

Views of Indian Dental Students on Tobacco Cessation Counseling and Their Skills as Counselors

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ABSTRACT

Objectives: This study aimed to determine Indian dental students' views on tobacco cessation counselling, their skills as counsellors and the barriers faced by them.

Methods: A questionnaire study was conducted among 182 dental students in dental colleges of Faridabad, India. Significant differences among responses and demographic variables were calculated using chi square test.

Results: Majority (62.1 percent) of the participants indicated willingness to counsel their patients about the effects of tobacco and planned to advise patients about tobacco cessation (90 percent) while 74.2 percent felt that tobacco cessation counselling by dentist would help patients to quit. A majority disagreed that giving tobacco cessation counselling is not a part of their role (78.1 percent) or that they did not consider tobacco cessation counselling a part of their role (74.8 percent). However, 53.3 percent agreed that they do not have sufficient training to provide tobacco cessation counseling.

Conclusion: Dental students did not show much confidence in providing tobacco cessation counselling despite their perception that tobacco users look forward to them for such counselling.

Keywords: Tobacco, Cessation, Counselling, Students

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INTRODUCTION

Tobacco use is one of the leading causes of premature death, disease and disability around the world (1). Six out of eight leading causes of death worldwide are attributed to the diseases related to tobacco use as a risk factor (2). Tobacco use is one of four behaviours strongly associated and causally linked with most of non communicable diseases (3). Despite efforts, tobacco continues to adversely influence global health patterns, leading to 5.7 million deaths, 6.9% of years of life lost, and 5.5% of disability-adjusted life-years (DALYs) in 2010(4,5). Tobacco use causes about 6 million deaths annually and the number is expected to increase to 7.5 million annually by 2020 (3). The World Bank also predicts over 450 million tobacco

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related deaths in the next 50 years, if the present scenario does not change(6). More than 80% of the total tobacco related deaths occur in the developing countries(7). In India, the tobacco related deaths are reported to be among the highest in the world and are expected to increase in the future (8). Studies in India have shown association of tobacco with reduction in mean survival rate by 6 years in men and 8 years in women (9). The Global Adult Tobacco Survey, India 2009-10 revealed that the average age for initiation of tobacco use was 17.8 years (10).

Five in ten current smokers (46.6%) and smokeless tobacco users (45.2%)

planned to quit or at least thought of quitting (10). However, many barriers like lack of knowledge (11), cultural habits (12) lack of tobacco cessation advice and support (13) contribute to inability to quit tobacco use. As compared to physicians and other health professionals, dentists are less likely to provide tobacco use cessation advice and counselling and feel inadequately prepared to provide tobacco cessation education to their patients (14, 15). Lack of training and inadequate knowledge of tobacco cessation counselling are known barriers to counselling practices for dental students in India (16).

Health care professionals rank high,

both in effectiveness and preference for providing tobacco cessation counseling (17, 18). Also, clinical interventions for tobacco cessation during dental care are as effective as in other healthcare settings (World Health Organization, 2010) (19). Surveys have found that 58 percent of smokers made regular appointments with their dentists (20, 21). Cessation rates of up to 18 percent have been seen when dental professionals counseled their patients to quit tobacco (22). This substantiates the ability of the dentist to counsel a patient with tobacco addiction. Still, tobacco cessation counselling is not yet a part of routine dental practice and is not incorporated in the dental curriculum (16).

Table1. Distribution of respondents with respect to age, gender, year of dental training, tobacco use and intended career path in dentistry

Variable	Group	Number	Percentage
Age	19	4	2.2 %
	20	35	19.2%
	21	48	26.4%
	22	52	28.6%
	23	28	15.4%
	24	9	4.9%
	25	3	1.6%
	28	1	0.5%
	29	1	0.5%
	48	1	0.5%
Gender	Male	33	18.1%
	Female	149	81.9%
Year of dental training	III Year	44	24.2%
	IV Year	60	33%
	Intern	78	42.9%
Tobacco Use	Ex tobacco user	1	0.5%
	Non Tobacco user	180	98.9%
	Tobacco user	1	0.5%
No. of tobacco users in household	0	166	91.2%
	1	11	6%
	2	3	1.6%
	3	1	0.5%
	>3	1	0.5%
Intended career in dentistry	Practising Dentistry	106	58.2%
	Post Graduation	66	36.3%
	Changing to another field	4	2.2%
	None of the above	6	3.3%

Note: Percentages may not total 100% because of rounding.

