

Tobacco Use and Cessation Training among Thai Dental Students - the Global Health Professional Student Survey, 2006 – 2011

Wikul Visalseth¹, Surat Mongkolnchai-arunya¹, Siriwan Pitayarangsarit^{3,4}, Jintana Peesing³, Benjawan Danpradit³ and Thongchai Vachirarojpisan²

¹Dental Health Bureau, Department of Health, Ministry of Public Health, Nonthaburi

²Faculty of Dentistry, Chulalongkorn University, Bangkok

³Tobacco Control Research and Knowledge Management Center (TRC), Mahidol University, Bangkok

⁴International Health Policy Program, Nonthaburi

Abstract

This paper aimed to assess the changes on tobacco use, received cessation training and perceptions of policy banning smoking of dental students in Thailand by using the Global Health Professional Student Survey (GHPSS) conducted in 2006 and 2011. It was a census of 3rd year students from all 8 public dental schools in the country with 682 students in 2006 and 418 students in 2011 joining in the survey. The GHPSS results showed progresses in students' learning experiences on smoking cessation. Their perception of being role model for smoking cessation increased from 98.0 % in 2006 to 98.3 % in 2011 and the need for cessation techniques increased from 80.9 % in 2006 to 91.9 % in 2011. Percentages of dental students reporting that they have learned cessation approaches to use with their patients increased from 14.1 % in 2006 to 32.7 % in 2011. In conclusion, the proportion of the 3rd year dental students that have learned the cessation approaches to use with their patients increased by double within 5 years. However, the contents of tobacco control training are different based on professors' interest and there is a possible way to set a standard tobacco learning program among dental schools within the country.

Keywords: Dental students, Smoking cessation, Thailand GHPSS, Training

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Correspondence to:

Siriwan Pitayarangsarit. Tobacco Control Research and Knowledge Management Center, Mahidol University, Thailand AND International Health Policy Program, Thailand. 3rd Floor, Passadu Building, 6th Satharanasuk Rd, Muang, Nonthaburi. Tel: 02-5902366 Fax: 02-5902367 E-mail: pitayarangsarit@gmail.com

Introduction

Tobacco use is one of the major preventable causes of premature death and disease in the world. A disproportionate share of the global tobacco burden falls on developing countries, where 84 % of 1.3 billion current smokers' reside.¹ The World Health Organization (WHO) attributes approximately 5 million deaths a year to tobacco. The number is expected to exceed 8 million deaths by 2030, with approximately 70 % of these deaths occurring in developing countries.²

Health professions students have been found to play an important role in cessation and prevention of tobacco use among their patients. Counseling by health professions has been shown to increase smoking cessation.³ An analysis from Global Health Professional Student Survey (GHPSS) during 2005 - 2008 across low-and middle income countries, urge the need for enhanced measures to incorporate tobacco cessation training as a formal component of dental education globally.⁴ Further analysis comparing 2006 - 2011 found increasing trends of cessation training for dental students in Thailand and other countries in South East Asia; Bangladesh, India, Nepal and Sri Lanka.⁵

Despite the need for tobacco cessation training in dental school, only a few studies explain the tobacco control activities inside dental school and curriculum development.^{6,7}

In Thailand, the Thai Dentist Alliance against Tobacco was set up in 2005, as a sub-

group of the Health Professional Anti-smoking Alliance, for promoting dental personnel's competencies in tobacco control and cessation as well as collaborating with other tobacco control networks. The Dentist alliance has promoted all academic dental institutes to be the 100 % smoke-free places. New dentists are encouraged to aware and add smoking cessation in their routine work. A working group of dental students from all dental schools has conducted an anti-tobacco campaign using a mascot "NoNo: No Smoking Rabbit" to celebrate World No Tobacco Day every year. The rabbit represented dentist and the name of the rabbit "NoNo" means "deny smoking". Recently, Thailand Global Adult Tobacco Survey in 2011 revealed 55.8 % of cigarette smokers and 16.3 % of smokeless tobacco users reported they ever received advises about smoking cessation from health professionals.⁸ Dentists also partly contributed in this progress.

This paper aimed to assess the changes on tobacco use, received cessation training and perceptions of policy banning smoking of dental students in Thailand by using data from the 2006 and 2011 GHPSS.

Materials and Methods

The study was approved by the Ethical Review Committee for Human Research in Faculty of Public Health, Mahidol University (COA MUPH2008-197 and COA MUPH2011-195). All participants gave informed consent.

We used the data from the Global Health Professional Student Survey (GHPSS) conducted in Thailand in 2006 and 2011 to evaluate the progress in cessation training.

