

TOBACCO SMOKING BEHAVIOR IN YOUTH OFFENDERS

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ABSTRACT: The purpose of this study was to explore the tobacco smoking behavior in Thai youth offenders. A face-to-face interview survey was conducted among 182 youth offenders who smoked cigarettes regularly at Juvenile and Family Division, Pathumtani Provincial Court from January to September 2008. Results indicated that the majority were male (96.7%) with the mean±SD age was 16.72±1.17. They were more likely to have poor educational performance, low educational levels and early school dropouts. About 76.3% lived with their parents or either father or mother. Sixty three percent had a history of alcohol consumption. They smoked an average of 7.69±4.62 cigarettes/day, started their first cigarette at 14.31±1.67 years of age and had been smoking daily for 2.53±1.59 years. Most youth offenders bought split cigarette packet (74.1%) and spent for the cigarettes approximately 20.12±11.59 baht/day. Fifty eight percent had smokers living in their homes [i.e., father (33.0%), mother (3.3%), brothers (20.9%), or other relatives (19.2%)]. Most youth offenders (97.8%) had friends who smoked and the mean number of smokers in their friend's group was 7.10±4.32. They had a mean Fagerström Test for Nicotine Dependence (FTND) scores of 2.63±1.75, indicating low nicotine dependence. This result was consistent with the scores from "Why are you still smoking?" questionnaires which showed that psychological and socio-cultural effect was the most influential effect of their tobacco dependence. The majority (80.8%) had a history of previous quit attempts and the primary quitting method was willpower (59.9%). The primary reason for quitting smoking was the desire to quit (57.2%) and the most reason for relapse was cigarette craving (67.1%). In conclusions, most youth offenders usually smoke cigarettes. While smoking is a primary influence on future illicit drug use, a screening method and/or smoking cessation program with tobacco free youth offender policy are needed during the pre-trial to impose restrictions on their conduct without detention to help them quit smoking.

Keywords: Youth Offenders, Tobacco, Smoking Behavior, Juvenile Court, Survey, Face-to-Face Interview

INTRODUCTION: Tobacco smoking is a significant health concern and yet the most preventable cause of death¹. There were about 1,100 million smokers worldwide in 2003 and may increase to 1,600 million smokers by the year 2015². The World Health Organization (WHO) reported that each year this habit globally kills 4.9 million people, a figure is expected to rise to about 10 million in 2020³. A survey from National Statistical Office about smoking behavior in Thailand during 1991-2006 found that a number of Thai smokers decreased from 11.67 million smokers to 9.54 million smokers. In Bangkok, a number of smokers decreased from 32.33% to 13.9%⁴. This declining statistics results from tobacco control and prevention policy that have been implemented twenty years ago. However, the incidence of new smokers, especially

in the young population, has surprisingly increased in recent years⁴. In 2008, the world no tobacco day theme is "Tobacco Free Youth" which targeting for the prevention of young people from becoming regular smokers and to reduce tobacco-related death and diseases⁵. Thai children's moral construction planning have highlighted youth smoking is a serious problem. It should be intervened and solved immediately since 375,900 youths aged less than 19 have smoking addiction behavior and about 78,000 are regular smokers⁶.

Youth offenders who commit a crime and are judged to punish at the Juvenile Observation and Protection Center have higher smoking behavior than any other youth groups, about 95.9% of youth offenders were regular smokers⁷. The global youth tobacco survey in Thailand issued that 16.9% of youths ages less than 10 years smokes

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their first cigarette⁸). The younger a child is when he/she starts smoking, the stronger the odds are for long-term tobacco dependence in adulthood⁹. The global youth tobacco survey collaborative group¹⁰, collected data from 43 countries, revealed that the overall median percent of current young smokers who smoked >5 cigarettes/day was 9.4% and the highest rate was in Moscow, Russian Federation. The overall median percent of youths who smoked their first cigarette before age 10 years was 23.9%. In Manipur, India (87.8%) had the highest rate of smoking initiation before age 10 years. Over 50% of youths purchased cigarettes in a store by themselves and 68.4% wanted to stop smoking. There are few studies regarding tobacco smoking behavior in Thai youth offenders who are sentenced to impose restrictions on conduct and there is no established smoking cessation program for this youth group. The purpose of this study was to explore the smoking behavior of Thai youth offenders at Juvenile and Family Division, Pathumtani Provincial Court. Data obtained from this study would facilitate an opportunity to develop and implement a pharmacist-based smoking cessation program for helping young offenders quit smoking.

