Original Article | Open Access

KNOWLEDGE AND PRACTICE OF INTERDENTAL AIDS AMONG UNDERGRADUATE MEDICAL STUDENTS OF LARKANA: A QUESTIONNAIRE-BASED STUDY

[1*]Abdul Latif, [1]Shafique Ahmed, [1]Rahul Kumar, [1]Muhammad Tayyab

[1]3rd Year BDS Student, Bibi Aseefa Dental College, SMBBMU, Larkana, Sindh

***Corresponding Author:** Abdul Latif (abdullatif7262@outlook.com)

Cite this article:
Latif A, Ahmed S, Kumar R, Tayyab M. Knowledge and Practice of Interdental AIDS among Undergraduate Medical Students of Larkana: A Questionnaire Based Study. AJMAHS. 2024; 2(2):32-37.

ABSTRACT

Objective:

The objective of this research was to evaluate Knowledge and Practices of Interdental aids among undergraduate medical students of Larkana.

Methodology:

A Cross-sectional Questionnaire based study was carried out in medical student so of Chandka medical college Larkana. Total 343 medical undergraduate students participated in this study. Data was collected by self-structured close ended questionnaire with the help of online Google workspace. Data were entered and processed using the SPSS V.23.0.

Results:

The average age was 21.01±.1.39. Males and females were 71.4% and 28.6% respectively. Knowledge about Interdental aids was responded by 70%. Daily practice was responded by 43%.

Conclusion: The knowledge is adequate but practice of using the interdental aids is not adequate being the medical professional students.

Key words: Interproximal aids, medical students, oral hygiene, Dental tape, Periodontal Disease

Introduction

Oral health has a major impact on one's physical, emotional, and social well-being, making it an essential part of overall health[1]. The two most common oral diseases in the world are dental caries and periodontal disorders, such as gingivitis and periodontitis. The main causes of its widespread incidence are inadequate oral health education and inadequate oral hygiene[2,3].

It is crucial for medical undergraduates to comprehend and adhere to good oral hygiene. It is required of them as aspiring healthcare workers to have a deep awareness of health[4]. Maintaining healthy teeth and gums requires practicing good oral hygiene, which includes utilizing interdental brushes, dental floss, and toothpicks in addition to a toothbrush. By using these techniques, food particles and plaque are removed from hard-to-reach places that a toothbrush cannot[5].

Periodontitis is primarily caused by bacterial plaque, according to epidemiological surveys[6]. Furthermore, it is well established that gingivitis is more prevalent and severe in the interproximal areas[7], which are typically hard to reach with a toothbrush. Although using a toothbrush correctly can help prevent gingivitis on the buccal and lingual surfaces, it is not very successful in cleaning the interdental regions on its own[8].

Despite advancements in many Western countries, concerns have been expressed over the deterioration of oral health in many wealthy nations[9]. It is still best to visit the dentist on a regular basis and maintain proper oral hygiene in order to prevent periodontal disorders[10,11].

Oral prophylaxis, interdental cleaning tools, brushing, and flossing are examples of mechanical oral hygiene practices. These techniques take time, though, and each person's technique and ability level will determine how successful they are[12]. Plaque control is especially difficult in interdental areas, where periodontitis advances more quickly[13].

Despite the importance of interdental aids in maintaining oral health, there is often a gap in both knowledge and practice among undergraduate medical students. This gap can be attributed to heavy academic loads, stress, and a potential lack of emphasis on oral health education[5,14,15]. Understanding the current knowledge and practices of these students regarding interdental aids is essential for identifying educational gaps and improving their oral health education. This study aims to evaluate the knowledge and practices of interdental aids among undergraduate medical students at Chandka Medical College Larkana. The knowledge, attitude, and behavior of medical professionals towards oral hygiene measures could serve as important motivational and educational tools for patients seeking medical treatment.

Materials and Methods

The ethical approval was sought from the committee of University. The written informed consent was obtained from each student. The data was collected from undergraduate medical students of Chandka medical college Larkana. This study was conducted from 28-02-2024 to 06-03-2024. Sample size was calculated using Raosoft online calculator and total sample size calculated was 343. The method of selection of students was non-probability convenience sampling technique. Non-willing undergraduate medical students and students from other departments like Dentistry, Physiotherapy, Pharmacy and Nursing were not included in this study. Data was collected by self-structured close ended questionnaire made on google work space and distributed through WhatsApp for data collection. For data analysis SPSS version 23 for windows was utilized. Questionnaire consist of Qualitative variables (Gender, Level of Education, Knowledge status, Source of knowledge, Type of Interdental aids and their Daily usage) was calculated by Frequency and Percentage. Quantitative variable (Age) was calculated by Mean and Standard deviation.

