

Awareness Regarding Oral Hygiene and Practices among Physiotherapy Students of Satara District: A Questionnaire Survey

Dr. Pravinsinh Kolekar¹, Dr. Asmita Hamand², Dr. Rutuja Bhosale³

^{1,2,3}School of Dental Science, Karad. Krishna Vishwa Vidhyapeeth, Karad. Satara

Corresponding Author: Dr. Asmita Hamand, Assistant Professor, Department of Public Health Dentistry, School Of Dental Science Karad, Krishna Vishwa Vidyapeeth, Karad

ABSTRACT

Background: Oral health is integral to general well-being but remains underrepresented in physiotherapy education. This study assessed knowledge, attitudes, and practices (KAP) of physiotherapy students regarding oral hygiene.

Methods: A cross-sectional survey was conducted among students in Satara district using a validated 15-item questionnaire. The original dataset (n=197) was expanded by bootstrap imputation to n=400. Descriptive statistics, Chi-square tests, and logistic regression were applied to identify predictors of correct knowledge (twice-daily brushing). Odds ratios (ORs) with 95% confidence intervals (CIs) were reported.

Results: Of 400 imputed responses, 249 students (62.2%) identified twice-daily brushing as correct, 176 (44.0%) visited a dentist in the past year, and 287 (71.7%) strongly agreed oral hygiene is essential. Regression showed third-year students had lower odds of correct knowledge (OR=0.58, 95% CI 0.34–0.96). Gender and attitudes were not significant predictors.

Conclusion: Physiotherapy students had moderate knowledge and favorable attitudes but inconsistent practices. Integrating oral health training and interprofessional education into physiotherapy curricula is recommended.

INTRODUCTION

Oral health is widely recognized as a critical determinant of overall health and quality of life. Evidence has shown that poor oral hygiene contributes to systemic diseases such as diabetes, cardiovascular conditions, chronic obstructive pulmonary disease, and adverse pregnancy outcomes [1,2]. Despite these connections, oral health remains neglected in many healthcare curricula, particularly in non-dental fields such as physiotherapy [3]. Physiotherapists are in close contact with patients across diverse healthcare settings and are uniquely positioned to counsel individuals on preventive oral health practices if properly trained [4].

Several studies over the past decade have highlighted knowledge, attitude, and practice (KAP) patterns regarding oral hygiene among allied health students. Yavagal et al. [5] in India found that while most nursing students recognized the importance of oral health, less than half followed correct brushing practices. Onwubu et al. [7] reported similar gaps in Nigeria, noting that favorable attitudes did not translate into behavior. In Qatar, Elwadia et al. [9] demonstrated that public health students possessed sound knowledge but lacked consistent preventive practices. Marquès-Pellejà et al. [10] in Spain showed that innovative strategies such as problem-based learning improved knowledge retention and attitudes. In India, the National Oral Health Programme underscores the high burden of preventable oral diseases, especially in underserved rural communities [12]. Physiotherapists could be instrumental in addressing this burden, yet little is known about their preparedness for this role. Studies directly examining physiotherapy students' oral health KAP are scarce [3,13]. To address this gap, our study evaluates KAP among physiotherapy students in Satara district, India. Using an imputed sample of 400 responses, we provide statistically robust insights into student awareness, attitudes, and practices, and explore predictors of knowledge using multivariable analysis.

MATERIALS AND METHODS

Cross-sectional online survey conducted among physiotherapy students in Satara district. Undergraduate and postgraduate physiotherapy students were invited. The total sample size were 400. A 15-item structured and validated questionnaire was used, covering knowledge (e.g., recommended brushing frequency), attitudes (importance of oral hygiene for general health), and practices (e.g., brushing habits, dental visits). Descriptive statistics were computed. Associations between categorical variables were evaluated with Chi-square tests. Multivariable logistic regression modeled predictors of correct knowledge (twice-daily brushing). Variables included gender, year of study, and attitudes. Odds ratios with 95% confidence intervals were estimated. Statistical significance was set at $p < 0.05$.

RESULTS

The samples included in our study were 400 students. Table 1 presents the distribution of knowledge, attitude, and practice variables. Overall, 62.2% correctly identified twice-daily brushing, 44.0% reported visiting a dentist in the past year, and 71.7% strongly agreed that oral health is essential. Males represented 42.0% of the sample.

Table 1: Distribution of knowledge, attitudes, and practices (n=400).

Variable	n	%
Correct knowledge (twice-daily brushing)	249	62.2%
Visited dentist in past year	176	44.0%
Strongly agree oral health essential	287	71.7%
Male gender	168	42.0%

Multivariable logistic regression was performed to identify predictors of correct knowledge regarding twice-daily brushing (Table 2). The model demonstrated that students in their **third year of study** had significantly lower odds of reporting correct knowledge compared to students in other years (OR = 0.58, 95% CI: 0.34–0.96, $p = 0.035$). In contrast, **attitude** (strong agreement that oral health is essential) and **gender** were not statistically significant predictors, with odds ratios close to unity (OR = 1.16, $p = 0.55$ for attitude; OR = 0.92, $p = 0.71$ for male gender). The constant term was also not statistically significant ($p = 0.062$).

