

Knowledge of, Attitude Towards, and Prevalence of Tobacco Use Among Dental Students in Himachal Pradesh State, India

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Abstract

Aim: The aim of the study was to assess the prevalence of tobacco use and knowledge of and attitude towards cessation counselling among dental students in Himachal Pradesh State, India.

Method: The present study was conducted with the 219 third-year Bachelor of Dental Surgery (BDS) students in the five dental colleges of Himachal Pradesh during the month of March 2012. The Global Health Professional Students Survey (GHPSS) questionnaire, developed by the World Health Organization (WHO), the US Centers for Disease Control and Prevention (CDC) and the Canadian Public Health Association, was used in this study. The data were evaluated using statistical software and statistically tested with the chi-square test.

Results: The response was 210 (96%). Lifetime prevalence was 15% for smoking and 2% for tobacco use other than for smoking. Eighteen (9%) students were current smokers and four (2%) were tobacco users other than for smoking. Male students were significantly ($P < 0.001$) more likely than female students to be current cigarette smokers. Approximately 14 (47%) of sometime smokers had smoked on school property and two (50%) of the sometime users of other tobacco products had used those products on school property. As for attitudes, 169 (85%) felt that health professionals serve as role models for their patients and the public. Only 17 (8.5%) of surveyed students had received formal instruction in smoking-cessation approaches during their training and 167 (84.3%) thought that health professionals should receive specific training on cessation techniques.

Conclusion: Although the current prevalence of tobacco use among third-year dental students in Himachal Pradesh is low, it still needs to be addressed by providing them with the necessary skills and support to quit smoking successfully and to provide counselling.

Key Words: Tobacco, Smoking, Dental Students

Introduction

Tobacco is the leading preventable cause of death and more than five million people die globally from the effects of tobacco every year [1]. Every eight seconds someone, somewhere in the world, dies as a result of tobacco use [1]. It is reported that by the

year 2030, the death toll is likely to exceed eight million people a year [2].

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.

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co on health and guiding them in conquering tobacco addiction. Studies have shown that dentists and other clinical members of the dental team are ideally situated to counsel patients against tobacco use and even just brief and simple advice from health professionals can substantially increase smoking cessation rates [3-5].

Dentists, therefore, ought to be role models for their patients. As health professionals, dentists' involvement in curtailing tobacco use is critical. The fact that tobacco use often creates telltale signs in the mouth and contributes to oral diseases provides dentists with valuable points for helping their patients to become or remain "tobacco-free". Dentists can also use their influence in society to encourage governments to put in place tobacco-control measures.

Significant barriers to anti-tobacco counselling by dentists in the Western world have been found because of self-use of tobacco, a lack of knowledge about its harmful effects, and a lack of training in counselling patients about quitting tobacco use [6-9].

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 counselling patients about quitting tobacco use.

However, in order to aid the development of appropriate knowledge of and attitude towards smoking among dental students, it is important to know their existing knowledge of and attitudes towards smoking. Against this background, the present study sought to assess the knowledge of and attitude among dental students in Himachal Pradesh about tobacco use, the need for tobacco control, and methods of counselling in tobacco-use cessation.

Aim

The aim of the study was to assess the prevalence of tobacco use and knowledge of and attitude towards cessation counselling among third-year dental students in Himachal Pradesh State, India. The objectives of the present study were:

1. To determine the prevalence of tobacco use among dental students in Himachal Pradesh.
2. To assess their attitudes with respect to tobacco use and smoking cessation.
3. To assess their training needs in smoking-cessation techniques.

Methods

This cross-sectional questionnaire study was conducted among dental students in Himachal Pradesh, India. Ethical approval to conduct the study was obtained from the Institutional Review Board of Himachal Pradesh (HP) Government Dental College and Hospital, Shimla. Prior permission for the participation of the students in the study was obtained from the principals of the other dental colleges in HP.

The Global Health Professional Students Survey (GHPSS) questionnaire, developed by the World Health Organization (WHO), the US Centers for Disease Control and Prevention (CDC) and the Canadian Public Health Association, was used in this study [10]. The GHPSS is a school-based survey of third-year students pursuing advanced degrees in dentistry, medicine, nursing and pharmacy. GHPSS consists of 51 core questions on demographics, prevalence of cigarette smoking and other tobacco use, knowledge of and attitude towards tobacco use, exposure to second-hand smoke, desire for smoking cessation and training received regarding patient counselling on smoking-cessation techniques.

