



## A descriptive study to determine the knowledge and practices related to tobacco cessation among clinicians attached to dental colleges in Bangalore City, India

Estudo descritivo sobre conhecimentos e práticas relacionados à cessação do tabaco entre os clínicos das faculdades de odontologia de Bangalore City, Índia

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### ABSTRACT

**Objective:** Tobacco use cessation is critical in reducing the effect of a major factor for both oral & systemic diseases. Its use continues to be the leading cause of preventable death worldwide with India accounting for probably a large chunk of these, due to its acceptance, both culturally and traditionally. Smoke and smokeless form of tobacco has become steady companion of today's youth in India. Aim of the study: Dentists play an important role in educating and motivating public in cessation of tobacco hence this study aimed to assess the tobacco counseling related knowledge and practices of dentists attached to dental colleges in Bangalore city.

**Material and Methods:** A descriptive cross-sectional study was conducted to assess the knowledge and practices related to tobacco cessation among practicing dentists, with sample size of 366 dentists attached to various dental colleges in Bangalore city, according to inclusion and exclusion criteria. **Results:** Comparison of knowledge and practice among qualifications revealed that the knowledge score was greater among the MDS professionals with a mean value of  $78.3 \pm 7.9$  and the practice score was also higher among the same with a mean value of  $33.3 \pm 9$ . Comparison based on duration of practice revealed that the knowledge score was higher in dentists with experience of 0-5 years by a mean value of  $78.4 \pm 7.5$  and a higher practice score was found in dentists with an experience of 6-8 years with a mean value of  $33.5 \pm 8.4$ . **Conclusion:** Physicians and health care providers in association with their national medical and health professional associations must play a leading role in advocating for the implementation of a comprehensive tobacco control policy and implementation of tobacco cessation methods should be included in the dental curriculum.

### KEYWORDS

Knowledge; Practices; Tobacco use cessation; Dentists.

### RESUMO

**Objetivo:** A cessação do uso de tabaco é fundamental na redução do efeito deste fator para doenças bucais e sistêmicas. Seu uso continua a ser a principal causa de morte evitável em todo mundo; e a Índia representa grande parte deste panorama, devido à tradição e cultura. O uso de tabaco, com ou sem fumaça, é frequente em jovens na Índia. Dentistas desempenham um papel importante na educação e motivação do público na cessação do tabagismo, assim, este estudo teve como objetivo avaliar conhecimentos e práticas de dentistas de Faculdades de Odontologia da cidade de Bangalore sobre o aconselhamento do tabagismo. **Material e Métodos:** Este estudo descritivo transversal foi realizado para avaliar os conhecimentos e práticas relacionadas com a cessação do tabaco entre os dentistas ligados a várias faculdades na cidade de Bangalore. Uma amostra com 366 dentistas, de acordo com critérios de inclusão e exclusão, foi avaliada. **Resultados:** A comparação dos conhecimentos e práticas entre diferentes qualificações profissionais revelou maior escore de conhecimento e prática entre os profissionais com pós-graduação, com valores médios de  $78,3 \pm 7,9$  e  $33,3 \pm 9$ , respectivamente. O escore da prática foi alto para dentistas com experiência de 0-5 anos, valor médio de  $78,4 \pm 7,5$ , e maior para dentistas com uma experiência de 6-8 anos, valor médio de  $33,5 \pm 8,4$ . **Conclusão:** Os médicos e profissionais de saúde, aliados a suas associações profissionais, devem desempenhar um papel de liderança para a implementação de uma política global de luta antitabaco e a implementação de métodos de cessação do tabaco deve ser incluído no currículo Odontológico.

### PALAVRAS-CHAVE

Conhecimento; Protocolos; Abandono do uso de tabaco; Dentistas.

## INTRODUCTION

Tobacco use cessation is critical in reducing the effect of a major factor for both oral & systemic diseases [1]. Its use continues to be the leading cause of preventable death worldwide with India accounting for probably a large chunk of these, due to its acceptance, both culturally and traditionally [2]. Tobacco abuse & hostile effects are known medical, dental and social concerns of global significance. Smoke and smokeless form of tobacco has become steady companion of today's youth in India.

The Global Adult Tobacco Survey, India 2009-2010 showed evident change in pattern of tobacco usage from smoke form (14%) to smokeless form of tobacco (25.9%). The average age for initiation of tobacco use was 17.8 years with 25.8% of females starting tobacco use before the age of 15. Health care professionals have a key role to play as they form the most likely persons, from whom advice on quitting would be taken seriously and accepted by users [2].