This paper seeks to determine Indian dental student's views about tobacco cessation counselling and their skills as counsellors. Various barriers faced by these students to provide the tobacco cessation counselling are also discussed.

METHODS

A cross sectional study was conducted among interns, fourth year & third year dental students from the academic session, 2013-14 in the two existing dental colleges of Faridabad, Haryana. A self administered questionnaire was designed to assess the knowledge and attitudes of the students towards tobacco cessation counselling and their skills as counsellors. The questionnaire was adopted from an Australian survey (15). A pilot study was conducted on 15 interns. Required modifications were done in the questionnaire accordingly. The participants of the pilot study were excluded from the analysis.

The questionnaire consisted of 36 close-ended questions. The first part consisted of name, age, gender, year of dental training, tobacco use, number of tobacco users in the household and intended career path. The second part consisted of institutional policies, practices and student's views on tobacco cessation counselling. It also included knowledge, barriers and strategies related to tobacco cessation counselling. Of the total number of questions; 8 assessed the knowledge of anti-tobacco

policies and practices of the institutes, 5 questions were regarding participant's perception of their expected role as counsellors, 6 questions were regarding utilization of strategies for tobacco cessation counselling, 13 assessed the barriers mitigating provision of tobacco cessation counselling and 4 questions pertaining to actions about tobacco cessation counselling.

Approval for the study was obtained from the Institutional Ethical Committee of Manav Rachna Dental College and permission to conduct the study was obtained from the respective dental colleges. The 226 students who were present on the day of survey were invited to participate. After verbal consent, 205 students (response rate = 90.7 percent) agreed to participate in the study. However, 23 participants were excluded due to incomplete response to the questionnaire.

Data was tabulated and classified in Microsoft Excel 2010 for a total of 182 participants. The data was statistically analyzed with the help of SPSS software, Version 18. Frequencies were obtained for each question based on the response of the participant. Significant differences among responses and demographic variables were calculated using chi square test. A P value < 0.05 was considered as statistically significant.

RESULTS

Participants' Socio-demographic

Variables- The participants' age ranged from nineteen to forty eight years (median=23.5). Of the total population (n=182), 81.9 percent were female. III year, IV year students and interns constituted 24.2 percent, 33 percent, and 42.9 percent, respectively. There was only one (0.5 percent) ex-smoker and one (0.5 percent) current smoker; the remaining 180 (98.9 percent) were "never smokers". Out of total, 166 (91.2 percent) had no tobacco users in the household. (Table 1)

For intended career, 106(58.2 percent) participants said that they would practice dentistry, 66(36.3percent) said that they would do post-graduation in dentistry and only 4(2.2 percent) would change to another field. (Table 1)

Policies and practices- Nearly half the students (44.5 percent) didn't know whether any written tobacco use policy existed in their institution. A majority of students were aware that smoking was prohibited in nonclinical facilities (n=176; 96.7 percent), clinical teaching facilities (n=178; 95.1 percent), and public areas associated with clinical facilities (n=170; 93.4 percent). Almost all the participants (n=181; 99.5 percent) indicated that that they are expected to give anti tobacco advice to the patients. In total, 97.8 percent (n=178) said that they take tobacco use history from all the patients, 95.1 percent felt that they were taught anti tobacco advice suitable for patients and

Table 2 Distribution of responses regarding policies and practices

Policies and Practices	Yes		No		Don't Know	
	n	%	n	%	n	%
Does your college have a written tobacco use policy	82	45.1%	19	10.4%	81	44.5%
Is smoking prohibited in non-clinical teaching facilities	176	96.7%	6	3.3%		
Is smoking prohibited in clinical teaching facilities	178	97.8%	4	2.2%		
Is smoking prohibited in public areas associated with clinical facilities	170	93.4%	12	6.6%		
Are students expected to give antitobacco advice to patients	181	99.5%	1	0.5%		
Do students take tobacco history from all patients	178	97.8%	4	2.2%		
Are students taught antitobacco advise suitable for patients	173	95.1%	9	4.9%		
Are students taught the role of tobacco in the etiology of oral cancer	180	98.9%	2	1.1%		

Note: Percentages may not total 100% because of rounding.

