

RESEARCH ARTICLE

Dental Practitioners Self Reported Performance of Tobacco Cessation Counseling Interventions: A Cross Sectional Study

Abhinav Parakh, Jayachandra Megalamanegowdru*, Rohit Agrawal, Siddhi Hathiwala, Mayank Chandrakar, Ram Tiwari, Thippeswamy Veeranna

Abstract

Background: The objective of the study was to determine the knowledge, attitude and behaviors of the practicing dentists regarding tobacco cessation counseling (TCC) in Chhattisgarh state and also the barriers that prevent them from doing so. **Materials and Methods:** The study was conducted among dental practitioners of Raipur district, Chhattisgarh state (India). The sampling frame was registration with the State Dental Council and practicing in Raipur district. A questionnaire was personally administered and the practitioners were given explanations regarding how to complete it. Only descriptive statistics were calculated (SPSS version 16 for Windows). **Results:** Based on the responding dentists' self reports, 76% were not confident in TCC, 48% did not assume TCC to be their responsibility, 17% considered that it might have a negative impact on their clinical practice, whereas 24% considered it might take away precious time from their practice, 25% considered TCC by dentists to be effective to a considerable extent and 80% considered TCC activities are not effective due to lack of formal training, 69% considered dental clinics as an appropriate place for TCC but 82% thought there must be separate TCC centre and 100% of the dentists wanted TCC training to be a part of practice and that it should be included in dental curriculum. Some 95% of them were of the view that tobacco products should be banned in India and 86% responded that health professionals must refrain from tobacco habits so to act as role models for society. **Conclusions:** Dental professionals must expand their armamentarium to include TCC strategies in their clinical practice. The dental institutions should include TCC in the curriculum and the dental professionals at the primary and the community health care level should also be trained in TCC to treat tobacco dependence.

Keywords: Chhattisgarh - dental practitioners - KAP study - tobacco cessation counseling - tobacco usage

Asian Pac J Cancer Prev, 14 (10), 6141-6145

Introduction

The prevention and control of adverse health effects associated with tobacco consumption is an emerging issue of public health significance. As per the World Health Organization Global Report on 'Tobacco Attributable Mortality 2012' 7% of all deaths (for ages ≥ 30) in India are attributed to tobacco (World Health Organization, 2012). Tobacco usage in any form is the second major etiological factor responsible for death and nearly 1 out of 10 deaths worldwide is due to tobacco. By 2030, tobacco is expected to rise to become the forerunner amongst the causes of death worldwide. Every 6.5 seconds one tobacco user dies from a tobacco related disease somewhere in the world (World Health Organization, 2003). It is assumed to account for more than 10 million deaths per year by 2030, 70% of which will be from developing countries (World Health Organization, 2005).

Tobacco consumption has a deleterious effect on nearly every organ of our body causing serious complications

like cancer, cardiovascular and pulmonary disorders. In addition to its association with other conditions, tobacco use plays a significant role in the etiology of a number of oral conditions. It's a primary risk factor for oral cancer, periodontitis and delayed wound healing (Meehan et al.; 1988; Tomar and Asma, 2000; USDHHS, 2004). Similarly tobacco use is associated with halitosis (foul odor), stained teeth, exposed roots, loss of taste and several other intra oral lesions (Johnson, 1997; Alberta et al., 2005). Smokeless tobacco increases the risk for pharyngeal and esophageal cancers (Silverman, 2001). There is emerging evidence relating maternal smoking with the development of cleft lip in the child (Mirbod and Ahing, 2000; Little et al., 2004; Lie et al., 2008). Also some studies relate maternal smoking to development of primary caries in children (Aligne et al., 2003; Shenkin et al., 2004).

After tobacco use cessation, the harmful effects on oral and systemic health gradually subside over time. Improvements in pulmonary function can be observed in less than 3 months; at 1 year, improvements in

cardiovascular health can be seen, and after 10 years of tobacco use cessation, compared to smokers, there is a significantly reduced risk of cancers, with the risk for lung cancer decreasing 30-50% (Smoking Cessation Guidelines for Australian General Practice, 2004). From social and sensory perspectives, short-term benefits include a reduction in halitosis and the tobacco smell and improved senses of taste and smell.

