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RESEARCH ARTICLE

KNOWLEDGE REGARDING ORAL HEALTH HAZARDS IN TOBACCO USERS AMONG DENTAL UNDERGRADUATES OF PATNA CITY

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ABSTRACT

Introduction: "Tobacco – weapon of mass destruction"– Kendrick Meek. Tobacco is the world's biggest preventable killer. Our universe is in a state of tobacco epidemic, with larger population of tobacco users, emerging day by day. India is the world's third largest tobacco growing country, which produces an average of 58,0000 tones every year.
According to WHO, tobacco is the second major cause of death in the world due to carcinomas of lips tongue, cheeks, gums and floor roof of the mouth. Other ill effects include cardiovascular diseases, diabetes mellitus, pulmonary diseases, and poor reproductive outcomes.
In recent years, there has been a rising trend in tobacco use. This is a matter of great public health concern
Aim of the study: To assess the level of knowledge regarding oral health hazards of tobacco chewing amongst dental students.
Objectives: 1 .To assess the knowledge regarding ill effects of tobacco on oral health amongst dental undergraduates. 2. To assess the various ill effects of tobacco on oral health.
Materials and methods: The data is collected from 150 undergraduate students of Buddha Institute of Dental Sciences and Hospital, Patna. Data was collected by a closed ended structured questionnaire. Data were analyzed by using Graph pad Prism Software, version-5. Chi-square test were used to assess the significance finding at 95% confidence limit.
Results: Knowledge regarding ill effects of tobacco chewing was more among Interns and Final year students compared to first, second and third year undergraduates.
Conclusion: Health education should be provided to the youths and adolescents with the facts and skills that will enable them to protect themselves from the harmful effects of both active and passive smoking and the tobacco related products. Concurrently other health promotion activities such as legislation, taxation and control of tobacco promotion should be implemented. A more comprehensive preventive approach is therefore needed.

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INTRODUCTION

Oral health is integral part of general health. Tobacco is the foremost cause of preventable death in the world today. The fact that the World No Tobacco Day on May 31,2005 was dedicated to the role of health professionals in tobacco control under the theme 'Health Professionals against tobacco, action and answers' reflects this strategy (WHO, 2005).

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The first in the new code of practice adopted during the World Health Organisation informal meeting of health professionals on 28-30 January 2004 was to encourage and support their members. Globally there are approximately one billion smokers and currently it is responsible for the global mortality of 5.4 million annually, an average of one person every six seconds[3]. To control the increasing tobacco use, in May 1999, the governing body of the WHO adopted by consensus a resolution that paved the way for starting multilateral negotiations on the WHO Framework Convention on Tobacco Control (FCTC). As members of an important health profession, dentists have a duty to promote oral health and

healthy lifestyles among their patients, by raising their awareness about the harmful effects of tobacco on health and guiding them in conquering tobacco addiction. It is therefore imperative that dental students, who are tomorrow's dentists develop their knowledge of the harmful effects of tobacco use, attitudes towards it, and skills in dealing with it adequately, and receive training in counseling patients about quitting tobacco use.

Aim: To assess the level of knowledge regarding oral health hazards of tobacco chewing amongst dental students.

Objectives

- To assess the knowledge regarding ill effects of tobacco on oral health amongst dental undergraduates.
- To assess the various ill effects of tobacco on oral health.

MATERTIALS AND METHODS

Study Design: The study is a descriptive, cross-sectional survey

Source of Data

- The data was collected from 150 undergraduate students of Buddha Institute of Dental Sciences and Hospital, Patna.

Study group

- Dental students in 1st year,2nd year,3rd year, Final/4th year & Interns from Buddha Institute of Dental Sciences and Hospital, Patna.

Sample Size: The sample comprised of 150 randomly selected dental students from the dental college in Patna city.

Inclusion criteria

Students present on the day of survey

Exclusion criteria

Students who did not give consent to participate were excluded from the study.

Collection of Data

All the students were pre-informed about the survey. The data was collected using a close-ended questionnaire. The questionnaire consisted of two major sections,

- **S**ocio-demographic details
- **K**nowledge, regarding the use of tobacco and tobacco related products

Questionnaires were circulated after the usual lecture of the undergraduate students. The students were given the survey form in their respective departments. The time allocated for completion of the questionnaire w.as 30 min. A total of 150 students responded in the questionnaire survey.

