

# SMOKING BEHAVIOUR AMONG MIDDLE AND LATE ADOLESCENTS IN A SUB DISTRICT OF MALANG DISTRICT, EAST JAVA, INDONESIA

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## INTRODUCTION

As one of countries with high cigarettes consumptions in the world (Eriksen et al., 2012; Lian and Dorothea, 2014), many people in Indonesia have suffered from various diseases caused by smoking behavior (Lian & Dorothea, 2014; WHO, 2012). However, the prevalence of smoking among people 15 years old and above were remains high (34.8%) (WHO, 2012).

Many Indonesian adolescents had difficulties to find facilities which could help them to quit smoking (Aditama et al., 2008). Thus, who were willing to quit smoking common use self help methods (Ng et al., 2007). The appropriate strategy on smoking cessation program was very important to prevent smoker adolescents entered into nicotine dependencies (Karpinsky et al., 2010)

Malang District was a district which was included into top ten Districts in Indonesia which had high proportions of daily smoker age 10 years old and above (27.6 %) (Balitbangkes, 2008). Lack implementation of the government regulation might have correlation with high percentage of smoker among youth within Malang District. (Health Department of Malang District, 2015). This study aims to explore smoking behavior and the triggers of smoking between middle and late adolescents in a Sub – District of Malang District, East Java - Indonesia.

## METHODS

A cross-sectional study utilizing a simple random sampling design was conducted during February until March 2016. The name of senior high schools in Kepanjen Sub District was obtained with name list of students from the Education Service of Malang District Office. There 2,245 Senior High School students were identified as the populations. Utilize simple random sampling formula, 150 students need to be a sampled. Consider previous study suggestion, 40% of sample size has been added for increase response rate. Thus, the questionnaires were spreads to 210 samples. Verbal consent was obtained base on willingness of respondents to return back the answered instruments to a designed box provided in each schools. Furthermore, there were 198 respondents

(94%) has been returned the answered questionnaires.

The instrument within this study was self-reported questionnaires. All of items were obtained through review from relevant literatures, previous preliminary study, and discussions with experts. The instrument consist of 7 items questions related with socio-demographical data, 25 items of smoking behavior information and 26 items *multiple choice* answered questions to examine three types of smoking triggers.

Content validity test had been conducted by two of Community Nursing Experts from Faculty of Nursing Khon Kaen University, and three of Indonesian community nursing experts. The content validity test was resulted the average of I-CVI computation was 0.95, which represented items of questionnaires appropriateness to access study objective.

This study was approved by an institutional review board of Khon Kaen University, Thailand with record No. 4.3.07: 48/2015 and reference No. HE582336. Data within this study were analyzed utilizing SPSS 21.0 software and STATA for windows program, including descriptive statistics (Mean, Median, Standard Deviation, IQR) for socio demographical data, smoking behavior and triggers of smoking. Proportion and 95% Confidence Interval for proportion also utilized for estimating the prevalence.

## RESULT AND DISCUSSION

Among 198 students, 93.9% were Javanese. The mean age of respondents was 16.37 years old (SD = 1.10). Almost of all respondents reported had smoker friends (90.9%) and exposures from other environmental smoker (table 1). The prevalence of current smoking was 12.7%. The mean age of ever smoker was 12.10 (SD = 2.49). Among never smoker (70.7%), the majority reason was respecting health (76.3%). Close to half of ever smoker (48.8%) has been already quit smoking due to respecting their health status (67.9%). Doing activity or sport (64.3%) was a factor which made them success to quit smoking (table 2).

The average of cigarettes consumptions during previous week indicates that more than half of

current smokers (71.4%) consumed cigarettes in 1 - 3 days. The median of cigarettes consumption during the day when smoking was 2.00 (IQR= 2.00). Kretek filter mild cigarette was favourite type of cigarettes (53.3%), which was usually obtained by buy per stick (40%) and per pack (36.7%) in convenience stores (70%). Most of current smokers (83.3 %), state had exposures from cigarettes advertisement everyday (48%) on television (84%). Almost all of current smoker also (96.7%) had multiple quit trials (median=3.00, IQR=3.00) (table 3).

Regarding with places and event for smoking, 30 of current smoker reported that 30% of them smoked when in home toilet. When at the school, 36.7% smoked in convenience stores close from school. In addition, convenience stores (63.3%) and game centre (53.3%) also common places to smoking during their leisure times. Furthermore, both of when having coffee and when gathering friends was the majority event to smoking (76.7%) (table 4).

Regarding with triggers of smoking (table 5), coffee shop has indicated as a place which always make urged to smoking (43%), followed by canteen out of school (20%). Exposures from smoker friends also identified for both of always (16.7%) sometimes (56.7%) triggering to smoking. During examination season was identified as trigger which always make them need to smoke (33.3%), followed by when both of available postponed class and when gathering with friends (26.7).