98.9 percent (n=180) said that they were taught about the role of tobacco in the aetiology of oral cancer (Table 2). Participants' perception of their expected role as counsellors- About three-fourth of the participants (n=134; 73.6 percent) indicated that, they have helped a patient to quit tobacco use during the course of their training. Around 90 percent (n=163; 89.6 percent) said that they plan to advise patients about tobacco cessation in their professional careers and felt that tobacco cessation counselling provided by dentist would help patients to quit (n=135; 74.2 percent). However, 66 participants (36.3 percent) were concerned that such a counselling in dentistry may alienate the patients (Table 3).

Participants' knowledge about tobacco cessation counselling issues - A majority of participants answered that all patients should be routinely asked about their tobacco use (n=164; 90.1 percent). A majority also agreed that a tobacco related history is relevant for patients considered for implant placement (n=170; 94.5 percent), and that patients about to have oral surgery should be advised to abstain from smoking (n=174; 95.6 percent). A total

of 165 (87.9 percent) participants felt that routine screening of asymptomatic patients by primary physical care physicians for oral cancer is recommended. Utilization of strategies by participants for tobacco cessation counselling When asked about utilization of strategies for tobacco cessation counseling, a large number of participants (n=156; 85.7 percent) said that they asked the patients about smoking status. A majority of participants (n=113; 62.1 percent) said that they counsel their patients about the effects of tobacco on oral health. However, 26.9 percent answered that they would advise their patients to quit tobacco use in one go. Among other strategies utilized by the participants, 28.6 percent answered that they will suggest nicotine replacement therapy to those who wanted to quit, 12.6 percent will provide written information and self-help material and 13.7 percent said that they will arrange follow-up visits to discuss tobacco use. These findings were significantly associated with the year of training of the students (p < 0.05). (Table 4)

Participant's views about barriers mitigating provision of tobacco cessation counseling: Lack of patient

motivation to quit tobacco use (n=149; 81.8 percent) was the most highly ranked among the thirteen potential barriers mitigating tobacco cessation counseling about which views were sought from the participants. Further, a large number of the participants (n=97, 53.3 percent) agreed that they do not have sufficient training to provide tobacco cessation counseling. With respect to their skills to provide tobacco cessation counseling, participants earlier in their education were more likely to agree that their training was insufficient for them to provide tobacco cessation counselling at their current stage (III year: 70.5 percent, IV year: 61.7 percent, Intern: 44.9 percent).(Table 6). A large number of respondents (n=85; 46.7 percent) were concerned that anti tobacco message may alienate patients who are tobacco users. (Table 5)

A large majority of participants (n = 142; 78.1 percent) disagreed that giving tobacco cessation counselling to patients is not a part of their role as a student. A large number also 'disagreed that they (n - 136; 74.8 percent) do not consider tobacco cessation counselling a part of the dentist's professional role.

Table 3: Distribution of responses regarding participant's perception of their expected role as Counselors

	Yes n(%)	No n(%)	Unsure n(%)
In the course of training, have you ever helped a patient to quit smoking	134(73.6%)	33(18.1%)	15(8.2%)
Do you plan to advise patients about tobacco cessation in your professional career	163(89.6%)	7(3.8%)	12(6.6%)
Would tobacco cessation counselling provided by dentist help the patients to quit	135(74.2%)	6 (3.3%)	41(22.5%)
Are you concerned that such counselling in dentistry may alienate the patients	66 (36.3%)	67 (36.8%)	49 (26.9%)

Note: Percentages may not total 100% because of rounding.

Table 4: Distribution of responses regarding utilization of strategies for tobacco cessation counseling, according to year of dental training

	III Year n(%)	IV Year n(%)	Intern n(%)	Total N
Ask patient about smoking status	35(22.4 %)	54(34.6%)	67(42.9%)	156
Advise patient to quit in one go	11(22.4%)	17(34.7)	21(42.9)	49
Counsel patients about the effects of tobacco on oral health	24(21.2%)	37(32.7%)	52(46%)	113
Provide patients with written information and self-help material to assist them to quit	2(8.7%)	8(34.8%)	13(56.5%)	23
Suggest nicotine replacement therapy for those who wish to quit	17(32.7%)	17(32.7%)	18(34.6%)	52
Arrange follow up visits to discuss about tobacco use with tobacco using patients	5(20%)	9(36%)	11(44%)	25

They also disagreed that patients do not consider tobacco cessation counselling as part of the dentist’s professional role (n = 93; 51.1 percent) or that the patients do not expect tobacco cessation counselling from a dental student (n = 80; 43.7 percent). Many of the respondents (n = 107; 58.8 percent) disagreed that they did not have time to provide tobacco cessation counselling during clinical consultations. Participants also disagreed (n = 79; 43.4 percent) that giving unwanted tobacco cessation counselling may upset the dentist-patient relationship. (Table 5)