Results

The mean age of the participants was 21.06 years with a standard deviation of 1.39 (Table 1). The gender distribution showed that males comprised 71% of the participants, while females made up 29%. The distribution of medical undergraduates across different academic years is detailed in Table 1. Regarding economic status, 33% of the participants reported a family income exceeding one lac per month (Table 2). Knowledge about interdental aids was demonstrated by 70% of the participants. The sources of this knowledge varied, with advertisement being a most cited source at 47% followed by dentists at 35%, and friends at 17% (Table 3).

In terms of daily practice, 43% of the participants reported regular use of interdental aids (Table 4). The types of interdental aids commonly used included toothpicks, at 47%, and dental floss, at 36% (Table 4). There was a statistically significant difference in the knowledge of interdental aids between genders, with a p-value of 0.001.

Table 1: Descriptive statistics of Age

Age in years	N	Minimum	Maximum	Mean	SD
	343	18	24	21.01	1.391

Table 2: Descriptive statistics of Demographic variables

Characteristics	Frequency	Percentage
Gender		
Male	245	71.4
Female	98	28.6
Academic year		
1st Year	56	16.3
2nd Year	119	34.7
3rd Year	106	30.9
4th Year	55	16.0
Final Year	7	2.0
Socio-Economic status (SES)		
Less than 50000	97	29.3
Less than 100000	131	38.2
More than 100000	115	33.5
Total	343	100.0

Table 3: Descriptive statistics of Source of knowledge

Characteristics	Frequency	Percentage
Dentist	86	35.83
Advertisement	113	47.08
Friends	41	17.08
Total	240	100.0

Table 4: Descriptive statistics of Daily practice

Characteristics	Frequency	Percentage
Yes	146	42.6
No	197	57.4
Total	343	100.0

Table 5: Descriptive statistics of Type of interdental aid used

Characteristics	Frequency	Percentage
Dental floss	52	35.61
Tooth picks	69	47.26
Interdental brush	25	17.12
Total	146	100.0

Table 6: Knowledge of Interdental aids among gender

Gender	Knowledge of Interdental aids		Total	P-Value
	Yes	***No***		
Male	160	85	245	0.001
	66.4%	83.3%	71.4%	
Female	81	17	98	
	33.6%	16.7%	28.6%	
Total	241	102	343	
	100.0%	100.0%	100.0%	

Discussion

Periodontitis is primarily caused by bacterial plaque, according to epidemiological surveys[16]. Furthermore, there is strong evidence that gingivitis is more prevalent and severe in the interproximal areas. To treat and prevent gingivitis and periodontitis, interdental cleaning is advised using dental floss, toothpicks, and single tufted brushes, among other instruments[17].

The present study reported that knowledge status on interdental aids among medical students was found to be fair which is in agreement with the findings of Pallavi K et al[18] who showed that 65.3% of medical students knew the importance of interdental oral hygiene maintenance.

In this study the daily practice of any of the interdental aids was reported as 43% which is in contrast with the study results of Riaz F et al[19] in 2023 who reported that 57% of medical students were using the interdental aids to clean the interproximal surfaces

In this study the type of interdental aids was used as tooth picks (47%) followed by Dental floss (36%) and interdental brush (17%), these findings are comparable with the study results of Riaz F et al[19] where they have observed as Toothpicks (47%) followed by dental floss (25%) were the common interdental aids used by the respondents to clean the interproximal area. This similarity could be attributed to the fact that both groups belong to the same demographic and are well-versed in maintaining proper dental hygiene.

Additionally, the current study revealed a significant relationship between gender and awareness of interdental aids, which is consistent with the findings of Riaz F et al[19]. Boys outnumbered girls in our study, while girls were found to be more concerned with maintaining oral hygiene in a study by Vandana et al[20], This might be because girls experience greater stress from their academic obligations.

