

---

## RESEARCH COMMUNICATION

---

# Knowledge, Attitude and Practices of Indian Dental Surgeons Towards Tobacco Control: Advances towards Prevention

Sahoo Saddichha<sup>1\*</sup>, Dorothy P Rekha<sup>2</sup>, Basanagouda K Patil<sup>3</sup>, Pratima Murthy<sup>1</sup>, Vivek Benegal<sup>1</sup>, Mohan K Isaac<sup>4</sup>

### Abstract

**Aims and Methods:** We assessed the knowledge, attitude and practices of dental surgeons in the city of Bangalore, Karnataka, concerning use of tobacco in their patients. A self-administered questionnaire was administered to all dental surgeons prior to a sensitization program on nicotine dependence. **Results:** The dental surgeons who responded (n=100) reported a need for increasing sensitization on the issue of tobacco especially among health professionals. Only 33% knew that nicotine is the most addictive drug and knowledge was poor about pharmacological as well as non pharmacological methods of treatment of nicotine dependence. Only 52% asked all their patients about tobacco use. However, almost all dental surgeons agreed that there should be a ban on public use of tobacco. **Implications:** The results of this study call for sensitizing health professionals on a larger scale on the issue of tobacco use and its treatment.

**Keywords:** Dental surgeons - tobacco control - knowledge - attitude - practices

*Asian Pacific J Cancer Prev*, **11**, 939-942

### Introduction

Tobacco use continues to be the leading cause of preventable death worldwide (World Health Organization., 2005) with India accounting for probably a large chunk of these, due to its acceptance, both culturally and traditionally. In India, the proportion of all deaths that can be attributed to tobacco use is expected to rise from 1.4% in 1990 to 13.3% in 2020 (Reddy and Gupta, 2004) of which smoking alone will cause about 930,000 adult deaths by 2010 (Jha et al., 2008). Current statistics indicate that it will not be possible to reduce tobacco related-deaths over the next 30 to 50 years, unless tobacco users are encouraged to quit. In this regard, 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 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 (Fiore et al., 2000). 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 (Richmond et al., 1999). 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 (Tessier et al., 1995). We therefore attempted to carry out a survey on the knowledge, attitude and practices of dental surgeons regarding tobacco use. These clinicians form the first contact point of most chewable tobacco using patients in Bangalore City.

### Materials and Methods

This cross sectional survey was carried out at the Tobacco Cessation Clinic at the National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore. A questionnaire was designed to test the knowledge, attitude and practice of dental surgeons regarding tobacco use and then piloted to test for comprehensibility. It was based on a previous WHO questionnaire used for health professionals (World Health Organization et al., 1984). Appropriate changes were made to grammar, layout and style. This was administered prior to sensitization programs on nicotine dependence. 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

<sup>1</sup>NIMHANS, <sup>2</sup>Psychiatric Social Work, St. Johns Medical College and Research Institute, Bangalore, <sup>3</sup>Dept of Community Medicine, DY Patil Medical College, Kolhapur, India, <sup>4</sup>Fremantle Hospital University of Western Australia, Australia, \*For correspondence: [saddichha@gmail.com](mailto:saddichha@gmail.com)

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 3 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.

These questionnaires were collected prior to the start of the sensitization sessions. All questionnaires were checked for completion and incomplete questionnaires were discarded. The data were analyzed using the Statistical Package for Social Sciences V.11 for Windows 98SE.

## Results

### Base line Characteristics

The base line characteristics are shown in Table 1. Majority of the dental surgeons surveyed (50%) were private practitioners who saw most of their patients on an outpatient basis. About 42% of the respondents were female. The mean age of the clinicians surveyed was around 36 (SD-5.3) years and the average duration of practice was 8.5 (SD-3.4) years. The mean number of patients seen on a weekly basis was around 187 (SD-89.2). About 22% of those surveyed used tobacco, mainly in the form of smoking (14%).