METHODS: An estimated sample of 150 youth offenders was calculated to determine a prevalence of 75% of youth offenders who were regular smokers at an alpha significant level of 0.05. This survey research utilized face-to-face interview method with a convenient sample of youth offenders who committed a crime and were sentenced to behavior restraining by Juvenile and Family Division, Pathumtani Provincial Court from January to September 2008. We used convenience sampling which was based on judges' discretion. Youth offenders were included if they met the following criteria: committed a crime and were judged to behavior restrictions, aged 11-18 years and smoked cigarettes regularly in the past 6 months. If subjects used other forms of tobacco, such as snuff, chewing tobacco, cigars, pipes and/or other illicit drugs (e.g., amphetamine, ecstasy, heroine, marijuana), they were excluded from this study. The study protocol

was approved by the Human Subjects Research Committee of Thanyarak Institute. A demographic form and smoking behavior questionnaires were created based on literature review and structured interview with one judge, three health care professionals who were experts in the area of tobacco control and prevention. Smoking behavior in this study was defined as those persons who smoked cigarettes every day in the previous six months and/or had tobacco dependence. Smoking behavior variables included smoking history, age started smoking, number of cigarettes /day, number of years smoked, cigarette's brand, method of purchasing cigarettes, cost of cigarettes/day, number of smokers living at home, number of smokers in friends' group, FTND scores, "Why are you still smoking?" scores, and previous quit attempts. The questionnaires were then pretested with 5 youth offenders to identify and solve any potential problems e.g., answering, clarity of the questions, time to complete, setting structural interview objectively. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) software, version 15.0. Descriptive statistics were determined for youth offenders' characteristics and smoking behavioral history.

RESULTS AND DISCUSSION: Of the 196 youth offenders screened, 182 were eligible and willing to be interviewed by the investigator. Most (96.7%) youth offenders were male. This finding is closely similar to the statistics of the overall proportion of Thai male youth offenders (91%)¹¹. Table 1 presents youth offenders' demographic data. The mean±SD age was 16.72±1.17 years (range 14-18). This finding is consistent with the statistics of the majority of Thai youth offenders aged between 15-18 years (84.50%)¹¹. The majority of the youth offenders' cases frequently occurred were offences related to drug addiction (35.7%) and offences against property (35.7%). It was clearly found that youth offenders were more likely to have poor educational performance, low educational levels and early school dropouts. Most youth offenders (50.5%) enrolled in junior high schools which was a compulsory education in Thailand. Employment of a young worker <18 years of age is legal, but

there are a lot of restrictions about youth's employment such as types of work and time must

Table 1 Youth offender characteristics

Characteristics	Total (%) (N=182)
Gender	
Male	176 (96.7)
Female	6 (3.3)
Age	
(mean±SD)	16.72±1.17
14 years	8 (4.4)
15 years	24 (13.2)
16 years	36 (19.8)
17 years	57 (31.3)
18 years	57 (31.3)
Offending case	
Related to drug addiction	65 (35.7)
Against property	65 (35.7)
Related to sexual assault	10 (5.5)
Related to life/body injury	14 (7.7)
Related to traffic/car violation	2 (1.1)
Related to gun	12 (6.6)
Related to copyright violation	14 (7.7)
Punishment Status	
Restricted conduct	26 (14.3)
Restricted conduct and suspension of the determination	101 (55.5)
Restricted conduct and infliction of punishment	55 (30.2)
Educational level	
Primary school	52 (28.6)
Junior high school	92 (50.5)
Senior high school	38 (20.9)
Alcohol consumption	
Never	67 (36.8)
Occasional	99 (54.4)
≥Once per week	16 (8.8)
Living Status	
Independent without father and mother	45 (24.7)
Father	17 (9.3)
Mother	34 (18.7)
Both father and mother	86 (47.3)
Number of sibling	
(mean±SD)	1.54 ± 1.25
0	31 (17.0)
1	74 (40.7)
2	45 (24.7)
3	20 (11.0)
≥4	12 (6.6)
Birth order	
first	86 (47.3)
middle	38 (20.9)
last	58 (31.8)
Working status	
Yes	92 (50.5)
No	90 (49.5)
Money earned / day	
(mean±SD)	130.03±71.46
1 – 50 baht	39 (21.5)
51 – 100 baht	44 (24.2)
101 – 150 baht	31 (17.0)
151 – 200 baht	47 (25.8)
≥201 baht	21 (11.5)
Underlying disease	
None	158 (86.9)
Asthma	14 (7.7)
Allergic rhinitis	3 (1.6)
Peptic ulcer	4 (2.2)
Others*	3 (1.6)