Dental professionals are in a perfect place and have many opportunities to provide tobacco cessation counseling (TCC) to reduce the prevalence of tobacco use (Mecklenburg et al., 1990; Gordon et al., 2001; Beaglehole et al., 2004; Binnal et al., 2012). As dental treatment often requires multiple visits, hence it provides a system for initiation; reinforcement and support of tobacco cessation activities (West et al., 2000; Alberta et al., 2005). Dentists have the advantage to correlate cessation advice and subsequent follow up visits with the obvious visible changes in the oral status. Hence, dental office can be considered to be ideally suited to provide TCC.

Despite of the potential, not many dentists are involved in TCC activities. Barriers that have been associated with provision of TCC include lack of time, no monetary benefits, lack of professional training in TCC activities along with anticipated negative feedback from patients, lack of confidence in their ability and skills to provide effective counseling (Albert et al., 2002; Ibrahim et al., 2008; Mohanty et al., 2013).

Therefore, in terms of tobacco cessation interventions, one of the ways to prevent and reduce tobacco use prevalence in the community is to influence knowledge, attitudes and practice of dentists positively, and to increase an awareness of their professional responsibility. Because of these considerations, dental professionals should play pivotal roles in tobacco control, and their attitude and practice toward tobacco use can affect the health of the community and the country in general.

India even after 65 years of independence; is still in the queue of developing countries. Already containing 17.5% of the world's population, India is projected to be the world's most populous country by 2025. But the split in Indian population is more towards the rural component i.e. around 70% of the total population. India has more than 50% of its population below the age of 25 and more than 65% below the age of 35 (Demographics of India, 2013). This is the age associated with tobacco use and more of it is seen in the rural aspect (Philip et al., 2013). This is the period during which tobacco cessation interventions can be carried out and positive results can be drawn.

Chhattisgarh state, which claims of being on fast track of development, has low literacy levels and limited access to school education for its people due to difficult terrains and the socio-economic profile of the people. But it is a state with high prevalence of tobacco use, despite a ban on sale of smokeless tobacco products and smoking in public places (Centre for tobacco control and health promotion, 2012). Not only smoking but chewing tobacco in different forms is very popular in Chhattisgarh state which may be attributed to lack of enforcement of current laws and lack of awareness among people regarding the effects of tobacco on health (Gupta, 2013). Chhattisgarh state which

also comprises of 77% of rural population, cannot boast off health care facilities of acceptable standards; therefore tobacco cessation interventions being carried out by dental professionals at the rural sector could be of great public health significance.

In the light of current available guidelines and little that is known about the extent to which the dentists engage themselves in performing TCC, the study explored the factors associated with their performance. The purpose of this study was to determine the knowledge, attitude and behaviors of the practicing dentists regarding TCC in Raipur district of Chhattisgarh state and also to assess the barriers that prevent them from doing so.

Materials and Methods

This cross sectional study was conducted among the dental practitioners of Raipur district, Chhattisgarh state (India). Ethical clearance for the study was obtained from the Institutional Review Board of Rungta College of Dental Sciences & Research, Bhillai, Chhattisgarh state. The data was collected during the period of April – May 2013.

Initially a pilot study was carried out among 20 professionals to check the feasibility of the study and 5 out of 25 questions of the initial questionnaire were removed.

The sampling frame comprised of the dental practitioners of the Chhattisgarh state registered with the State Dental Council. The sampling unit consisted of the registered dental practitioners practicing in Raipur district. It comprised of 130 dental practitioners; out of which 120 responded to the questionnaire. The questionnaire was personally administered and the professionals were explained regarding the motive of the study and how to complete the questionnaire. It was emphasized that the confidentiality of the responses made by them would be strictly maintained.