### Knowledge of dental surgeons regarding harmful effects of tobacco (Table 2).

The study revealed that almost all knew that tobacco

use was linked to various cancers (100%). About 89% agreed that passive smoking was also linked to lung diseases and increased the risk for cancer and 77% 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 did not know that nicotine was the active ingredient in tobacco and that it was an active psychoactive substance (58%). Only 33% of the clinicians knew that nicotine is the most addictive drug and 17% did not have knowledge of the most addictive drug. Clinicians believed that about 73% of tobacco users in India were smokers whereas only 17% correctly assumed that chewable forms of tobacco are used to a larger extent than smoking.

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

Characteristics	No (%)
Gender (%)	
Male	58 (56%)
Female	42 (42%)
Mean age (in years)	36.3 (SD-5.32)
No of years of Practice (in years)	8.41 (SD-3.43)
Mean no. of patients seen/week	187.2 (SD- 89.2)
Occupational setup (%)	
Outpatient	50 (50%)
Hospitals	31 (31%)
Community based	19 (19%)
Tobacco Use	
(i) Smoking	14 (14%)
(ii) Tobacco Chewing	8 ( 8%)
(iii) None	78 (78%)

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

KAP variables	Affirmative answers
Knowledge of harmful effects	
(i) Tobacco use linked to various cancers	100 (100%)
(ii) Passive smoking linked to lung diseases and increasing risk for cancer	89 (89%)
(iii) Maternal smoking increases risk of sudden infant death syndrome	77 (77%)
Knowledge of tobacco use in India	
(i) The active ingredient in tobacco is nicotine, an active psychoactive substance.	42 (42%)
(ii) Nicotine is the most addictive drug.	33 (33%)
(iii) Smoking is more common in India than chewing.	73 (73%)
Knowledge of treatment modalities	
(i) Nicotine patches	49 (49%)
(ii) Nicotine gums	58 (58%)
(iii) Behavioral methods	34 (34%)
(iv) Pharmacotherap	26 (26%)
Attitudes	
(i) Use Tobacco themselves	22 (22%)
(ii) Support strict legislation on tobacco use	97 (97%)
(iii) Support ban on public use of tobacco	99 (99%)
(iv) Believe media and celebrities promote tobacco	77 (77%)
(v) Want size of warning labels to be increased.	99 (99%)
(vi) Increase price of tobacco products	99 (99%)
Practice	
(i) Ask about tobacco use	52 (52%)
(ii) Maintain records on tobacco use	36 (36%)
(iii) Advocate tobacco cessation practices actively	19 (19%)
(iv) Followed up on advice to patients to quit	47 (47%)
(v) Important to be included in daily practice	99 (99%)

### *Knowledge of treatment modalities*

About half of the respondents (51%) were unaware of nicotine patches and about 42% were unaware of nicotine gums. Only 34% of the clinicians had any knowledge of behavioural methods for tobacco cessation but the majority were unaware of the available pharmaceutical methods for tobacco cessation (74%).

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

Table 2 shows the attitude as answered to various questions on attitude. Majority of the clinicians surveyed (78%) 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*

Only half of the clinicians (52%) asked all their patients for tobacco use. About 19% advocated tobacco cessation practices actively. With regard to details on follow up and records, only 47% followed up on their patients using tobacco whereas only 36% maintained records. However, almost all felt that nicotine dependence was important enough to be included in their daily practice.

## **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, and they may have not yet maximized their efforts in meeting the tobacco epidemic. Health professionals have a certain responsibility as being role models for patients with regard to healthy behavior (Adriaanse et al., 1989), as well as the public image they inadvertently portray outside of the work environment (Anon: Smoking and health: A physician's responsibility, 1995).

