

# Knowledge, Attitude and Practices of Indian Dental Surgeons towards Tobacco Control

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## Abstract

**Aim:** To assess the knowledge, attitude, and practice among the dentist in giving tobacco cessation advice to the patients. **Materials and Methods:** A cross-sectional survey was conducted in Mumbai, India. A self-administered structured questionnaire was used to obtain information on tobacco use and its health effects, as well as on the knowledge and practices of smoking cessation, from 400 dentists. **Results:** The prevalence of tobacco usage among the dentists was 9.6%. Of the 400 dentists, 331 (82.8%) asked their patients whether they used tobacco, and 232 (58%) maintained records. When the physicians were questioned regarding the obstacles to smoking cessation interventions, 192 (48%) cited poor knowledge of the issue, 128 (32.5%) cited a lack of time, and 22 (5.5%) cited unavailability of NRT. **Conclusion:** There is still a lack of practice in all the components of smoking cessation advice. A 4A model of cessation advice (ask, advice, assist and arrange for follow up) should be introduced to the dentists in their curriculum.

## Key Words

Dental surgeons; tobacco cessation advice; knowledge; attitude and practice

## INTRODUCTION

The effect of smoking varies from person to person as it depends on the person's vulnerability to the chemicals in cigarette or tobacco smoke.<sup>[1]</sup> Smoking causes certain fatal diseases, such as COPD (emphysema and chronic bronchitis), cancer and ischemic heart disease.<sup>[2,3]</sup> Between 1950 and 2000, approximately 70 million people died due to tobacco use; over the next fifty years, another 450 million might die from smoking-related diseases.<sup>[4-6]</sup> The use of tobacco has been a major public health disaster in the 20th century.<sup>[7]</sup> In the 1990s, WHO estimated the global prevalence of smokers to be 47% among men and 12% among women.<sup>[8]</sup> The epidemic of tobacco addiction, disease and death is continuing to shift rapidly to the developing and transitional market countries.<sup>[9,10]</sup> There are approximately 120 million smokers in India, about 37 percent of all men and 5 percent of all women between the ages of 30 and 69<sup>[11]</sup> are found to be smoking. Smoking kills 900,000 people every year in India, and unless corrective action is taken soon that number will increase to 1 million smoking-related deaths annually by 2010.<sup>[12]</sup> More than 50

percent of the tobacco-related deaths in India occur among illiterate men or women.<sup>[11]</sup> Although the health of the populations in developing countries is still mainly influenced by communicable diseases, tobacco related diseases will have an increased impact on health in the future. Of the 500 million smokers alive today who will eventually die from tobacco related diseases, about half are still children and teenagers. Of the 8.4 million annual deaths from tobacco expected in 2020, 70% will be in developing countries.<sup>[9,10]</sup> The per capita consumption of tobacco is decreasing in the industrialized world but is increasing in many developing countries among both men and women.<sup>[13]</sup> Health care professionals have a key role to play by working through the health care system to motivate and advise users to quit. Since physicians are well regarded and their advice is well-accepted, they also form the most likely persons from whom advice on quitting would be taken seriously and accepted by users. Randomized, controlled trials conducted in primary care settings have demonstrated that simple advice from a physician increases abstinence rates significantly

(by 30%) compared to no advice.<sup>[14]</sup> Therefore, physicians can and should utilize the window of opportunity available during their contact with patients to offer tobacco cessation interventions actively in their routine clinical practice.<sup>[15]</sup> This becomes even more imperative in the case of professional group that is most actively consulted by tobacco using patients in India -the dental surgeons. Yet, one is not sure of the attitudes of such professionals towards tobacco cessation, which is important since negative attitudes may result in them less likely to counsel patients regarding the hazards of tobacco use.<sup>[16]</sup> Therefore a study was attempted to survey the knowledge, attitude and practices of dental surgeons regarding tobacco use in Mumbai.

**Table 1: Base line Characteristics of Dental Professionals**

Characteristics	No. (%)
Gender	
Male	210 (52.5)
Female	190 (47.6)
Mean age (in years)	34.83±9.505
Number of years of practice (in years)	9.18±8.209
Number of patients seen per week	36.97±40.34
Occupational setup	
Outpatient	225 (56.3)
Hospital	66 (16.5)
Both	109 (27.3)
Tobacco use	
Smoking	21 (5.3)
Smokeless	9 (2.3)
Both	8 (2)
None	362 (90.4)

