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Prevalence and factors influencing smoking behaviors among vocational and technical students in a North-Eastern Province of Thailand

Anun Chaikoolvatana* Mereerat Manwong**
Choladda Chaikoolvatana*** Nawaporn Saisingh****
Sukwasan Wongthanu***** Mattana Kwangtong**

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Background : *Since 2009, cigarette smoking among Thai population aged between 15 and 24 has been increasing. These people may have more chances of some disease complications caused by cigarette smoking than non-smokers. Noticeably, these young smoking population are currently studying in high school, vocational, and technical levels. The previous surveys indicated no current data available regarding the prevalence of smoking among these vocational and technical students in the area.*

Objective : *The study aims to evaluate the prevalence and factors influencing smoking behavior of students in these two institutes.*

Research Design : *A cross sectional, descriptive study.*

Setting : *Technical and Vocational Ubon Ratchathani Schools, Ubon Ratchathani Province.*

* Department of Pharmacy, Ubon Ratchathani University, Thailand 34190
** College of Medicine and Public Health, Ubon Ratchathani University, Thailand 34190
*** Faculty of Nursing, Phayao University, Muang, Phayao, Thailand 56000
**** Rajamangala University of Technology, Surin, Thailand 32000
***** Office of Provincial Public Health, Ubon Ratchathai, Thailand 34000

Methods : *It is a cross-sectional, descriptive study. In total, there were 302 participants divided into a vocational group (152) and a technical group (150). All participants filed out a questionnaire paper using a rating scale. The relationships between variables were statistically analyzed via descriptive and analytical measurements.*

Results : *The results from both institutes indicated the participants were approximately 17 years of age with an average GPA below 3.00. Also, the percentages of smoking fathers in the technical group was 68 and 31.6 in the vocational. Closed friends of technical and vocational groups smoked 48 and 48.7 percents consecutively. Siblings of both groups smoked 26.7 percent (technical group) and 36.2 percent (vocational group). The prevalence of cigarette smoking between the two groups was 6.2 and 1.4 percents, consecutively. The majority were non-smokers. Regarding the mean scores related to attitudes towards smoking, we found that both groups had high scores ($\bar{x}$ >3.51). However, the mean scores of both groups related to self-esteem were low but with significant differences ($\bar{x} \leq$ 2.5) (p <0.001). The factors influencing smoking behavior included types of schools, genders, accommodations, marital status of the parents, and attitudes towards smoking.*

Conclusion : *The prevalence of smoking in both vocational and technical schools was low, but the figure of the vocational group was higher than the technical group (6.2, and 1.4 percents consecutively). Nevertheless, there were still some factors that influenced smoking habit including, closed persons, family conditions, peers. So the knowledge provision, family responsibility, and good social environment could protect the students from smoking. Also, rules and regulations regarding smoking in schools need to be restrictive and well enforced.*

Keywords : *Vocational, technical, student, college, smoking behavior, prevalence.*

Reprint request: Chaikoolvatana A. Department of Pharmacy, Ubon Ratchathani University, Thailand 34190

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บทนำ : *ตั้งแต่ปี พ.ศ. 2552 เป็นต้นมา การสูบบุหรี่ของประชากรไทยในช่วงอายุระหว่าง 15 - 24 ปี มีแนวโน้มที่จะเพิ่มจำนวนขึ้น ซึ่งในระยะยาวคนกลุ่มนี้มีโอกาสเกิดภาวะแทรกซ้อนจากโรคต่าง ๆ ที่มีสาเหตุจากบุหรี่ในช่วงวัยผู้ใหญ่ได้มากกว่าผู้ไม่สูบบุหรี่ ปัจจุบันประชากรช่วงอายุ ดังกล่าวกำลังศึกษาอยู่ในชั้นมัธยมศึกษาอาชีวศึกษา และวิทยาลัยเทคนิค และปรากฏว่าในประเทศไทยเรายังไม่มีการสำรวจอัตราการสูบบุหรี่ของนักเรียนที่ศึกษาอยู่ในวิทยาลัยอาชีวศึกษาและวิทยาลัยเทคนิคมาเลย*