The GHPSS is a school-based survey of 3rd year students pursuing advanced degrees in dentistry. The GHPSS uses a core questionnaire on demographics, prevalence of cigarette smoking and use of other tobacco products, exposure to secondhand smoke (SHS), desire to quit smoking and training received to provide patient counseling on cessation techniques. The GHPSS has a standardized methodology for selecting participating schools and uniform data processing procedures.

The dental GHPSS in Thailand included a census of 3rd year students from all public dental schools in the country (8 schools), conducting in schools during regular lectures and class sessions. Anonymous, self-administered data collection procedures were used. The final questionnaire was translated into Thai language and back-translated into English to check for accuracy. A weighting factor was applied to each student record to adjust for non-response (by

school and student) and variation in the probability of selection at the school, class and student levels. Centers for Disease Control and Prevention (CDC) of the United States provided technical support in data analysis using a software package for statistical analysis of complex survey data (SUDAAN), to calculate weighted prevalence estimates and standard errors (SE) of the estimates (95 % confidence intervals -CI) were calculated from the SEs.⁹

Results

GHPSS Surveys

All public dental schools in Thailand were involved in the both rounds of GHPSS. 682 students participated in 2011 representing 84.6 % while in 2006, 418 students participated in the study representing 96.1 %. In both rounds, the distribution of gender and age is nearly the same. Majority of respondents were women (67.9 % and 68.7 % in 2006 and 2011, respectively) and were aged less than 25 years (98.3 % and 98.1 % in 2006 and 2011, respectively). (Table 1)

Table 1 Overall response rates of colleges and third-year dental students Thailand GHPSS, 2006 and 2011

Baseline characteristic	Year	
	2006	2011
Schools (N)	8 (100 %)	8 (100 %)
Students (N)	418 (96.1 %)	682 (84.6 %)
Women	284 (67.9 %)	469 (68.7 %)
Men	134 (32.1 %)	213 (31.3 %)
Age less than 25 years	98.3 %	98.1 %
Overall response rate	96.1 %	84.6 %

Tobacco use

When comparing between the two studies in 2006 and 2011, among third year dental students, the prevalence of ever smoked cigarette decreases from 17.0 % in 2006 to 13.9 % in 2011. The prevalence decreases in both sexes i.e. in men from 33.4 % to 27.8 % and in women

from 9.2 % to 7.8 %. Prevalence of students reported currently use cigarette is decreasing from 3.9 % to 2.5 %. Percentages of men currently use cigarette is decreasing from 10.5 % to 6.8 % while in women is nearly the same from 0.7 % to 0.5 % respectively. (Table 2)

Table 2 Lifetime and current prevalence of tobacco use among third-year dental students Thailand GHPSS, 2006 and 2011

Recourses	Year	
	2006	2011
	% (95 % CI)	% (95 % CI)
Ever smoked cigarettes	17.0 (16.3 - 17.7)	13.9 (12.8 - 15.2)
Women	9.2 (8.6 - 9.9)	7.8 (6.8 - 9.0)
Men	33.4 (31.9 - 35.0)	27.8 (25.1 - 30.6)
Ever used any forms of tobacco other than cigarettes	3.3 (3.0 - 3.6)	16.8 (15.5 - 18.1)
Women	0.4 (0.3 - 0.6)	12.5 (11.2 - 14.0)
Men	9.4 (8.5 - 10.4)	25.9 (23.2 - 28.6)
Currently use cigarettes	3.9 (3.5- 4.2)	2.5 (2.0 - 3.1)
Women	0.7 (0.6 - 0.9)	0.5 (0.3 - 0.8)
Men	10.5 (9.5 - 11.6)	6.8 (5.4 - 8.6)
Currently use any forms of tobacco other than cigarettes	0.3 (0.2 - 0.4)	2.3 (1.8 - 2.9)
Women	0.0	2.1 (1.6 - 2.8)
Men	0.8 (0.6 - 1.2)	2.8 (1.9 - 4.0)

Percentages of students reported ever used any form of tobacco other than cigarettes are remarkable increased from 3.3 % in 2006 to 16.8 % in 2011. The upward changes are profound in both sexes; in men from 9.4 % to 25.9 % and in women from 0.4 % to 12.5 % respectively.

The prevalence of currently use any form of tobacco other than cigarettes increase from 0.3 % in 2006 to 2.3 % in 2011. Percentages of male students reported currently use any form of tobacco other than cigarettes increases from 0.8 % to 2.8 % and in female from none to 2.1 %.

