

Law Enforcement on Tobacco Control and Smoking among Youths in the Northeast of Thailand

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Abstract

Thailand has imposed strong tobacco control policies to reducing smoking. The effectiveness of those measures towards reducing smoking especially among youths still unknown. This study aimed to determine the effectiveness of law enforcement on tobacco control among youth in the Northeast of Thailand. This cross-sectional study was conducted among 1,147 youths who were recruited by using a multistage random sampling from 6 universities in the Northeast of Thailand. A self-administered structured questionnaire was used to collect the data. The Generalized Linear Mixed Model was used to determine the association between law enforcement on tobacco control and smoking when controlling for other covariates. The results show that 20.1% were current smokers. Law enforcement on tobacco control and smoking that were significantly associated with smoking among youths were had low level of awareness on tobacco raising price, anti-smoking campaign, smoke-free in public areas, not showing pack, price and brand of cigarette at point of sale product, pictorial health warnings and not distributing cigarette with tax avoidance/tax evasion. The other covariates were male gender, alcohol drinker, had low level of attitude on not smoking, had smokers close friend and had smoker father. One-fourth of youths in the Northeast of Thailand were current smokers. Legal measures had influence on youths' smoking as well as gender, family and friends.

Keywords: *Law enforcement, Smoking, Tobacco Control, Youths.*

Introduction

Cigarette smoking is harmful to the health of both smokers and non-smokers. The burdens of tobacco-related illness and death are very high. The figures in 2008, indicated that cigarettes killed more than 5 million people or 1 person every 8 seconds, which was more than the deaths from infectious diseases. The global situations estimated that there will be 150 million smokers with increasing trends, especially among female teenagers. Most of the smokers start to smoke before the age of 18 and a half of them will die prematurely¹. In 2019, half

of the tobacco users were killed, of which more than 8 million were killed annually. In addition, more than 7 million of those deaths were the result of direct tobacco use, whereas around 1.2 million were non-smokers being exposed to second-hand smoking, especially those with low and middle incomes². Furthermore, tobacco use contributes to poverty by diverting household spending from basic needs such as food and shelter to tobacco.

The tobacco consumption situation of Thai people aged 15 years and older between 1991 and 2015 had been decreasing. The prevalence of smoking was continually decreasing from 32% in 1991 to 20.7% in 2009. However, between 2009 and 2014 the smoking rates were unclear. The rate of smoking was increased to 21.4% in 2011, then was dropped to 19.9% in 2013 and increased again to 20.7% in 2014. It was slightly decreased to 19.6% in 2015. Among youths the smoking rate during 2004-2015, were increased from 6.6% to 7.9% with the average age at first smoking of 17.8 years

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old³. The Global Youth Tobacco Survey (GYTS) survey observed that the rate of smokers in Thai schools was 11.7%, which was higher than the average global figures of 9.5% among 140 countries. It was also higher than the average rate of 5.9% among the South East Asian countries⁴.

Thailand has developed and enforced strong measures on tobacco control for almost 3 decades. Laws and regulations have been issued and enforced. Two acts were developed as the essential foundation of tobacco control measures, they were the Tobacco Product Control Act 1992 and the Non-Smoking Health Protection Act 1992⁵. In addition to the laws, Thailand has guidelines for tobacco control based on the “Framework Convention on Tobacco Control” of WHO⁶ and the National Tobacco Control Strategy Plan 2010–2014⁷. Concerning tobacco control among youth in Thailand, the control measures starting from controlling manufacturing industry and smoking behaviors³ followed by legal measures. From 2007, the prevalence of smoking in people aged 15 to 24-year-olds trends have been increasing. This was reflecting that despite strict tobacco control measures, smoking among youths were still problems. Therefore, this study aimed to describe smoking behaviors and perceived law enforcement on tobacco control as well as to determine the association between tobacco control law enforcement and smoking among the youth in the Northeast of Thailand.

Material and Method

Study Design: This cross-sectional study was conducted among 1,147 participants who were recruited by using a multistage random sampling from 6 universities in the Northeast of Thailand. The inclusion criteria were being undergraduate students, aged 18 to 24-year-old, currently studying in 6 universities in the Northeast of Thailand and voluntarily to join the study. Those who absence on the time for data collection and having critically illness were excluded. A self-administered structured questionnaire was used to for data collection on demographic and socioeconomic factors, knowledge and attitude towards smoking, perceived law enforcement on tobacco control and smoking behaviors.