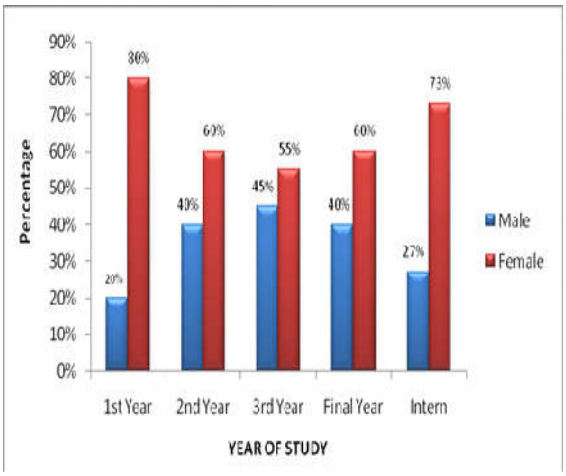
Statistical Analysis: The data so obtained was compiled systematically. A master table was prepared in MS excel worksheet and the total data was subdivided and distributed meaningfully and presented as individual tables along with graphs.

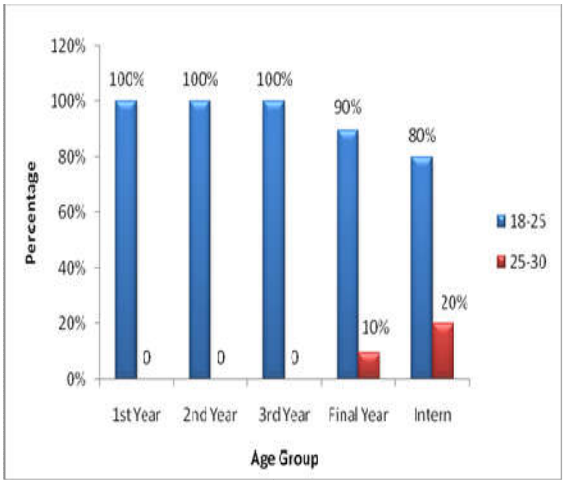
Statistical procedures were carried out in 2 steps

- Data compilation and presentation
- Statistical analysis
- Data comparison was done by applying specific statistical tests to find out the statistical significance of the comparisons.
- Data were analyzed by using Graph pad Prism Software, version-5.
- Chi-square test were used to assess the significance finding at 95% confidence limit.

RESULTS

Total150 undergraduates participated in the study, of which 42 (35%) were males and 98 (65%) were females of which maximum 141(94%) were between age group 18-25 years (Graph 1&2)





Graph 1& 2. Distribution of study subjects according to gender and age

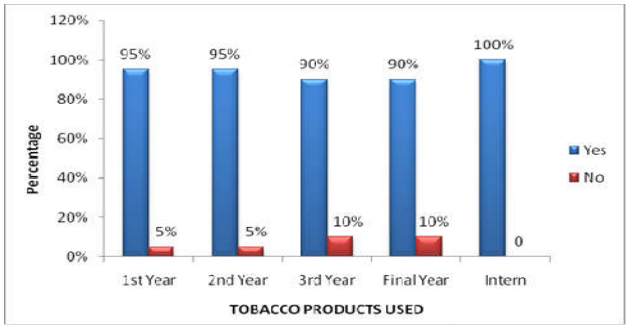
All 30 (100%) among Interns and 3rd year respectively and 27 (90%) among 1st Year and 22 (75%) among 2nd Year (who participated in the study) thought that Tobacco causes Oral Cancer, while equal number 30(100%) among Final Year had the opinion that Tobacco causes both Staining of teeth along with Oral Cancer. None among 3rd Year had knowledge about Dental Implant Failure. The Results were statistically non-significant with P value=0.1574 (Table 3)

Table 3.distribution of study subjects according to their knowledge regarding ill effects of tobacco on oral cavity

