



Oral Hygiene Practices Among Dentists, Their Family Members And Dental Personnel In Western Part Of India

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Abstract

Background: Oral health is an integral part of overall health and well being. This study aims to evaluate dental health practices among dentists and dental personnel, as they represent the basic element in dentistry.

Materials and methods: It is a descriptive cross-sectional questionnaire based survey. The questionnaire is interrogation of oral hygiene practices and knowledge among dentist and dental personnel. The questionnaire was formed using format of google form. The responses were collected through google form online and data will be stored in Microsoft Excel which will be analyzed using SPSS software.

Result: The difference in frequency of cleaning among dentist, dental personnel and the relatives of dentist is significant. Maximum dentists (54.08%) and dental personnel (53.21%) used circular technique whereas maximum relatives of dentist (42.85%) used horizontal technique. Most dentists (48.79%) and dental personnel (42.20%) use combination of forms of sugar whereas, most relatives of dentists (42.87%) intake sugar in solid form.

Conclusion: Majority of the dentist perform two times brushing, gargling after meal and follow circular method of cleaning. While, efforts ought to be made to indorse good oral hygiene habits amongst dental personnel.

Keywords: Oral health, Dentist, Oral hygiene practice, dental personnel

Introduction

Oral health is an essential component of overall health of an individual's life. Occurrence of oral diseases can be prevented by good oral hygiene practices. Dentist and dental students has an important role in oral health education for their patients, families and friends. However, the aim of this study is to understand oral health practices of dentists and dental personnel.

For propagating importance of oral hygiene the oral self practices of dental students, dentists and dental personnel allow them to become a role model to their

society. Good oral hygiene is a necessity and if failed to execute it properly various oral health problems can occur for example, dental caries, periodontal diseases, malocclusion and oral cancer. Education can cause drastic changes in maintenance of oral hygiene as they show more responsibility towards eating habits as well as performing necessary oral hygiene routines. They are generally more aware of the consequences of poor oral hygiene habits and good oral hygiene habits.

Oral health affects an individual's oral functions and social interactions, and it is closely linked to overall health and quality of life. [1,2,3] Poor oral hygiene will eventually cause the initiation of dental caries, plaque formation, periodontitis, oral malodor, wasting diseases which is also related to various systemic diseases. Many of these oral diseases are preventable through education about risk factors. Oral hygiene is a critical factor in maintaining good oral health, and subsequently is related to overall health and quality of life. Most effective method for preventing dental caries or periodontitis is the removal of dental plaque by regular and proper mechanical cleaning of the teeth, a key step in maintaining oral health. [4,5,6]

Studies have shown that brushing, particularly with fluoride toothpaste, reduces dental caries, [7] but the effect of oral hygiene on periodontitis has not been clearly demonstrated. [8] To improve oral health of the populations, WHO has set the promotion of self care as one of the goals for the year 2020 [9] Recommended oral self care (ROSC) includes tooth brushing more than once a day, lesser consumption of sugar containing snacks once daily or rarely and regular use of fluoride containing toothpaste. Since dentist are expected to be role models to their patients, evaluation of ROSC of dentists and dental personnel will provide an estimate of the extent to which they follow ROSC. [10]

Educating the patients, families, and friends majorly relies on the dentist and dental personnel. However, knowing their own behavior toward oral health is important for the dental care professionals who play a role as oral health educator. Hence, using multi-professional approach by considering comprehensive health-promoting strategies and practices needs considerations. [11]

Many studies about oral hygiene practices in dentists and dental personnel have been conducted among university students in different parts of India but this is the first such study conducted at the Goenka Research Institute of Dental Science, Gandhinagar, Gujarat. This study aimed to examine and assess oral health practices among dentists and dental personnel. It also aims to determine the difference in oral health knowledge of dentists and dental personnel.

