

Awareness of Oral Hygiene Among College Students in Tamil Nadu: A Survey

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Abstract- Oral hygiene is an essential component of overall health, and inadequate practices can result in dental caries, periodontal diseases, and systemic complications. Assessing awareness and oral hygiene behaviours among college students is important for strengthening preventive strategies. This study aimed to evaluate the level of awareness and oral hygiene practices among dental and general college students in Tamil Nadu. A cross-sectional survey was conducted among 400 students using a structured self-administered questionnaire distributed online. The collected data were analysed using SPSS software. Descriptive statistics and appropriate inferential tests were applied to determine associations between variables. The results indicated that most students were aware of the importance of regular brushing and its relationship with general health. However, significant differences were observed between dental and general students regarding flossing practices and routine dental visits. The study concludes that sustained educational interventions are necessary to improve preventive oral health practices among college students.

Keywords: Oral hygiene, Awareness, College students, Plaque control, Oral hygiene aids, Toothbrush, Tamil Nadu

I. INTRODUCTION

Oral health is a fundamental component of general well-being and significantly influences quality of life. Poor oral hygiene is closely associated with dental caries, periodontal diseases, and other oral conditions that may also affect systemic health.¹ Knowledge, attitude, and preventive practices related to oral hygiene play a crucial role in reducing the burden of

these diseases.² College students represent a key population group in which long-term health behaviours are established. Their oral hygiene practices are influenced by awareness, educational background, and lifestyle factors.³ Studies have shown that oral health knowledge and behaviour differ among students from various academic disciplines.⁴ Dental students, owing to their professional training and clinical exposure, are expected to demonstrate better oral hygiene practices and serve as role models within the community.⁵ However, limited data are available regarding awareness and oral hygiene practices among dental and general college students in Tamil Nadu. Therefore, the present study aimed to assess oral hygiene awareness and practices among these groups.

II. MATERIALS AND METHODS

Study Design and Population

A descriptive cross-sectional study was conducted among dental and general college students in Tamil Nadu during March–April 2025. A total of 400 students aged 17–28 years participated in the study. Participation was voluntary, and informed consent was obtained from all participants.

Survey Instrument

Data were collected using a structured, self-administered questionnaire developed after reviewing relevant published studies. The questionnaire consisted of two sections:

- Demographic details (age, gender, course of study)

- Questions assessing awareness and oral hygiene practices, including brushing frequency and technique, type of toothbrush used, tongue-cleaning habits, mouthwash and floss usage, and dental visit frequency.

The questionnaire was circulated online to facilitate wider participation.

Data Analysis

Only completely filled responses were included for analysis. The data were compiled and analysed using SPSS software. Descriptive statistics were used to calculate frequencies and percentages. The Chi-square test was applied to assess associations between categorical variables. A p-value < 0.05 was considered statistically significant.

III. RESULTS

A total of 400 students participated in the study, of whom 67.75% were females and 32.25% were males. The age range was 17–28 years. A statistically significant association was observed between academic background and oral hygiene awareness (p < 0.001).

Oral Hygiene Practices

Brushing frequency showed a nearly equal distribution: 49.75% brushed once daily, and 49.50% brushed twice daily (p = 0.026). All participants used a toothbrush. The majority (93.75%) used manual toothbrushes, while 5.50% used electric toothbrushes (p < 0.001). Regarding brushing technique:

- 44% used circular motion
- 44% used horizontal motion
- 12% used vertical strokes (p = 0.939)

Most participants (71%) replaced their toothbrush every three months. Tongue cleaning was practiced by 79.75% of participants:

- 41.25% used the back of the toothbrush
- 41% used a tongue scraper

Adjunctive Aids and Knowledge

Daily mouthwash usage was reported by only 23.25% of participants (p = 0.044). Although 80.50% were aware of dental floss, regular usage was limited. A high proportion (87%) were aware of the adverse effects of poor oral hygiene (p = 0.009). However, only 62.5% reported visiting a dentist once per year.