วัตถุประสงค์ : *ด้วยเหตุดังกล่าวมาแล้วนี้ วัตถุประสงค์ของการศึกษานี้ จึงต้องการประเมินหาความชุกและปัจจัยที่มีอิทธิพลต่อพฤติกรรมการสูบบุหรี่ของนักเรียนจากสถานศึกษาทั้งสองแห่ง*

รูปแบบการวิจัย : *การวิจัยเชิงพรรณนา แบบภาพตัดขวาง*

สถานที่ทำการศึกษา : *วิทยาลัยเทคนิคอุบลราชธานี และโรงเรียนอาชีวะอุบลราชธานี จังหวัดอุบลราชธานี*

วิธีการศึกษา : *เป็นการศึกษาแบบภาพตัดขวาง จำนวนกลุ่มศึกษาทั้งสิ้น 302 ราย ประกอบด้วยนักเรียนอาชีวะ 152 ราย นักเรียนเทคนิค 150 ราย โดยให้ตอบแบบสอบถามเกี่ยวกับพฤติกรรมการสูบบุหรี่ โดยใช้มาตรประมาณค่าความสัมพันธ์ระหว่างตัวแปรทั้งหมด ใช้สถิติในการวิเคราะห์*

ผลการศึกษา : *จากการสำรวจของสถานศึกษาทั้ง 2 แห่ง นักเรียนมีอายุเฉลี่ย 17 ปี เท่ากัน เกรดเฉลี่ยสะสมต่ำกว่า 3.00 นอกจากนั้นกลุ่มศึกษาทั้ง 2 แห่ง ระบุว่ามีบิดาสูบบุหรี่ร้อยละ 68 (เทคนิค) และ 31.6 (อาชีวะ) เพื่อนสนิทสูบบุหรี่ร้อยละ 48 (เทคนิค) และ 48.7 (อาชีวะ) พี่น้องในบ้านสูบบุหรี่ร้อยละ 26.7 (เทคนิค) และ 36.2 (อาชีวะ) ในด้านอัตราความชุกของผู้สูบบุหรี่จากสถานศึกษาทั้งสองแห่ง เท่ากับร้อยละ 1.4 (เทคนิค) และ 6.2 (อาชีวะ) กลุ่มศึกษาของทั้งสองแห่งมีค่าคะแนนเฉลี่ยทัศนคติที่ถูกต้องเกี่ยวกับการสูบบุหรี่ ($\bar{x}$ >3.51) แต่คะแนนเฉลี่ยของความตระหนักรู้คุณค่าของตนเองในการสูบบุหรี่ค่อนข้างต่ำ ($\bar{x} \leq 2.5$) และมีความแตกต่างกันอย่างมีนัยสำคัญทางสถิติระหว่าง 2 กลุ่ม (<0.001) ปัจจัยที่มีอิทธิพลต่อพฤติกรรมการสูบบุหรี่ของนักเรียนทั้งสองแห่ง ได้แก่ ประกาศของสถานศึกษา เพศ ลักษณะการพักอาศัย สถานภาพการสมรสของผู้ปกครอง และทัศนคติต่อพฤติกรรมการสูบบุหรี่*

สรุป : *อัตราการสูบบุหรี่ของนักเรียนทั้งสองสถานศึกษายังไม่สูงมากนัก แต่นักเรียนอาชีวะสูบมากกว่า (ร้อยละ 6.2) นักเรียนเทคนิค (ร้อยละ 1.4) อย่างไรก็ตาม สิ่งแวดล้อม เช่น สภาพครอบครัว คนใกล้ชิดเพื่อน อาจเป็นปัจจัยที่ส่งผลให้นักเรียนมีโอกาสลองสูบได้ ดังนั้นการให้ความรู้ที่ถูกต้อง การเอาใจใส่จากผู้ปกครอง และการมีสังคมที่ดี จะช่วยป้องกันมิให้นักเรียนริเริ่มสูบ บุหรี่ รวมทั้งสถานศึกษาต้องมีกฎระเบียบที่เข้มงวด และช่วยดูแลอย่างจริงจัง*