* nasal tumor, heart disease, and anemia

be suitable for their ages¹²). A half of them worked as employees at local factory, gas station, or worked as labourers. Some did not work due to enrollment in the school and unemployment (i.e., age<18 years). Daily money earned was different between working or non-working youth offenders. Those who worked had higher money/day than those who did not. The mean±SD money earned/day was 130.03±71.46 baht (range 20-300). About 47.3% lived with their parents and 24.7% lived with other persons e.g., relatives, employers, friends, or mate. This finding is consistent with the statistics of the Thai youth offenders lived with their parents (47.91%)¹¹). Generally, their family was a small family which consisted of only 1 or 2 siblings, mean±SD number of siblings in their family was 1.54±1.25 (range 0-7). Eighty seven percent did not have any underlying diseases. The most underlying disease reported was asthma (7.7%), which may involve with his/her smoking behavior¹³). In 2008, there are 42,766 youth offenders in Thailand¹¹), if we postulated that 7.7% of youth offenders have asthma, it would be approximately 3,300 youth offenders suffering from asthma. Although this is not a huge number of those with asthma, this rate may increase in the future if we do not help them quit smoking. Establishing smoking cessation program is one strategy for helping youth offenders to be free from detrimental consequences of tobacco smoking. More than half of youth offenders (63.2%) had been drinking alcohol. This statistics corresponds with that of previous study which reported that 65.5% of youth in Juvenile Observation and Protection Centre used to drink alcoholic beverage¹⁴). Most youth offenders consumed alcohol for social purposes (54.4%), which was higher than the rate reported for the general youths (33%)¹⁴). This high number of alcohol consumption is alarming because this can lead youth offenders to other illicit drug use in the future¹⁵) and become very difficult for them to quit smoking¹⁶). If we could establish a smoking cessation program, we would have encountered and spent more time to educate them to quit and/or reduce alcohol consumption.

Knowing of parental characteristics could help us to realize that youths' smoking behavior may not root from themselves. The parental problems may influence youths to try smoking and/or make wrong decision¹⁷. Table 2 demonstrates demographic data of youth offender's parents.

Table 2 Youth offender's parents characteristics

Characteristics	Total (%) (N=182)
Educational level	
Primary school	152 (83.5)
High school	24 (13.2)
≥Bachelor's degree	6 (3.3)
Marital status	
Living together	88 (48.4)
Separation	58 (31.8)
Father died	25 (13.7)
Mother died	8 (4.4)
Both father and mother died	3 (1.7)
Father's occupation	
Employee	93 (51.1)
Self employment	15 (8.2)
Farmer	8 (4.4)
Government officer	9 (4.9)
None	1 (0.6)
Other*	56 (30.8)
Mother's occupation	
Employee	87 (47.8)
Self employment	38 (20.9)
Farmer	7 (3.8)
Government officer	2 (1.1)
None	22 (12.1)
Other*	26 (14.3)
Monthly household income	
(mean±SD)	11,218.24 ± 6,398.78
1-5,000 baht	22 (12.1)
5,001-10,000 baht	92 (50.5)
10,001-15,000 baht	32 (17.6)
15,001-20,000 baht	22 (12.1)
>20,001 baht	14 (7.7)

* unknown or dead

Overall, the majority of the parents were more likely to have moderate to low socioeconomic status. Most youth offenders' parents graduated from primary schools (83.5%) and only 3.3% of their parents were graduated with bachelor's degree or higher. About 48.4% of parents were married or living together and 31.8% were separated or divorced. Castrucci *et al.* reported that parents who separated or divorced could lead their children to smoke cigarettes¹⁷. Most parents were employee (father: 51.1%, mother: 47.8%) and some youth offenders (23.6%) did not know his/her parents' occupations because the parents never contact to him/her. Most parents or guardians had low income which was due to their occupation. The majority had a monthly household income under 10,000 baht (62.6%) and only 7.7% of the family reported a monthly

household income above 20,000 baht. The mean±SD monthly household income of youth offenders' family was 11,218.24 ± 6,398.78 baht (range 2,000-36,000). Soteriades *et al.* found that parents with low incomes and low educational levels were more likely to have youths smoke cigarettes¹⁸. Any established smoking cessation programs should advise youths in term of saving money from daily cigarettes' expenses to help their family's economic status.