Official policy banning smoking in colleges and exposure to secondhand smoke (SHS)

Among cigarette smokers the proportion of students reported smoked on college premises property during the past year increases from 1.7 % in 2006 to 6.9 % in 2011. Among all respondents, students reported their schools have official policy banning smoking in college buildings and clinics increase from 44.8 % in 2006 to 68 % in 2011. The proportion of students reporting that

such policies are enforced shows little decreased from 88.9 % in 2006 to 84.1 % in 2011. For the experiences of exposure to secondhand smoke (SHS), students reported their experience at home during the past week increase from 27.4 % in 2006 to 32.4 % in 2011, while the exposure to SHS in public places decrease from 62.5 % in 2006 to 49.8 % in 2011. (Table 3)

Table 3 Policy and exposure to secondhand smoke among third-year dental students Thailand GHPSS, 2006 and 2011

Recourses	Year	
	2006 % (95 % CI)	2011 % (95 % CI)
Ever Cigarette Smokers		
- Smoked on college premises during the past year.	1.7 (1.5 - 1.9)	5.9 (3.7 - 9.3)
All Respondents		
- Colleges with an official policy banning smoking in college buildings and clinics.	44.8 (43.8 - 45.7)	68.0 (66.3-69.6)
- Colleges that had an official policy banning smoking in school buildings and clinics that enforced the ban.	88.9 (87.8 - 89.8)	84.1 (81.5 - 86.4)
- Exposure to smoke at home during the past week.	27.4 (26.6 - 28.3)	32.4 (30.8 - 34.0)
- Exposure to smoke in public places during the past week.	62.5 (61.6 - 63.4)	49.8 (48.1 - 51.6)

Role model and cessation training

Proportion of students who are current smokers that want to quit smoking cigarette apparently decrease from 100 % in 2006 to 24.8 % in 2011. Percentages of dental students who thought health professionals have a role in giving

advice about smoking cessation to patients are nearly the same in 98.0 % in 2006 and 98.3 % in 2011. Percentages of respondents who thought health professionals should get specific training on cessation techniques increase from 80.9 % in

2006 to 91.9 % in 2011. Percentages of dental students reporting that they have learned cessation approaches to use with their patients increase from 14.1 % in 2006 to 32.7 % in 2011.

Percentages of dental students reporting that they have participated in tobacco control activity campaigns inside or outside school also increase. (Table 4)

Table 4 Education and perception of responsibility to counsel patients among ever smokers, third-year dental students Thailand GHPSS, 2006 and 2011

Recourses	Year	
	2006	2011
	% (95 % CI)	% (95 % CI)
- Percentage Answering "Yes"		
Do health professionals serve as role models for their patients and the public?	98.0 (97.7 - 98.2)	98.3 (97.8 - 98.7)
Should health professionals get specific training on cessation techniques?	80.9 (80.2 - 81.7)	91.9 (90.9 - 92.8)
- Learned cessation approaches to use with patients.	14.1 (13.4 - 14.7)	32.7 (31.0 - 34.3)
- During your training, were you taught in any of your classes about the dangers of smoking?	94.9 (94.5 - 95.3)	89.8 (88.7 - 90.8)
- During your training, did you discuss in any of your classes the reasons why people smoke?	50.0 (49.0 - 50.9)	54.1 (52.4 - 55.9)
- During your training, did you learn that it is important to record tobacco use history as part of a patient's general medical history?	72.2 (71.4 - 73.1)	69.4 (67.8 - 70.9)
- Have you ever heard of using nicotine replacement therapies in tobacco cessation programs (such as nicotine patch or gum)?	77.3 (76.5 - 78.1)	72.2 (70.6 - 73.7)
- Have you ever heard of using antidepressants in tobacco cessation programs (such as bupropion or Nortriptyline)?	39.4 (38.5-40.3)	42.9 (42.2 - 45.6)
- Have you ever heard of using herb in tobacco cessation programs?*	-	47.1 (45.4 - 48.8)
- Have you ever participated in tobacco control activity campaigns inside your school?	15.7 (15.1 - 16.4)	28.8 (27.2 - 30.4)
- Have you ever participated in tobacco control activity campaigns outside of your school?	15.7 (15.0 - 16.4)	27.3 (25.8 - 28.9)

Note: * No data in 2006

Discussion

From the two rounds of Thailand GHPSS in third year dental students in 2006 and 2011, data reveals some changes that should be concerned as follows:

The use of cigarettes in dental students is low and decreasing both in terms of currently use from 3.9 % to 2.5 % and ever smoked cigarettes from 17 % to 13.9 %. This can be seen in both sexes. On the contrary, the use of any tobacco products other than cigarette is obviously increasing in Thai dental students in terms of rates of currently use and prevalence of ever used any other tobacco products. For those reported currently use any type of tobacco other than cigarettes, the rate increases from 0.3 % to 2.3 %. In 2006, none of women and 0.8 % of men reported their currently used other type of tobacco products but in 2011 proportion of dental students currently used other tobacco products is 2.1 % in women and 2.8 % in men. Some explanations are that the anti-smoking measures were strictly on hazards of cigarette; hence, loopholes in law were opened for the marketing of alternative tobacco products and the students have turned to use alternative tobacco because they believed it is safer and better taste than smoking cigarettes.⁸