There are five dental colleges in the state of Himachal Pradesh. The third-year BDS students of all the five dental colleges of Himachal Pradesh were informed about the study. There were 219 students in the third year of the Bachelor of Dental Surgery (BDS) course in the state of Himachal Pradesh, belonging to the following dental colleges:

1. HP Government Dental College and Hospital, Shimla.
2. Himachal Dental College, Sunder Nagar, Mandi.
3. Bhojia Dental College and Hospital, Bhaddi, Solan.
4. Himachal Institute of Dental Sciences, Paonta Sahib.
5. MNDV Dental College, Tatul, Solan.

The study was conducted in the month of March 2012 by five investigators in five dental colleges. The questionnaires were distributed by the investigators to all the third-year BDS students and collected after two days. A total of 210 completed questionnaires from all the five colleges were collected.

The questionnaire in English language was pretested on 30 students by taking six students from all the five dental colleges to ensure that the students could understand and answer the questions without any help. The validity of the questions can

be assumed as the same questionnaire has been used in many previous studies.

The resulting data were evaluated in the form of percentages using statistical software (Statistical Package for the Social Sciences for Windows Version 16; SPSS Inc, Chicago, IL, USA) and statistically tested using the chi-square test.

Results

Of 219 total students in the third year of the BDS from five dental colleges, 210 students responded, giving a response rate of 95.8%. Of 210 questionnaires, 198 were usable (94.2% completed questionnaires). The usable questionnaires were completed by 48 (24.2%) males and 150 (75.8%) females.

Lifetime prevalence of cigarette smoking (i.e., had smoked at sometime in life) was present in 30 students (15.1%). Other tobacco use, including bidi and gutka, was reported by four (2.02%) students. Eighteen (9%) dental students currently smoked cigarettes and four (2.02%) currently used other tobacco products. Male students are significantly more likely than female students to smoke cigarettes ($P < 0.001$) (Table 1).

Of the 30 students who had smoked cigarettes at some time, the majority (18; 60%) first tried a cigarette at the age of 19 years or older, followed by five (16.6%) at the age of 16-18 years. Nine (50%) of the current cigarette smokers reported that they felt like having a cigarette within 10 minutes of waking, four (22.2%) within 30 minutes, and five (27.7%) within 1-3 hours (Table 2).

Fourteen (47%) of the ever (sometime) smokers had smoked on school property and two (50%) of the ever (sometime) users of other tobacco products had used those products on school property. Male students were significantly more likely than female students to follow this behavioural pattern ($P < 0.05$). On the other hand, 128 (nearly 65%) dental students said that their colleges had an official policy banning smoking on the college campus, and 114 (57.5%) said that the policy was reinforced (Table 3).

Forty-five (20%) students said that they had been exposed to second-hand smoke at home and 80 (40%) in public places during the past week. Nearly 77% (151 students) reported a strong attitude towards banning smoking in public places such as restaurants, disco bars and pubs (Table 3).

Table 1. Prevalence of tobacco use among dental students of Himachal Pradesh, India

	Lifetime smoking	Current smoking	Lifetime use of tobacco other than smoking (gutka, khaini)	Current use of tobacco other than smoking (gutka, khaini)
Male	21 (10.6%)	16 (8.08%)	3 (1.5%)	3 (1.5%)
Female	9 (4.5%)	2 (1.01%)	1 (0.5%)	1 (0.5%)
Total	30 (15.1%)	18 (9.09%)	4 (2.02%)	4 (2.02%)
<i>P</i> value	<0.001	<0.001	<0.05	<0.05

Table 2. Age of smoking initiation and dependency on smoking among dental students in Himachal Pradesh, India