Materials and Methods

It is a cross-sectional study conducted among dental professionals, other dental personnel and their relatives. This study was carried out with the aid of Google form and consists of 19 close-ended questionnaire. The Questionnaire was anonymously designed to assess oral hygiene practices, dietary habits and dental visits of the participants. The questionnaire was pilot tested prior to the study. This method was used to nullify the inaccuracy occurred from the conventional methods of survey

The study protocol was reviewed and ethical approval was taken by the ethical committee by Goenka Research Institute of Dental Science.

Total 581 participants responded with majority of Dentist (67.3%). The data was coded in Microsoft excel and later analyzed by using Statistical Package of Social Sciences (SPSS) software. Descriptive statistics and Chi-square test were applied for all the variables and level of significance was kept below 0.05.

Results

Total number of participants were 581, among which 416(71.3%) were dentists, 109(18.6%) were dental personnel and 56(9.6%) were relatives of dentist respectively.

573(98.6%) participants preferred brush and the remaining 8(1.4%) used fingers and this difference was significant.

Table I illustrates comparison of different categories of participation with respect to frequency of cleaning, time taken for cleaning & technique of cleaning. 66.10% and 32.69% dentists brushed twice and once a day respectively. Whereas 51.37% dental personnel and 35.71% relatives of dentists brushed twice a day. This difference in frequency of cleaning among dentist, dental personnel and the relatives of dentist is significant. Maximum dentists (54.08%) and dental personnel (53.21%) used circular technique whereas maximum relatives of dentist (42.85%) used horizontal technique. This difference is significant. Most of the dentists (57.45%) and relatives of dentist (60.71%) used soft bristles brush whereas most dental personnel (64.22%) used medium bristles brush for cleaning their teeth.

Table II depicts comparison of different categories of participants with respect to material used for

cleaning, type of tooth paste and amount of tooth paste used for cleaning. Most of the respondents use fluoridated toothpaste rather than non fluoridated toothpaste and ayurvedic toothpaste being used the minimum. Half length of brush covered by toothpaste is preferred by most of the respondents.

Table III shows comparison of different categories of participants with respect to preferred material to remove food lodgment, frequency of tongue cleaning and materials used for gargling. It has been found that most dentists (42.16%), relatives of dentists (42.85%) and dental personnel (44%) use nothing for cleaning food lodged in their teeth. Whereas 22.59% dentists use safety pins and 39.28% relative of dentist and 27.52% dental personnel use toothpick for removing food lodged in between teeth. Surprisingly, only 6% of dentists use floss to clean their teeth. Greater number of respondents clean their tongue daily, and use plain water for gargling.

Table IV presents comparison of different categories of participants with respect to frequency of sugar consumption, preferred time to eat sugar and form of sugar. Highest number of respondents consume sugar daily and during meal. Most dentists (48.79%) and dental personnel (42.20%) use combination of forms of sugar whereas, most relatives of dentists (42.87%) intake sugar in solid form.

Discussion

This study provides information about the oral hygiene practices among the Dentists, dental personnel and dental relatives. However, there is scarcity of such data among Gujarati population. So this study is performed to satisfy the need of data.

The evaluation of the result shows that there was difference in the oral hygiene practices among the dentist, dental personal and dental relatives. Developing countries show lack of awareness and poor oral hygiene habits among the large section of population, increasing the risk of oral health problems. Since dentists are expected to be role models to their patient, the evaluation of oral health behavior of dentists will invariably influence their advice to their patient in their oral self care practices.^[12]

The present study reports that toothbrush along with the toothpaste is the most common material used for the cleaning of teeth and this is in line with the study

conducted among dental students by Riphah International University.^[13] The present study shows around 66% of dentist brush twice a day, 66.10% use fluoridated toothpaste, 6.7% use dental floss whereas the study conducted by Reddy *et al.* shows 34.91% brushed twice a day, 44.58% used fluoridated toothpaste regularly and only 10.6% made use of dental floss.^[12]

A study performed over diverse Jordon University students indicated that the dental students were in majority among all disciplines to brush three times/day (57.1%), use fluoridated toothpaste and other auxiliary oral hygiene aids.^[14]