The questionnaire comprised of four sections: socio – demographic profile, attitudes in tobacco cessation, practices in tobacco cessation interventions and related barriers. A four point Likert scale of 'not at all'; 'a little bit'; 'to some extent' and 'to considerable extent' was used (Dane Bertram, n.d).

Data was entered in to Microsoft Excel sheet (Windows 8) and analysis of data was done using SPSS statistical software package for Windows (Version 16). Only descriptive statistics such as frequencies were calculated.

Results

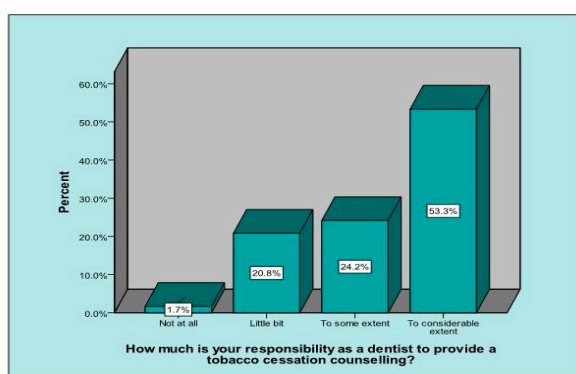
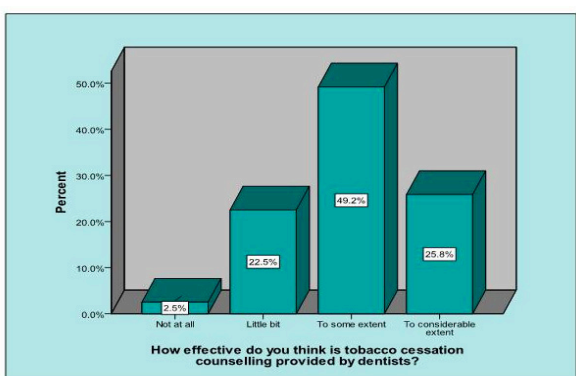
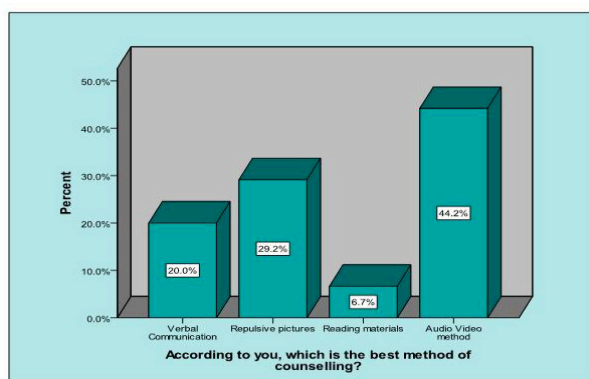
Results on dentists' knowledge, attitude and behavior towards tobacco cessation counseling are shown in Table 1.

A total of 83% respondents enquired from their patients regarding tobacco habits and were of the view that enquiring about the same would have no negative impact on their practice. But still 23.3% considered it to be a waste of time as patients would never heed to their advice seriously.

Involvement of the dentists in tobacco cessation

Table 1. Results on Dentists' Knowledge, Attitude and Behavior Towards Tobacco Cessation Counseling

S.no	Question	Yes (%)	No (%)
1.	Enquire from patients regarding tobacco habits	83.3	1.7
2.	Mention tobacco habits in case records	96.6	3.4
3.	Enquiring about tobacco habits has negative impact on clinical practice	16.7	83.3
4.	TCC is a waste of time	23.3	86.7
5.	Explain to patients the risks associated with tobacco usage	92.5	7.5
6.	Questions regarding tobacco habits & cessation take precious time away from clinical practice	11.7	88.3
7.	Providing dental treatment is more important than TCC	55.83	44.17
8.	TCC is not effective due to lack of formal training	80.8	19.2
9.	Dental office is an appropriate place for TCC	68.8	31.2
10.	Proper counseling will lead to patients quitting the habit	93.3	6.7
11.	Should there be provision of TCC center in hospitals & institutions	82.5	17.5
12.	Consume tobacco in any form	20	80
13.	Health professionals should refrain from tobacco habits	86.7	13.3
14.	Tobacco products should be banned in India	95	05
15.	TCC should be a part of dental curriculum	100	00