Data Analysis: A simple logistic regression was used to identify association between each independent

variable and smoking. The independent factors that had p-value <0.25 were processed to the multivariable analysis using the generalized linear mixed model (GLMM) to identify the association between perceived tobacco control law enforcement and smoking when controlling the effect of other covariates. We used 6 universities as random effects. The magnitude of association was presented as adjusted odds ratio (Adj. OR), 95% confidence interval (CI). P-value <0.05 was a statistically significant level.

Results

Among the total of 1,147 youths, 52.9% were female with the average age 20.32±1.51 years old. About one-third were second year undergraduate students. The average monthly income was 6,991.28 ± 2219.50 baht. Almost all did not work part time (88.4%). Almost 40% staying with friends or were alone and 44.7% lived in rental room of dormitory. About one-fifth of the youths were current smokers (20.1%; 95% CI: 18-21-23.34). Almost One-fourth of the respondents start smoking at the age of 11-13 years old. At present 10.1% smoked 6-10 rolls per day and 15.2% smoked at less 7 day a month. More than one-fourth were current drinker. Most of the participants had high level of awareness on tobacco control’s law enforcement concerning increase tobacco prices (69.9%), anti-smoking campaign (71.0%), smoke-free in public areas (58.0%). About half and lower well aware of quite smoking service (51.1%), pictorial health warnings (47.5%), not distributing cigarette with tax avoidance/tax evasion (41.2%). However, less than one-third had high level of awareness on legal measures about not showing the pack (29.4%), price (33.8%) and brand (31.5%) of cigarette at point of sale product displays.

The GLMM indicated factors that were significantly associated with smoking among youths in the Northeast of Thailand were had low level of awareness on tobacco control’s law enforcement on increased price of tobacco products, anti-smoking campaign, smoke-free in public areas legal measure, not showing pack, price and brand of cigarette at point of sale product displays, pictorial health warnings, quit smoking services and not distributing cigarette with tax avoidance/tax evasion. The other covariates were being male, current drinkers, had low level of attitude toward no smoking practices, had smoker father, had close friend smoker when controlling the effect of universities (Table 1).

Table 1. The multivariable analysis of factors associated with smoking among youth in the Northeast of Thailand using the GLMM. (n= 1,147)

Factors	Number	% Smoking	Crude OR	Adjusted OR	95% CI	p-value
Awareness on tobacco raising price						<0.001
High	802	14.3	1			
Average	181	21.0	1.59	1.14	1.02-2.57	
Low	164	47.6	5.42	4.73	2.96-6.51	
Awareness on anti-smoking campaign						<0.001
High	815	14.5	1			
Average	134	29.1	2.43	1.95	1.13 – 3.29	
Low	198	37.4	3.53	2.87	1.49 – 3.59	
Awareness on smoke-free in public areas						<0.001
High	666	8.7	1			
Average	307	27.7	4.01	2.37	1.38 – 4.80	
Low	174	50.6	10.73	5.63	4.18 - 9.02	
Awareness on not showing pack						<0.001
High	338	11.2	1			
Average	433	16.4	1.55	1.11	1.01 –2.68	
Low	376	32.4	3.79	2.43	1.94 –3.86	
Awareness on not showing price						<0.001
High	388	4.9	1			
Average	482	23.0	5.81	4.58	2.91 –8.35	
Low	277	36.5	11.15	7.23	5.12 - 8.68	
Awareness on not showing brand						<0.001
High	361	7.2	1			
Average	404	24.0	4.07	2.68	1.37 –4.91	
Low	382	28.3	5.08	3.15	2.12 –5.09	
Awareness on pictorial health warnings						<0.001
High	545	11.6	1			
Average	338	18.3	1.72	1.34	1.09 –2.96	
Low	264	40.2	5.13	4.17	2.78 –5.87	
Awareness on quit smoking services						<0.001
High	586	12.1	1			
Average	362	19.9	1.80	1.45	1.16 –2.93	
Low	199	44.2	5.75	3.21	1.96 –6.45	
Awareness on not distributing cigarette with tax avoidance/tax evasion						<0.001
High	472	6.1	1			
Average	368	25.3	5.16	3.97	2.46 –7.33	
Low	307	35.5	8.41	4.19	3.28-8.15	
Gender						<0.001
Female	607	4.9	1			
Male	540	37.2	11.404	6.74	4.60 – 9.12	
Alcohol Use						<0.001
No	715	4.1	1			
Drinker	432	32.5	8.93	5.59	3.16-7.98	