คำสำคัญ : *อาชีวะศึกษา, วิทยาลัยเทคนิค, พฤติกรรมการสูบบุหรี่, ความชุก.*

Tobacco causes public health problems resulting in diseases and death. Tobacco is a risk factor for six out of eight leading causes of deaths in the world and 100 million deaths were caused by tobacco in the 20th century. If the current trends continue, there will be up to one billion deaths in the 21st century without a doubt.[1] The World Health Organization (WHO) report pointed out that tobacco cause death over 3 million people each year, and will rise to more than 10 million people each year between 2020 and 2030. In the developing countries, 70% of deaths are associated with tobacco.[2] As for Thailand, tobacco was the second-ranked cause of illness and premature deaths of Thai populations, after HIV/AIDS and followed by alcoholism consecutively.[3] The accurate data of the smoking prevalence since 2005 until 2011 found the smoking rates of Thai population have been decreasing from 27.09 to 22.10.[4] Whereas, the national statistics reported an increase of young smokers aged above 15, especially the young females. Regarding the regions of Thailand, the North-eastern regions has the second highest incidences of tobacco smoking (23.5%).[4] Especially Thai populations at the age between 15 and 24 years old, the smoking rate trends to increase since 2009.[5] As the teenagers stated to smoke at the early age, this habit will sustain into adulthood. Thus the long term effects and the damage to health get progressively worse.

Ubon Ratchathani is one of the provinces in the North-eastern region. This province was the 13th in a list of provinces regarding the rate of tobacco consumption in 2010. The current smokers approximately rise to 27.09 percent (per 100,000 population).[6] Geographically, the province has a population of approximately 2 million, 98 primary schools, four universities, and two colleges including vocational and technical institutes. Regarding vocational school in Ubon Ratchathani, there were totally 3,425 students in both vocational and high vocational certificate levels. Meanwhile, Technical school has around 6,540 enrolled into both vocational and high vocational certificated levels each year.[7,8]

Regarding vocational and technical students, who may represent at-risk population for receptivity to tobacco advertising and cigarette smoking. Some international evidences indicated high levels of health risk behaviors, including tobacco use among vocational high school students.[9,10] Moreover, the findings indicated those vocational and technical students are influenced to smoking behaviors via family and parental smoking habit, peer, school performance, and social activities.[11-14] Also some aspects of smoking behavior among vocational and technical students were revealed including, smoking behavior perception, intention to quit smoking, preventive factors of smoking behavior.[15,16] Even there were some previous research works related to cigarette smoking among school pupils in the North-eastern areas including, smoking preventive program, general knowledge and belief related to cigarette smoking, interactive media promoting anti-smoking campaign.[17 - 19] Nevertheless, there is no study conducted among vocational and technical students, particularly in Ubon Ratchathani province. Additionally, the aspects of prevalence and influencing factors related to smoking behavior have not been investigated in the area before.

Therefore, the researchers as healthcare professionals in Ubon Ratchathani are interested to

study the smoking prevalence and factors influencing smoking behavior of both vocational and technical students of public educational institutes located in the province. Also, the attitudes and self-esteem related to smoking behavior were investigated. Findings of the study would give crucial information, as they might be useful in planning to control and monitor smoking behavior among those at-risk students in the future.

Materials and Methods

Study design

It is a cross sectional, descriptive study.

