Original Article



Evaluation of Oral Health Attitude and Behaviour among Dental Students in Chennai, India. A Cross-Sectional Study using Hiroshima University - Dental Behavioural Inventory (HU-DBI)

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Received: 16-10-2024; Revised: 25-01-2025; Accepted: 08-02-2025; Published online: 20-02-2025.

ABSTRACT

Background: Oral health significantly impacts overall well-being. This study evaluates dental students' attitudes and behaviors regarding oral health.

Objectives: To assess the knowledge and practices related to oral hygiene among dental students in Chennai, India.

Methods: A cross-sectional study was conducted with a convenience sample of 200 dental students (mean age: 22.5 years) from a private dental college. Data were collected using Hiroshima University - Dental Behavioural Inventory (HU-DBI) administered via Google Forms, focusing on oral health attitudes and behaviors.

Results: While 68.5% of participants expressed concerns about their teeth worsening despite daily brushing, 60% sought dental care only when symptomatic. Misconceptions regarding oral hygiene practices, such as a preference for hard-bristled toothbrushes, were prevalent.

Conclusion: The study highlights the need for comprehensive oral hygiene education among dental students to foster preventive care and address existing misconceptions.

Keywords: Oral Health, Dental Students, HU-DBI, Attitudes, Behaviours, Hygiene Practices.

INTRODUCTION

ral health plays a crucial role in overall health and well-being, influencing not only physical health but also quality of life, self-esteem, and social interactions. As future dental professionals, dental students' attitudes and behaviors toward oral health are of particular interest, given that these habits often reflect their future practices and influence their patient care.¹ In India, oral health issues like dental caries, gum diseases, and other preventable conditions are widespread, highlighting the need for greater awareness and proactive measures among healthcare professionals, especially those in training. The behavior and attitudes of oral health providers, particularly dentists, have a significant impact on their ability to deliver effective oral healthcare services.² Promotion methods that fail to bring about behavioral change, as seen in some developed countries, contribute to inadequate improvements in oral health practices. Poor oral hygiene maintenance is often due to a lack of knowledge or negligence. Individuals who receive and consistently apply proper oral hygiene instructions tend to show positive outcomes.³ Those who recognize the importance of personal responsibility in oral health are more likely to adopt self-care behaviors. An individual's attitude towards oral health significantly influences their self-care habits and affects their overall ability to care for their teeth⁴. Dental students are generally encouraged to

maintain a positive attitude toward their own health, which plays a critical role in shaping the oral health status of the wider community. Dental students, the dentists of tomorrow will have a dynamic role in oral health education and promotion. As future dental professionals, dental students' attitudes and behaviors toward oral health are of particular interest, given that these habits often reflect their future practices and influence their patient care.⁵ The evaluation of their oral health attitudes and practices is essential to understand how well they adhere to recommended oral hygiene standards and how prepared they are to promote these practices within the community.⁶ This cross-sectional study aims to evaluate the oral health attitudes and behaviors among dental students in a private dental college in Chennai, India.

MATERIALS AND METHODS

This study employed a cross-sectional design with a descriptive research approach to assess oral health attitudes and behaviors among dental students in Chennai. Conducted over three months, from August to October 2024, the research encompassed data collection and report preparation phases. The participants were dental students from a private dental college, with the Department of Public Health Dentistry providing necessary approvals and ethical clearance granted by the Institutional Review Board [NO: 508/2024/IEC/TMDCH]. A convenience sample of 200 students was selected, and demographic details were



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recorded. A 20-question survey [Hiroshima University -Dental Behavioural Inventory] was administered via Google Forms, with informed consent obtained to ensure participant privacy and confidentiality. Participants were briefed on the survey questions to encourage accuracy and thoughtful responses. The collected data was organized in an Excel spreadsheet and analyzed using IBM SPSS Statistics for Windows, Version 26.0. Percentage Analysis was done to find out the percentage of each response for very question.