Table 1 : Questionnaire regarding the awareness of Oral Hygiene habits and the responses in % including the p value

S.NO	QUESTIONS	RESULTS IN %	p value
1.	BRUSHING FREQUENCY	Once: 49.75% Twice: 49.50%	0.0263*
2.	TYPE OF TOOTH BRUSH USED	Manual: 93.75% Electric:5.50%	0.0000*
3.	KIND OF TOOTHBRUSH [BRISTLES]	Soft:55.00% Medium:27.25%	0.2496
4.	DIRECTION OF BRUSHING	Circular: 44.00% Horizontal: 44.00%	0.9392
5.	FREQUENCY OF CHANGING TOOTHBRUSH	3 months: 71.00% 6 months: 27.00%	0.3771
6.	MATERIALS USED WITH TOOTHBRUSH	Toothpaste: 98.50% Powder: 1.50%	0.6210
7.	TONGUE CLEANING HABIT	Yes: 79.75% No:20.25%	0.1973
8.	METHOD OF TONGUE CLEANING	Back of brush:41.25% Scraper:41.00%	0.3778
9.	MOUHWASH USAGE	Yes:23.25% No:76.75%	0.0441*
10.	AWARENESS ON DENTAL FLOSS	Yes:80.50% No:19.50%	0.1218
11.	KNOWLEDGE OF ILL EFFECTS	Yes:87.00% No:13.00%	0.0093*
12.	RINSE AFTER MEALS	Yes:61.50% Sometimes:30.00%	0.3056
13.	FREQUENCY OF DENTAL VISIT	1 year:62.50% 2 year:15.00%	0.1398

Table 1 shows the responses in percentage and p values about awareness of oral hygiene from participants.

Brushing Habits

The participants were nearly equally divided regarding brushing frequency, with 49.75% brushing once daily and 49.50% brushing twice daily ($p=0.0263$). An overwhelming majority (93.75%) utilize manual toothbrushes, while only 5.50% use electric versions ($p=0.0000$). Regarding technique, 44.0% prefer circular motion and 44.0% prefer horizontal motion.

Hygiene Adjuncts and Maintenance

Toothbrush Replacement: 71.0% of respondents change their toothbrush every 3 months.

Tongue Cleaning: 79.75% of the population has a tongue cleaning habit, with 41.25% using the back of their brush and 41.0% using a scraper.

Mouthwash and Floss: Daily mouthwash usage was reported by only 23.25% of participants ($p=0.0441$). While 80.50% were aware of dental floss, the data suggests it is not a primary tool for most.

Awareness and Professional Care

A high level of awareness was recorded regarding the "ill effects" of poor oral hygiene (87.0%), which was statistically significant ($p=0.0093$). However, dental visit frequency remains moderate, with 62.5% visiting a dentist once per year.

The findings of this study suggest a high level of general awareness but a moderate level of practical application. For instance, while the "ill effects" of poor hygiene are known to 87% of the group, only half of the participants adhere to the recommended twice-daily brushing habit.

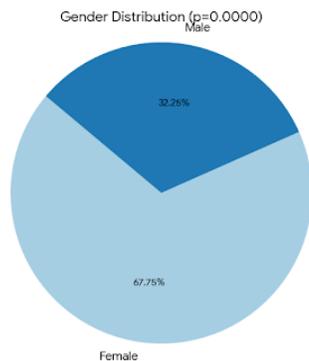


Figure 1: Among the study participants, 67.75% were female and 32.25% were male. The higher proportion of female participants suggests greater representation of women in the study sample.

