

International Journal of Dental Science and Innovative Research (IJDSIR) **IJDSIR** : Dental Publication Service Available Online at: www.ijdsir.com Volume – 4, Issue – 2, April - 2021, Page No. : 01 - 12 Knowledge, Attitude And Practice Regarding Tobacco Cessation Methods Among Dental Professionals- An Online **Cross-Sectional Survey** ¹Dr. Priyanka Muwal, MDS Post Graduate Student, Department of Periodontology and Oral Implantology, National Dental College and Hospital, Derabassi, Mohali, Punjab ²Dr. Gurpreet Kaur, HOD, Department of Periodontology and Oral Implantology, National Dental College and Hospital, Derabassi, Mohali, Punjab ³Dr. Deepak Grover, Reader, Department of Periodontology and Oral Implantology, National Dental College and Hospital, Derabassi, Mohali, Punjab ⁴Dr. Navneet Kaur, Senior Lecturer, Department of Periodontology and Oral Implantology, National Dental College and Hospital, Derabassi, Mohali, Punjab ⁵Dr. Shivam Pumma, MDS Post Graduate Student, Department of Periodontology and Oral Implantology, National Dental College and Hospital, Derabassi, Mohali, Punjab Corresponding Author: Dr. Priyanka Muwal, MDS Post Graduate Student, Department of Periodontology and Oral Implantology, National Dental College and Hospital, Derabassi, Mohali, Punjab Citation of this Article: Dr. Priyanka Muwal, Dr. Gurpreet Kaur, Dr. Deepak Grover, Dr. Navneet Kaur, Dr. Shivam Pumma, "Knowledge, Attitude And Practice Regarding Tobacco Cessation Methods Among Dental Professionals- An Online Cross-Sectional Survey", IJDSIR- April - 2021, Vol. – 4, Issue - 2, P. No. 01 – 12. Copyright: © 2021, Dr. Priyanka Muwal, et al. This is an open access journal and article distributed under the terms of the creative commons attribution noncommercial License. Which allows others to remix, tweak, and build upon the work non commercially, as long as appropriate credit is given and the new creations are licensed under the

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Abstract

Background: Dental professionals can play a major role in promoting smoking cessation by providing either behavioral and/or pharmacological smoking cessation interventions to their patients. Dental professionals can easily recognize the patients with tobacco habits and can better counsel them regarding tobacco cessation interventions (NRT) due to increased duration of dental treatment as dentists have higher opportunities to deliver better cessation services to their patients. Aim & Objective: To assess the attitude and practice of dental professionals towards tobacco cessation methods and to gather the influence of knowledge in its promotion. Material & Methods: An online cross-sectional survey was conducted on 300 dental professionals, specialized dentist, post graduate students and interns. A selfadministered two-part questionnaire consisting of demographic data of the individual and clinical experience in the first part and knowledge of hazard of smoking and tobacco control policies along with dental professionals receiving training in smoking cessation methods included in the second part of the questionnaire was used and distributed through electronic media. Data were analysed by multiple logistic regression analysis using SPSS software 20.

Results: Among the dentists, who participated in the study, 33.2% were males and 66.8% were females, the maximum number of dentists was in the age group of 25–50 years and 62.2% held a bachelor degree in the present study. Around 74.8% of dentists exhibited good attitudes and 88.8% had good practice of providing tobacco cessation advice to their patients.

Almost 40.4% preferred to recommend Nicotine Replacement Therapies (NRT) as a tobacco cessation advice to the patients, 53.6% with self-quitting practice and 6% with pharmacological methods.

Conclusion: Professionals training programs for dental professionals are required to increase the knowledge, understanding the pharmacotherapy of NRT and practice that foster prescriptions of various agents of NRTs.