Population / samples

In Ubon Ratchathani, there is a vocational and a technical school for local students. Target population includes students who currently study in vocational school and technical college at vocational certificated level 1 - 3, located in Ubon Ratchathani province. There are 330, and 175 vocational certificated level 1 - 3 at technical college and vocational school.

The outputs of the sample size were calculated from previous studies.[20, 21] For estimating the finite population proportion

N = 1170 p = 0.213 Delta = 0.04 Alpha = 0.05, Z(0.975) = 1.959964

Sample size = 300 (technical 150, vocational 150 participants)

± 5% (missing data) = a total number of participants is between 285 and 315 participants

Both 330 technical and 175 vocational students were randomly selected into 2 groups via a simple random sampling of their identification numbers by computer. Overall there were 150 technical students and 152 vocational students enrolled into the study.

Research tools

Self-administered anonymous questionnaires were used. It was developed by Dumluck *et al* 2007.[22] Both content validity and reliability tests regarding attitude and self-esteem were already performed (α = 0.92, 0.80, respectively). The questionnaire contains 5 different parts including, 1) demographic characteristics (*4 items*) including, gender, age, GPA, education levels, 2) economic and social data (*3 items*) including, income, accommodation, marital status of parents, 3) environment characteristics (*6 items*) including, Close person smoking, Smoking conditions, Seeing smoking advertising media, Accessibility to buy tobacco products, The price of tobacco products, Knowledge of tobacco laws and regulations, 4) attitudes towards smoking (*12 items*), 5) Self-esteem (*15 items*).

For section 4, Likerts' scale was used. There were 5 levels to be selected from 5 to 1 (*Strongly agreed* → *Strongly disagreed*). All question items were positive attitudes toward smoking behavior. Attitude scores were divided into 3 ranges including,

3.51 - 5.00 *High attitude* towards smoking behavior (negative attitude)

2.51 - 3.50 *Intermediate attitude* towards smoking behavior

1.00 - 2.50 *Low attitude* towards smoking behavior (positive attitude)

Score range of attitudes smoking behavior showed the total points were between 12 - 60 points.

For section 5, Likerts' scale was also used. Most question items were positive self-esteems except question number 2, 4, 6, 11, 12, and 13 which were negative. Five levels from 5 to 1 (*Strongly agreed* to *Strongly disagreed*) were interpreted for positive questions, whereas the opposite interpretations were used for negative questions.

Self-esteem scores were divided into different ranges including,

3.51 - 5.00 *High self-esteem* towards smoking behavior

2.51 - 3.50 *Intermediate self-esteem* towards smoking behavior

1.00 - 2.50 *Low self-esteem* towards smoking behavior

Score range of attitudes smoking behavior showed the total points were between 12 - 60 points.

Data collection

The target groups were explained objectives, implementation steps, and work plans. Heads of both schools were informed the research conduction via formal letters. All participants signed on the consent forms to be part of the study.

Self- administered questionnaires were provided to each participant and returned back to the researchers within a week. The consent forms were handed in for each participant to sign on. The researchers will give all essential information prior to the enrollment of study including all personal information. Also no personal identification was issued publicly. If the participant felt uncomfortable to give the information, he or she could leave the study at any time.

Data analysis

Statistical Package for Social Science (SPSS) program was implemented. All analyses are divided into;

a. Demographic data were analyzed via frequency, percentage. For quantitative variables, mean, standard deviation, median, and quartile were used.

b. Attitudes and self-esteem towards smoking behavior were analyzed via mean, standard deviation, median, and quartile.

c. Comparison of mean scores related to attitudes and self-esteem towards smoking behavior between vocational and technical students were analyzed via Independent t-test at significant level of 95% (p = 0.05)

d. The relationship between factors and smoking behaviors were analyzed via forward stepwise multiple logistic regression (p =.05)

Results

There were totally 302 participants enrolled into the study. One hundred and fifty participants were in technical group; and closely, one hundred and fifty-two in vocational group. The average age of participants in both groups was 17. Most participants in both groups were vocational certificated level 3 with GPA of 2.5 (0.7) and 2.8 (0.7) respectively. Most technical participants lived with their parents. However, vocational participants tended to live with both parents and friends. Noticeably, father, friends and siblings were the most common people who smoked in both groups.

