

Original Research

The Attitude And Awareness Of Dental Interns Towards Infection Control Measures In Prosthodontic Clinics: A Cross Sectional Study

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ABSTRACT:

Background: Infection control is a vital aspect of dental care, especially in prosthodontics where there is frequent contact with patient oral tissues, prostheses, and impressions. Dental interns, being at a formative stage of their clinical practice, must possess sound knowledge and attitudes towards infection prevention. **Methods:** A cross-sectional survey was conducted among 246 dental interns from various dental colleges in Kerala using a validated questionnaire. Participants were selected through stratified random sampling. The survey assessed vaccination status, awareness, attitudes, and satisfaction regarding infection control measures. Statistical analysis was performed using Python (Pandas, NumPy). **Results:** The mean knowledge score was 3.23 ± 0.76 , implementation score was 3.16 ± 0.78 , and satisfaction score was 3.01 ± 0.80 . The majority of interns rated their knowledge and practices as fair to good. While most had received basic training in infection control, gaps in satisfaction and implementation were noted. **Conclusions:** Dental interns showed moderate awareness and implementation of infection control practices. The findings highlight a need for targeted workshops and hands-on training to enhance compliance and confidence in infection control protocols.

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INTRODUCTION

Infection control is a cornerstone of modern dental practice, especially in prosthodontics, where close contact with patients' oral tissues and body fluids is frequent, and the risk of cross-infection is significant. Prosthodontic procedures often involve the use of various instruments, impressions, dental prostheses, and materials that can act as potential vectors for the transmission of infectious agents such as bacteria, viruses, and fungi^[1-2].

With the increasing prevalence of infectious diseases such as hepatitis B and C, HIV, and even emerging pathogens like COVID-19, the emphasis on proper infection control protocols in dental clinics has become more crucial than ever^[3-5]. The prosthodontic clinic, due to its complex procedures and repeated contact with dental prostheses and impressions, represents a unique setting where the strict

implementation of infection control is not only necessary but potentially life-saving⁶.

Dental students and interns are at a formative stage of their professional development. This period of clinical training plays a pivotal role in shaping their future behavior, attitudes, and practices in real-world dental settings⁷. It is during this time that students must internalize the importance of infection prevention and control (IPC) measures, which include the use of personal protective equipment (PPE), proper hand hygiene, sterilization and disinfection of instruments, surface barrier techniques, and the correct handling of dental impressions and prosthetic materials⁸.

A lack of awareness or negligent attitude towards these protocols can not only put the patients and practitioners at risk but also diminish the overall standard of care delivered^[9-10]. In developing countries, the level of infection control awareness

among dental students can vary widely due to differences in curriculum emphasis, institutional policies, and available resources¹¹.

This study aims to evaluate the current level of awareness and attitude toward infection control measures in prosthodontic clinics among dental interns of various dental colleges in Kerala. By identifying gaps in knowledge and potential misconceptions, the findings of this survey can contribute to the development of more targeted educational interventions, improved infection control training, and ultimately, a safer clinical environment for both practitioners and patients.

METHODS

This study employed a cross-sectional design to assess the attitudes and awareness of dental interns regarding infection control measures in prosthodontic clinics across Kerala, India. A stratified random sampling technique was utilized to select participants from various dental colleges.

Selection of Participants:

- Inclusion Criteria: Dental interns currently enrolled in the final year of internship.
- Exclusion Criteria: Interns who had discontinued training.

Sample Size: Using the formula: $(n =)$ Where $Z=1.96, p=0.8, E=0.05 \rightarrow n = 246$.

Data Collection: Data was collected via a structured, validated online questionnaire with 21 items (vaccination, awareness, education, satisfaction).

Instrument Validation: Adapted from: - Alshiddi IF⁷ - Girotra et al⁸

Statistical Analysis: Analysis was performed using Python (Pandas, NumPy). Likert-scale responses were scored (1-5). Descriptive statistics included mean, SD, median, min, max.

Ethics: Approved by the Institutional Ethics Committee, Kannur Dental College (IECKDC/2024-02/003). Informed consent was obtained.

RESULTS

246 interns completed the questionnaire. Mean scores were:

Parameter	Mean	SD	Min	Median	Max
Knowledge of Infection Control	3.23	0.76	1	3.00	5
Implementation of Infection Control	3.16	0.78	1	3.00	5
Satisfaction with Knowledge & Practice	3.01	0.80	2	3.00	5

Most interns rated their knowledge and implementation as “Fair” to “Good.” Satisfaction was modest.

