

A knowledge, attitude and practices study regarding interdental cleaning aids among dentists of Saurashtra region in Gujarat

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Abstract

Objectives: To evaluate the knowledge, attitude, and practices regarding interdental cleaning aids among dentists in Saurashtra region, Gujarat.

Materials and method: An online structured survey composed of 20 questions which were sent to all the dentists including all the private practitioners faculties, postgraduate students and interns of dental colleges.

Results: Total 200 dentists with 73 % females and 27% males were participated in the study. Overall, 71% of dentists have good knowledge regarding interdental aids and 78% dentists have positive attitude towards it whereas 61% respondents use and advise interdental aids in their practice.

Conclusion: Compromised regular use of interdental aids should focus to conduct mass educative programs

providing information regarding different interdental aids.

Keywords: Interdental aids, Mass educative programs, Practice

Introduction

Dental plaque is structured resilient yellow –grayish substance that adheres tenaciously to the intraoral hard surface which is considered the principal etiological agent in periodontal disease. Accumulation of dental plaque leads to gingivitis and further periodontitis if not treated¹.

It has been demonstrated that periodontal disease starts from interproximal areas and it is recognized to progress faster interdentally. So, adequate plaque control measures required to maintain periodontal health².

Oral hygiene is important for preservation of oral health, so microbial plaque must be prevented and removed from accumulating on teeth and gingival tissues with the use of various mechanical plaque control agents³.

Today, the most common method of mechanical plaque control is toothbrush. A systemic review by Van der Weijden et al found that in adults with gingivitis, self-performed mechanical plaque removal with manual toothbrush was not significant because brushing alone is not sufficient to clean interdental areas as they present highest risk of plaque accumulation⁴.

Hence interdental aids must be used such as dental floss, interdental brush, toothpick and oral irrigators along with toothbrush for overall gingival health⁵.

Dentists are aware of the significance of oral hygiene aids but in daily practice they are not advised to every patient in dental practice⁵. Considering the oral self-preventive attitudes, little information exists about daily hygiene behavior or preventive professional advising compliance of dentists in Saurashtra region⁶

There is necessity to know the factors which affect the prescription of interdental aids

Materials and methods

The study population consisted of 200 dentists of Saurashtra region in Gujarat which included all the private practitioners, faculties, post graduate students and interns of dental colleges. The study was presented in the form of online questionnaire form, which included items designed to evaluate knowledge, attitude and practice among dental professionals and students regarding the interdental aids' use and their oral health practices. The questions were grouped into different categories and subcategories as follows

- a) Six questions assessed knowledge about interdental cleaning aids
- b) Attitude of the dentists toward the use of interdental cleaning aids consist of six questions
- c) Eight questions measured the practices being followed by the dentists themselves

Participation was voluntary. Demographic information was obtained including age and gender. The data were collected during a period of 3 months

Results

Knowledge domain

84.7% of dentists in Saurashtra region were aware of all the interdental cleaning aids .81.8% of the dentists recommended dental floss for intact interdental papilla, and 54.7 % and 59.3% of dentists recommend interdental brush for moderate papillary recession and complete loss of papilla respectively.

77% of dentists knew both the methods of dental flossing and 68.2% of the respondents thought that most widely used interdental cleaning aid is dental floss.

Overall,71% of dentists have appreciable knowledge regarding interdental aids which needs to be enhanced

more by educating oral hygiene at primary level (figure 1)

Attitude domain

98.7% dentists have positive attitude towards the importance of interdental cleaning aids .65.3% dentists opined that there is patient compliance in the use of these aids. 60.2% dentists thought that floss induced injuries would not outnumber its benefits.

96.2% dental practitioners believe in motivating the patients regarding its use in dental practice and 97.9% dentists agreed that it is important to know about the type of embrasure before prescribing.

47.9% dentists stop flossing if their gums bleed during flossing.

Overall,78% dentists have positive attitude towards use of interdental aids (figure 2)

Practice domain

18.2% dentists do not use interdental cleaning aid at all ,35.2% of them use interdental cleaning aids once a week 30.1 % use them more than once daily.