Regarding smoking behavior, the results showed most students in both groups were non-

smokers (95.9 and 84.9% respectively). However, the prevalence of smokers in the vocational school was higher than those in the technical college (6.2, 1.4%, respectively). Furthermore, the results revealed that most participants in both groups agreed that tobacco product were implicitly appeared from mass media including, movies, television, and cable channels which might lead the audiences to the tobacco product unintentionally. Moreover, the accessibility of tobacco products easily happened. Additionally, at least there were a few stores located nearby the schools that, had sold them some tobacco products. Most smokers were surprisingly satisfied with the current tobacco prices with less knowledge about tobacco laws and regulations (Table 1).

Table 1. Demographic data of both technical and vocational students.

Variables	Technical (n = 150) n (%)	Vocational (n = 152) n (%)
Age (years)		
Mean (S.D.)	17.1(0.9)	17.5(1.4)
Gender(s)*		
Male	79(59.0)	41(36.3)
Female	55(41.0)	72(63.7)
Education level(s)		
Vocational certificated 1	46(30.9)	38(26.8)
Vocational certificated 2	48(32.2)	46(32.4)
Vocational certificated 3	55(36.9)	58(40.8)
GPA Mean (S.D.)	2.5(0.7)	2.8(0.7)
Incomes (baht) Median (Q1, Q3)		
Per day	150(100,200)	100(100,200)
Per week	1500(900,2000)	1500(1000,2000)
Per month	N/A	3000(2250,4250)
Accommodations		
Live with parents	122(84.1)	53(34.9)
Live with friends	17(11.7)	54(35.5)
Live with relatives	2(1.4)	30(19.7)
Live on their own	1(0.7)	14(9.2)
Miscellaneous	3(2.1)	1(0.7)
Marital status of parents		
Couples	122(84.1)	113(76.9)
Separate	17(11.7)	12(8.2)
Deceased	6(4.2)	22(14.9)
Close person smoking (answers can be more than 1)		
Father	102(68.0)	48(31.6)
Mother	71(41.3)	12(7.9)
Closed friend	72(48.0)	74(48.7)
Teacher	62(41.3)	18(11.8)
Siblings	40(26.7)	55(36.2)
Relatives	2(1.3)	2(1.3)

Table 1. Demographic data of both technical and vocational students. (Cont)

Variables	Technical (n = 150) n (%)	Vocational (n = 152) n (%)
Smoking conditions		
None-smoker	141(95.9)	124(84.9)
Ex-smokers	4 (2.7)	13 (8.9)
Current smoker	2 (1.4)	9 (6.2)
	1(M)	8(M)
	1 (FM)	1(FM)
Seeing smoking advertising media		
No, I haven't seen	10 (7.4)	25 (33.3)
Yes, I have (please indicated)	126 (92.6)	50 (66.7)
Types of media		
- Thai movies	61 (48.4)	9 (18.0)
- Foreign movies	70 (55.6)	22 (44.0)
- TV drama	56 (44.4)	28 (56.0)
- Oversea channels	7 (5.6)	11 (22.0)
- Thai VDO movies	1 (0.8)	5 (10.0)
- Thai magazines	1 (0.8)	8 (16.0)
Accessibility to buy tobacco products		
Easy to find	118(85.5)	41 (77.4)
Not that difficult to find	19(13.8)	9 (17.0)
Difficult to find	1(0.7)	3 (5.7)
The shops near schools selling tobacco products		
No	106(77.4)	33(50.0)
Yes (please indicated number of store)	31(22.6)	33(50.0)
-1	12 (38.7)	8 (24.2)
-2	15 (48.4)	11 (33.3)
-3	3 (9.7)	2 (6.1)
-4	-	6 (18.2)
-5	-	4 (12.1)
-6	-	2 (6.1)
The price of tobacco products		
Too expensive	35(25.2)	30(39.0)
Reasonable	98(70.5)	43(55.8)
Cheap	6(4.3)	4(5.2)
Knowledge of tobacco laws and regulations		
No	139(100.0)	96(99.0)
Yes	-	1(1.0)