Dental professionals can effectively help in control of tobacco use by providing counseling against tobacco [5]. Next to plaque control, tobacco use cessation is shown to be the most important measure for both the treatment and prevention of chronic periodontitis [5]. It is well established that successful treatment of tobacco dependence reduces the risk of oral cancer and improves the outcome of periodontal therapy [4].

The knowledge and practices of dental professionals regarding tobacco use needs to be assessed to determine whether their counseling will be effective in making the patient quit tobacco [6]. This would help in knowing the areas to be targeted to train them to increase their efficiency in tobacco cessation [5,7-9].

Relatively very few Indian studies have been conducted to assess the cessation practices of dentists [15]. This stimulated us to design a survey to assess the tobacco counseling related knowledge and practices of dentists attached to dental colleges in Bangalore city.

## METHODOLOGY

A descriptive cross-sectional study was conducted to assess the knowledge and practices related to tobacco cessation among practicing dentists attached to various dental colleges in Bangalore city during the month of August 2013. Bangalore city has 16 dental colleges registered under the dentist act of India out of which one is a government college and 14 are private colleges. Out of 16 colleges approached for the study, 11 colleges gave permission for the study. All the 11 colleges were included in the study and the questionnaires were distributed to those who satisfied the inclusion criteria. A total of 366 subjects participated in the study.

### **INCLUSION CRITERIA:**

- 1) Dentists attached to dental colleges and having clinical practice.
- 2) Dentists present in the college during the time of study.

### **EXCLUSION CRITERIA:**

- 1) Dentists who do not give informed consent.

### **METHOD OF DATA COLLECTION:**

A total 407 Questionnaire was distributed out of which 366 were filled completely and returned. All the completely filled 366 questionnaires were considered for the analysis.

### **DETAILS OF THE QUESTIONNAIRE:**

The questionnaire consisted of 56 questions which was checked for the reliability. A pilot study was conducted regarding this and it was distributed among 20 practicing dentists. Out of 56 questions, 50 questions were marked as essential and 6 were considered as not required. These 6 questions were excluded from the questionnaire. The modified questionnaire containing 50 questions was distributed to the participating dentists.

The questionnaire consisted of 50 questions and it was divided into 3 parts.

Part 1 – General Information (question 1 to 6)

Part 2 –Assessment of Knowledge (question 7 to 36)

Part 3 –Assessment of practices (question 37 to 50)

On an average the time taken for the completion of the questionnaire was 15 min.

General Information questions included the basic information like age, gender, Qualification, designation, etc.

#### **SCHEDULE OF DATA COLLECTION:**

After the permission was obtained from the college Principal, the purpose of questionnaire was explained to the staff members to all the departments of the dental college. After the questionnaire was distributed, it was collected from the participants on the same day or the next day. Those colleges in which all the departments were not covered in the same day, the college was visited next day and completed.

Atleast 2 days were required to complete 1 college so that maximum number of participation was ensured.

## **RESULTS**

A total of 365 practicing dentists, 169(46.3%) male and 196(53.7%) female participated in the questionnaire study. The majority (60.5%) of the respondents were under the age of 31-40 years. Out of the 279 MDS professionals, majority (35.6%) were professors. Among the different specialization, most of them (20.0%) were Public Health Dentists and the least (4.6%) respondents were dental professionals without any specialisation. The majority (54.2%) of the dental practitioners had an experience of 6-8 years (Table 1).

Of the dentists surveyed, 146(66.0%) of them within the age of 31-40 years reported the non- usage of tobacco. There was a significant difference seen amongst the males and females with majority 170(86.7%) of females not having

the habit. 67.7% of MDS professionals were not using the tobacco, out of which the highest percentage (70.0%) of non-usage of tobacco was reported among the professors and the least (63.2%) was seen among the senior lecturer and (Table 2).

**Table 1** - Distribution of respondents by different demographic characteristics

Factors	No of samples	% of samples
<b>Age groups</b>		
21-30 yrs	102	27.95
31-40 yrs	201	52.55
41-50 yrs	42	11.40
51-65 yrs	20	8.10
<b>Sex</b>		
Male	169	46.30
Female	196	53.70
<b>Designations</b>		
Prof and HOD	46	12.60
Professor	130	35.62
Reader	91	24.93
Sr. lecturer	98	26.85
<b>Qualifications</b>		
BDS	86	23.56
MDS	279	76.44
<b>Specialization</b>		
1	40	10.96
2	45	12.33
3	36	9.86
4	37	10.14
5	73	20.00
6	36	9.86
7	22	6.03
8	27	7.40
9	32	8.77
10	17	4.66
<b>Duration</b>		
0-5	104	28.49
6-8	198	54.25
9+	63	17.26
Total	365	100.00