**Figure 1. Responses towards Responsibility of Dentist to Provide TCC****Figure 2. Responses towards Effectiveness of TCC Provided by Dentist****Figure 3. Responses of Dentist towards Best Methods of Counseling**

counseling as their responsibility to a considerable extent was limited to 52.5% and 12% were of the view that it would take away precious time from their practice.

A mere 25% were optimistic in their ability to provide effective TCC whereas a considerable bunch of around 73% were not sure about it. 81% of them considered the reason of less effectiveness of the TCC delivered by them to be lack of formal training.

There was a near even distribution of responses regarding whether provision of dental treatment is more important than giving priority to TCC. Around 56% considered provision of dental treatment to be given more priority. However, 93% of them explained to the patients about the health risks associated with tobacco usage whether in smoke or smokeless form.

Majority of the practitioners (69%) answered that dental office is an appropriate place for TCC and 93% affirmed that proper counseling provided will lead to patients quitting the habit. There should be a provision of separate tobacco counseling centre's in hospitals, dental colleges and other institutions according to 82% of the dentists. Audio – video method (41%) and use of repulsive pictures (31%) were considered as the best aids for counseling in the dental office.

The majority of the professionals (87%) were of the view that the health professionals should refrain from tobacco related habits but still 20% of the dentists had a tobacco related habit of some sort. There was a unanimous belief among the professionals that TCC should be a part of academics as a training part in Undergraduate curriculum and 95% nodded to the view that tobacco related products should be banned in India.

Discussion

Health professionals have a strategic role in imposing tobacco cessation interventions. Dentists hold a unique and an important position in the control of tobacco use. Dentists are well placed to identify smokers and other tobacco users; it may range from diagnosis of periodontal disease to the management of potentially dangerous white, red or speckled lesions (Pai and Prasad, 2012).

In the present study, 83% of dentists reported that

they enquired the patients regarding their tobacco habits which are comparatively higher to 52% as reported by Sahoo S et al. in a similar study (Sahoo et al., 2010). However, Chandrashekar et al. 2011 reported that 60% of the dentists enquired in less than 5 out of 10 patients in a study conducted on dental professionals (Chandrashekar et al., 2011). The reason that might be associated with this finding is the negative impact that may incur on their practice. But as per a study on patient receptivity to TCC in dental clinic, respondents who had tobacco habit in any form were quite positive in their attitude towards reception of TCC in dental setting (Victoroff, 2006).

Our study revealed that nearly 98% of the dentists were of the opinion that tobacco usage should be recorded in the patient case histories which is quite high as compared to 36% in a study by Sahoo S et al. in similar settings (Sahoo et al., 2010). A mention about tobacco usage in case sheet may have a positive impact and motivate the patients to quit the adverse habit. To a great disappointment, only a mere 25% of the dentists had a great optimism in effectiveness of TCC provided by dentists. The majority of dentists in our study (76%) were also not confident in their ability to provide TCC. It may be attributed to lack of formal training in TCC and lack of patient education materials.

This study showed that majority of the dentists (92%) explained to the patients about the different health hazards and risks associated with the tobacco use. It showed that they wanted to play an active role and understand the importance of tobacco cessation interventions (John et al., 1997).

In several developed countries like United States; TCC is reimbursed through several insurance schemes but this is not the scenario in poor and developing countries like India (Dianne, 2002). In India, TCC is not covered under any health schemes, hence 12% of the dentists in the present study thought that providing TCC to their patients may take away their precious time.