Table 3 shows youth offenders' smoking behavior data. Youth offenders smoked an average of 7.69±4.62 cigarettes/day (range 2-20). Our finding is consistent with Sussman's study which reviewed of 66 smoking cessation intervention studies and found that an approximate mean of cigarettes smoked/day was 8.4¹⁹ and consistent with the study of Jantarapajit which reported that about 50.7% of Thai high school youth who smoked less than 5 cigarettes/day²⁰. Our study revealed that participants smoked their first cigarette at mean±SD age 14.31±1.67 years old (range 7-17) and became daily cigarette smoking for 2.53±1.59 years (range 1-11). The cigarettes most used were Thai brand names [i.e., Krong-Thip (77.5%)]. Although there have been tobacco-control laws that bans sale of any tobacco products to minors aged < 18 years, we found that youth offenders bought cigarettes by themselves. Most (74.1%) bought cigarettes by split cigarette packet (e.g., 3-4 cigarettes/10 baht). Smoking a few cigarettes /day and not having enough money to buy a whole case/packet of cigarettes were the most reasons reported. They spent for buying cigarettes 20.12±11.59 baht/day (range 0-52). Alarmingly, we found that some youth offenders (3.3%) did not buy their own cigarettes because they had obtained cigarettes from adult smokers in their family, friends, or co-workers. We believed that controlling of youths' smoking and access to buy cigarettes should prevent them from becoming smokers by forcing sellers to seriously conduct under the laws and regulatory agencies should enforce the tobacco control law rigorously.

We also found that 58.2% of youth offenders had smokers in their house [e.g., father (33.0%),

mother (3.3%), brothers (20.9%), or other relatives (19.2%)). While family smoking behavior has been demonstrated to be a factor related to the onset of youth smoking, several studies suggests that the strongest factor for youth to start smoking was friends or peers^{21,22}. Most (97.8%) youth offenders had friends who were smokers and the mean±SD number of smokers in their friends'group was 7.10±4.32 (range 0-20). Kleinjan *et al.* found that the presence of other smokers in the family and/or friends'group may be predictors of poor

smoking cessation outcome²³. This finding implied that smoking cessation interventions should be developed and increased awareness if youths had many smokers in their family and friends' group. The mean FTND scores were 2.63±1.75 (range 0-9), indicating low nicotine dependence. This result was consistent with the assessment of "Why are you still smoking?" questionnaires²⁴ of which the total scores showed that psychological and socio-cultural effects were the strongest effects of their smoking dependence rather than nicotine effects.

Table 4 presents the data on the previous quit attempts. Most (80.8%) youth offenders had history of previous quit attempts and only 19.2% never tried to quit. A mean number ± SD of quit attempts was 1.67±1.59 (range 0-10). Fifty eight percent of youth offenders tried to quit smoking 1 or 2 times. A mean longest quitting period was 24.38±56.37 days (range 0-365 days, median = 7 days) and there was only 12.1% had abstinence >1 month. The most (59.9%) quitting method used was cold turkey (willpower) which had low number of success rate and few tried to use smoking cessation pharmacotherapy (3.3%) such as nicotine replacement therapy (NRTs) or sodium nitrate mouthwash. Other effective methods such as behavioral counseling together with pharmacotherapy may be appropriate and approachable for this youth offenders and should be established to successful increase abstinence rate. Particularly, the smoking cessation service should be designed and implemented at the Juvenile and Family Division, Pathumtani Provincial Court.

The most reasons for quit smoking was a desire to quit (57.2%) because they were bored, felt that most people dislike smokers, or did not have enough money to buy cigarettes. Forcing to quit by family and school (11.6%) was successful at the beginning but it was not sustainable due to loss of follow-up. Many youths frequently returned to smoking by hiding their behavior from their parents and teachers. The majority returned to smoking due to cigarette craving (67.1%) (i.e., seeing or smelling cigarettes from other smokers induced his/her desire to smoking). Minor