	Staining of teeth		periodontitis		Tooth loss		Dental Implant Failure		Oral Cancer		None of the Above	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1st Year	17 (57%)	13(43%)	3(10%)	27(90%)	2(7%)	28(93%)	8(27%)	22(73%)	27(90%)	3(10%)	0(0%)	30(100%)
2nd Year	18(60%)	12(40%)	8(27%)	22(73%)	6(20%)	24(80%)	6(20%)	24(80%)	22(73%)	8(27%)	0(0%)	30(100%)
3rd Year	24(80%)	6(20%)	6(20%)	24(80%)	3(10%)	27(90%)	0(0%)	30(100%)	30(100%)	0(0%)	0(0%)	30(100%)
Final Year	30(100%)	0(0%)	8(27%)	22(73%)	8(27%)	22(73%)	15(50%)	15(50%)	30(100%)	0(0%)	0(0%)	30(100%)
Intern	22(73%)	8(27%)	8(27%)	22(73%)	6(20%)	24(80%)	4(13%)	26(87%)	30(100%)	0(0%)	0(0%)	30(100%)

Chi-square, df = 21.58, 16, P value=0.1574 (ns)

Majority 140 (94%) of the study subjects had knowledge regarding various Tobacco products used, among which Interns 30(100%) had maximum knowledge**.** (Graph4)



Graph 4. Distribution of Study Subjects According To Their knowledge Regarding Various Tobacco Products Used

- Majority among the Interns 30(100%) had the opinion that Gutkha was the most harmful Tobacco product, whereas
- most harmful tobacco product was Cigarette and Khaini 30(100%), followed by Gutkha 28(95%), among the Final year,
- 3rd Year and2nd Year students were having same opinion thinking most harmful was Cigarette 27 (90%), and 22(73%) respectively.
- According to 1st year students Gutkha was most harmful 27(90%) followed by cigrattes 24 (80% .
- Above results indicate that cigrarette was universally found to be most harmful followed by Gutkha among each group.
- The Results were statistically non- significant with P value=0.9974 (Table5)
- Out of Total, majority 99 (66%) had knowledge regarding Tobacco Cessation/Control strategy, out of which 83 (55%) had knowledge regarding FCTC and 67(45%) had no knowledge regarding FCTC.
- Majority 21(70%) of Interns had knowledge regarding FCTC compared to 12(40%) of 1styear , 15(50%) of 2nd year, 16(55%) of 3rd year , 19(65%) of Final year .
- Knowledge decreased with decrease in the year of study i.e. Interns had maximum whereas 1st year had Minimum Knowledge.
- Results were not significant with P-0.0873(Graph 6)

Majority 145(97%) of subjects had knowledge regarding ban on smoking in public places, and knowledge decreases as the year of study decreased. Results were non significant with P-0.0820 (Table 7). Out of Total, 24(80%) of Interns had good knowledge regarding 5A's in Tobacco cessation, followed by Final year 15 (50%), 3rd year 12 (40%),2nd Year 5 (15%) only. Least knowledge was amongst 1st year students, where they had little or no idea regarding 5A's in Tobacco cessation. The Results were significant with P value- 0.0001(Graph 8).

Majority 140 (95%) of students thought HPs who smoke, are less likely to advise patients to stop smoking. The Results were not significant with, P-0.5226 (Table 9). Out of the Total, Maximum102 (68%) did not receive any training in tobacco cessation during professional training. Maximum 18 (55%) of Interns had Received some form of formal training in tobacco cessation during professional training while few students of other years had received some formal training in tobacco cessation during their professional course. The Results were significant with P-0.0001(Graph 10). Total 141 (94%) thought Tobacco cessation are effective .Majority 30 (100%) among 2nd and 4th Year while 27 (90%) among Interns thought Tobacco cessation are effective. The Results were not significant with, P-0.1723. (Table11). All the students irrespective of their year of study have the opinion that tobacco must be Banned (Graph12)