The prevalence of current smoker was high than other study finding at national level survey in Indonesia (Balitbangkes, 2013) and other countries (Sirirassamee et al., 2011; Rozy et al., 2005). The age of smoking initiation prevalence within this study was getting younger ( $M=12.1$ ,  $SD=2.49$ ) than other prior study (Martini & Sulistyowati, 2005; Ebirim, et al., 2014; Sirirassamee et al., 2011).

The high smoking prevalence among Javanese adolescents may due to smoking behavior as a symbol of maturity among males (Ng et al., 2007). More than half of current smoker (71.4 %) had consuming cigarettes in 1 - 3 days during previous week. Based WHO definitions, most of smoker adolescents within this study could categorize as occasional smoker. Occasional smokers were reported often had attempted to quit, counseling strategies was known more effectives for them (Fiore et al., 2008).

Kretek cigarette was famous type of cigarettes rather than white cigarettes. This finding was congruent with previous study in Malang City and East Java Province (Kumboyono et al., 2008; Balitbangkes, 2008). Kreteks were known to have more harmful than any else type of cigarettes due

to chemical ingredients (Eriksen et al., 2012). However, many Indonesian adolescents prefer to smoke this type of cigarettes (Kumboyono et al., 2008).

Most of currents smoker usually buy cigarettes at convenience stores (70%), both of per stick (40%) and per pack (36.7%), followed by give freely from their smoker friends (50%). Slightly different from previous study, in which adolescents common obtain cigarettes from their friends (Martini & Sulistyowati, 2005). However, this finding was similar with other study in Thailand and Malaysia (Sirirassamee et al., 2011), and United States (Robinson, 2006). In Indonesia, adolescents could obtain their own cigarettes in every store very easily, even they did not have money to get the cigarettes it could be obtained by credits, or even they could buy in a pack but they commonly bought per stick (Ng et al. (2007). Lack of smoking regulation in Indonesia was known to have correlation with accessibility of cigarettes for adolescents (Ng et al., 2007; Martini & Sulistyowati, 2005; Aditama et al., 2008; Kumboyono et al., 2008).

Close to half of current smoker in this study stated that they saw cigarettes advertisement everyday (48%) in televisions (84%). High level of cigarettes advertisement exposures for adolescents was also reported in the previous survey study in by Martini & Sulistyowati (2005) and Aditama (2008). This finding was related with cigarettes advertisement regulations which still have a lot of weakness (Tandalitin & Luetge, 2013).

Almost of current smoker (96.7%) had ever trying to stop smoking. Among them have multiple quit smoking trials (median=3.00, IQR=3.00), with majority reason was due to health concern (62.1%). Self- help (82.8%) was the popular way (86.2%) to quit smoking. Similar result also reported by Aditama et al., (2008) and Bancej et al. (2007). As previous study, occasional smoker commonly attempted to quit smoking (Fiore et al., 2008). This issue should be underlined that adolescents are common motivated to quit smoking (Elliot and Grunberg, cited in Owing, 2005). Lack of effort to help adolescents quit from smoking would be increased the likelihood to continued when they were in adulthood (Sussman et al, 2006).

Regarding places of smoking, majority of current smoker are smoked in coffee shops (73.3%), convenience stores (63.3%) and game centre (53.3%). This finding was have similarities similarity with study in elsewhere that adolescents were prefer to smoke outside of home (Ebirim et al., 2014; Sirirassamee et al. 2011; Rozy et al. 2005). Furthermore, both of when having coffee and

gathering friends was the majority event for smoking (76.7%) followed by after having meals and during watching sport (30%). Those were similar with finding in Pakistan (Rozy et al., 2005) and Turkey (Oksuz et al., 2007). For Javanese boys, smoking behaviour common introduced to them since earlier of age periods in almost of their daily living (Ng et al, 2007).

Places as the triggers of smoking, this study identified that coffee shop was a place which always triggered smoker adolescents to smoke (43%), followed by canteen out of schools (20%). This evidence was similar with finding from Oksuz et al (2007) among youth in Turkey. Among Javanese male, smoking in coffee shop became mediator tools of socializations with others (Adi, T.L., 2015). Whether adolescents triggered to smoke in coffee shop thought to be mimicking adult or to socialize with others was still unclear within this study, further investigations are remains needed.