DISCUSSION

The present survey assessed the tobacco related policy issues, attitudes about

providing tobacco cessation counselling and confidence in providing such counselling; barriers mitigating utilization of prevention strategies and perceived educational preferences among clinical dental students in Faridabad, India. Third year, fourth year students and intern were included in this study because a student starts treating patients only from third year onwards as per the dental education curriculum provided by Dental Council of India. Only 0.5 percent of the participants in the present study were tobacco users. This was very less than the percentage reported in a study in India where tobacco use was 6.6% (16), and other countries like Great Britain (7%), Australia (13%), Ireland (20%), Bangladesh

(22%) and Norway (24%) (23). The reason for this could be more number of female participants in this study compared to other studies. Nearly ninety five percent of participants plan to keep dentistry as a profession, thus supporting the internal validity of the study.

Smoking in all public and work places is prohibited under Section 4 of India’s Cigarette and Other Tobacco Products Act which came into effect on October 2, 2008 (24). As per the legislation, most of the dental colleges have incorporated official policies banning smoking in their premises; however, less than 10% enforce it (24). This could be the reason that 44.5% students do not know of existence of a written no-smoking

Table 5 Dental students views about barriers mitigating provision of tobacco cessation counselling

Response Question	Strongly agree No.(% age)	Agree No.(% age)	Tend to agree No.(% age)	Disagree No.(% age)	Strongly disagree No.(% age)
AGREEMENT ABOUT BARRIERS					
Many tobacco using patients do not have motivation to quit	47 (25.8%)	102 (56%)	28 (15.4%)	5 (2.7%)	0 (0%)
I do not have sufficient training to provide tobacco cessation counseling at this stage of my training	19(10.4%)	78 (42.9%)	38 (20.9%)	38 (20.9%)	9 (4.9%)
I am concerned that the antitobacco message may alienate tobacco user patients	16 (8.8%)	69 (37.9%)	39 (21.4%)	48 (26.4%)	10 (5.5%)
DISAGREEMENT ABOUT BARRIERS					
I do not consider tobacco counseling as a part of dentist 's professional role	14 (7.7%)	14 (7.7%)	18 (9.9%)	70 (38.5%)	66 (36.3%)
Giving tobacco cessation counseling to patients is not a part of my role as a student	11 (6%)	18 (9.9%)	11 (6%)	75 (41.2%)	67 (36.8%)
I do not have the time to provide tobacco cessation counseling during clinical consultation	7 (3.8%)	25 (13.7%)	43 (23.6%)	71 (39%)	36 (19.8%)
Patients do not expect smoking cessation counseling from a dental student	12(6.6%)	43(23.6%)	47(25.8%)	70(38.5%)	10(5.5%)
Giving unwanted tobacco smoking cessation counseling may upset the dentist-patient relationship	14 (7.7%)	39 (21.4%)	50 (27.5%)	66 (36.3%)	13 (7.1%)
Patients do not consider smoking counseling part of the dentist's professional role	5 (2.7%)	35 (19.2%)	49 (26.9%)	82 (45.1%)	11 (6%)
INDIFFERENT RESPONSE ABOUT BARRIERS					
Providing good dental care to tobacco using patient is enough	16 (8.8%)	46 (25.3%)	39 (21.4%)	71 (39%)	10 (5.5%)
Tobacco cessation counseling about tobacco is ineffective unless the patient has a related health problem	21 (11.5%)	49 (26.9%)	34 (18.7%)	53 (29.1%)	25 (13.7%)
I cannot accurately determine patients who smoke without being intrusive	8 (4.4%)	42 (23.1%)	69 (37.9%)	51 (28%)	12 (6.6%)
Patient do not listen to dental students when they discuss tobacco	15 (8.2%)	47 (25.8%)	56 (30.8%)	56 (30.8%)	8 (4.4%)

policy of their respective institutions . However, most of them know that smoking is prohibited in clinical, non-clinical and adjacent areas.

Most of participants felt that they were expected to give antitobacco advice (99.5%). Majority of them were taking tobacco history of patients (97.8%). They even said that they were taught about antitobacco advice (97.8%) and role of tobacco in oral cancer (95.1%). This was in accordance to the similar studies conducted on Indian students (16) and Australian students (15). Still, 53.3% agreed that not having sufficient skills is a barrier for them in providing Tobacco cessation counselling. This implies that sufficient literature on this topic has not been provided to the dental students in India.