DISCUSSION

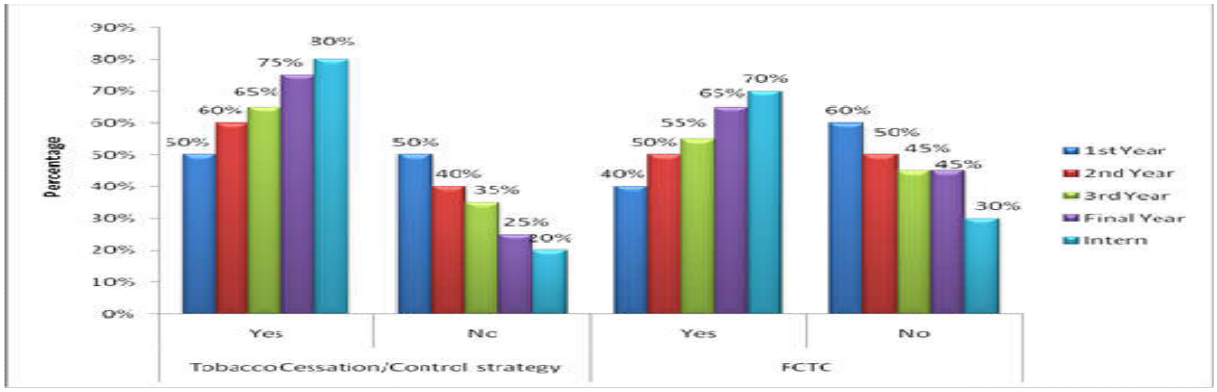
The present study is a cross sectional study which was conducted in Buddha Institute of dental sciences and Hospital in Patna City. The study sample consisted of 150 respondents, comprised of 1st year, 2nd year, 3rd year, 4th year and Interns. The dental office provides an excellent setting for providing tobacco intervention services. Dental patients are particularly more aware, little quick to understand health messages during dental visits and oral effects of tobacco use which ultimately provide a visible and strong motivation for tobacco users to quit. 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.

All 30 (100%) among Interns and 3rd year respectively and 27 (90%) among 1st Year and 22 (75%) among 2nd Year (who participated in the study) thought that Tobacco causes Oral Cancer, while equal number 30(100%) among Final Year had the opinion that Tobacco causes both Staining of teeth along with Oral Cancer. None among 3rd Year had knowledge about Dental Implant Failure It can be reasoned that better subjective awareness in their academic curriculum in addition to social awareness has made the students of higher grades more knowledgeable. The composition of tobacco products revealed that they are aware of its constituents being harmful to health. The Interns were more aware compared to other year dental students which was in line with the studies conducted by Albert D, Ward A, Ahluwalia K, Sadowsky. The government of India has well established programs to help individual to quit tobacco. Out of Total, majority 99(66%) had knowledge regarding Tobacco Cessation/Control strategy, out of which 83 (55%) had knowledge regarding FCTC. Knowledge decreased with decrease in the year of study i.e. Interns had maximum whereas 1st year had Minimum Knowledge which matched with study done by Polychonopoulou A, Gatou T, Athanassouli T.

Table 5. Distribution of study subjects according to their knowledge regarding which tobacco product is more harmful?

Years	Cigarettes		Bidis		Pan Masala		Guthka		Khaini		Snuff	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1st	24 (80%)	6(2%)	15(50%)	15(5%)	18(60%)	12(40%)	27(90%)	3(10%)	21(70%)	9(30%)	9(30%)	21(70%)
2nd	22 (73%)	8(27%)	18(60%)	12(40%)	13 43%)	17(57%)	21(70%)	9(30%)	18(60%)	12(40%)	10(33%)	20(67%)
3rd	27 (90%)	3(10%)	19(63%)	11(37%)	16(53%)	14(47%)	21(70%)	9(30%)	24(80%)	6(20%)	9(30%)	21(70%)
Final	30 (100%)	0 (0%)	24(80%)	6(20%)	21(70%)	9(30%)	28(93%)	2(7%)	30(00%)	0(0%)	12(40%)	18(60%)
Intern	25 (83%)	5(17%)	22(73%)	8(27%)	27(90%)	3(10%)	30(10%)	0(0%)	25(83%)	5(17%)	16(53%)	14(47%)