The present study shows 55.52% of dentist go for a dental check up only when problem arises, around 15% go for dental check in every six months and around 19% of dentist go for a dental check up once a year whereas the study conducted by V Gopinath shows 35.7% (250 dentists) go for a dental check up only when there is a problem and 34% reported regular dental checkups every six months.^[10] The present study shows around 64% changed their toothbrush in every three months whereas the study conducted by Tadin A shows 59.7% change their toothbrush in every three months, and a relatively high percentage (24.5%) change in every month. Most respondents (53.8%) of a survey of the Military College in Bucharest change their brush in every three months, and 34.3% once a month.¹⁶ The present study shows that around 47% dentists brush their teeth for 2-3 minutes whereas the study conducted by Tadin A *et al* and Dan AD *et al* showed 70.5% and more than 50% of dentist brush for two to three minutes respectively.^[15,16] The present study reports that 66.10% of dentist brush twice a day whereas survey conducted at a military college in Bucharest showed that 78.3% brush their teeth twice a day (morning and evening).^[16] This study shows that around 87% have tongue cleaning habits whereas study conducted by Kishi *et al.* shows 37.0% have tongue cleaning habit.^[17] This study shows that around 42% have sugar consumption in between meals whereas study conducted by Reddy L shows 35.14% of them, reported that they had sugar containing snacks or drinks between the meals.^[12]

This study shows that most of the (77.16%) peoples are gargling with plain water whereas around 7% are gargling with mouthwash.

Dentists must follow the ROSC (recommended oral self care) as part of maintaining good general health. As dental professionals, they have a responsibility to stress on the public the importance of good oral hygiene practices. ^[10] The present data reveals that the ROSC levels are less among south Indian dentists and special awareness programs, continuing dental education programs and modifications of dental training can be contemplated for making a change in the attitudes of practicing general dentists. The importance of ROSC must be stressed upon in these awareness programs and a change in oral health behavior is necessary to improve the oral health of GDP's. This approach would also be helpful in disseminating positive oral health concepts to the general public.

Conclusion: It can be concluded that there is a significant difference in the oral hygiene practices among the dentist, dental personal and dental relatives. The present study shows around 66% of dentist brush twice a day, 66.10% use fluoridated toothpaste, 6.7% use dental floss. Toothbrush along with the toothpaste is the most common material used for the cleaning of teeth. The comprehensive educational programme can enhance oral hygiene practices among the dental personnel and dental relatives.

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Table I : Comparison of different categories of participations with respect to frequency of cleaning ,time taken for cleaning, technique of cleaning

Frequency of cleaning	Dentist	Relative of dentist	Dental Personnel
Once a day	136 (32.69%)	32(57.14%)	50(45.87%)
Twice a day	275(66.10%)	20(35.71%)	56(51.37%)
Thrice a day	4(0.96%)	2(3.57%)	4(3.66%)
Don't brush daily	0(0%)	2(3.57%)	0(0%)
Chisquare	43.33		
P value	0.00 (s)		
Duration of brushing			
1-2 minutes	106(25.48%)	12(21.42%)	22(20.18%)
2-4 minutes	197(47.35%)	30(53.57%)	48(44.03%)
4-5 minutes	94(22.59%)	12(21.42%)	36(33.02%)
More than 5 minutes	18(4.32%)	2(3.57%)	4(3.66%)
Chi square value	6.064		
P value	0.416		
Brushing technique			
Horizontal	92(22.11%)	24(42.85%)	28(25.68%)
Vertical	98(23.55%)	16(28.57%)	24(22.01%)
Circular	225(54.08%)	16(28.57%)	58(53.21%)
Chi square value	15.618		
P value	0.004(S)		
Types of bristles			
Soft	239(57.45%)	34(60.71%)	40(36.69%)
Medium	174(41.82%)	22(39.28%)	70(64.22%)
Hard	2(0.48%)	0(0%)	0(0%)
Chi square value	18.133		
P value	0.001(S)		

