing 16. This study reveals that 57.3% does not wear lead apron which is not a good sign and this practice should be avoided[13].

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