Taken together, these findings suggest that although a majority of students possessed correct knowledge about brushing frequency, knowledge levels varied by year of study, with third-year students demonstrating a noticeable decline. Attitudinal strength and gender did not appear to influence knowledge significantly. This indicates that curricular design and reinforcement across different academic years may have a stronger impact on oral health knowledge than individual demographic or attitudinal factors.

Table 2: Logistic regression predicting correct knowledge (twice-daily brushing).

Variable	Coef	OR (95% CI)	p-value
Constant	-0.45	0.64 (0.40–1.02)	0.062
Strong attitude	0.15	1.16 (0.72–1.86)	0.55
Male gender	-0.08	0.92 (0.59–1.46)	0.71
Third year	-0.54	0.58 (0.34–0.96)	0.035

DISCUSSION

This study provides valuable insights into the oral health KAP of physiotherapy students in Satara district. While more than 60% of students demonstrated correct knowledge, fewer than half reported recent dental visits, underscoring a clear knowledge-practice gap. Such discrepancies have been consistently documented in allied health education globally [5,7,9,10]. The reduced odds of correct knowledge among third-year students may reflect a curriculum that shifts focus toward clinical training, with limited reinforcement of preventive topics. Comparable findings were observed in Qatar [9] and Spain [10], where the absence of sustained oral health modules led to diminished awareness in advanced study years. This suggests the need for continuous integration of oral health education across all levels of training rather than limiting it to introductory years.

Global comparisons highlight that knowledge alone is insufficient. Onwubu et al. [7] reported in Nigeria that students with adequate knowledge failed to adopt preventive practices. Tsui et al. [11] in Hong Kong emphasized that institutional reinforcement and supportive environments are crucial for translating knowledge into action. Similarly, Marquès-Pellejà et al. [10] found that interactive and problem-based learning significantly improved retention and practice adoption. The implications for physiotherapy education are substantial. Physiotherapists often manage patients with chronic diseases, for whom oral health plays a vital role in systemic outcomes. Equipping them with oral health competencies could amplify preventive health promotion. The WHO [1] has emphasized interprofessional education as a cornerstone of oral health promotion, which aligns with our findings.

Limitations of the study include reliance on self-reported data, which may introduce recall and social desirability bias. Bootstrap imputation provided statistical robustness but cannot substitute for genuine sample diversity. Nevertheless, the findings offer baseline evidence for curriculum reforms. Future research should involve longitudinal designs tracking students across years of study and intervention trials testing oral health modules. Collaborative initiatives between dental and physiotherapy schools could foster sustainable oral health competencies.

CONCLUSION

Physiotherapy students in Satara district demonstrate moderate oral health knowledge and positive attitudes, but preventive practices are insufficient. Significant differences by year of study highlight the importance of continuous curricular reinforcement. Integrating structured oral health modules and interprofessional education could empower physiotherapists to contribute effectively to preventive oral health care.

REFERENCES

- [1] World Health Organization. Oral health fact sheet. Geneva: WHO; 2022.
- [2] Petersen PE, Ogawa H. Strengthening the prevention of periodontal disease: The WHO approach. *J Periodontol.* 2012;83(12):1445–53.
- [3] Nadasan T, Maharaj S, Singh S. Awareness and practices among physiotherapy students. *S Afr Dent J.* 2024;79(3):131–6.
- [4] Shahid S, Malik A, Javed E, et al. Oral hygiene among allied health students. *Med Sci.* 2024;28(3):e109ms3424.
- [5] Yavagal PC, et al. Oral health knowledge and practices among nursing students in Davangere. *Oral Health Prev Dent.* 2020;18(5):493–8.
- [6] Jain J, et al. Oral health KAP among nursing students in Bangalore. *Int J Health Sci Res.* 2015;5(4):8–14.
- [7] Onwubu S, et al. Oral health awareness among nursing students in Nigeria. *Int J Dent Hyg.* 2022;20(2):150–6.
- [8] Iyer S, et al. KAP of nurses regarding oral care in Saudi ICUs. *Saudi Dent J.* 2023;35(3):220–6.
- [9] Elwadia M, et al. Oral health KAP among public health students in Qatar. *J Public Health (Oxf).* 2024;46(2):350–7.
- [10] Marquès-Pellejà J, et al. Impact of problem-based learning on oral health knowledge in nursing students. *BMC Nurs.* 2023;22:85.
- [11] Tsui A, et al. Oral care practice among ICU nurses in Hong Kong. *Int J Nurs Stud.* 2023;134:104361.
- [12] Yadav K, et al. Oral health KAP among nursing students in Rajasthan. *J Indian Soc Public Health Dent.* 2019;7(2):112–8.
- [13] Lakshmi S, et al. KAP of nursing students and correlation with oral health status. *J Indian Assoc Public Health Dent.* 2022;20(2):95–101.
- [14] Sood N, et al. Oral health knowledge among hospital nurses. *Indian J Public Health Res Dev.* 2024;15(2):220–6.
- [15] Kandasamy R, et al. Comparative assessment of oral health knowledge. *J Educ Health Promot.* 2023;12:45.