16.1 % of dentists use daily and 95 % of dentists prescribe interdental cleaning aids to their patients.

62.7% dentists came across floss injuries in their practice. 94.9% of dentists help patients in choosing these aids.

70% respondents' advice tufted dental floss in partial denture, abutments and orthodontic appliances and only 45.8% of dentists recommend water pik to their patients. Overall, 61% respondents use and advise interdental aids in their practice.

Fig. 1: Knowledge of dentists regarding interdental cleaning aids in Saurashtra region.

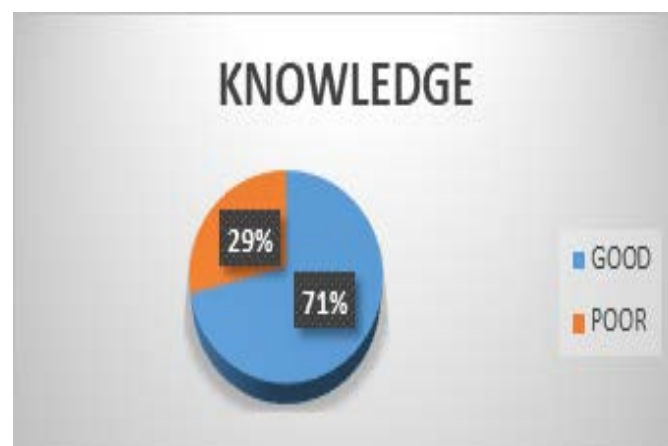


Fig. 2: Attitude of dentists regarding interdental cleaning aids in Saurashtra region.

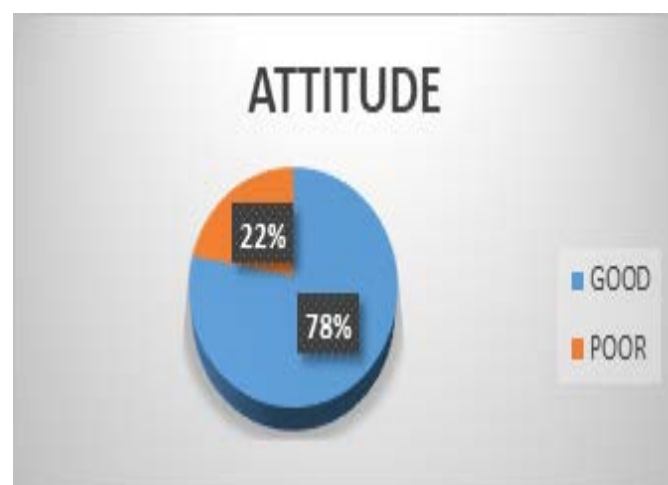


Fig.3: Self-reported practices of dentists regarding interdental cleaning aids in Saurashtra region.



Discussion

Interdental gingiva fills the embrasure between two teeth apical to their contact point. This is an area that is

difficult to clean when teeth are in their normal positions due to which its use is ignored by general population. It is the actual site of residual plaque formation which causes initiation of gingival and periodontal disease due to its non-keratinized nature⁷.

Due to periodontal disease, the position of interdental papilla recedes from its normal position. Nordland and Tarnow in 1998 have given classification of embrasure as follows⁸

Type I-The gingival papilla fills up the embrasure space completely.

Type II-The gingival papilla partially fills up the space due to papillary recession.

Type III- The embrasure space is not filled. The gingival papilla has receded extensively or it is completely lost⁸
Hence the main objective becomes removal of the plaque deposits from these surfaces.

Interdental devices are used for cleaning interproximal surfaces to maintain over-all gingival health. Commonly used interdental aids are dental floss interdental brush, rubber tips, wooden toothpicks and oral irrigators.