Exposure from smoker friends was identified for both of always (16.7%) sometimes (56.7%) trigger adolescents to smoke. This finding Supported by previous general statement that exposures from another smokers would be triggers of someone for lighting up a cigarette (Burton et al., 2015; Krukowski et al., 2005; Gutch et al., 2010). Smoking friends provide the solid triggers and reinforcements for smoking behaviour (O'Loughlin et al., 2003). One qualitative study among Javanese senior high school students adolescents was show the evidence that presence of other smoker was a triggers of smoking, by phrases "a lots my friends smoke, therefore I need to smoke" and " i saw my teachers smoke at the school, then i also want a cigarettes"( Ng et al., 2007).

Regarding with event as triggers of smoking, examination seasons was identified as a trigger which always made them need to smoke (33.3%), followed by when both of available postponed class and when gathering with friends (26.7%). Under examinations event might be correlated with stressful situations. Several Previous study

were state that stressful event tend to make peoples urge to take up their cigarettes (Burton et al., 2015; Krukowsky et al., 2005; Naiura et al., 2002; Yang et al., 2005).

Event when gathering with friends as the triggers for smoking was supported by Oksuz et al (2007) that certain events such as when gathering with friends was trigger youth to increase their cigarettes consumptions (Oksuz et al., 2007; Gutch et al. (2010) Smoking when gathering with friend was common utilized by adolescents as a chance for socializations and for emphasizing identity (Ng et al., 2007).

## CONCLUSION

The prevalence of smoking among adolescents within present area seems have not differentiation with other findings from another study in Indonesia. However, the age of smoking initiation within this study was become younger. Adolescents were prefers to smoke out of home environment with their peers. In addition, some specific social environments also play rules as triggers of smoking for adolescents.

Further development of the comprehensive smoking prevention and cessation programs involving the roles of parents, peers, school, community health nurse, and related governmental departments, the data which gathered within this study become important. As soon as possible those kinds of programs should be introduced since they werein elementary school.

Cultural approach to de-normalize view of smoking behaviour view among Javanese should also consider to involving into program curriculum for both of smoking prevention and cessation programs. As many previous studies in Indonesia, this result also suggest the need for the WHO FCTC ratification to enforce tobacco control in Indonesia. Additional study is needed for fulfilling detail information which not gathered within present study.

**Table 1. Characteristics of Respondent**

Variable items	Frequency	Percent	95% CI
<b>Cigarettes consumptions in previous week (days) (n=21)</b>		Mean & SD ( 2.00 ± 2.01)	1.25 – 2.75
		Median (3.00)	
		IQR (3.00)	
1-3 days	15	71.4	52.0 – 90.7
4-6 days	4	19.1	2.2 – 35.9
7 days	2	9.5	-3.0 – 17.3
<b>Favourite type cigarettes (n=30)</b>			
Kretek filter mild	16	53.3	34.8 – 70.9
Kretek filter	6	20.0	8.8 – 39.2
White filter	5	16.7	6.7 – 35.6
<b>Way to buy cigarettes (n=30)</b>			
Per stick	12	40.0	23.4 – 59.1
Per pack	11	36.7	20.8 – 56.0
Never buy it	7	23.3	11.0 – 42.7
<b>Way to getting cigarettes (n=30)</b>			
Buy in convenience stores	21	70.0	50.4 – 84.2
Give by friends	15	50.0	31.8 – 68.1
<b>Ever seen cigarettes advertising during last 7 days (n=30)</b>	25	83.3	64.3 – 93.2
<b>Seeing cigarette advertisement during last 7 days (Days) (n=25)</b>			
Everyday	12	48.0	28.4 -68.2
<b>Cigarettes advertisement media(n=25)</b>			
Televisions	21	84.0	62.4 – 94.3
<b>Variable items</b>	<b>Frequency</b>	<b>Percent</b>	<b>95% CI</b>
<b>Ever stop smoking (n=30)</b>	29	96.7	77.7 – 99.5
<b>Times of smoking cessation trial (n=29)</b>		Mean & SD (3.93 ± 2.99)	2.80 – 5.07
		Median (3.00)	
		IQR (3.00)	
<b>Kinds of way to stop smoking (n=29)</b>			
Self-help	24	82.8	63.2 – 93.0
<b>Most common way to stop smoking (n=29)</b>			
Self-help	25	86.2	67.0 – 95.0

**Table 2. Smoking status**

Variable items	Frequency	Percentage (%)	95% CI
<b>Ever smoking (n=198)</b>			
Yes	58	29.3	23.3 – 36.0
No	140	70.7	63.9 – 76.6
<b>Age of first try to smoke (n=58)</b>		Mean & SD 12.10 ± 2.49	11.45 – 12.76
		Min 6.00	
		Max 18.00	
<b>Currently smoking (n=198)</b>			
Yes	30	15.2	10.7 – 20.9
No	168	84.8	79.3 – 90.2
<b>Reason for not smoking (n=140)</b>			
Health concern	117	83.6	76.3 – 88.8
Forbidden by parents	65	46.4	38.2 – 54.8
Waste of money	58	41.4	33.4 – 49.8
<b>Reasons of to quit smoking (n=28)</b>			
Health concern	19	67.9	47.5 – 83.0
<b>Maintaining quit status (n=28)</b>			
Do an activity or sport	18	64.3	44.1 – 80.4
Reading books	6	21.4	9.4 – 41.6
Go to somewhere	6	21.4	9.4 – 41.6
Not company with smoker	5	17.9	7.1 – 37.8