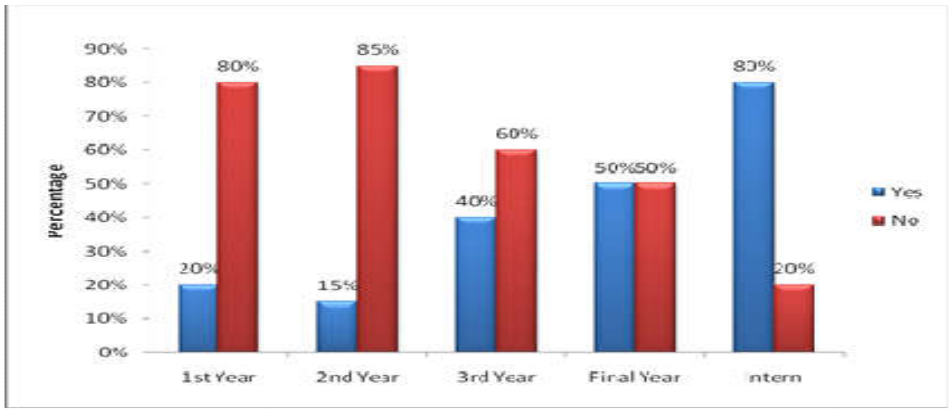
Chi square=6.750, 20 , P value=0.9974 (ns)



Graph 6. Distribution of study subjects according to their knowledge regarding tobacco cessation and control strategies like fctc.

Table 7. Association between their knowledge regarding ban on smoking in public places and the year of study of subjects

	ban on smoking in public places		
	Yes	No	Total
1st Year	27 (90%)	3 (10%)	30 (100%)
2nd Year	28 (95%)	2 (5%)	30 (100%)
3rd Year	30 (100%)	0	30 (100%)
Final Year	30 (100%)	0	30 (100%)
Intern	30 (100%)	0	30 (100%)
Total	145 (97%)	5 (3%)	150 (100%)
Ch-square- 8.276, df-4, P-0.0820			

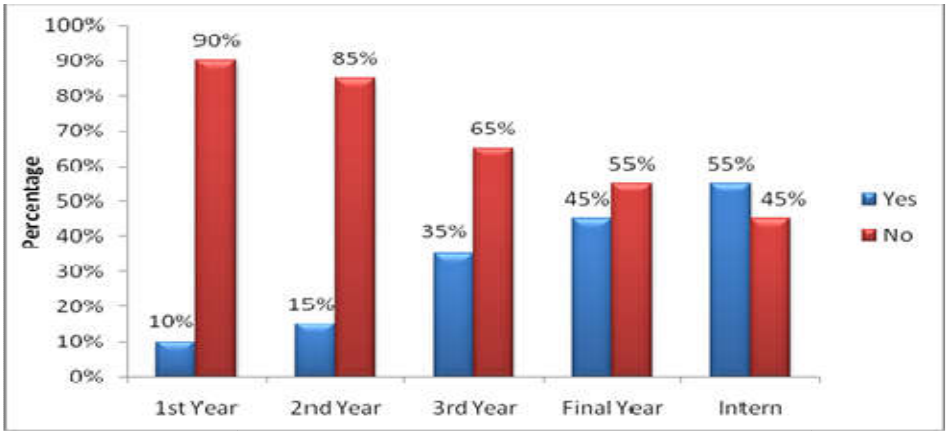


Graph 8. Association between their knowledge regarding the 5a's in tobacco cessation with year of study of subjects

Table 9. Association between their knowledge regarding if hps who smoke less likely to advice patients to stop smoking with year of study

Year	Yes	No	Total
1st	27(90%)	3(10%)	30 (100%)
2nd	28(95%)	2 (5%)	30(100%)
3rd	27(90%)	3(10%)	30(100%)
Final	28(95%)	2 (5%)	30(100%)
Intern	30(100%)	0	30(100%)
Total	140(95%)	10(5%)	150(100%)