For the implementation of TCC in dental setup, it is of paramount importance that the dentists themselves are free from the habit. Even in this study, 87% said that the health professionals must refrain from tobacco habits to act as a role model for the society as a whole. It was evident that the dentists involved in tobacco use were comparatively less inclined to provide TCC than their counterparts (World Health Organization, 2003).

Inclusion of TCC in Undergraduate curriculum is the need of the hour. There was a unanimous voice of the responding professionals in this study towards inclusion of TCC training in the curriculum. There should be continuing dental education programs for clinicians to better and sharpen their skills in TCC and harvest their confidence in a positive direction to carry out the interventions.

Now the question that arises here is: - Can the dental professionals raise to this mounting challenge of tobacco cessation interventions? Dr. William Foege, who directed the smallpox global eradication program, once said, "One individual who is given a challenge will say, 'I can't do that.' Another will respond, 'I can.' Both are right" (Mecklenburg, 2001). Now it is up to

the dental professionals; to what individual they want to be characterized with. But it is important for the dental professionals to rise to the occasion.

Some limitations of the study were that there was no age and gender characterization in the study. There was also no characterization on the basis of qualification and number of years in practice and hence results could not be stratified and compared on the basis of demographic details. This was not possible as the responding professionals were reluctant to give demographic details regarding them in spite of that being mentioned in the questionnaire.

In conclusion, dental professionals must expand their horizon and armamentarium to include TCC strategies inclusive of their regular preventive and therapeutic treatment modalities. Also the dental institutions should include TCC in to the curriculum, but it should not be just theoretical knowledge rather it must have a practical component so that the upcoming bunch of professionals have the requisite and desired competency to fight one of the preventable cause of death. Students and Interns should also be inspired and motivated to carry out tobacco awareness and cessation programs especially at the rural level. It is also recommended to train the dental professionals at the primary and community health care levels in the treatment of tobacco dependence as most people in India cannot afford to go to specialist TCC centre's nor can the government afford to run them on large scale.

References

- Albert D, Ward A, Ahluwalia K, Sadowsky D (2002). Addressing tobacco in managed care: a survey of dentists' knowledge, attitudes and behaviors. *Am J Pub Health*, **92**, 997-1001.
- Alberta DA, Severson H, Gordon J, et al (2005). Tobacco attitudes, practices, and behaviors: a survey of dentists participating in managed care. *Nicotine Tob Res*, **1**, 9-18.
- Aligne CE, Moss ME, Auinger P, Weitzman M (2003). Association of pediatric dental caries with passive smoking. *JAMA*, **289**, 1258-64.
- Beaglehole RH, Watt R (2004). Helping smokers to stop: a guide for the dental team. London: Health Development Agency, 2004. Available from: <http://www.publichealth.nice.org.uk/page.aspx?o=50273>
- Bertram D (2013). Likert scale. Available from: <http://poincare.matf.bg.ac.rs/~kristina/topic-dane-likert.pdf>
- Binnal A, Rajesh G, Denny G, Ahmed J (2012). Insights into the tobacco cessation scenario among dental graduates: an Indian perspective. *Asian Pac J Cancer Prev*, **13**, 2611-7.
- Chandrashekar J, Manjunath BC, Unnikrishnan M (2011). Addressing tobacco control in dental practice: a survey of dentist's knowledge, attitude and behaviors in India. *Oral Health Prev Dent*, **9**, 243-49.
- Dianne B (2013). Reimbursement for smoking cessation therapy: A healthcare practitioner's guide. Available from: <http://www.endsmoking.org/resources/reimbursementguide/pdf/reimbursementguide-3rd-edition.pdf>
- Gupta B (2013). Burden of smoked and smokeless tobacco consumption in India - results from the global adult tobacco survey India (GATS-India)- 2009-2010. *Asian Pac J Cancer Prev*, **14**, 3323-9.
- Gordon JS, Severson HH (2001). Tobacco cessation though dental office settings. *J Dent Educ*, **65**, 354-63