**Table 3. Cigarettes Consumption, Cigarettes Advertising and Smoking Cessation**

Variable items	Frequency	Percent	95% CI
<b>Cigarettes consumptions in previous week (days) (n=21)</b>		Mean & SD ( 2.00 ± 2.01) Median (3.00) IQR (3.00)	1.25 – 2.75
1-3 days	15	71.4	52.0 – 90.7
4-6 days	4	19.1	2.2 – 35.9
7 days	2	9.5	-3.0 – 17.3
<b>Variable items</b>	<b>Frequency</b>	<b>Percent</b>	<b>95% CI</b>
<b>Favourite type cigarettes (n=30)</b>			
Kretek filter mild	16	53.3	34.8 – 70.9
Kretek filter	6	20.0	8.8 – 39.2
White filter	5	16.7	6.7 – 35.6
<b>Way to buy cigarettes (n=30)</b>			
Per stick	12	40.0	23.4 – 59.1
Per pack	11	36.7	20.8 – 56.0
Never buy it	7	23.3	11.0 – 42.7
<b>Way to getting cigarettes (n=30)</b>			
Buy in convenience stores	21	70.0	50.4 – 84.2
Give by friends	15	50.0	31.8 – 68.1
<b>Ever seen cigarettes advertising during last 7 days (n=30)</b>	25	83.3	64.3 – 93.2
<b>Seeing cigarette advertisement during last 7 days (Days) (n=25)</b>			
Everyday	12	48.0	28.4 -68.2
<b>Cigarettes advertisement media(n=25)</b>			
Televisions	21	84.0	62.4 – 94.3
<b>Ever stop smoking (n=30)</b>	29	96.7	77.7 – 99.5
<b>Times of smoking cessation trial (n=29)</b>		Mean & SD (3.93 ± 2.99) Median (3.00) IQR (3.00)	2.80 – 5.07
<b>Kinds of way to stop smoking (n=29)</b>			
Self-help	24	82.8	63.2 – 93.0
<b>Most common way to stop smoking (n=29)</b>			
Self-help	25	86.2	67.0 – 95.0

**Table 4. Places and Event to smoking**

Variable items	Frequency	Percent	95% CI
<b>Places to smoke (n=30)</b>			
Smoking in home toilet	9	30.0	15.7 – 49.5
Smoking in convenience store near school	11	36.7	20.8 – 56.0
Smoking in convenience store	19	63.3	43.9 – 79.1
Smoking in game center	16	53.3	34.8 – 70.9
Smoking in coffee shop	22	73.3	53.8 – 86.6
<b>Event related with smoking (n=30)</b>			
Smoking when having a cup of coffee	23	76.7	57.2 – 88.9
Smoking when gathering with friends	23	76.7	57.2 – 88.9

**Table 5. Triggers of Smoking**

Variable items	Number	Percent	95% CI
<b>Places as triggers of smoking (n=30)</b>			
Canteen out of school			
Never	9	30.0	15.7 – 49.5
<b>Variable items</b>	<b>Number</b>	<b>Percent</b>	<b>95% CI</b>
Sometimes	15	50.0	31.8 – 68.1
Always	6	20.0	8.8 – 39.2
Coffee shop			
Never	6	20.0	8.8 – 39.2
Sometimes	11	36.7	20.8 – 56.0
Always	13	43.3	26.2 – 62.2
<b>Persons as triggers of smoking (n=30)</b>			
Friends smoking			
Never	8	26.7	13.3 – 46.1
Sometimes	17	56.7	37.7 – 73.7
Always	5	16.7	6.7 – 35.6
<b>Events as triggers of smoking (n=30)</b>			
Gathering with friends			
Never	6	20.0	8.0 – 39.2
Sometimes	16	53.3	34.8 – 70.9
Always	8	26.7	13.3 – 46.1
Available postponed class			
Never	9	30.0	15.7 – 49.5
Sometimes	13	43.3	26.2 – 62.2
Always	8	26.7	13.3 – 46.1
Examination seasons			
Never	9	30.0	15.7 – 49.5
Sometimes	11	36.7	20.8 – 56.0
Always	10	33.3	18.2 – 52.8

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