## MATERIALS AND METHOD

A cross sectional survey was carried out among dentists in three regions of Mumbai: south, central and suburban region. These regions were selected because they are representative of the major regions in Mumbai. The level of education, social affluence, socioeconomic indices and infrastructural development were higher in the southern and central regions than in the suburban region. In the southern and central regions, the health care delivery system is slightly more organized than it is in the suburban region. The dentists were selected by simple random sampling. A total of 400 dentists participated in the study out of which 175 dentists were from southern region, 120 from the central region and 115 from the suburban region of Mumbai. A structured self-report questionnaire was used to obtain data from the dentists. The questionnaire was designed to test the knowledge, attitude and practice of dental surgeons regarding

tobacco use. It was based on a previous WHO questionnaire used for health professionals.<sup>17</sup> Appropriate changes were made to grammar, layout and style. The self-administered survey instrument included 45 questions covering topics such as: 1) Personal data; 2) Current and past cigarette and tobacco use; 3) Knowledge of the hazards of smoking and attitude towards tobacco control policies; 4) Any smoking cessation interventions provided to patients; and 5) Whether or not dental surgeons received any training in smoking cessation methods. For the sake of simplifying the analysis, the questions under topic were divided into 3 areas: knowledge of tobacco related diseases, agreement with tobacco control policies, and attitude towards the role of health professionals in tobacco control. The ranking of responses was based on a Likert scale where the respondents were asked to indicate their agreement with the statement on a scale of 1-5, where 1 was strongly agree, 2 agree, 3 unsure, 4 disagree and 5 strongly disagree. The study was approved by the Ethical Committee of Terna Dental College. All participating dentists gave written informed consent. Dentists who consented to participate in the study were asked to complete the questionnaire based on their own knowledge and awareness of the subject. The data were analyzed using the Statistical Package for Social Sciences 17.0.

## RESULTS

### *Demographic characteristics*

The demographic characteristics of the study population are shown in Table 1. Majority of the dental surgeons surveyed (56.3%) were private practitioners who saw most of their patients on an outpatient basis. The mean age of the study population was 34.83±9.50 years and the mean number of years of practice was 9.18±8.209 years. The mean number of patients seen on a weekly basis was around 36.97±40.34. About 53% of the respondents were males. About 9.6% of the survey population used tobacco in some form out of which 5.3% used smoked form of tobacco while 2% of them used both smoked and smokeless forms of tobacco.

### *Knowledge of dentists regarding the harmful effects of tobacco*

Almost all of the surveyed dentists (99.8%) were aware that tobacco is linked to various types of cancers. About 98% of the respondents agreed that passive smoking was also linked to lung diseases and increased the risk for cancer while 91.5%

**Table 2: Knowledge, Attitude and Practices of the Dental Professionals Surveyed**

KAP variables	Affirmative answers
<b>Knowledge of harmful effects</b>	
(i). Tobacco use linked to various cancers	399 (99.8)
(ii). Passive smoking linked to lung diseases and increasing risk for cancer	393 (98.3)
(iii). Maternal smoking increases risk of sudden infant death syndrome	366 (91.5)
<b>Knowledge of tobacco use in India</b>	
(i). The active ingredient in tobacco is nicotine, an active psychoactive substance	384 (96)
(ii). Nicotine is the most addictive drug	262 (65.5)
(iii). Smoking is more common in India than chewing	209 (52.3)
<b>Knowledge of treatment modalities</b>	
(i). Nicotine patches	374 (93.5)
(ii). Nicotine gums	366 (91.5)
(iii). Behavioral methods	211 (52.8)
(iv). Pharmacotherapy	163 (40.8)
<b>Attitudes regarding tobacco use</b>	
(i). Use Tobacco themselves	38 (9.6)
(ii). Support strict legislation on tobacco use	380 (95)
(iii). Support ban on public use of tobacco	376 (94)
(iv) Believe media and celebrities promote tobacco	282 (70.5)
(v). Want size of warning labels to be increased	355 (88.8)
(vi). Increase price of tobacco products	358 (89.5)
<b>Practice</b>	
(i). Ask about tobacco use	331(82.8)
(ii). Maintain records on tobacco use	232(58)
(iii). Advocate tobacco cessation practices actively	318 (79.5)
(iv). Followed up on advice to patients to quit	307 (76.8)
(v). Important to be included in daily practice	313 (78.3)
<b>Barriers to implementing smoking cessation interventions</b>	
(i). Poor knowledge of smoking cessation	192(48)
(ii). Lack of time	128 (32.5)
(iii). Unavailability of NRT	22 (5.5)
(iv). Others	55(13.8)

believed that maternal smoking was harmful and increased the risk of sudden infant death syndrome.

#### *Knowledge of dental surgeons regarding tobacco use in India*

When assessing the knowledge of the respondents regarding tobacco use (Table 2), the study revealed that many dentists were aware that nicotine was the active ingredient in tobacco and that it was an active psychoactive substance (96%). About 65% of the study population agreed that nicotine is the most addictive drug. Approximately half (52.3%) of the clinicians believed that smoking was more commonly practiced in India while only 47.7% of the respondents correctly assumed that smokeless form of tobacco was used to a larger extent.

#### *Knowledge of treatment modalities*

Only 6.5% of the respondents were not aware of nicotine patches while 8.5% were unaware of the availability of nicotine gums as a treatment

modality. Only 52.8% of the clinicians had any knowledge of behavioral methods for tobacco cessation but majority of them were aware of the available pharmaceutical methods for tobacco cessation (59.2%).