Factors	Number	% Smoking	Crude OR	Adjusted OR	95% CI	p-value
Attitude toward not smoking						<0.001
High	882	11.8	1			
Average	138	17.4	1.58	1.27	1.03-2.95	
Low	127	41.1	3.21	5.64	3.73-8.56	
Smoker Father						<0.001
No	444	10.4	1			
Used to smoke/Quit	514	22.6	2.52	1.83	1.24-3.29	
Yes	189	36.5	4.975	3.28	2.14-5.92	
Smoker Close friend						<0.001
No	1,000	13.9	1			
Yes	147	62.6	10.36	4.95	2.29-8.56	

Discussion

Our study observed that about one-fifth of youth aged 18-24 years old studying in undergraduate programs of universities in the Northeast of Thailand were current smokers. This finding was in line with a study of the National Statistical Office in 2017 reported 20.7% of young aged between 20-24 years old were smokers⁸. The study indicated that youths with low level of awareness on tobacco control law enforcement measures including; raising price, anti-smoking campaign, smoke-free in public areas, pictorial health warnings, quit smoking services, not distributing cigarette with tax avoidance/tax evasion, not showing the pack, price and brand of cigarette at point of sale product were more likely to smoke when compared with those with average or high level of awareness. Increased price of tobacco products could help reducing smoking among youth. The possible reason was that they were young and relied on families for financial supports, they were less likely of afford that much expensive cigarette⁹. Advertisement play importance role on youth behaviors especially smoking. Display in sealing spots as well as media could initiate and stimulate youth smoking practices¹⁰. In the past, misleading of information that stated that cigarette is soft with light flavor as well as create enjoy friendship atmosphere led many youths into smoking. The law and enforcement on information of health have been widely perceived by youth. The pictorial health warnings on the packaging of cigarette is a policy which aimed to educate about the harmful effects of cigarettes on health, to motivate for quitting smoking and to prevent the youth from experimenting with smoking from their fear of severe health consequences as well as deterioration

of their beauty and appearances. After implementing the pictorial health warnings label, the results vary according to the policy of each country. For example, Australia’s pictorial health warnings label occupied 90% of the image area at front of the envelope and 30% of the area behind the envelope, while China’s pictorial health warnings label is an image type only 30% of the area on both the front and back of the envelope¹¹. As some as some studies showed that pictorial health warning label content is associated with greater awareness of smoking-related risks and toxic tobacco constituents¹²⁻¹⁴. Smoke free areas have influences on smoking behaviors. Many countries such as Ireland set a policy intervention in population level with smoke-free law which can achieved the public health goals as well as achieving a high level of acceptance among smokers^{15,16}. This study also reported that young males had 6.74 times higher chances of smoking than young females. This finding was similar to a cross sectional study among GYTS reported smoking rates among Vietnamese aged 13-15 years old males were 6 times higher than female teenagers¹⁷. This study also observe that those who drank alcohol were more likely to smoke which was similar with other previous studies^{18,19}. This may be due to Thai culture that more open to males than females. Therefore, females are cultivated to prohibition of both smoking and drinking²⁰. However, when compared to the results of teen smoking in Europe, some countries report similar smoking rates among male and female adolescents²¹. In addition, among Scandinavian countries, female teenagers had higher smoking rates than male²². Environment especially family and friends had influencing on youths’ smoking behaviors. Youth who had smoker close friends or smoker father were 4.95

and 3.28 times more likely to smoke than those who have close friends and father smokers. It might be that youths usually follow the practices of their idols get acceptance as well as to form their images and personalities. This finding is supported by many studies which stated parental smoking associated with smoking²³⁻²⁶.

Conclusion

One-fourth of youths in the Northeast of Thailand were current smokers. Law enforcement had high impact on reducing smoking among these youth especially the legal measures on price, display, advertisement, anti-smoking campaign, smoking-free areas, health warning as well as gender, influence family and friends. Systematic measures to increase awareness of youths concerning tobacco and smoking legal control measures are essential especially among vulnerable groups, male youths with poor attitude on not smoking and lived in high risk environment of having father and friend smokers.

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