Our study attempted to understand the knowledge, attitudes and practices of dental surgeons prior to providing training to them on tobacco cessation. The sample was an established group of dental surgeons who had been practicing at least for the past 8.5 years and were seeing about 247 patients every week. The study noted a 22% prevalence of tobacco use among them, which was somewhat surprising. There were also several lacunae in the knowledge, attitudes and practices of the surgeons that were discovered.

Although there have been no similar studies on KAP of tobacco cessation so far in India, the closest comparison point is the WHO sponsored GHPS survey on dental students (Shah, 2005). Contrary to what was noted in the WHO-GHPS, our study observed that most dentists had

adequate knowledge on adverse effects of second hand and maternal smoking. Although nicotine is arguably the most addictive drug known to humanity, about 42% of the respondents believed that either alcohol, opioids or cannabinoids were the most addictive substances, which is often the widely held belief. On similar lines of another common belief, most dental surgeons also incorrectly assumed that smoking tobacco was more common than chewing in India although the NFHS 3 reveals the opposite (National Family Health Survey III).

Regarding treatment modalities, only a third of the doctors were aware of behavioral methods of tobacco cessation and only about half aware of different forms of Nicotine Replacement therapy. With regard to medications, only a quarter (26%) was aware of pharmacotherapy, reflecting the urgent need to sensitize health professionals on the different modalities of tobacco cessation. Such sensitization on the treatment modalities would certainly benefit patients by improving cessation rates among them (Murthy et al., 2010).

Almost all favored banning smoking in all enclosed public places; and almost all supported the increase in price and size of warning labels on tobacco products. More than two-thirds 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 (Shah et al., 2005). Although the ban has been recently implemented under the Cigarettes and other Tobacco Products Act (COTPA), 2003, its implementation is still far from effective.

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 and majority were also willing to receive formal training towards tobacco cessation and intervention strategies (Ajwani et al., 2001). Our survey however found that only half of them actually enquire about the tobacco use of their clients. Data from around the world suggests that upto half of all dental surgeons advise their patients and suggest methods to quit tobacco (Dolan et al., 1997; John et al., 1997; Warnakulasuriya et al., 1999; Campbell et al., 2001). Studies from India suggest that most doctors did not ask for or suggest methods to quit tobacco (Murthy et al., 2010). Similarly, in line with other studies, only a minority of the respondents in our study maintained records or advocated tobacco cessation practices among their clients (Severson et al., 1990; Hastreiter et al., 1994; Tomar et al., 1996).

It has been estimated that 40% of all smokers make some attempt to quit in response to some advice from a General Practitioner. Overall this would take about 20-40 hours of a clinician's time each year (about 8 hours per person who quits). This translates to a cost of 174 pounds per life-year saved in comparison to 17000 pound per life year that the Government may have to spend in treatment and interventions for a tobacco user (Parrott et al., 1998). We therefore believe that health professionals can and

should ascertain and record tobacco use status of their patients on a routine basis; seek new ways to motivate and encourage users to quit, deliver brief tobacco cessation advice at every opportunity; and advocate for the inclusion of training of tobacco cessation methods in medical school curricula as well as in the continuous education programs of their respective professional bodies. Finally, 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. In conclusion there is an urgent need to sensitize and train health professionals at the community level in the treatment of nicotine dependence as most people in India cannot afford to go to a specialist tobacco cessation clinic nor can the Government afford to run them.