Keywords: Tobacco cessation, Nicotine Replacement Therapy, Intervention, Counselling, Dental professionals. **Introduction**

Tobacco use may be defined as any habitual use of the tobacco plant leaf and its products. Tobacco smoke is a complex mixture of numerous mutagenic and carcinogenic substances. It consists of two phases, particulate and vapor, which contains more than 500 compounds. Tobacco consumption is hazardous to general and oral health as it subdues a high amount of nicotine and numerous harmful chemicals. The predominant use of tobacco is by smoke inhalation of cigarettes, pipes, cigars and water pipes. Other forms of tobacco include smokeless tobacco which refers to a variety of tobacco products that are sniffed, sucked or chewed.¹

Tobacco usage has been recognized to be linked to a respiratory disorder, cardiovascular diseases, various neurological, coronary and neoplastic conditions.² Furthermore, it is found to deteriorate dental and oral health by hastening the severity and progression of periodontal disease.^{3,4} It is a primary risk factor for oral cancer ranging from mild to severe life threatening consequences. Oral manifestation of tobacco usage are leukoplakia, restoration, delayed wound healing, stained teeth, taste derangement, halitosis, periodontal diseases.^{5,6}

Tobacco use remains one of the leading causes of preventable illness, disability, and premature death in the world. It currently kills nearly 6 million people each year worldwide.⁷ Mathematical modeling done on the basis of current smoking patterns shows that the global number of annual deaths due to smoking will rise to around 10 million by 2030. If current trends continue, there will be approximately 1 billion deaths due to smoking in the twenty-first century, of which over 70% will be in low-and middle-income countries.⁸ Global tobacco use levels remain high in nearly half of all men and up to 1 in every 10 women worldwide using tobacco products. There are more than one billion smokers in the world and up to 80% of these current smokers live in low or developing where economy class is known as middle class.⁹

Dental professionals have a key role to play in tobacco control by working through the health care system to motivate and advice smokers to quit.¹⁰ Various effective smoking cessation interventions that can be utilized by health care providers in the provision of smoking cessation care are available. These ranges from behavioral cessation interventions (such as brief advice and counseling) to pharmacological interventions. There is an evidence that dental professional's advice is effective in increasing cessation, primarily through helping motivate a smoker to make a quit attempt.¹¹ According to the WHO

report on global tobacco epidemic in 2008, "Integration of smoking cessation interventions into routine health visits provides health care providers with opportunities to remind tobacco users that tobacco harms their health and that of others (passive smokers) around them while, repeated cessation education at every health visit reinforces the need to stop using tobacco".

Nicotine is the main alkaloid of tobacco smoke and the principal modulator of the psychopharmacological effects associated with addiction. Nicotine replacement therapy (NRT) aims to reduce motivation to consume tobacco and the physiological and psychomotor withdrawal symptoms through delivery of nicotine.¹² It is the most widely used therapy for smoking cessation and comprises a range of products with passive (transdermal patch) and instantaneous nicotine delivery (e.g., gum, nasal spray, inhaler) with the rationale of providing a slow and steady supply of nicotine to achieve constant concentration levels of nicotine in order to relieve craving and withdrawal symptoms.¹³ Nicotine acts by stimulation of neural nicotinic acetylcholine receptors (NAChRs) in the ventral tegmental area of the brain. This causes release of dopamine in the nucleus accumbens which lead to reduction in nicotine withdrawal symptoms in regular smokers who abstain from smoking.¹⁴ NRTs increases the rate of quitting by 50 to 70%. Cognition and execution of NRT by the rising dental and medical professionals is crucial for helping the patients to quit tobacco addiction. An educational institution would be one of the best learning platforms to deal with comprehensive oral health care and tobacco cessation counselling of the patients. Introducing NRT principles in the dental and medical curriculum is essential for meticulous implementation in their future clinical practice.¹⁵ Hence, the present online cross-sectional survey aimed to assess the attitude and practice of dental professionals towards tobacco cessation methods and to gather the influence of knowledge in its promotion.

Materials and methods

The online cross-sectional questionnaire-based study was conducted from January 2021 to March 2021, among the dental professionals in National dental college and Hospital Derabassi, Punjab. The purpose of the present study was discussed and explained to the participants and verbally informed consent was obtained before the commencement of the study. A sample size of 300 dental professionals, specialized dentist, interns and post graduate students were selected and duration of study was three months.

Inclusion Criteria

- 1. Participants those who were willing to participate and filled the entire questionnaire Performa.
- 2. Both male and female dentists were selected
- 3. General Dental Practitioners, Specialized Dentist, Interns and Post Graduate students.
- 4. Age group was 25-50 years.