Ch-square- 3.214, df-4, P-0.5226

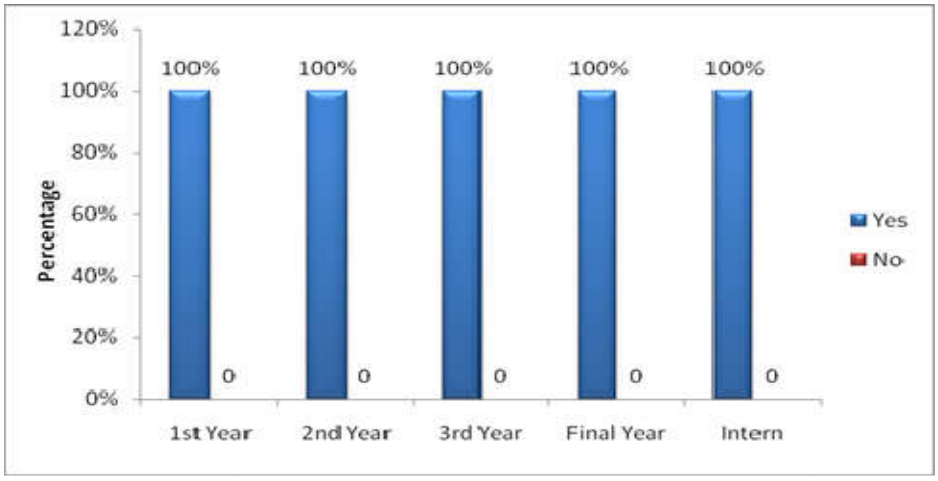


Graph 10. Association between whether the study subjects received any formal training during professional training, with year of study

Table 11 . Association between their knowledge regarding tobacco technique being effective or not, with year of study

Tobacco cessation are effective or not			
Year	Yes	No	Total
1st	27(90%)	3(10%)	30(100%)
2nd	30(100%)	0	30 (100%)
3rd	27 (95%)	3 (5%)	30 (100%)
Final	30(100%)	0	30 (100%)
Intern	27 (90%)	3(10%)	30 (100%)
Total	141(94%)	9 (6%)	150(100%)

Ch-square- 6.383, df-4, P-0.1723



Graph 12. Association between their knowledge regarding if tobacco be banned, with year of study

Majority 145 (97%) thought Health professionals (HPs) serve as role models for their patients and the public which was in line with the study done by Albert DA, Severson H, Gordon J, Ward A, Andrews J, Sadowsky D. where, dentists who felt effective and considered their role as important were likely to fully perform the five A behaviors when intervening with their patients about tobacco use. Majority 145(97%) of subjects had knowledge regarding ban on smoking in public places, and knowledge decreases as the year of study decreased. Majority in the present study (97.3%) agreed that passive smoking can affect family members.[24] All the students irrespective of their year of study have the opinion that tobacco Must be Banned along with tobacco related products.[1] which was more in comparison with studies of V N Shah et al, (2005).Out of the Total, Majority 136 (91%) had Knowledge and skills to help Tobacco users to quit tobacco, which was found to be maximum 30 (100%) among Interns which was in line with studies done by Albert D, Ward A, Ahluwalia K, Sadowsky D

Knowledge decreased with decrease in the year of study i.e. Interns had maximum whereas 1st year had Minimum Knowledge. Majority 147 (98%) of the study subjects were ready to accept training on tobacco cessation irrespective of the Year of study ,revealed that if given an opportunity, they do want to participate. Out of Total, 24(80%) of Interns had good knowledge regarding 5A's in Tobacco cessation, followed by Final year 15(50%), 3rd year 12 (40%),2nd Year 5(15%) only. Least knowledge was amongst 1stYear students where they had little or no idea regarding 5A's in Tobacco cessation. The five As cessation model is not known to most of the students and therefore their cessation practices are far from desirable as found in study done by Dr. Mohammed Shameel 0.

Conclusion

The use of tobacco and tobacco related products are extensive resulting in many oral health problems.

The dentist is at an advantage as many tobacco related oral problems can be identified and treated at a very early stage, thus justifying the importance of his/her role. The knowledge, of dental students or the future dental professionals towards tobacco and tobacco related products determine how effective they can be in tobacco cessation programs. The study can be concluded that the Interns and final year students had better knowledge when compared to third year dental students in many parameters under considerations. It is evident from the current study that there is a critical need to strengthen the training of dental students with regard to harmful effects of tobacco on health and oral health in particular to ensure that their clinical efficacy as wells as tobacco control practices are improved. It was almost an unanimous need expressed by the senior dental students including interns for further training in tobacco cessation practices. The five As cessation model is not known to most of the students. The study reveals the critical need to include specific training didactic and clinical which will improve the competence and perceived effectiveness of future dentists in effectively involving in tobacco cessation and control. This demands policy changes to include the same in the curriculum, clinical training, support services and availability of treatment options for dental students, which would help them in future for the participation in the war against tobacco by applying their basic skills and techniques in to practice.

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