Even though 89.6% of our participants planned to advise their patients about tobacco cessation in their professional career, only 74.2% students felt that such counselling would help their patients quit tobacco. This perception of effectiveness is little higher than other findings reported in literature (15, 16, 27, 28). These responses in the present study highlight the importance of providing training that will encourage dental students to provide more comprehensive tobacco counselling services.

The simple 5As model has been proven effective for tobacco cessation counseling (25, 26). The practice of this model was assessed through questions in our study. In present study, 85.7% of the participants asked the patient about tobacco use (Asking), 73.6% of the participants have helped a patient to quit tobacco use (Advise), 62.1% counselled patients about the effects of tobacco on

oral health (Assess), 12.6% provided patients with written information and self help material (Assist), 9.9% suggested nicotine replacement therapy (Assist) and only 13.7% arranged follow up visits (Arrange). This study showed nearly similar results when compared to the study done in Indian students (ask 93 percent, advise 94 percent, assess 53 percent, assist 8 to 23 percent, arrange 16.4 percent) (16). A study conducted in fourth year dental students of New York University College of Dentistry provided counselling inconsistently, with 69 percent asking about smoking, 58 percent advising cessation, 24 percent offering assistance, and 22 percent providing follow up on a routine basis (29). Another Nationwide Survey done in fifth year dental students of India showed lower response to 5As (ask 44 percent, advise 12.6 percent, assess 12 percent, assist 3.6 percent, arrange 3.2 percent) as compared to the present study (30). 74.8% students consider tobacco cessation counselling a part of the dentist’s professional role which is comparatively less than the results in other studies (15, 23, 27, 29) for example 94% agree for the same in the Indian study (16).

We acknowledge that there may be some limitations which should be considered while interpreting the results which are based on data collected from dental institutions in only one city in India. The results may not be generalizable. However, findings of the present study being consistent with the Indian (16) and Australian (15) study justify the external validity.

CONCLUSION

Dental students did not show much confidence in providing tobacco cessation counselling which can help the

tobacco addicts; especially psychologically dependent ones; in quitting their habit. This is despite the fact that they felt that most of the tobacco users look forward to them for tobacco cessation counselling and will follow their advice.

PRACTICE IMPLICATIONS

Introducing evidence based teaching including hands-on and patient based training on this subject may alleviate fears in the mind of the dental students regarding their role and competence in providing tobacco cessation counselling. This would also reduce their pessimism and improve their confidence. Incorporation of comprehensive tobacco education in dental curriculum would provide the dental students a much needed thrust in recognizing their impact on general health and quality of life of their patients.

Practice of tobacco cessation counselling also becomes important considering large number of tobacco users in India. It is a duty of the dentist to prevent and treat all the diseases of the oral cavity. Preventive and oral hygiene practices are advocated by the dentist in his practice setting for prevention of various oral pathologies. Along with these practices, tobacco cessation counselling can also be incorporated in routine dental practice.

REFERENCES

1. Ezzati M1, Lopez AD, Rodgers A, Vander Hoorn S, Murray CJ. Selected major risk factors and global and regional burden of disease. *Lancet* 2002;**360**:1347-60.
2. World Health Organization. WHO report on global tobacco epidemic 2008: the M Power package. Geneva: World Health Organization, 2010.3 World Health Organization. Global status report on noncommunicable diseases 2010. Geneva: World Health Organization,

Table 6: Students perception about sufficiency of training

Question	III Year (n = 44)	IV Year (n = 60)	Intern (n = 78)	Total
I do not have sufficient training to provide tobacco cessation counseling at this stage of my training	31 (70.5%)	31 (61.7%)	35 (44.9%)	97
Pearson Chi-Square = 13.069 df=8				