Questionnaire design

A self-administered two-part questionnaire consists of 21 questions was administered to dental professionals. The first part consisting of questions on demographic data related to age, gender, clinical or teaching experience and education at student level (Interns and Post Graduate students). The second part of questionnaire is based upon the knowledge leading to attitude and practice of dental professional regarding awareness of smoking cessation methods (Nicotine Replacement Therapy). The phase of validation and relevance of questionnaire content is performed by the subject experts in Oral Medicine, Public health Dentistry and Periodontics. This survey in the form of questionnaire will then will be filled in by the dental professionals who are receiving training for cessation of use of smoking and tobacco being chewed. All

questionnaires were assessed for completion, and incomplete questionnaires were discarded. The answer keys for the core questions on the knowledge of nicotine replacement treatment were generated using the guidelines of tobacco cessation measures which have been written in parallel with the guidance on smoking cessation interventions produced by the Centre for Health Economics at the University of York. All data was analyzed by using the Statistical Package for Social Sciences (SPSS) software, for windows, version 22. Descriptive statistics have been generated in terms of percentages.

Results

Baseline Characteristics of dental professionals

The baseline (sociodemographic) characteristics are shown in Table1. Out of 300 study subjects a total of 250 responded positively by participating in this study. In this way the response rate was 83.3%. Rest of the subjects either didn't participate or didn't complete the questionnaire due to lack of knowledge regarding the pharmacotherapy of nicotine replacement therapy or tobacco cessation programme. Missing data were excluded from the survey.

This study included a total of 250 (167 females and 83 males) dentists, forming a response rate of about 83.3% (250 participated out of 300 invited dentists). Their age ranged from 25-50 years with a mean of 35.3 years. A total of 82 (32.8%) were in postgraduate program in dentistry including Post graduate students (MDS) and 168 (67.2%) were an Graduate program in dentistry (BDS). The participants working in recognised dental college and in academics were 40 (16%) and 210 (84%) were practising dentistry in dental clinics.

Table 1: The baseline (sociodemographic) characteristics of the 250 dentists enrolled in the survey.

Sociodemographic characteristics	Dentists	n (%)
Age Group		
< 30 yrs	215	86.0%
30-45 yrs.	24	9.6%
> 45 yrs.	11	4.4%
Gender		
Male	83	33.2%
Female	167	66.8%
Qualification		
Graduates (BDS)	168	67.2%
Postgraduate Professionals (MDS)	82	32.8%
Workplace experience		
Teaching (Dental college)	40	16.0%
Clinical (Dental clinics)	210	84.0%

Knowledge of dental professionals regrading Tobacco cessation services

Majority of dental professionals 164 (65.6%) were familiar and have an adequate knowledge regarding NRT. Moreover, 229 (88.80%) dental professionals were aware of tobacco cessation programme. When asked about the medium to seek information about NRT, 18(7.20%) dental professionals though newsletters and books, 35(14%) Table 2: Knowledge of dental professionals regreding Table dental professionals through internet and only 3(1.2%) dental professionals through TV/ radio Programme. Moreover, majority of dental professionals 194(77.6%) responds to all the medium (Newsletter, books, internet or TV/ radio programme) to seek the information about NRT. On comparison of percentage in between, TV/radio programmes represent a minor role to seek information about NRT. (Table 2)

Table 2: Knowledge of dental professionals regrading Tobacco cessation services ($N=2$

Questionnaire	Dentists	n %
1. Are you aware of tobacco cessation education programme?		
A. Yes	229	88.80%
B. No	28	11 .20%
2. Do you have adequate knowledge about NRTs?		
A. Yes	164	65.6%
B. No	86	34.40%
3. Can nicotine replacement therapies (NRTs) double the chance of success in		
quitting the habit of smoking?		
A. Yes	220	88%
B. No	30	12%
4. What kind of media do you prefer to seek information about NRT?		
A. TV/ Radio programme		
B. Internet		
C. Professional newsletter, books and magazine	3	1.2%
D. All of the above	35	14%
	18	7.20%
	194	77.6%