Dental floss is the most widely recommended tool for removing biofilm from proximal tooth surfaces in type I embrasure⁹. Dental floss is available in various forms a) Waxed / Non waxed b) Orthodontics floss with holder c) Material- silk, nylon, expanded Polytetrafluoroethylene d) Twisted/non-twisted e) Thick/thin f) Bonded / Non bonded³. For type II embrasure the most effective plaque biofilm removal method for interdental areas, where the papilla does not completely fill the space, is the use of interdental brushes¹⁰ whereas for type III embrasure, single tufted brush clean efficiently in interproximal spaces with no papillae¹¹

Rubber tips are also used for cleaning debris from interdental areas and biofilm removal at and just below gingival margin¹²

Oral irrigators also remove non adherent bacteria and debris from the oral cavity more effectively than toothbrushes and mouthrinses. They are particularly helpful for removing debris from inaccessible areas around orthodontic appliances and fixed prostheses. When used as adjuncts to tooth brushing and interdental cleaning, these devices can have a beneficial effect on periodontal health by reducing the accumulation of microbial plaque biofilm¹³

So many instruments are required for proximal cleaning and recommendation is on basis of size of interdental space, root surface concavities, presence of furcation, tooth alignment and –presence of orthodontic appliances and- fixed appliances¹⁴

In recent times that there has been an increase in the interest focused on the knowledge and behavior associated with oral hygiene¹⁵. So, to evaluate knowledge, attitude and practice regarding use of interdental aids this study is carried out which consisted of online questionnaire form sent to all dentists practicing in Saurashtra region Gujarat.

Out of 6 knowledge-based questions, question 1 had maximum-correct response (84%) and question 3 had least correct response (54.7) (Figure 1)

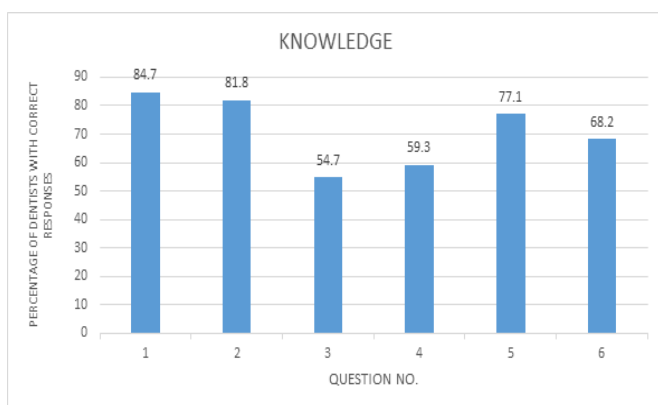
Similarly with attitude-based questions out of 6, question 1 has maximum correct response and question 6 had least correct response. (Figure 2)

And out of 8 practice-based questions, question 3, 7 and 8 had least correct response i.e., 16.1%, 45.8% and 31.8% respectively. (Figure 3)

This depicts that knowledge of dentists regarding interdental cleaning aids is favorable and also the attitude towards use of these aids is positive but its implementation in day-to-day life by dentists as well as general population was compromised.

Baseline information on oral health associated with preventive procedures is prerequisite to promote self-preventive behavior. This latter includes many factors such as adequate diet, consistent modalities of oral hygiene and life style and compliance towards professional counselling and care. Continuing education through oral health awareness programs and adequate training at undergraduate and post graduate level is necessary to enhance its practice¹⁶. It is also imperative that schools should work upon conducting workshops to promote use of interdental cleaning aids along with toothbrush and to make them aware about their significance in maintaining oral health integrity¹⁶.