Table 1: Results [% Analysis for Each Question HiroshimaUniversity - Dental Behavioural Inventory]

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	that I brush very well	Disagree	80	40

RESULTS

In a study of 200 dental students with a mean age of 22.5 years, participants ranged from 18 to 28 years old, with 78.5% being female and 21.5% male. The sample included 28.5% interns, 17.5% first-year students, and approximately 18% in each of the remaining years. A significant 68.5% did not worry much about dentist visits, yet 68.5% expressed concerns about their teeth worsening despite daily brushing. Oral health habits revealed that 30% experienced gum bleeding while brushing, 60% were conscious of tooth color, and 50.5% noticed white deposits on their teeth. Interestingly, 90% avoided using a child's toothbrush, while 56.5% foresaw needing false teeth as they aged, and 57% were concerned about gum color. In brushing habits, 71% brushed carefully, though 66% had not received professional brushing guidance, 76% believed they could brush effectively without toothpaste, and 77% inspected their teeth post-brushing. Oral health concerns showed that 54.5% worried about bad breath, 59.5% thought brushing alone could not prevent gum disease, and 60% delayed dental visits until they were in pain. Additionally, 79% had never used dye to check for plaque. For brushing techniques, 30% preferred hard-bristled brushes, 42.5% felt unsatisfied without strong strokes, and 44.2% admitted to brushing for extended periods. Feedback from dentists indicated that 60% were told they brushed well.

DISCUSSION

Our study provides a comprehensive overview of oral health perceptions, habits, and concerns among a sample of dental students. It highlights key areas where awareness and behavior are aligned with good oral health practices and areas where there is room for improvement, even among future dental professionals. Our study reveals that while dental students possess a basic awareness of oral health, they often lack certain proactive behaviors, such as using dyes to check oral cleanliness. This differs from findings in the Hiroshima University-Dental Behavioral Inventory (HU-DBI) study, where students demonstrated a higher level of engagement in such practices, indicating that the students in our study may benefit from adopting similar proactive assessment tools to improve self-awareness of oral hygiene status.⁷ The research by Rouijel & Sakout et al. shows that more advanced students tend to adopt proactive oral health behaviors compared to preclinical students, aligning with our findings that show interns generally exhibit more consistent and positive oral health habits.⁸ This pattern, also echoed in the studies by Alwesabi et al. and Kumar et al., suggests that dental education plays a significant role in enhancing students' oral health knowledge and behaviors.^{9,10} Our study similarly reflects a positive trend among interns, suggesting that as students progress, they become more aware of oral health maintenance, though gaps in certain areas, such as professional guidance on brushing, remain. In contrast, the study by Louise Brearley et al. reports that dental students have well-established and favorable oral hygiene attitudes and behaviors that develop within dental school.¹¹



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While our study demonstrates some favorable attitudes, it also highlights misconceptions and inconsistent practices, such as the use of hard-bristled brushes and lack of professional brushing guidance, suggesting that the positive effects of dental education may vary and need reinforcement in specific areas. The study comparing Chinese and British students, as reported by Jananni Muthu et al., highlights interesting cultural differences that resonate with our findings. Similar to Chinese students, a notable portion of students in our study anticipate wearing dentures in old age (56.5%), which may reflect underlying doubts about long-term oral health maintenance. Additionally, 68.5% of our participants, like the Chinese students, seek dental care only when symptoms arise, indicating a symptomatic rather than preventive approach to dental care. The focus on cosmetic concerns, such as teeth and gum appearance, is also prevalent in our participants, with 60% concerned about tooth color and 57% about gum color, paralleling the Chinese students' concerns.¹² Gender differences in oral health practices observed by Jananni Muthu et al. also appear in our study, though indirectly. While we did not specifically assess gender-based preferences in toothbrush type, a substantial portion (30%) of our participants, like the male students in Muthu's study, favored hard-bristled toothbrushes, often associated with strong brushing preferences (42.5%).¹³ Concerns about bad breath were also prevalent (54.5%), consistent with findings that male students worry more about halitosis. Overall, while our study aligns with other research in recognizing the generally positive impact of dental education, it also highlights unique regional and demographic factors, such as cosmetic concerns and symptomatic care-seeking behavior, that persist among students.14,15

CONCLUSION

In Conclusion, the study indicates that while dental students are more engaged in oral health practices than the general population, misconceptions persist. There is a need to reinforce comprehensive oral hygiene education that translates into personal habits. Addressing these gaps can better equip future dentists not only to model optimal oral hygiene for their patients but also to emphasize preventive care and accurate knowledge in their future practices. Aspiring dentists can shape the oral health behaviors of their loved ones and social circles. It's imperative to instill a positive oral health outlook early on. By examining diverse cultural contexts, we can identify potential differences in economic conditions, dental care accessibility, and attitudes towards oral health.

Source of Support: The author(s) received no financial support for the research, authorship, and/or publication of this article

Conflict of Interest: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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