Knowledge of dental professionals regarding Treatment Modalities (Nicotine Replacement Therapy) Table 3 shows the knowledge of dental professionals regarding treatment modalities (NRT). NRT is the first line of pharmacotherapy to assess the knowledge of dental professionals. 46% (18.4%) dental professionals knew that nicotine chewing gum can be given through oral route. Moreover, 26 (10.4%) and 23 (9.2%) dental professionals were also aware of prescribing NRT in the form of intranasal nicotine spray and transdermal nicotine patch but surprisingly, 155 (62%) dental professionals were not aware of the available pharmaceutical for tobacco cessation. Only 35 (14%) of dental professional believed that 4mg of nicotine gum should be given to heavy smoker which shows a positive correlation in between these 2 parameters. Nearly 33 (13.2%) dental professionals were aware that NRT can be used for 4 weeks and 29 (11.6%) dental professionals knew that nicotine skin patch could

be used for 16-20 hours, as well as there was a highly response rate which is associated in response to rate, academic level (Table 1). Half of the 127 (50.8%) dental professionals were aware of the acute lethal dose of nicotine which is 40-60mg mostly prescribed by the dental professionals. Only 53 (21.2%) dental professionals were aware that NRT have the potential to increase the Blood pressure by 5-10 mg Hg but half of the 110 (44%) dental

professionals were not aware regarding the relationship between blood pressure and NRT.

Based on above shown results (%age), dental professional had an adequate knowledge regarding treatment modalities (NRT) and also, they require sufficient knowledge regarding the pharmacotherapy of NRT.

Table 3: Knowledge of dental	professionals regarding	Treatment Modalities	(Nicotine Re	placement Therapy) (N=250).
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Questionnaire	Dentists	n %
1. Nicotine replacement therapy (NRT) is designed to use for?	33	13.2%
A. 4 weeks	47	18.8%
B. 12 weeks	54	21.6%
C. 16 weeks	116	46.4%
D. Do not know		
	23	9.2%
2. In which of the following form/forms NRT can be given?	46	18.4%
A. Transdermal Nicotine patch	26	10.4%
B. Nicotine chewing gum	155	62%
C. Intranasal Nicotine spray		
D. Any of the above		
	35	
3. How much dose of nicotine gum should be advised to a heavy smoker?	41	14%
A. 4 mg	62	16.4%
B. 6 mg	112	24.8%
C. 8 mg		44.8%
D. Do not know	33	
4. Nicotine skin patch should be worn for?	29	13.2%
A. 8-10 Hours	77	11.6%
B. 16-24 Hours	111	30.8%
C. 24-48 Hours		44.4%
D. Do not know	18	
5. Nicotine patch and inhaler are not recommended up to which age group?	38	7.2%
A. <10Years	97	15.2%
B. <15 Years	97	38.8%

C. <18 Years		38.8%
D. Do not know	35	
	37	14%
6. Acute Lethal dose of nicotine is?	127	14.8%
A. 20–30 mg	51	50.8%
B. 30-50 mg		20.4%
C. 40–60 mg	4	
D. 80–100 mg	53	1.6%
7. NRTs have the potential to increase the blood j	pressure by? 83	21.2%
A. 0–5 mm hg	110	33.2%
B. 5–10 mm hg		44%
C. 10–15 mm hg		
D. Do not know		

Attitude of dental professionals regarding Tobacco cessation services

Table 4 shows an attitude of dental professionals regarding tobacco cessation services, nearly more than 187 (74.18%) dental professionals positively motivating the patients for tobacco cessation services which is not a mare time waste. Also 179 (71.6%) dental professionals believed that they can manage the patients by both counselling motivation and NRT. Nearly all believed that 234 (94.4%) believed that there should be strict legislation

against public use of tobacco, that media and celebrities were highly influential promoting tobacco and the warning labels on tobacco product should be increase in size 74% of dental professionals supported that either increase in prize or size of tobacco as an effective method of tobacco control. Due to the unaware dental professionals, almost 241 (96.4%) believed that smoking cessation, education should be a part of the core curriculum of the basic training of all health professionals.

Table 4: Attitude of dental professionals regarding Tobacco cessation services (N=250).