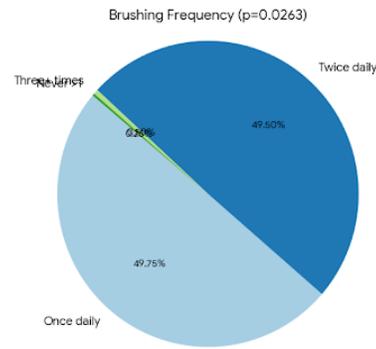


Figure 2: Regarding oral hygiene practices, 49.75% of participants reported brushing once daily, while 49.50% brushed twice daily. A very small proportion reported brushing three times daily (0.25%) or never brushing.

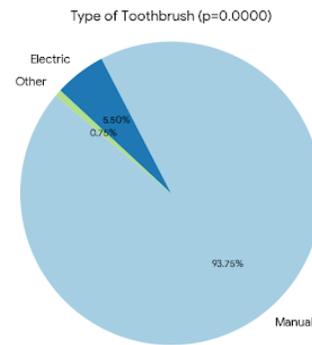


Figure 3: Most participants (93.75%) used a manual toothbrush, while 5.50% used an electric toothbrush and 0.75% used other types.

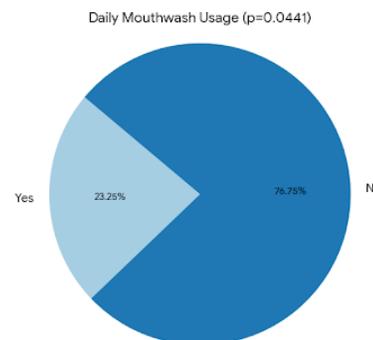


Figure 4: With respect to adjunctive oral hygiene measures, 23.25% of participants reported using

mouthwash daily, whereas 76.75% did not use mouthwash regularly.

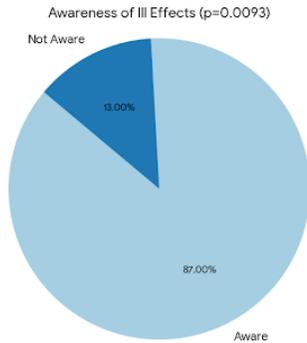


Figure 5: A high proportion of participants (87.0%) were aware of the ill effects associated with poor oral hygiene or related risk factors, while 13.0% were not aware.

The preference for soft bristles (55%) is a positive trend, as it reduces the risk of gingival recession. However, the low adoption of daily mouthwash (23.25%) and the high reliance on manual brushes suggest that traditional methods still dominate the cultural landscape of oral care. Similar to previous studies, there remains a "knowledge-practice gap" where participants understand the risks of poor hygiene but do not fully utilize all available preventive tools, such as dental floss or biannual professional cleanings.

IV. DISCUSSION

The findings of the present study align with previously published research assessing oral hygiene awareness among undergraduate populations. ⁶ Brushing frequency remains a primary indicator of oral hygiene behaviour. Previous studies have reported better compliance with twice-daily brushing among dental students compared to non-dental students. ^{7, 8} Although awareness of the oral-systemic health relationship is relatively high, adherence to optimal preventive measures does not always reflect this knowledge. This highlights the persistent knowledge-practice gap reported in oral health behavioural research. ² Interdental cleaning practices continue to demonstrate limited compliance. Even among dental students, regular floss use remains low despite awareness of its benefits. ⁸ Similarly, adjunctive measures such as mouthwash usage are inconsistently

practiced. Professional education improves awareness; however, daily use of preventive aids remains suboptimal. ⁴ Overall, while awareness levels are encouraging, behavioural adherence requires further reinforcement through structured educational programs and motivational strategies. ¹

V. CONCLUSION

The study provides insight into oral hygiene awareness and practices among college students in Tamil Nadu. Although awareness of the consequences of poor oral hygiene is high, practical implementation—particularly twice-daily brushing and use of interdental aids—requires improvement. Educational programs should focus not only on theoretical knowledge but also on practical behavioural reinforcement to promote sustained oral hygiene practices.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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ETHICAL CLEARANCE

Ethical approval was obtained from the Institutional Ethical Committee of RVS Dental College and Hospital. Informed consent was obtained from all participants prior to data collection.

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