**Table 2** - Showing Tobacco consumption habit according to Specialization among study population.

Factors	Tobacco habit	%	Tobacco without habit	%	Total	%	Pearson Chi-square	P-value
<b>Specialization</b>								
1	8	20.00	32	80.00	40	10.96	12.2513	0.1996
2	15	33.33	30	66.67	45	12.33		
3	14	38.89	22	61.11	36	9.86		
4	12	32.43	25	67.57	37	10.14		
5	21	28.77	52	71.23	73	20.00		
6	16	44.44	20	55.56	36	9.86		
7	5	22.73	17	77.27	22	6.03		
8	10	37.04	17	62.96	27	7.40		
9	15	46.88	17	53.13	32	8.77		
10	3	17.65	14	82.35	17	4.66		
<b>Duration</b>								
0-5	26	25.00	78	75.00	104	28.49	5.8987	0.0500*
6-8	66	33.33	132	66.67	198	54.25		
9+	27	42.86	36	57.14	63	17.26		
Total	119	32.60	246	67.40	365	100.00		

\* $p < 0.05$ 

In the study, 26(89.6%) of dentists between the age of 21-30 years reported a maximum percentage of tobacco use on the day or the previous with the majority of the response being from male (83.8%), senior lecturer (83.3%), dental practitioners with BDS degree (89.9%). 135 (36.9%) reported having basic education included training in how to support patients in tobacco cessation and 246 (67.3%) in tobacco cessation with a majority of the respondents being females with a maximum value of 170(78.0%). A higher response was seen reported by the MDS professionals with a count of 189(86.0%). Significant difference seen regarding the inclusion of tobacco abstinence and cessation in their basic education was seen among the dental practitioners in various speciality ( $p < 0.05$ ), the majority of the response being Public Health Dentist and duration of practice ( $p < 0.05$ ).

In receiving training in how to support patients in tobacco abstinence since graduation,

a higher response of 70(47.9%) was reported by the practicing dentists between the age group 31-40 years out of which the female population 89(52.3%) out-rated the male population. There was no significant difference seen in designation, qualification, specialization and duration regarding the same with a major response being from the professors with a score of 46(50.5%), MDS professionals with a majority of 95(50.2%) respectively.

On comparison of knowledge among various Age groups, the highest mean value between the age 31-40 years was  $78.1 \pm 7.7$  and on comparing based on practice, the highest mean value was calculated as  $33.8 \pm 8.3$  between 21-30 years. (Table 3)

A significant difference was marked in the various age groups, gender and duration of practice regarding on whether they ask their patients about the tobacco use to which a majority of them replied an 'yes' to it with a

majority of them being 186(84.1%) under the age of 31-40 years and about 81.6% females specialised in Public Health Dentistry.

Similarly, on comparison of knowledge among male and females, the highest mean value was found to be among the male population with a score of  $78.4 \pm 8.3$  and on comparing based on practice, the highest mean value was found to be  $34.3 \pm 8.9$  among the males.

Also, comparison was done based on designations regarding the knowledge in which a significant difference was seen among professors and readers with a mean value of  $76.26 \pm 6.6$  and  $76.42 \pm 9.36$  respectively. The practice score was found to be higher among the reader with a mean value of  $34.1 \pm 9.69$  (Table 3).

Comparison of knowledge and practice

**Table 3** - Comparison of designations with knowledge and practice scores

Designations	Knowledge scores		Practice scores	
	Mean	SD	Mean	SD
Prof and HOD	76.26*	6.61	33.42	5.23
Professor	78.32	7.01	32.53	8.33
Reader	76.42*	9.36	34.12	9.66
Sr. Lecturer	79.80	6.68	33.28	8.66
Total	77.98	7.64	33.23	8.50
F-value	4.0782		0.5160	
P-value	0.0072*		0.6716	

\* $p < 0.05$  (HOD vs Sr. lect, Reader vs Sr. lect. significant)

among qualifications revealed that the knowledge score was more among the MDS professionals with a mean value of  $78.3 \pm 7.9$  and the practice score was also higher among the same with a mean value of  $33.3 \pm 9.1$ .

Comparison based on duration of practice revealed that the knowledge score was higher in dentists with experience of 0-5 years by a mean value of  $78.4 \pm 7.5$  and a higher practice score was found in dentists with an experience of 6-8 years with a mean value of  $33.5 \pm 8.4$ . A

difference in the Knowledge and practice within different specialities of dentistry regarding tobacco cessation was found and this difference was significant (Table 4).