Frequency of toothbrush change			
Every 3 months	265(63.70%)	34(60.71%)	64(58.71%)
3-6 months	120(28.84%)	14(25%)	38(34.86%)
6-9 months	24(5.76%)	6(10.71%)	4(3.66%)
9-12 months	6(1.44%)	2(3.57%)	4(3.66%)
Chi square value	7.743		
P value	0.258		

Table II : Comparison of different categories of participants with respect to material used for cleaning, type of toothpaste and amount of toothpaste

Material for cleaning	Dentist	Relative of Dentist	Dental Personnel
Tooth paste	411(98.79%)	54(96.42%)	108(99.08%)
Tooth powder	4(0.96%)	2(3.57%)	2(1.83%)
Chi square value	2.665		
P value	0.264		
Type of Toothpaste			
Fluoridated toothpaste	275(66.10%)	26(46.42%)	52(47.70%)
Non-fluoridated toothpaste	94(22.59%)	20(35.71%)	46(42.20%)
Ayurvedic/Herbal	46(11.05%)	10(17.85%)	12(11.00%)
Chi square value	22.368		
P value	0.000(s)		
Amount of toothpaste			
Pea sized	165(39.66%)	8(14.28%)	22(20.18%)
Half length of brush covered	174(41.82%)	30(53.57%)	58(53.21%)
Full length of brush covered	76(18.26%)	18(32.14%)	30(27.52%)
Chi square value	26.870		
P value	0.000(s)		

Table III: Comparison of different categories of participants with respect to preferred material to remove food lodgement, frequency of tongue cleaning and materials used for gargling

Aid to remove lodged food	Dentist	Relative of Dentist	Dental personnel

Tooth pick	70(16.82%)	22(39.28%)	30(27.52%)
Safety pin	94(22.59%)	2(3.57%)	18(16.51%)
Nails	6(14.42%)	2(3.57%)	2(1.83%)
Floss	28(6.73%)	6(10.71%)	12(11.01%)
Nothing	217(42.16%)	24(42.85%)	48(44.00%)
Chi square value	29.958		
P value	0.000(s)		
Frequency of tongue cleaning			
Never	30(7.21%)	10(17.85%)	3(2.75%)
Daily	361(86.77%)	40(71.42%)	82(75.22%)
3 times in a week	14(3.36%)	2(3.57%)	6(5.50%)
Once a week	10(2.40%)	4(7.14%)	2(1.83%)
Chi square value	21.592		
P value	0.001(s)		
Aids for gargling			
Plain water	321(77.16%)	40(71.42%)	74(67.88%)
Normal saline	64(15.38%)	6(10.71%)	26(23.85%)
Any mouthwash	30(7.21%)	10(17.85%)	10(9.17%)
Chi square value	12.608		
P value	0.013(s)		

Table IV: Comparison of different categories of participants with respect to frequency of sugar consumption,prefer time to eat sugar and form of sugar

Frequency of sugar consumption	Dentist	Relative of Dentist	Dental Personnel
Daily	326(78.36%)	40(71.42%)	90(82.56%)
Occasionally	83(19.95%)	16(28.57%)	18(16.51%)
Never	6(1.44%)	0(0%)	2(1.83%)
Chi square value	4.212		
P value	0.378		
Prefer time to eat sugar			
During meal	226(54.32%)	32(57.14%)	62(56.88%)
In between meal	175(42.06%)	20(35.71%)	46(42.22%)
Before sleep	14(3.36%)	4(7.14%)	2(1.82%)

Chi square value	3.681		
P value	0.451		
Form of sugar			
Liquid	26(6.25%)	10(17.85%)	14(12.84%)
Solid	168(40.38%)	24(42.87%)	42(38.53%)
Sticky food	18(4.32%)	2(3.57%)	8(7.33%)
Combination of above	203(48.79%)	20(35.71%)	46(42.20%)
Chi square value	14.800		
P value	0.022(s)		