- Ibrahim H, Norkhafizah S (2008). Attitudes and practices in smoking cessation counseling among dentists in Kelantan. *Archives Orofacial Sciences*, **3**, 11-6
- John JH, Yudkin P, Murphy M, Ziebland S, Fowler GH (1997). Smoking cessation interventions for dental patients - attitudes and reported practices of dentists in the Oxford region. *Br Dent J*, **183**, 359-64.
- Johnson N (1997). Oral cancer: practical prevention. *FDI World*, **6**, 7-13.
- Lie RT, Wilcox AJ, Taylor J, et al (2008). Maternal smoking and oral clefts: the role of detoxification pathway genes. *Epidemiol*, **19**, 606-15.
- Little J, Cardy A, Munger RG (2004). Tobacco smoking and oral clefts: a meta-analysis. *Bull World Health Organ*, **82**, 213-8.
- Mecklenburg R, Christen A, Gerbert B, et al (1990). How to help your patients stop using tobacco: a national cancer Institute manual for the oral health team. NIH Publication No 91-3191. Bethesda, MD: National Institutes of Health, 1990.
- Mecklenburg RE (2001). Tobacco prevention and control in dental practice: the future. *J Dent Educ*, **65**, 375-84
- Meechan JG, MacGregor GM, Rogers SM (1988). The effects of smoking on immediate post extraction socket filling with blood and on the incidence of painful sockets. *Br J Oral Maxillofac Surg*, **26**, 402-9.
- Mirbod SM, Ahing SI (2000). Tobacco-associated lesions of the oral cavity: Part I. Nonmalignant lesions. *J Can Dent Assoc*, **66**, 252-6
- Mohanty VR, Rajesh GR, Aruna DS (2013). Role of dental institutions in tobacco cessation in india:current status and future prospects. *Asian Pac J Cancer Prev*, **14**, 2673-80.
- Pai A, Prasad S (2012). Attempting tobacco cessation - an oral physician's perspective. *Asian Pac J Cancer Prev*, **13**, 4973-7.
- Philip PM, Parambil NA, Bhaskarapillai B, Balasubramanian S (2013). Evaluation of a specially designed tobacco control program to reduce tobacco use among school children in Kerala. *Asian Pac J Cancer Prev*, **14**, 3455-9.
- Sahoo S, Dorothy PR, Basanagouda K (2010). Knowledge, attitude and practices of indian dental surgeons towards tobacco control: advances towards prevention. *Asian Pac J Cancer Prev*, **11**, 939-42.
- Shenkin JD, Broffitt B, Levy SM, WarrenJJ (2004). The association between environmental tobacco smoke and primary tooth caries. *J Public Health Dent*, **64**, 184-6.
- Silverman S Jr (2001). Demographics and occurrence of oral and pharyngeal cancers. The outcomes, the trends, the challenge. *J Am Dent Assoc*, **132**, 7-11.
- Stacey F, Heasman PA, Heasman L, et al (2006). Smoking cessation as a dental intervention - views of the profession. *Br Dent J*, **201**, 109-13.
- Tomar SL, Asma S (2000). Smoking attributable periodontitis in the United States: findings from NHANES III. *J Periodontol*. **71**, 743-51.
- USDHHS (2004). The Health Consequences of Smoking: A Report of the Surgeon General, 2004.
- Victoroff KZ, Lewis R, Ellis E, Ntragatakis M (2006). Patient receptivity to tobacco cessation counseling in an academic dental clinic: a patient survey. *J Public Health Dent*, **66**, 209-11.
- West R, McNeil A, Raw M (2000). Smoking cessation guidelines for health professionals: an update. *Thorax*, **55**, 987-99.
- World Health Organization (2003). Tobacco dependence treatment in England, World Health Organization 2003.
- World Health Organization (2003). World Health Report: Shaping the Future. Geneva: WHO, 2003.
- World Health Organization (2012). Global Report on 'Tobacco Attributable mortality, 2012. Geneva: WHO, 2012.
- World Health Organization (2013). Tobacco or oral health; World Health Organization. An advocacy guide for oral health professionals.