Table 3 Smoking behavior history of youth offenders

Characteristics	Total(%) (N=182)
Age started smoking	
(mean±SD)	14.31±1.67
≤11 years	7 (3.8)
12-13 years	47 (25.8)
14-15 years	87 (47.8)
≥16 years	41 (22.6)
No. of cigarette /day in the past 6 months	
(mean±SD)	7.69 ± 4.62
1-5	83 (45.6)
6-10	78 (42.9)
11-15	7 (3.8)
16-20	14 (7.7)
No. of years smoked	
(mean±SD)	2.53 ± 1.59
1	50 (27.4)
2	57 (31.3)
3	41 (22.6)
≥4	34 (18.7)
Cigarette's brand	
Krong-Thip	141 (77.5)
Sai-Fon	15 (8.2)
L&M	20 (11.0)
Others*	6 (3.3)
Method of purchasing cigarettes	
By begging (not buying)	6 (3.3)
By split packet	135 (74.1)
By whole packet	41 (22.6)
Costs of cigarettes /day	
(mean±SD)	20.12±11.59
0-20 Baht	108 (59.4)
21-40 Baht	57 (31.3)
>41 Baht	17 (9.3)
No. of smokers living at home	
(mean±SD)	0.89 ± 0.97
None	76 (41.8)
1	65 (35.7)
2	31 (17.0)
≥3	10 (5.5)
No. of smokers in friends' group	
(mean±SD)	7.10 ± 4.32; (0-20)
(Range)	
None	4 (2.2)
1-4	50 (27.5)
5-8	65 (35.7)
9-12	46 (25.3)
≥13	17 (9.3)
FTND scores	
(mean±SD)	2.63 ± 1.75
0-3 (low)	133 (73.1)
4-6 (medium)	44 (24.2)
7-10 (high)	5 (2.7)
Nicotine effects (mean±SD)	1.47 ± 1.26
Psychological effects (mean±SD)	2.05 ± 1.27
Socio-cultural or habit effects (mean±SD)	1.85 ± 1.08

* Marlboro, Wonder, Pall Mall, Garem

Table 4. Previous quit attempts characteristics of youth offenders

Characteristics	Total (%) (N=182)
Never have previous quit attempt	35 (19.2)
No. of previous quit attempts (mean±SD)	1.67 ± 1.59
1	76 (41.8)
2	31 (17.0)
≥3	40 (22.0)
Longest previous quitting period (day) (mean±SD)	24.38±56.37
median	7
1-15 days	94 (51.7)
16-30 days	31 (17.0)
>31 days	22 (12.1)
Method of quitting	
Cold Turkey method (willpower)	109 (59.9)
Step down no. of cigarettes smoked	32 (17.6)
Smoking cessation pharmacotherapy	6 (3.3)
Reason for quitting	
Desire to quit	104 (57.2)
Family and school influence	21 (11.6)
Illness	17 (9.3)
Religion ordination	3 (1.6)
Juvenile Observation and Protection Center rules	2 (1.1)
Reason for return to smoking (relapse)	
Craving	122 (67.1)
Stress	16 (8.8)
Bored	5 (2.7)
Alcohol use	4 (2.2)

reasons were stress (8.8%), bored (2.7%), and alcohol drinking (2.2%). It is very essential for healthcare professionals to know the reasons for quit smoking and relapse because we would know smokers' previous mistakes, select appropriate interventions to help them to successfully quit in the next future attempts.

Although this survey study has reported data on smoking behavior of Thai youth offenders, it does have several limitations that should be addressed. One such limitation involved the coverage error of the youth offenders²⁵⁾. Coverage error results from using a sampling frame that does not include all elements of the population. The population in our study was youth offenders in Thailand. We use a convenient sample of youth offenders in Pathumtani Province which may not entirely representative of national demographics. However, the national data on youth offenders in 2008 reveals that 90.96% are male and 9.04% are female, aged between 15-18 years are 84.50% (range 7-18), most educational level is in junior high school (39.27%), and most of them live with their parents (47.91%)¹¹⁾. These data are similar to our demographic characteristics of the studied

youth offenders. Therefore, we believe that our results are at least representativeness of Thai youth offenders and have reasonable external validity.

However, future study should be conducted in other provinces or including the representativeness of different regions of Thailand. Fourteen out of 196 eligible youth offenders refused to participate for interview. Therefore, non-response rate is 7.14%. Our study has 100% response rate (182 youth offenders participated and completed the interview) which is very high response rate and acceptable²⁶⁾ and non-response bias is minimized. Measurement error can occur when a respondent's answer to a given question is inaccurate and imprecise from various sources including the mode of interview, wording of questions, interviewer behavior. In this study, we have minimized this error by verifying content validity of demographic form and smoking behavior questionnaires, pretesting the questionnaires and using standardized structural interview by one interviewer throughout the study period.

CONCLUSIONS: Youth offenders smoked an average of 7.69±4.62 cigarettes/day, started their first cigarette at 14.31±1.67 years of age and had been daily smoking for 2.53±1.59 years. They had a mean FTND scores of 2.63±1.75 and 80.8% of them had a history of previous quit attempts. The rate of tobacco smoking in youth offenders has been significantly higher than other youth groups in recent years. While smoking is a primary influence on future illicit drug use and/or alcohol use, the tobacco control and prevention laws should be seriously enforced and a screening method and/or smoking cessation program with tobacco free youth offender policy are needed during the pre-trial to impose restrictions on conduct without detention to help them quit smoking.

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