Note: M = Male FM = Female

Attitudes and self-esteem towards smoking behaviors

Interestingly, both groups had well (positive) attitudes towards smoking behaviors (76%, 71.1%, respectively). It meant participants in both groups had the appropriate thoughts regarding misunderstanding of cigarette smoking including: *Cigarette makes you feel relieved, Cigarette can help you losing weight, Cigarette smoking can get to know new friends, or Cigarette makes you look grown-up*. In contrast, only two to five percents of both groups had some negative attitudes towards smoking behavior (Table 2). Regarding self-esteem's relation to smoking behavior, the findings noticeably revealed most participants in both groups had low self-esteems towards smoking behavior (74 and 48 %, consecutively). Some of self-esteems issues towards smoking behavior including: *You are not good as your friends, No one in your family is satisfied with you, "Your teacher doesn't pay attention on you, You do not belong to your peers*. Only 13.8 and 5.3 percents of vocational and technical participants had high self-esteem towards smoking behavior including*: You make your parents so proud, Your friends love you, Your parents believe in you, Your parents can count on you.* (Table 3).

The comparison of attitudes towards smoking behavior between the two groups found there was no statistically significant difference (p = 0.87). Nevertheless, there was a significant difference between the two groups regarding self-esteem towards smoking behavior (p <.001). Additionally, the vocational participants had 0.36 mean score higher than those in the technical group (95%CI:-0.50, -0.22) (Table 4).

Table 2. Attitudes towards smoking behavior.

Levels of attitudes towards smoking behavior	Technical participants (n = 150)		Vocational participants (n = 152)	
	f	percentage	f	percentage
Well ($\bar{x} \geq 3.51$)	114	76.0	108	71.1
Intermediate (2.51-3.50)	33	22.0	37	24.3
Low ($\bar{x} \leq 2.5$)	3	2.0	7	4.6

Table 3. Self-esteem towards smoking behaviors.

Levels of self-esteem towards smoking behavior	Technical students (n = 150)		Vocational students (n = 152)	
	f	percentage	f	percentage
High ($\bar{x} \geq 3.51$)	8	5.3	21	13.8
Intermediate (2.51-3.50)	31	20.7	58	38.2
Low ($\bar{x} \leq 2.5$)	111	74.0	73	48.0

Table 4. Comparison of attitudes and self-esteem towards smoking behavior.

Variables	Technical students	Vocational students	Meandiff	95%CI Meandiff	p-value
Attitudes	2.27	2.26	0.01	-0.12, 0.14	0.870
Self-esteem	2.31	2.67	-0.36	-0.50, -0.22	<0.001

Interestingly, there are some factors significantly related to smoking behavior including, types of schools, genders, accommodations, marital status of the parents, and levels of attitudes. Interestingly, students in the vocational schools smoked cigarettes more than those in the technical school 7.70 times (95%CI: 2.04, 29.10). Males more frequently smoked than females 18.18 times (95%CI: 4.20, 76.92). Noticeably, persons living with friends tended to smoke more than those living with their parents 6.36 times (95%CI:1.35, 29.87). Additionally, those who lost their parents were more likely to smoke than the others 5.28 times (95%CI: 1.08, 25.80). Finally, smokers who misunderstood (low attitudes) about smoking behavior smoked much higher than those who were aware of the dangers of smoking 93.74 times (95%CI: 9.50, 925.18) (Table 5).