Questio	onnaire		Dentists	n %
1.	Do you	think motivating patient for tobacco cessation a waste of time?		
	А.	Yes	63	25.2%
	В.	No	187	74.8%
2.	If your	answer is "NO" how do you manage It by		
	A.	Counselling	57	22.8%
	B.	NRT	14	5.6%
	C.	Both of The Above	179	71.6%
3.	Would	you recommend a strict legislation on tobacco use in the public?		
	А.	Yes	234	94.4%

B. No	28	5.60%
4. If your answer is "Yes", then what will you suggest:		
A. Ban on public use of tobacco	37	14.8%
B. Increase price of tobacco products	13	5.2%
C. Increase the size of warning labels on the tobacco products	15	6%
D. All of the above	185	74%
5. Should smoking cessation education be a part of the core curriculum of the		
basic training of all health professionals?		
A. Yes	241	96.4%
B. No	9	3.6%

Practice of dental professionals regarding Tobacco use among the patients (N=250)

About 234 (93.6%) dental professionals has come across patient with tobacco use and 222 (88.8%) advocated tobacco cessation practice actively. Nearly more than half of 202 (80.8%) dental professionals follow up their patients using tobacco and also maintained a record of these patients. However almost all dental professional felt that nicotine dependence was important enough to be included in their daily practice. Half of the 101 (40.4%) dental professionals preferred to nearly recommended NRT as tobacco cessation advice to the patients, in which Table 5: Practice of dental professionals preferred to mean professionals and the patients and the patients of dental professionals are provided to the patients. 134 (53.6%) dental professionals may counsel selfquieting Practice and 15 (6%) with pharmacological methods. Hence there is a felt need to be aware of all the methods to promote better treatment for the people with a thought of quieting their habit. The most frequently perceived barrier to provide to tobacco cessation counselling were lack of knowledge of NRT (25.6%) and 16% dental professions believed that NRT have hazardous side effect but surprisingly 137 (54.6%) dental professionals hesitating toward recounting NRT for smoker cessation to patients is due to inadequate knowledge about NRT and side effects.

Table 5: Practice of dental professionals regarding Tobacco use among the patients (N=250)

Questionnaire	Dentists	n %
1. Do you come across patients with tobacco habits?		
A. Yes	234	93.6%
B. No	16	6.4%
2. Do you provide patient with tobacco cessation advice?		
A. Yes	222	88.8%
B. No	28	11.2%
3. Which tobacco cessation method do you prefer to recommend?	101	40.4%
A. Nicotine Replacement Therapies (NRT)	134	53.6%
B. Self-quitting method	15	6%
C. Pharmacological methods		

4. Do you follow up or keep a record of these patients?	202	80.8%
A. Yes	48	19.2%
B. No		
5. Hesitation towards recommending NRTs for smoking cessation to	44	
patients is due to?	9	25.6%
A. Lack of knowledge about NRTs	40	3.6%
B. NRTs are not helpful to quit smoking	137	16%
C. NRTs have hazardous side effects		54.8%
D. All of the above		
	1	

Discussion

Tobacco use and its health complications affecting the vast number of populations globally, and tobacco use is also the major cause of morbidity and mortality so to overcome these problems. Murthy and Saddichha, 2010 have focused the involvement of healthcare professionals of different fields to fight against tobacco use.¹⁶ Tobacco cessation advice is an essential part of dental care, this questionnaire-based study planned to ascertain the attitude of dental experts toward tobacco cessation in general dental practice. Dentistry is an excellent noble profession and dental professionals can play a pivotal role model which may provide smoking cessation and can prevent its major health hazards, so to identify the knowledge and interest of dental students and dental professionals in tobacco cessation counseling.

Dentists are the health care professionals who can easily recognize the patients with tobacco habits and can counsel the patients regarding tobacco cessation due to increased duration of dental treatment than other treatment as dentists have higher opportunities to deliver longer and better cessation services to their patients. The rate of quitting tobacco can be increased significantly by interventions in dental settings.¹⁷ Research indicates that mentioning the link of oral lesions with patients' tobacco use is a very strong motivating factor to induce a cessation attempt. Since many tobacco users visit a dental office every year, so it is important that the dentist be prepared to intervene those who are willing to quit. There are 5 major steps (the "5 As") to intervention in the primary care setting. It is important for the dental care provider to "Ask" the patient if he or she uses tobacco, "Advice" him or her to quit, "Assess" willingness to make a quit attempt, "Assist" the patient in making a quit attempt, and "Arrange" for follow-up contacts to prevent relapse.¹⁸

The present study was conducted on 250 dental professionals with different ages, clinical experience and educational qualification to evaluate the Knowledge, Attitude and Practice score regarding tobacco cessation methods. The response rate of our study population was 83.3% which may be a good score for an online survey.