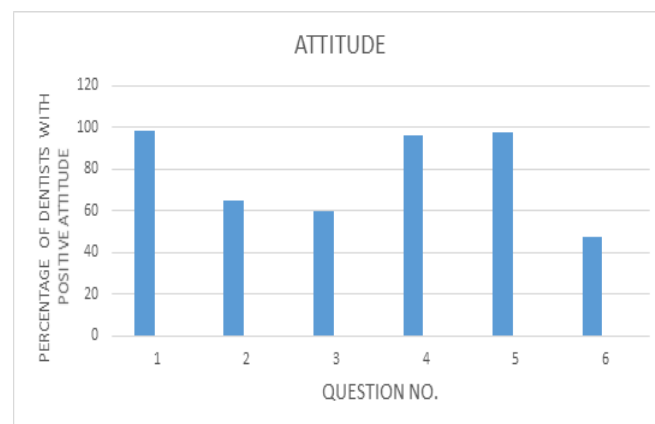
Figure 4



Questions	Options
1.What all interdental cleaning aids you are aware about?	a) Interdental brush b) Dental floss c) Toothpick d) Waterpik
2. Recommended interdental cleaning method for intact interdental papillae/narrow interdental space is use of	a) Interdental brush b) Dental floss c) Toothpick d)Any other

3.Recommended interdental cleaning method for a moderate papillary recession is	a)Interdental brush b) Dental floss c) Toothpick d) Anyother
4.Recommended interdental cleaning method for a complete loss of papilla is	a) Interdental brush b) Dental floss c) Toothpick d)Anyother
5.Methods of dental flossing	a) Spool method b) Loop method c) Any other
6.Most common/widely recommended interdental cleaning method	a) Interdental brush b) Dental floss c) Toothpick d) Waterpik

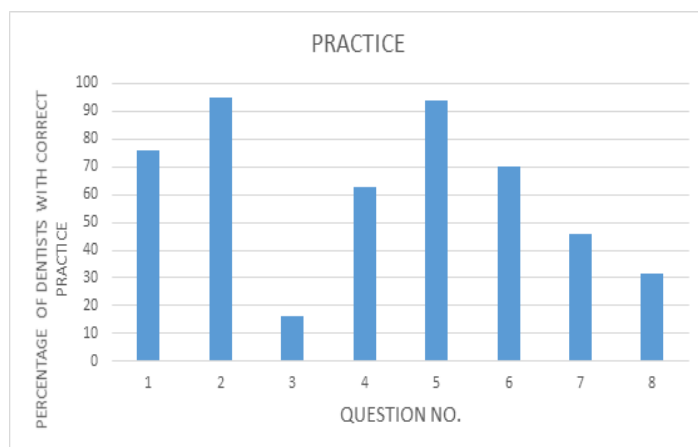
Figure 5



Questions	Options
7. Do you think interdental cleaning is important for good gingival and periodontal health?	a) Yes b) No
8. Do you think there is patient compliance in the use of interdental cleaning aid?	a) Yes b) No

9. Do you think floss-induced injuries outnumber its benefits?	a) Yes b) No
10. Do you think motivating the patients regarding the use of interproximal cleaning aids has any positive impact in the dental practice?	a) Yes b) No
11. Do you think it is important to know about the type of embrasure before prescribing the interdental cleaning aid?	a) Yes b) No
12. Will you stop flossing if your gums bleed after/during flossing?	a) Yes b) No

Figure 6



Questions	Options
13. Do you use interdental cleaning aids?	Yes No
14. Do you advise interdental cleaning to your patient?	Yes No
15. How often do you use interdental cleaning aids?	Never Once a week More than once a week Daily
16. Do you come across floss injuries in your practice?	Yes No

17. Do you help your patients to choose the appropriate interdental cleaning aid?	Yes No
18. Do you advise tufted dental floss in partial denture, distal and mesial abutment, and orthodontic appliances?	Yes No
19. Do you recommend waterpik to your patients?	Yes No
20. Most common interdental aid practiced by your patient	Toothpick Floss Interdental brush Waterpik

Conclusion

Interdental cleaning aids play significant role in optimizing oral health and preventing oral disease.

This study revealed that dentists of Saurashtra region, Gujarat, possess favorable knowledge, and positive attitude towards use of interdental aids but their compromised practice needs to be evaluated. Routine use of interdental aids to promote oral hygiene measures is still lacking behind. Further studies should be directed to assess oral hygiene of those who use toothbrush alone and combination of tooth brush along with interdental aids. This would make not only dentists, but also general population enlightened about the recommendation of these interdental aids regularly. To conclude, various comprehensive oral health programs must be carried out to encourage use of interdental cleaning aids.

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