	Males n (%)	Females n (%)	Total n (%)
Age (years) of smoking initiation			
12-15	3 (10%)	0	3 (10%)
16-18	3 (10%)	0	3 (10%)
16-18	4 (13.3%)	1 (3.3%)	5 (16.6%)
19 or older	10 (33.3%)	8 (26.6%)	18 (60%)
8 or younger	1 (3.3%)	0	1 (3.3%)
Dependency on smoking			
Smokers who desire to smoke within 10 minutes of awaking in the morning	8 (44.4%)	1 (5.5%)	9 (50%)
Cigarette smokers who desire a cigarette within 30 minutes of awaking in the morning	4 (22.2%)	0	4 (22.2%)
Cigarette smokers who desire a cigarette within 1-3 hours of awaking in the morning	4 (22.2%)	1 (5.5%)	5 (27.7%)

A strong favourable opinion about the effect of patient counselling by health professionals emerged from the results, in that around 169 (85%) students reported that they felt health professionals serve as role models for their patients and the public. Only 17 (8.5%) students claimed to have received formal instruction in smoking-cessation approaches during their training and 167 (84.3%) said that they thought that health professionals should receive specific training on cessation techniques (Table 4).

Discussion

The findings in this study suggested that lifetime tobacco use among third-year dental students in Himachal Pradesh was 15.1%, which is higher than that of 12.1% reported in a previous Indian study [11] but lower than the 18.3% reported in another

previous Indian study [12] or in studies elsewhere, with 17.2% [13], 34.4% [14], and 70% [15]. The differing prevalence rate of smoking found in these studies could be due to wide differences in gender balance in the samples and definitions used, geographical area involved and, importantly, social factors such as parental smoking, peer pressure and other habits such as alcohol consumption. The lifetime use of other tobacco products was 2.02%, which is less than the 3.3% as reported in a global health professional survey of dental students in India [11] and 24.4% reported from Algeria [14].

The smoking rates among female students were lower in the current study, similar to the results reported from other studies [11,12,14, 16,17]. In Himachal Pradesh, smoking is considered as especially unacceptable for females and is thought to offend social customs. Nevertheless, in the present

Table 3. College policy and reinforcement, exposure to second-hand smoke, and attitudes towards banning smoking in public places among dental students in Himachal Pradesh, India

Questions	Answer "Yes" n (%)
Smoked on college premises/property during the past year?	14 (46.6%)
Use of chewing tobacco, snuff in college premises/property during the past year?	2 (50.0%)
Colleges with an official policy banning smoking in college campus?	128 (64.6%)
Colleges with an official policy banning smoking in college campus with reinforcement?	114 (57.5%)
Exposure to smoke at home during the past week?	45 (22.7%)
Exposure to smoke in public places during the past week?	80 (40.4%)
Do you think smoking should be banned in restaurants?	151 (76.2%)
Do you think smoking should be banned in pubs and disco bars?	151 (76.2%)

Table 4. Attitudes towards and training needs for smoking cessation among dental students in Himachal Pradesh, India

Questions	Answer "Yes" n (%)
Do health professionals (HPs) serve as role models for their patients and the public?	167 (84.3%)
Do HPs have a role in giving advice or information about smoking cessation to patients?	169 (85.3%)
Should HPs routinely advise their patients who smoke to quit smoking?	162 (81.8%)
Are HPs who smoke less likely to advise patients to stop smoking?	128 (64.6%)
Are a patient's chances of quitting smoking increased if a HP advises him/her to quit?	171(86.3%)
Do you think you have the knowledge and skills to help smokers to quit in your practice?	84 (42.4%)
Have you received any formal training in smoking cessation during professional training?	17 (8.5%)
Do you think tobacco cessation techniques are effective?	165 (83.3%)
Are you ready to accept training on tobacco cessation?	167 (84.3%)

study smoking among female dental students was reported as 3.3%. This may be attributed to factors such as the changing position of women in society, women's increasing social and economic independence, a lack of health education specifically targeted at women, and the tobacco industry's deliberate attempts to target their products at women.

Although the current prevalence of tobacco use among third-year dental students in Himachal Pradesh is low, it still needs to be addressed by providing them with the necessary skills and support to quit smoking successfully. Even the lowest prevalence of current smokers among health professionals is a matter of concern because if health professionals smoke, their ability to deliver credible and effective anti-tobacco counselling to patients decreases [18]. For health professionals to be efficient in all aspects of their practice, they should be encouraged to quit smoking.