In the present study, results shows that majority of dental professionals 164 (65.6%) respond very well that they have an adequate knowledge regarding NRT. When further enquired about the source of information of NRT, dental professionals revealed that both newsletters, books, magazines, along with internet services provide an authenticated information regarding NRT. Regarding treatment modalities, dental professionals were aware of behavioral methods of tobacco cessation and 62% dental professionals were aware of different forms of Nicotine Replacement therapy. With regard to medications, half of dental professionals (50.8%)of were aware 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.¹⁶

Almost all participants favored banning smoking in all enclosed public places; and almost all supported the increase in price and size of warning labels on tobacco products. 74% of dental 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.¹⁹ Although the ban has been recently implemented under the Cigarettes and other Tobacco Products Act (COTPA), 2003, its implementation is still far from effective. On October 2, 2008, Section 4 of India's Cigarette and Other Tobacco Products Act came into action, prohibiting smoking in all public and work places. This legislation also specified that there should be a visible board at every entrance and every floor of a public place that reads, "No Smoking Area. Smoking Is an Offence." As per this legislation, most of the Dental colleges in India adopted official policies banning smoking in buildings, clinics, indoor public and common areas.19

It was further agreed by few dentists 28 (11.20%) that too much time was spent on providing routine dental treatments such that it was almost impossible to give tobacco cessation counseling to their patients. Similar responses were found in studies conducted by Stacey et al.²⁰ Majority of dental professionals 80.8% scheduled a follow-up visit for their patients. Follow-up visits during the abstinence period often provide the dentist with an opportunity to review the progress of smoking cessation, encourage the patients, identify problems, and initiate a new intervention or modify the current one if necessary.

About 88.8% respondents advise patients with tobacco cessation activities similar to Omolara et al.²¹ The results of this study indicate that many dental students participating in the survey did not have prior training of treatment modalities regarding nicotine replacement therapy. In addition, patient expectations do not create a demand for these services. The inclusion of training in the dental curriculum also becomes paramount if smoking cessation behavior in dental practice is to be improved and almost 241 (96.4%) respondents also felt that cessation training is an important part of Dental curriculum similar to Karbhari et al. study. Inclusion of cessation in the dental colleges' curriculum and availability of continuing dental education in tobacco intervention are very important to have current information and equip dental professionals with an effective role in the overall smoking cessation and prevention drive. Therefore, a need to provide such training of the health care professionals is mandatory. Didactic and practical training is within the context of the dentist's day-to-day running of the practice. A number of studies have been done in literature in the United states (Logan et al, 1992), the United Kingdom (John et al, 1997; Stacey et al 2006), Australia (Clover e al, 1999) and Saudi Arabia (Wyne et al, 2006) which believed that it was a part of their responsibility to help patients in smoking cessation and results are similar to our present study.

As this cross-sectional study is questionnaire based, data were collected via self-reported information by the dental professionals and questions regarding knowledge of identification of oral lesions were not included which could have focused on assessment on their knowledge regarding this and hence a further study is recommended to assess the clinical knowledge of the dental

professionals. Tobacco cessation intervention program is the major need of an hour because after achieving this we can prevent major oral diseases at an early stage.

Conclusion

The present study provided an interesting insight into the attitudes and practices related to tobacco cessation counseling as well as various barriers encountered by the dental professionals during their clinical practice. Within the limitation of the study, it can be concluded that the dentists have a positive attitude for tobacco cessation counseling, but lack of proper training is a significant barrier for their failure. Hence, more practical training in helping patients on tobacco cessation should be included in the dental curriculum. In an attempt to encourage dentist to become more involved in tobacco cessation, a simple yet effective protocol should be introduced. Further studies include multiple institutes will provide more insight on the organizational practice of tobacco cessation interventions in India. As future role models, it is essential that smoking cessation counseling is embedded in the dental curriculum, for broadening the vision of tobaccofree areas in the country.

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