#### *Attitudes of dental surgeons regarding Tobacco Use*

Majority of the clinicians surveyed (80.4%) did not use tobacco. Nearly all believed that there should be strict legislation against public use of tobacco, that media and celebrities were highly influential in promoting tobacco and that the warning labels on tobacco products should be increased. The majority also supported increasing the price of tobacco products as an effective method of tobacco control.

#### *Practice of dental surgeons regarding tobacco users among their patients*

About 83% of the clinicians asked their patients regarding tobacco use but only 79.5% of the respondents advocated tobacco cessation practices

actively. With regards to record keeping only 58% of the dentists maintained any kind of record while 76.8% of the respondents followed up their patients for tobacco cessation.

*Potential barriers perceived by dentists for implementing tobacco cessation*

Almost half (48%) of the respondents agreed that they had poor knowledge on the subject of tobacco cessation while 32.5% of the dentists complained of lack of time and only 5.5% of the clinicians reported the non availability of NRT's in their region to be a potential barrier for tobacco cessation programs.

#### DISCUSSION

Physicians, due to their position in society, have a unique role in tobacco control. Whether a physician's personal tobacco use behavior affects their professional attitude and clinical behavior is unknown, yet it represents a critical issue in public health policy, as physicians are usually seen as being primary health care providers. However, medical professionals also have responsibilities to reduce the prevalence of tobacco use among their patients. Health professionals have a certain responsibility as being role models for patients with regard to healthy behavior<sup>[18]</sup> as well as the public image that they inadvertently portray outside of the work environment.<sup>[19]</sup> The present study attempted to understand the knowledge, attitudes and practices of dental surgeons. The sample was an established group of dental surgeons who had been practicing at least for the past 9 years and were seeing about 40 patients every week. The study noted a 9.6% prevalence of tobacco use among them. Most of the dentists in our study had adequate knowledge on the adverse effects of second hand and maternal smoking. This is contrary to the WHO sponsored GHPS survey on dental students.<sup>[20]</sup> Nicotine is the most addictive drug known to mankind, about 34% of the respondents believed that either alcohol or opioids were the most addictive substances. Most dental surgeons also incorrectly assumed that smoking tobacco was more common than chewing in India although the NFHS 3 reveals the opposite.<sup>[21]</sup> When treatment modalities available were asked, only half of the doctors were aware of behavioral methods of tobacco cessation while most of them were aware of different forms of Nicotine Replacement therapy. With regard to pharmacotherapy, only 40% of the doctors were aware of pharmacotherapy, which reflects the urgent need to sensitize health professionals on the

different modalities of tobacco cessation. Such sensitization would benefit patients by improving cessation rates among them.<sup>[22]</sup> Almost all the doctors favored banning tobacco products in all public places; and most of them (88.8%) supported the increase in price and size of warning labels on tobacco products. More than half (70.5%) of the health professionals also felt that the media and celebrities promoted tobacco, either directly or indirectly, calling for measures to control such surrogate promotion of tobacco use. This is similar to the earlier study on dental students who had also favored a ban on public use and on sale of tobacco products to adolescents.<sup>[20]</sup> Although the ban has been recently implemented under the Cigarettes and other Tobacco Products Act (COTPA), 2003, its implementation is still far from effective.<sup>[23]</sup> A significant proportion of physicians reported asking their patients about tobacco use, which is higher than the 44-48% reported in other studies.<sup>[24,25]</sup> An earlier survey on counseling among dental surgeons had felt that giving advice or information about tobacco cessation was the responsibility of the dentist in order to persuade patients to quit tobacco.<sup>[26]</sup> Data from around the world suggests that upto half of all dental surgeons advise their patients and suggest methods to quit tobacco.<sup>[27-30]</sup> Studies from India suggest that most doctors did not ask for or suggest methods to quit tobacco.<sup>[22]</sup> Failure to ask about the reasons for using tobacco denies physicians the opportunity of recommending the appropriate method of intervention, anticipating challenges during the stages of quitting and enlisting the necessary clinical and social support. Most physicians (76.8%) scheduled a follow-up visit for their patients. It has been demonstrated that follow-up visits during the abstinence period often provide the physician with an opportunity to review the progress of smoking cessation, congratulate the patient, stress abstinence, identify problems (current and potential) and initiate a new intervention or modify the current one if necessary.<sup>[14]</sup> In the present study, the majority of the physicians (48%) reported that having poor knowledge of smoking cessation was the greatest obstacle to implementing smoking cessation interventions. This might be due to inadequate training in smoking cessation interventions after graduation and a lack of emphasis on smoking education in the medical schools. These outcomes underscore the need to give priority to smoking cessation education in the medical school and continuing education programs

after graduation. This result is different from that of other investigators who reported inaccessibility of smoking cessation expertise, lack of time and lack of easily-applied tools to help patients quit.

### CONCLUSION

Although doctors agree that smoking is harmful, many of them lacked comprehensive knowledge essential for patient counseling. An effort is needed to motivate and empower the doctors to actively engage in smoking cessation support not least for those patients with smoking related symptoms and diseases.

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