Table 5. Relationship between factors related to smoking behavior.

Factors	Cigarette smoking (%)	Crude OR	Adjusted OR	95%CI
Type(s) of schools				
Technical	6(4.1)	1	1	
Vocational	22(15.1)	4.17	7.70[a]	2.04, 29.10
Gender(s)				
Female(s)	5(4.1)	1	1	
Male(s)	21(17.9)	5.08	18.18[a]	4.20, 76.92
Accommodation				
Live with parents	9(5.8)	1	1	
Live with friends	6(8.8)	1.56	6.36[a]	1.35, 29.87
Live with relatives	8(14.3)	2.69	2.69	0.59, 12.34
Live on your own	5(33.3)	8.07	0.90	0.10, 8.33
Marital status of parents				
Couples	15(6.6)	1	1	
Separate	4(14.3)	2.38	3.55	0.59, 21.48
Deceased	8(28.6)	5.71	5.28[a]	1.08, 25.80
Levels of attitudes towards smoking behavior				
Intermediate	8(11.9)	1	1	
Well	12(5.6)	0.43	1.14	0.28, 4.61
Low	8(80.0)	29.50	93.74[a]	9.50, 925.18

[a] Significant at level 0.05

Discussion

The results showed that male students were more likely to smoke more than female participants in both schools (Table 1). As middle-income countries including Thailand, males are responsible to their families and works. Therefore, these males tend to relieve their pressure and stress via cigarette smoking and alcohol drinking.[3] The finding also revealed some closed persons including, father, friends, and siblings were smokers which might have a bad influence to their loved ones in other words called "Environmental Tobacco Smoke" (ETS). It could be explained that parents function as important role models and parental smoking is considered a consistent predictor of adolescent smoking.[23] Maternal smoking was considered one of the strongest factors affecting smoking in adolescents. [24] Therefore, parents should emphasize psychological autonomy in raising children, as there was the evidence showed autonomy could help adolescents to be less likely to engage in smoking specific socialization. Governmental and non-governmental organizations as well as for physicians should be alerted to the need to take precautions and develop programmes aimed at overcoming smoking addiction.

Additionally, Thai family culture is about seniority and respect; if a senior person tries to teach a younger ones about the dangers of cigarettes, it would be uncomfortably difficult for young persons to be convinced by the person currently still smoking. Therefore, a role model of non-smoking image is needed for the senior persons to be respected by the young ones.

Currently, when we have watched either a television program or movies, we usually see the actors smoking on the screen. The laws prohibit any image of tobacco and alcohol products on-screen. Therefore, in order to follow those laws, TV director usually blurred those images in the final cuts. Even so, the audience especially teenagers are still curious and know what the blurred images are. Thus, it does not protect young kids from cigarette smoking. Instead, it could enhance their curiosity. This might be explained that children and teens are easy targets for the tobacco industry. They are often influenced by TV, movies, the Internet, advertising, and by what their friends do and say. [25]

Some previous studies have consistently demonstrated that exposure to smoking in movies shifts kids' attitudes in a pro-smoking direction and immediately stimulate urges to smoke. There is even a study that identifies what part of the brain is activated by viewing images of smoking. Based on US population and longitudinal studies through 2012, it is now estimated that exposure to on-screen smoking accounts for 37 percent of US smokers younger than eighteen. This is a stronger effect than conventional cigarette advertising. The US Surgeon General (2014) has concluded that R-rating future movies with smoking would reduce the youth smoking rate in the United States by 18 percent.[1]

Interestingly, most participants indicated there were no convenient stores illegally selling tobacco products, whereas, those who disagreed could identify a number of stores. In Thailand, all convenient stores could not sell tobacco products to anyone below 18 years old. But in reality, there still are many stores that break the law by selling tobacco and alcohol products to kids. It implies that Thai laws and regulations regarding tobacco products are still limited and non-effective. The penalty of breaking

the laws is mild. Thus, those who break the law are not arrested or penalized.

