

# Smoking cessation education in Thai schools of pharmacy

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## ABSTRACT

Pharmacy graduates are expected to have adequate training about smoking cessation. This study aimed to determine the extent of smoking cessation content provided in Thai pharmacy schools. A self-administered questionnaire was mailed to all pharmacy schools in Thailand. Head of schools were asked to distribute the questionnaire to faculty members who taught topics related to smoking cessation. Course descriptions in the current curriculum of all pharmacy undergraduate programs were reviewed. All 12 schools of pharmacy responded to the questionnaires. A median time spent on all topics was 198 minutes. The most heavily emphasized topics were health effects of smoking, counseling techniques, and smoking cessation aids. Main barriers were limited teaching time and a lack of clerkship sites focusing on smoking cessation services. Only one school has their course description contained the words related to smoking cessation. These findings suggested a more standardized and effective smoking cessation education for Thai pharmacy students.

**Keywords:** Pharmacy education, pharmacy student, smoking, smoking cessation education, tobacco cessation education

## INTRODUCTION

It is well recognized that tobacco smoke is the leading cause of major diseases and deaths (McGinnis & Foege 1993, Ezzati M *et al* 2002). In Thailand, tobacco smoke is ranked second among the causes of cardiovascular disease and cancer (Action on Smoking and Health Thailand 2006). Therefore, smoking cessation is an essential strategy in the prevention of smoking-related health problems and subsequent economic burdens. A number of studies illustrated that pharmacist plays an important role in smoking cessation, as smoking cessation rate has been increased following pharmacy interventions (Williams *et al* 2000, Hudmon *et al* 2001, Macguire *et al* 2001). However, as with other health professionals, several barriers appear to interfere with the provision of smoking cessation counseling. One of these is a lack of confidence in the ability to provide effective advice (Lando & Hatsukami 1999), which could be resolved with appropriate training.

Published evidences revealed that training for tobacco cessation counseling increases the frequency and quality of counseling provided by health professionals (Cummings *et al* 1989, Lancaster *et al* 2000). Several studies have been conducted to assess smoking cessation content in health professional schools (Warren *et al* 2008, Spangler *et al* 2002, Roddy *et al* 2004, Wewers *et al* 2004). However, only a few studies focus on the intensity of smoking cessation education in pharmacy schools. Hudmon and colleagues (2004) have

surveyed the tobacco-related content being taught in pharmacy school in the United States (US) and found that the pharmacy graduates received insufficient training about tobacco control education. These findings were similar to the survey conducted in Canada by Brewster and Ashley (2005).

In Thailand, there has been increased interest in providing smoking cessation services in community pharmacy. The Thai Food and Drug Administration allowed nicotine replacement therapy (NRT) products to become available in community pharmacies without a prescription in 2005. This status change was expected to result in an increased access to smoking cessation service provided by community pharmacists. Consequently, there is a need to ensure that new pharmacy graduates have adequate training about smoking cessation.

The aim of this study was to determine the extent of smoking cessation content provided in Schools of Pharmacy in Thailand, with the specific objectives to 1) identify the time devoted for smoking cessation topics; and 2) identify smoking cessation related words in pharmacy curricula.

## METHOD

Five copies of the 4-page self-administered questionnaires were mailed to a dean of all twelve faculties of pharmacy in

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existence during the year 2005. The cover letter clearly asked the dean to distribute each of the five copies to any faculty members involved in teaching smoking cessation related topics in his/her school; the questionnaire could be requested or duplicated if needed. Faculty members who received the questionnaire were not only asked to respond to questionnaire but also to identify colleagues who might also have a role in teaching topics related to smoking cessation. Extra copies of the questionnaire were then mailed directly to these faculty members. Eight weeks after questionnaires were mailed out, an electronic reminder or a follow-up telephone call, with an electronic copy or hard copy of questionnaire, were sent to the dean of non responding schools.

In addition to the above questionnaire, all twelve schools were asked to send a copy of their pharmacy undergraduate programs' curricula via prepaid postage envelopes. A reminder letter was sent to non respondents eight weeks after the request was made.

### Instrument and outcome measures

The questionnaire was reviewed for content validity by two experts in smoking cessation and an expert in questionnaire development. The final questionnaire was approved by the human research committee at Naresuan University and contained four parts: respondent characteristics (open question), content of smoking cessation education (open and elective question), a list of other faculty members involved in smoking cessation education (open question), and perceived barriers to smoking cessation education (elective question).