- 2010.
4. Institute for Health Metrics and Evaluation. Global Burden of Disease Visualizations. At: www.healthmetricsandevaluation.org/gbd/visualizations/country.htm. Accessed: July 27, 2014.
 5. Lim SS1, Vos T, Flaxman AD, Danaei G, Shibuya K, Adair-Rohani H, A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global. *Burden of Disease Study* 2010, *Lancet*. 2012;**380**:2224-60
 6. Jha P, Chaloupka FJ. Curbing the Epidemic: Governments and the economics of tobacco control. Washington, DC. *The World Bank* 1999:21-8.
 7. Jiloha RC. Tobacco Use Health and Behaviour. 1st ed., International Publications. New Delhi, 2008.
 8. Gajalakshmi V, Peto R, Kanaka TS, Jha P, Smoking and mortality from tuberculosis and other diseases in India: Retrospective study of 43000 adult male deaths and 35000 controls. *Lancet* 2003;**362**: 507-15.
 9. Jha P, Jacob B, Gajalakshmi V, Gupta PC, Dhingra N, Kumar R, *et al*. A nationally representative case-control study of smoking and death in India. *N Engl J Med* 2008;**358**:1137-47.
 10. Ministry of Health and Family Welfare. Global Adult Survey GATS India-2009-10. New Delhi: Government of India, 2010.
 11. Stigler PCL MH, Arora M, Reddy KS. Preventing tobacco use among young people in India: project MYTRI. *Am J Public Health* 2009;**99**:899-906.
 12. Pradeepkumar AS, Mohan S, Gopalakrishnan P, Sarma PS, Thankappan KR, Nichter M. Tobacco use in Kerala: findings from three recent studies. *Natl Med J India* 2005;**18**:148-53.
 13. Singh G, Sinha DN, Sarma PS, Thankappan KR. Prevalence and correlates of tobacco use among 10-12 year old school students in Patna District, Bihar, India. *Indian. Pediatr* 2005;**42**:805-10.
 14. Cannick GF, Horowitz AM, Reed SG, *et al*. Opinions of South Carolina dental students toward tobacco use interventions. *J Public Health Dent* 2006;**66**:44-8.
 15. Rikard-Bell G, Groenlund C, Ward J. Australian dental students' views about smoking cessation counseling and their skills as counselors. *J Public Health Dent* 2003;**63**:200-06.
 16. Rajasundaram P, Sequeira PS, Jain J. Perception of Dental Students in India about Smoking Cessation Counseling. *J Dent Educ* 2011;**75**:1603-10.
 17. Owen N, Davies MJ, Smokers preferences for assistance with cessation. *Prev Med* 1990;**19**:424-31.
 18. Nagy K, Barabas K, Nari T. Attitudes of Hungarian health care professional students to tobacco and alcohol. *Eur J Dent Educ* 2004;**8**:32-5.
 19. Regional Office for South-East Asia. Helping People Quit Tobacco: A Manual for Doctors and Dentists. New Delhi: World Health Organization 2010.
 20. Tomar SL, Husten CG, Manley MW. Do dentists and physicians advise tobacco users to quit? *J Am Dent Assoc* 1996;**127**:259-65.
 21. Locker D, Smoking and oral health in older adults. *Can J Public Health* 1992;**83**:429-32.
 22. Campbell HS, Sletten M, Petty TL. Patient perceptions of tobacco cessation services in dental offices. *J Am Dent Assoc* 1999;**130**:219-26.
 23. Gholamreza Heydari, Mahmoud Yousefifard, Mostafa Hosseini, Ali Ramezankhani, Mohammad Reza Masjedi. Attitudes of Italian dental and dental hygiene students toward tobacco-use cessation. *Eur J Dent Educ* 2010;**14**: 17-25.
 24. Regional Office for South-East Asia. Health professionals in tobacco control: evidence from Global Health Professional Survey (GHPS) of dental students in India. GHPS Fact Sheet. New Delhi: World Health Organization, 2005.
 25. US Department of Health and Human Services. Treating tobacco use and dependence: 2008 update. Washington DC: Public Health Service, 2000.
 26. US Department of Health and Human Services. Treating tobacco use and dependence: clinical practice guideline. Washington DC: Public Health Service, 2008.
 27. Polychonopoulou A, Gatou T, Athanassouli T. Greek dental students attitudes toward tobacco control programmes. *Int Dent J* 2004;**54**:119-25.
 28. Victoroff KZ, Dankulich-Huryn T, Haque S. Attitudes of incoming dental students toward tobacco cessation promotion in the dental setting. *J Dent Educ* 68 2004;**68**:563-68.
 29. Yip JK, Hay JL, Ostroff JS, Stewart RK, Cruz GD. Dental students attitudes toward smoking cessation guidelines. *J Dent Educ* 2000;**64**:641-50.
 30. Balappanavar AY, Sardana V, Gupta P. Nation wide survey of fifth-year dental students perceptions about tobacco prevention, control, and curriculum in India. *J Dent Educ* 2013;**77**:1384-93.