More surprisingly, participants in both groups informed they do not really know about tobacco laws and regulations. The 2014 survey in Bangkok revealed Thai people still have not known about Tobacco Laws. For example, Thais don't know the transporting stations are now allowed to smoke (47%). Also, they do not know convenient stores and parking lots are the smoking prohibited areas (19.28 and 16.84%, respectively).[26] It implies that some Thais are still not self-responsible to follow the laws. Thus, Thai government needs to enhance public relation about tobacco laws and regulations to Thais, especially in remote areas. At the same time, public campaigns related to tobacco laws need to be widely improved.

Regarding a low self-esteem related to smoking behavior among those participants in both groups, it was mentioned that self-esteem is an important factor in the behavior of adolescents including, teenage students. It is widely accepted that individuals with higher self-esteem have better physical health and are more successful students.[27 - 30] Although higher smoking rates among individuals with lower self-esteem have been demonstrated in some studies[31], there are also studies that report weak evidence for this finding. [32,33] According to our study, self-esteem might not be affecting smoking behavior, because students in both groups were mainly non-smokers with high level of understanding but low self-esteem related to smoking behavior. Therefore, it was not strong evident to support that self-esteem plays a big role in smoking behavior.

Regarding factors related to smoking behavior, the findings showed vocational school and gender were significantly related to a high prevalence of smoking which is similar to the previous findings.[34] The national surveys provided evidences that the prevalence of smoking among secondary and vocational school participants was 6.8% and 15.6% for ages 15 to 19. This rate has been increasing as compared to that found in the previous national survey. The prevalence rates increased in both males and females. The prevalence of smoking was still much higher in the male students compared to females; however, the increase in female is also of big concern.[35]

Certainly, smoking by friends and peer group members could be the factor that influenced a young person to start smoking. The similar incidence occurred with those who had smoking parents and siblings. The previous result revealed that children who lived with parents or siblings who smoked were up to 3 times more likely to become smokers themselves than children of non-smoking parents. [36] Moreover, young smokers who had some family conflicts including, divorce, deceased parents, and puberty were positively more associated with smoking than the others.[37]

Even a number of participants having low attitudes (misunderstanding) towards cigarette smoking was low compared to the other groups (Table 2), low attitude was still a significant factor related to smoking (Table 5). It implied that if a peer receive some wrong information about cigarette smoking, they were more likely to expose to the cigarettes and other addicted substances. Having said that, it does not mean gaining the right (well)

attitudes regarding smoking always leads to appropriate practice. As there might be the possible explanation including, smokers may have no perseverance and patience to put well attitudes and knowledge into action; degree of family intervention and supervision may not be enough. Therefore, an education campaign accompanying the policy might be more effective n further reducing cigarette use.[38]

It is a crucial time for tobacco control advocates and government to work together to control and prevent the initiation of youth smoking. Financing such endeavor cannot be matched by the magnitude of investment made by the tobacco companies in trying to capture the youth market. Therefore, collective effort involving all key stakeholders can build enough strength to face the formidable challenge posed by the international to bacco industries.

There were some limitations in the study. First, the cross-sectional design in the present study might limit the inference of causality. Second, the data were collected from self-reported questionnaires, it is possible they contain bias or false information as students who were smokers might not be open to tell the truth. However, the students were assured about their confidentiality.

Conclusion

The prevalence of smoking in both vocational school and technical college was low. Nevertheless, some influencing factors were reported related to smoking behavior these include, types of schools, genders, accommodations, marital status of parents, levels of attitudes regarding smoking. Even most students in both schools were aware of misunderstanding in cigarette smoking, however, their self-esteems were slightly low and might lead to cigarette exposure. The educational institutes should have restricted rules and regulations to prevent the students from smoking, as well as, implementing academic issues related to the dangers of cigarettes into school curricular.

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