Although smoking in public places has been banned in the state of Himachal Pradesh since October 2008, the present study showed that around 23% of students had been exposed to second-hand smoke in the past week at home, which is higher than 20.9% reported by a Greek study [19] and less than 28% reported from Algeria [14] and 49.9% reported by an Indonesian study [16].

In the current study, around 41% of the students reported that they had been exposed to smoke in the past week in public places, which is less than the 68% that was reported in a North Indian study [12] and higher than the 34.4% as reported from Algeria [14]. Around 65% of the students reported that their college has an official policy banning smoking in the college campus. However, only 58% reported that the official policy banning smoking in college campus was reinforced. These findings suggest that the Ministry of Health and the dental educational institutions in Himachal Pradesh should work together to implement this policy in all dental colleges and to institute programmes for effective enforcement.

The WHO is encouraging health professionals to provide patients with information about the health consequences of smoking, to help their smoking patients to quit and to act as role models who promote tobacco-free lifestyles [20]. The perception that health professionals serve as "role models" for their patients and the public was confirmed by 84.3% of students.

Over 80% reported that they thought they should receive training on counselling and treating

patients to quit using tobacco, which is less than the 99% and 95.2% as reported in two previous studies [11,17] but higher than the 72.7% that was reported in 2000 in the *British Medical Journal* [21].

In the present study, less than 10% reported that they had received formal training during their professional course. This information calls for the development and implementation of training materials and curricula for dentists, more so because it has been demonstrated that health care professionals who had received training were more likely to perform tasks of smoking cessation than untrained controls [22]. Professional training for dental students should include courses detailing the harmful health effects of tobacco use and exposure to second-hand smoke, as well as training in effective tobacco counselling and tobacco-cessation treatment techniques. Curricula should include a course or supplements to existing courses specifically relevant to tobacco issues.

Nearly 77% of the third-year dental students claimed strong attitudes towards banning smoking in public places such as restaurants, disco bars and pubs, which is less than the 84.66% [12] and 91% [11] reported by previous studies but higher than the 61% as reported in Lebanon [23].

Some limitations of the current study are that the questionnaire study design, with self-reported data, could have led to under- or over-reporting and recall bias. The extent of this bias cannot be determined from the data that were collected. However, reliability studies in the USA have indicated good test-retest results for similar tobacco-related questions [24].

Additionally, as the GHPSS methods include only students attending the third year, in theory it is possible that students receive specific training in smoking cessation-techniques perhaps during the latter years of their professional training. However, it must be stressed that the GHPSS research coordinators found that students in the majority of the countries where the GHPSS survey was carried out did not receive any formal training at any time [25].

Conclusions

Dentists play a major role in tobacco use control and cessation and it becomes their duty to promote oral and general health and healthy lifestyles among their patients. From the responses received from third-year dental students in Himachal Pradesh, the following conclusions can be reached for this group:

- Lifetime prevalence of smoking was 15.1% and lifetime prevalence of tobacco use other than smoking was 2%. Current use of smoking was 9% and current use of tobacco other than smoking was 2%.
- Eighty-five per cent felt that the health professionals serve as role models for their patients and the public.
- Only 8.5% of surveyed students received a formal training in smoking-cessation approaches during their dental school training.
- A total of 84.3% thought that health professionals should get specific training on cessation techniques.

Recommendations:

- Effective cessation programmes to reduce tobacco use among dental students are to be promoted.
- Improved curricula and institution-based training programmes on tobacco use cessation approaches are to be introduced.

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- Knowledge of harmful effects of tobacco and also cessation aids are to be strengthened among health professionals, which will help them to effectively guide their patients to be tobacco free.

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Contributions of each author

- SF: collected data from one of the dental colleges and wrote the paper.
- GMS: reviewed the paper.
- VF: searched the literature and reviewed the paper.
- BB: collected data from 2nd dental college.
- BS: collected data from 3rd dental college.
- PD: collected data from 4th dental college.
- AST: collected data from 5th dental college.

Statement of conflict of interest

As far as authors know, there is no conflict of interest.

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