## References

- Adriaanse H, van Reek J (1989) Physicians' smoking and its exemplary effect. *Scand J Prim Hlth Care*, **7**, 193-6.
- Ajwani S, Ainamo A, Hiremath S (2001). A KAP survey on tobacco counselling and their perceived barriers of dentists in banglore city, India.: Poster # 1457.,79th Annual general Session of International Association for Dental Research (IADR), Chiba, Tokyo Japan. 25-9.
- Anon (1995). Smoking and health: A physician's responsibility. A statement of the joint committee on smoking and health. American college of chest physicians, American thoracic society, Asia pacific society of respiratory, Canadian thoracic society, European respiratory society, international union against tuberculosis and lung disease. *Eur Respir J*, **8**, 1808-11.
- Campbell HS, Simpson EH, Petty TL, et al (2001). Addressing oral disease--the case for tobacco cessation services. *J Can Dent Assoc.* **67**, 141-4.
- Dolan TA, McGorray SP, Grinstead-Skigen CL, et al (1997). Tobacco control activities in U.S. dental practices. *J Am Dent Assoc.* **128**, 1669-79.
- Fiore MC, Baily WC, Cohen SJ, et al (2000). Treating tobacco use and dependence, clinical practice guideline. US department of health and human services. rockville (MD): public health service, 2000. Available at <http://www.surgeongeneral.gov/tobacco/tobagrg/htm>.
- Hastreiter RJ, Bakdash B, Roesch MH, et al (1994). Use of tobacco prevention and cessation strategies and techniques in the dental office. *J Am Dent Assoc.* **125**, 1475-84.
- Jha P, Jacob B, Gajalakshmi V, et al (2008). A Nationally Representative Case-Control Study of Smoking and Death in India. *N Engl J Med.* **358**, 1137-47.
- John JH, Yudkin P, Murphy M, et al (1997). Smoking cessation interventions for dental patients--attitudes and reported practices of dentists in the Oxford region. *Br Dent J*, **183**, 359-64.
- Murthy P, Saddichha S (2010). Tobacco cessation services in India: Recent developments and the need for expansion. *Indian J Cancer.* **47**, 69-74.
- National Family Health Survey III. Govt of India. Available at <http://www.nfhsindia.org/nfhs3.html>.
- Parrott S, Godfrey C, Raw M, et al (1998). Guidance for commissioners on the cost effectiveness of smoking cessation interventions. Health educational authority. *Thorax*, **53**, S1-38.
- Reddy KS, Gupta PC (2004). Tobacco control in India. New delhi: ministry of health and family welfare, Government of India, 2004.
- Russell MA, Stapleton JA, Jackson PH, (1987). District program to reduce smoking: effect of clinic supported brief intervention by general practitioners. *Br Med J (Clin Res Ed)*, **295**, 1240-4.
- Richmond RL (1999). Physicians can make a difference with smokers: evidence-based clinical approaches. Presentation given during the symposium on smoking cessation at the 29th world conference of the IUATLD/UICTMR and global congress on lung health, Bangkok, Thailand, 23-26 November 1998. International union against tuberculosis and lung disease. *Int J Tuberc Lung Dis*, **3**, 100-12.
- Severson HH, Eakin EG, Stevens VJ, et al (1990). Dental office practices for tobacco users: independent practice and HMO clinics. *Am J Public Hlth*, **80**, 1503-5.
- Shah NM (2005). Health professionals in tobacco control: evidence from global health professional survey (GHPS) of dental students in India, 2005, WHO SEARO
- Tessier JF, Thomas D, Nejjari C, et al (1995). Attitudes and opinions of French cardiologists towards smoking. *Eur J Epidemiol*, **11**, 615-20.
- Tomar SL, Husten CG, Manley MW (1996). Do dentists and physicians advise tobacco users to quit. *J Am Dent Assoc.* **127**, 259-65.
- Warnakulasuriya KA, Johnson NW (1999). Dentists and oral cancer prevention in the UK: opinions, attitudes and practices to screening for mucosal lesions and to counselling patients on tobacco and alcohol use: baseline data from 1991. *Oral Dis.* **5**, 10-4.
- West R, McNeill A, Raw M (2000). Smoking cessation guidelines for health professionals: an update. Health Education Authority. *Thorax*, **55**, 987-99.
- World Health Organization (WHO). Guidelines for the conduct of tobacco-smoking surveys Among health professionals. world health rganization. 1984; WHO/SMO/84.1
- World Health Organization (WHO). The millennium development goals and tobacco control. Geneva: World Health Organization, 2005.