Answers from all respondents within the same school were aggregated to represent the school's single answer for that question. When at least one respondent from a school replied "yes", that question was counted as yes. Regarding time devoted, the answer was presented as the summation of the number of minutes being taught by each respondent in the same school. For example, respondent A taught 10 minutes and respondent B taught 5 minutes in the same topic, the total time devoted for this topic was then added up to 15 minutes.

Course descriptions in the pharmacy curricula of all twelve schools were examined to identify smoking cessation related words, i.e. Thai word denoted for tobacco, cigarette, smoking cessation, drug/medicine and product aiding smoking cessation.

### Analysis

Descriptive statistics were used to describe the questionnaire response. Data were presented as percentage, range, median (interquartile range [IQR]) where appropriate.

## RESULTS

### Survey response rate and school characteristics

Of the 60 questionnaires sent out, 32 were returned. All of the 12 schools of pharmacy included in the survey have returned at least one complete questionnaire (response rate 100%). Of the 12 schools, 8 schools had a traditional 5-year Bachelor of

**Table 1:** Teaching topics related to smoking cessation and time devoted to each topic in twelve schools of pharmacy in Thailand

Topics	Number of schools (%)	Time devoted (minutes)	
		Range	Median (IQR)
Epidemiology of smoking	10/12 (83.3%)	0 – 15	5.0 (2.5 – 11.0)
Tobacco control laws	3/12 (25.0%)	0 – 50	0.0 (0.0 – 8.8)
Factors associated with smoking addiction	8/12 (66.7%)	0 -18	10.0 (2.8 – 13.8)
Cigarette component	9/12 (75.0%)	0 – 15	5.0 (1.5 – 8.8)
Health effects of smoking	12/12 (100%)	5 – 20	15.0 (2.5 – 20.0)
Affect on second hand smoking	7/12 (58.3%)	0 – 20	7.5 (0.0 – 15.0)
Drug/food interaction with smoking	10/12 (83.3%)	0 – 20	7.5 (3.8 – 16.2)
Principles of nicotine addiction	10/12 (83.3%)	0 – 15	10.0 (10.0 – 15.0)
Assessment of nicotine addiction	9/12 (75.0%)	0 – 30	10.0 (6.2 – 23.8)
Screening and recording patient's smoking episodes	9/12 (75.0%)	0 – 30	7.5 (5.0 – 13.8)
Assessment of the intention to quit smoking	10/12 (83.3%)	0 – 25	17.5 (10.0 – 23.8)
Counseling techniques	11/12 (91.7%)	0 – 180	30.0 (12.5 – 52.5)
Smoking cessation aids	11/12 (91.7%)	0 – 35	25.0 (15.0 – 30.0)
Documenting and monitoring outcomes of smoking cessation	7/12 (58.3%)	0 – 15	3.5 (0.0 – 5.0)
Referring to appropriate healthcare setting	7/12 (58.3%)	0 – 10	5.0 (0.0 – 6.0)
Total	12/12 (100%)	160–258	198.0 (165.0–250.0)

Pharmacy (B.Pharm.) program as their undergraduate program; two schools had a 6-year Doctor of Pharmacy (Pharm.D.) program, whilst the rest (two schools) had both 5-year B.Pharm. and 6-year Pharm.D. programs.

### Teaching topics related to smoking cessation and time devoted

All pharmacy schools provided education on the topic of the health effects of smoking, with a median (IQR) time devoted of 15.0 (2.5 – 20.0) minutes (Table 1). Only three schools (25.0%) focused on tobacco control laws, which comprised of two main Acts: i) Tobacco Product Control Act (law and regulation related to tobacco advertising, warning, and packaging); and ii) Non-smoker Health Protection Act, which also known as Smoke Free Law. Time dedicated to counseling techniques varied greatly amongst eleven schools that integrated this topic in their courses and ranged from 0 to 180 minutes. Overall, the median time devoted to 15 topics related to tobacco and smoking cessation was 198.0 (165.0 – 250.0) minutes.

### Teaching methods

A variety of teaching methods were identified. They included lecture (100.0%), case study (83.3%), role play (33.3%), self-study (33.3%), and practice (16.7%).

### Barriers to provide education

The main perceived barriers in providing education among the respondents were the following; limited teaching time (58.3%) and a lack of clerkship sites focusing on smoking cessation services (41.7%). Other potential barriers perceived by a lesser number of respondents included lack of student interest (16.7%), lack of faculty expertise for smoking cessation services (16.7%), and a limited number of faculty (8.3%).