**Table 4** - Comparison of specializations with knowledge and practice scores

Specialization	Knowledge scores		Practice scores	
	Mean	SD	Mean	SD
1	80.10	7.77	34.72	7.27
2	76.51	7.45	34.63	8.77
3	78.17	8.96	37.32	11.45
4	76.03	8.23	31.90	8.48
5	76.18	7.15	34.18	8.62
6	78.97	6.00	33.54	5.83
7	79.50	5.99	30.41	9.93
8	76.11	8.16	31.83	6.68
9	81.94	7.51	29.12	7.26
10	79.94	6.12	31.62	8.37
Total	77.98	7.64	33.23	8.50
F-value	2.7922		2.0101	
p-value	0.0036*		0.0383*	

\* $p < 0.05$  (4 and 5 vs 9 are signi.)

Pearson Chi-square test was used as the distribution of the study participants was normal and the standard deviation was similar among study population.

## DISCUSSION

Tobacco has been found to be one of the most dangerous substances with the highest potential to cause a disease worldwide. In addition to its hazardous effect on general health it also has been a substance of catastrophic effect on oral health. Oral health being the mirror of general health has got great potential in predicting lot of health issues

Tobacco is a risk factor for oral cancer, periodontal diseases, and congenital defects such as cleft lip and palate in children whose mother smokes during pregnancy. Tobacco use suppresses the immune system's response to oral



infection, retards healing following oral surgical and accidental wounding, promotes periodontal degeneration in diabetics and adversely affects the cardiovascular system

Dentists play a pivotal role in recognizing problems and also help in preventing and controlling problems caused by tobacco. Tobacco in either form (smoking and smokeless) has found to have a direct effect on oral health leading to oral cancer. Oral cancer being the only fatal oral disease, it can be prevented if dentists are able to identify the pre-cancerous lesions in the early stages and counsel the patients towards tobacco cessation.

Dentists need to be well equipped in creating awareness among the population about the tobacco hazards and also in guiding those people who have indulged in habit of tobacco usage to quit. [9-14,16]

Female respondents were more in the present study as compared to the study done by T.A Dolan et al in the U.S where male respondents were higher when compared to female. In the present study females contribute a greater percentage of teaching work force in various dental colleges in India which could be the reason was higher female respondents.

Dental institutions in India according to the direction of higher education board follow the following the higher hierarchy system for their designation i.e. H.O.D, Professors, Readers, Senior lecturers and tutors.

In the present study, professor and H.O.D's had better knowledge scores when compared to other designations (Table 3). The reason for this difference could be that professors and H.O.D's could have more work experience and could have attended tobacco cessation programmes during their teaching career.

While readers had better knowledge when compared to senior lecturers (Table 3), since there are 9 specialities in dentistry and not all the department faculties would have got a chance to attend the tobacco cessation programme during their student time which could be one of the

reason for the difference in knowledge scores across the designations.

In the present study most of the respondents had good knowledge regarding tobacco cessation across all age groups, reason being more and constant exposure to tobacco cessation programmes conducted in the recent years. The main scope was better in the age group of 31 to 40 years when compared to the other age groups but this difference was not significant (Table 1). A contrasting result was seen in the study conducted by Chandrashekar J. [4] which found that 54.6% of dentists did not have sufficient knowledge regarding tobacco cessation, reason being most of the dentists in these studies never attended any tobacco cessation training programmes in the past and had no formal training regarding tobacco cessation during under graduation curriculum.

This study revealed an adequate knowledge among study participants but the practice of tobacco cessation was low this may be due to the reason that the study participants were rendering more curative Dental care than preventive and also in a huge country like India awareness about harmful effects of tobacco has not yet reached to the level of prevention. It is Dentists role to bring awareness because they often spend more time with patients than many other clinicians, providing opportunities to integrate education and intervention methods into practice [8,11,13,17-20]. They can build their patient's interest in discontinuing tobacco use by showing actual tobacco effects in the mouth.

The topic "discussion" needs improvement.

## CONCLUSION

The dentists had a good knowledge about tobacco cessation which increased with higher designation. Hence it can be concluded that even though the dentists have a positive attitude towards tobacco cessation counselling, constant training and motivation could yield better results.

Physicians and health care providers in association with their national medical and

health professional associations must play a leading role in advocating for the implementation of a comprehensive tobacco control policy and implementation of tobacco cessation methods should be included in the dental curriculum.

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#### Recommendations

1. Dentists should play an important role in preventing and eliminating tobacco use by identifying tobacco users, documenting tobacco use history, offering brief advice and written materials, as a routine part of clinical practice.

2. Governing bodies should utilize the dentists expertise in the provision of tobacco use cessation and prevention programs.

3. Non-Governmental organizations should take a more pro-active approach to tobacco cessation and develop a “call to action” to promote tobacco use cessation;

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Date submitted: 2014 Jul 02

Accept submission: 2014 Dec 09