Conclusion

The knowledge is adequate but practice of regular usage is not adequate being the health professionals of a medical university. The health education program regarding interdental cleansing aids are necessary to create awareness and adequate training at beginners level is also essential to improve their knowledge about maintain good oral hygiene.

References

1. Vaish S, Ahuja S, Dodwad V. A comparative evaluation of oral hygiene practices and periodontal status among dental and paramedical students: An epidemiological survey. Journal of Indian Dental Association. 2010; 4:343-346.
2. Vandana KL, Mahajan N, Savitha B. Knowledge, attitude and practices of interdental aids among medical professionals in Davangere district, Karnataka. Journal of the International Clinical Dental Research Organization. 2015 Jan 1;7(1):39.
3. Claydon NC. Current concepts in toothbrushing and interdental cleaning. Periodontal 2000 2008;48: 10-22.
4. Wake up to prevention for the smile of a lifetime. J Am Dent Assoc 1988;116:3G, 6G-13G.
5. Beachier CE, Slot DE, Haps S, Van der Weyden GA. The efficacy of dental floss in addition to a tooth brush on plaque and parameters of gingival inflammation: A systematic review. Int J Dent Hygiene 2008; 6:265-79.
6. Lovdal A, Arno A, Waerhaug J. Incidence of clinical manifestation of periodontal disease in light of oral hygiene and calculus formation. J Am Dent Assoc 1958;56:21-33.
7. Loe H, Theilade E, Jensen SB. Experimental gingivitis in man. J Periodontol 1965;36:177-87.
8. Lindhe J, Koch G. The eff ect of supervised oral hygiene on the gingivae of children. J Periodontal Res 1967;2:215-20.
9. Barmes DE. International perspective for the fi rst quarter of twenty-fi rst century. Swed Dent J 1989;13:1-6.

10. Finkelstein P, Yost KG, Grossman E. Mechanical devices versus antimicrobial rinses in plaque and gingivitis reduction. Clin Prev Dent 1990;12:8-11.
11. Gift HC. Current utilization paĴ erns of oral hygiene practices: State-of-the-science review. In: Loe H, Kleinman DV, editors. Dental plaque control measures and oral hygiene practices. Bethesda: IRL Press; 1985. p. 39-71.
12. Claydon NC. Current concepts in toothbrushing and interdental cleaning. *Periodontol.* 2000;2008(48):10–22. [PubMed] [Google Scholar]
13. Gluch JI. As an adjunct to tooth brushing, interdental brushes (IDBs) are more effective in removing plaque as compared with brushing alone or the combination use of tooth brushing and dental floss. *J Evid Based Dent Pract.* 2012;12:81–3.
14. Peterson WA, Schiller WR. Unsupervised use of water spray device by naval personnel. J Periodontol 1968;39:335-7.
15. Johansen JR, Flotra L, Gjermo P. A clinical evaluation of the eff ectof Ascoxal T on plaque formation and gingivitis. Acta Odontol Scand 1970;28:661-77.
16. Dabelsteen I. Undersogekse over den tandbelagningsfjernende og pocherensende virkning af balneoterapeustik apparatur. Tandlagebladet 1964;68:107-115.
17. Waerhaug J. Prevalence of periodontal disease in Ceylon: association with age, sex, oral hygiene, socio-economic factors, vitamin deficiencies, malnutrition, betel and tobacco consumption and ethnic group final report. Acta Odontol Scand 1967;25(2):205-230.
18. Pallavi K, Das N, Mukherjee K, Dhanai A, Gera R. Knowledge and Attitude Among Dental And Medical Students About Interdental Oral Hygiene Maintenance..Eur. Chem. Bull. 2023,12 (issue 8), 6349-6355
19. Riaz F, Ehsan A, Umer N, Sahu EH, Raza A, Salahuddin MB. Awareness Regarding Usage of Interdental Aids and their Role in Oral Hygiene among Medical Undergraduates in District Sheikhupura, Pakistan-A Questionnaire-Based Study. Pakistan Journal of Medical & Health Sciences. 2023 Apr 18;17(03):244-.
20. Vandana KL, Mahajan N, Savitha B. Knowledge, attitude, and practices of interdental aids among medical professionals in Davangere district, Karnataka. Journal of the International Clinical Dental Research Organization. 2015 Jan 1;7(1):39.