During 2006 to 2011 there were many measures launched in Thailand; for example, 1) cigarette pack warning messages on toxic substances and carcinogenic compound in 2006, 2) changes in pictorial warning on cigarette pack

in 2007 and 2009, 3) smoking ban areas extended including university territories in 2007 and mores in 2011 and ban on misleading terms on cigarette pack in 2011. Although, Thailand had many measures but we have not had the regulation on alternative tobacco products such as Electronic cigarette and Waterpipe tobacco until in December 2014 that the Ministry of Commerce banned the import of equipment relevant to Electronic cigarette and Waterpipe tobacco and in 2015 that the service in restaurants and entertainment places for using these tobacco products was ban by the Consumer Protection Commission of Thailand.

Rates of dental students exposed to SHS in public places during the past week decreased from 62.5 % to 49.8 %. On the other hand, the exposure to SHS at home increased from 27.4 % to 32.4 %. This trend is similar to the study of 2011 GATS showing percentages of those exposed to SHS at home are increased from 33.2 % in 2009 to 36 % in 2011.¹⁰

Tobacco use endangers the health of health professions students and negatively influences the future health professions workforce to deliver effective anti-tobacco counseling when they start seeing patients.¹¹ All of 8 public dental schools have official policy that ban smoking in their buildings and clinics as they realize that smoke-free work environment has been shown to improve air quality, reduce health problems associated with exposure to tobacco smoke, support and encourage cessation attempts among smokers trying to quit and receive high

levels of public support from people who spend time in the area. Furthermore, the creation of smoke free areas by dental faculties sends a clear message to lecturers, students, patients, and clinicians about negative impact of tobacco.¹²⁻¹⁴ In 2011 Thai dental students reported their schools have official policy banning smoking in college buildings and clinics increase from 44.8 % to 68 % but the proportion of students reporting that such policies are enforced was a bit lower than previous study (88.9 % compared to 84.1 %). Moreover the percentages of cigarette smokers reported smoked on college premises property during the past year increases from 1.7 % to 5.9 %. However, the number of current cigarette smokers in both survey were small (17 in 2006 and 14 in 2011) therefore, the interpretation should be made carefully. The sample selection from the third year students was useful for global comparative purpose;⁵ however, it made the results cannot reflect the cessation training in the clinical class.

The dental schools should review and improve their enforcement of the official policy banning smoking in clinic and college premises as well as the encouragement for student to quit smoking and the use of any type of tobacco products by incorporating an intensive smoking cessation lesson into the curriculum.

Nearly all respondents (98 %) thought dental profession should have a role in giving advice about smoking cessation to patients. To support such a role percentages of dental students reported their needs of specific training

on cessation techniques are increasing from 80.9 % to 91.9 %. This result shows good attitudes of dental students in helping their patients to quit smoking and another tobacco use that 51.1 % of dental students used tobacco products hardly advise in helping their patients to quit smoking in 2006.¹⁵ Moreover, percentages of dental students reporting that they have learned cessation approaches to use with their patients increases more than double from 14.1 % to 32.7 %. Also the percentages of those who have participated in tobacco control activity campaigns inside or outside school increase about double from 15 %. These may be resulted from the anti-smoking campaign managed by Thai Dentist Alliance against Tobacco that try to incorporate the health impact of tobacco and smoking cessation lesson into the curriculum and try to involve the first two years of dental students in antismoking campaign.

A study in Nigeria showed that 65 percent of dental practice always asks their patients about their smoking habits.¹⁶ The Thai GHPSS survey was unable to collect this kind of information; therefore; future studies should assess the effectiveness of tobacco control training in dental schools in terms of dental practice in helping their patients to quit smoking; i.e. whether the Thai dentists and dental students have asked their patients about smoking habits and encouraged them to quit smoking.

Conclusions

Comparing results from both rounds of GHPSS is useful to assess the progress on tobacco control training in dental school. In Thailand, it shows that Thai dental students show their good attitudes towards being a role model and helping their patients to quit smoking. The proportion of the 3rd year dental students in 2011 that have learned the cessation approaches to use with their patients increase by double from 2006. The GHPSS tool is useful for evaluating and following the behaviors and attitudes of dental students regarding tobacco use. In addition, the results is helpful for dental schools in revising the undergraduate curriculum to help their patients to quit smoking.¹⁷ Future studies should assess the effectiveness of tobacco control training in terms of dental practice in helping their patients to quit smoking.

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