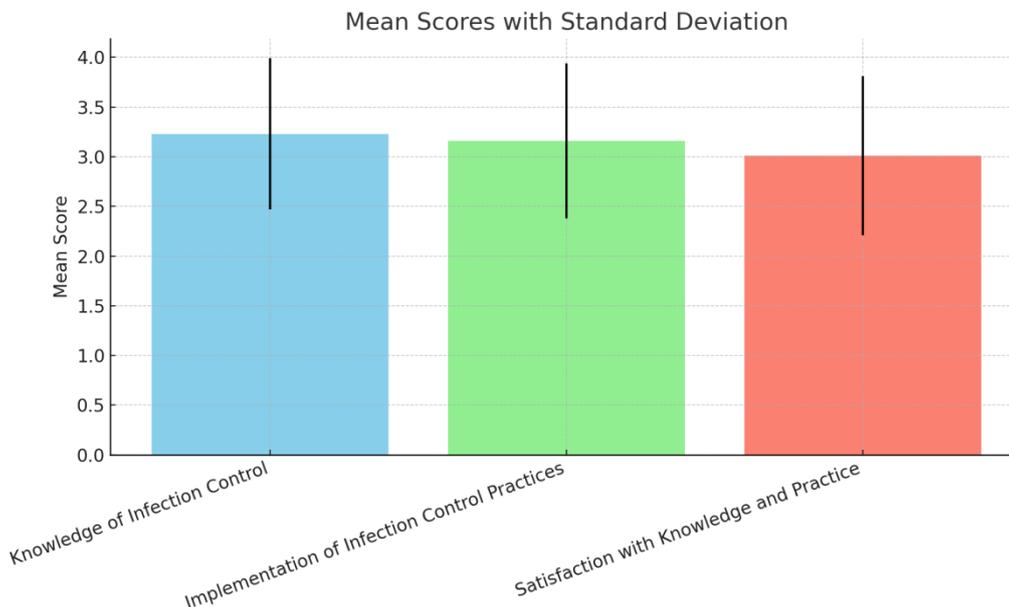


Figure: Bar chart representing mean scores and standard deviations for Knowledge, Implementation, and Satisfaction.

DISCUSSION

The findings align with prior literature reporting mixed levels of infection control compliance among dental interns^[7-10]. While awareness is adequate, practical implementation and confidence vary. Similar

studies in India, Jordan, Nigeria, and Libya have shown comparable patterns^[2, 3, 13-16].

The data supports the call for enhanced infection control workshops, protocol standardization, and inclusion of more robust clinical simulations during undergraduate training^[17-20]. Barriers such as

resource constraints, insufficient training, and low perceived risk were previously cited as obstacles to compliance^[21-25].

CONCLUSION

Interns in Kerala showed moderate awareness and implementation of infection control in prosthodontics. The results call for curricular strengthening, targeted continuing education, and improved supervision. Enhanced training can improve both patient safety and professional preparedness.

REFERENCES

1. Taiwo JO, Aderinokun GA. *Afr J Med Med Sci*. 2002;31(3):213–7.
2. Qudeimat MA, Farrah RY, Owais AI. *Am J Infect Control*. 2006;34(4):218–22.
3. Abreu MH et al. *Braz Dent J*. 2009;20:221–5.
4. Singh A et al. *J Dent Educ*. 2011;75(3):421–7.
5. Khanghahi BM et al. *J Dent Res Dent Clin Dent Prospect*. 2013;7(2):55.
6. Taiwo OO. *Ann Med Health Sci Res*. 2014;4(8):94–8.
7. Alshiddi IF. *J Int Oral Health*. 2015;7(12):10.
8. Girotra C et al. *J Indian Assoc Public Health Dent*. 2021;19:65–70.
9. Jwaaid MM et al. *Academia Open*. 2024;9(2):10456.
10. Alhaddad M et al. *PubMed*. 2024.
11. Halawani R et al. *Open Dent J*. 2020;14:184–93.
12. Elgtlawi MHE et al. *Libyan J Dent*. 2024;8(1):49–58.
13. Bano V et al. *Life & Sci*. 2022;3(3):134–40.
14. Milward MR, Cooper PR. *Eur J Dent Educ*. 2007;11(3):148–54.
15. Freire DN et al. *J Dent Educ*. 2000;64(4):352–6.
16. Scully C, Greenspan JS. *J Dent Res*. 2006;85(9):794–800.
17. Bhat VS et al. *J Indian Prosthodont Soc*. 2007;7(2):62–5.
18. Connor C. *Int J Prosthodont*. 1991;4:337–44.
19. Dental aerosol implications. *J Dent Sci*. 2014;9(3):203–12.
20. van Doremalen N et al. *N Engl J Med*. 2020;382:1564–7.
21. Inglehart MR, Seacat JP. *J Dent Educ*. 2003;67(6):630–7.
22. Singh HP, Shetty DC. *Natl J Maxillofac Surg*. 2012;3(1):15–20.
23. Stansfeld AG. *Lymph node biopsy interpretation*. NY:Churchill Livingstone; 1985.
24. Strong MS. In: Evans JNG, ed. *Scott Brown's Otolaryngology*. London: Butterworths; 1987:466–70.
25. Health Sciences Library, Buffalo. <http://ublib.buffalo.edu/libraries/units/hsl/infores/biom ed.htm> (accessed 12 Nov 2004).
26. Karolinska Institute Databases. http://kib.ki.se/tools/base/index_en.asp (accessed 12 Nov 2004).