### Smoking cessation and tobacco-related topics in course description

Of all courses listed in the current curriculum structure of all pharmacy undergraduate programs, only one elective course, Health Promotion and Screening, has incorporated smoking cessation related topic into its course description.

## DISCUSSION

Pharmacists can significantly increase smoking cessation rates and reduce subsequent healthcare costs associated with smoking. This would sensibly be achieved by a proper intervention, which requires an appropriate education and training. Whilst pharmacy schools in Thailand devoted at least 160 minutes to smoking cessation, only one school stated a smoking cessation related topic in their course description. This might reflect the modest emphasis to incorporate smoking cessation issue into pharmacy program. It should be noted, however, that detail of course descriptions could not be changed unless a major periodic revision of program curriculum had taken place. It appears that the curriculums evaluated were in use for several years prior to the conduction of this study, i.e. at a time when the concept of health prevention and health promotion might have not well adopted by Thai pharmacy professions.

The median number of minutes taught by all 12 schools of pharmacy in Thailand appeared to be relatively high compared to those of 82 schools in the recent US survey (Hudmon *et al* 2004) (198.0 vs 170.0 minutes). However, it should be noted that the time devoted for tobacco-related content in the US pharmacy schools was measured before the recent dissemination of a national curriculum associated with the Rx for change program (Williams 2009). It is expected that the Rx for change curriculum, particularly the train-the-trainer program for tobacco cessation, would bring about a change to the tobacco-related content in the US pharmacy schools' curriculum. Based on the survey following the program (Corelli *et al* 2007), over two-third of faculty representatives from each school indicated a high possibility of using the program in their curricula during the upcoming academic year. For an appropriate comparison with others, it is suggested that an up-to-date figure of tobacco education in the US pharmacy schools is required.

The most emphasized topics in Thai, US (Hudmon *et al* 2004), and Canadian (Brester & Ashley 2005) pharmacy schools were similar and included the health effects of smoking, counseling techniques, and smoking cessation aids. However, additional topics related to smoking prevention should also be taught. It was found that few schools had employed a practice exercise in their smoking cessation education. To enhance student skill and confidence to provide cessation services, some form of supervised practice should be implemented in all schools.

According to the current Global Health Professions Student Survey (GHPSS) (Warren *et al* 2008), 19.2% of Thai pharmacy students reported that they had received formal training in smoking cessation to use with patients in their pharmacy school training. Considering the time and topics devoted to smoking cessation education shown in this study, the low figure found in GHPSS may be due to the fact that the respondents were only third-year students who may not yet have received the formal smoking cessation education provided.

Previous survey among community pharmacists indicated that lack of knowledge and skill was one of the main five barriers for pharmacists to provide smoking cessation services in community pharmacy in Thailand (Thananithisak *et al* 2008). This may partly reflected the insufficient smoking cessation practice training for undergraduate pharmacy students, which is consistent with results in the present study.

Time and lack of clerkship sites were the most important perceived barriers in this study and others (Hudmon *et al* 2004, Brester & Ashley 2005). Of note is the diversity of undergraduate pharmacy programs in Thailand, i.e. 5-year B.Pharm. and 6-year Pharm.D. programs. Limited teaching time may probably be problematic for schools with 5-year program than those with 6-year program. According to a recent evaluation of curricula content based on Thai pharmacy competency standards (Kapol *et al* 2008), it was found that the Pharm.D. curriculum was more patient-oriented than the B.Pharm. program. The arrangement of vigorous training, as rotated clerkship, in the whole final year of Pharm.D. program gave the school extra time credits. This allowed them to set-up a special elective clerkship focusing on smoking cessation, providing that other resources are readily available and meet

the quality standard. For example, Naresuan University (in the presence of a few expert faculties with an interest in tobacco-related topics) has provided two elective 6-week clerkships related to tobacco and smoking cessation: tobacco control clerkship and smoking cessation clerkship.

As mentioned earlier, one of the limitations to present a nationwide figure in this study was the mixing of results from schools with different undergraduate program structures. Also, the effect of smoking cessation education on the competency of pharmacy students to provide services, and the success of their intervention on smoking cessation, were not measured in the present study. This suggests further evaluation to better determine the impact of smoking cessation education and to help revise the teaching course accordingly.

## CONCLUSION

The results of this study revealed a variation in smoking cessation education among pharmacy schools in Thailand. A more standardized education program should be established to ensure a comparable standard of pharmacy graduates from all schools. Main barriers to education identified in this study, including limited teaching time and a lack of clerkship sites focusing on smoking cessation services, should also be addressed to improve the competency of pharmacy students and their ability to facilitate smoking cessation.

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