

The Canadian Tobacco Control Research Initiative,  
The American Cancer Society, Cancer Research-UK  
and Research for International Tobacco Control (RITC)

## **Final Technical Report**

December 2005 – February 2007

### **UNDERSTANDING AND MEASURING DETERMINANTS OF SMOKING INITIATION AMONG YOUTH FEMALE IN YOGYAKARTA MUNICIPALITY, INDONESIA**

Research to support and inform ratification,  
implementation and/or enforcement of  
The Framework Convention on Tobacco Control (FCTC)

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## SYNTHESIS

Indonesia has not ratified the FCTC because the fear of economic and social impact. In Yogyakarta Municipality, smoking prevalence among girls is higher than smoking prevalence among all women in the population. This evidence shows the tendency of increasing female smoker in the future. This study provides data on how people initiate to smoke especially among girl, and what kind of policy needed to control tobacco according to youth's perception. The study provide policy maker to understand the need of strong tobacco control policy in FCTC.

This study was done through qualitative and quantitative method. Qualitative method was intended to explore possible influencing factors of smoking behavior among youth and to explore youth's perception of tobacco control policy. Meanwhile, quantitative method was intended to measure the determinant of smoking initiation among youth. The qualitative participants were the girls and boys both who were smoker and who were not smoker. They were asked to participate on some FGD's and indepth interview. On the survey, 1270 respondents from 11 junior high schools were chosen randomly. Data was collected using pre-tested questionnaire. Data was analyzed by descriptively to describe the burden of the initiating factors, and then data were analyzed using chi-square and Anova test to statistically testing the relationships between two variables. Results of both qualitative and quantitative study were socialized trough workshop and informal meeting to related stakeholder.

The qualitative data showed that factors influencing youth to smoke are categorized into 4 factors: 1) norms, 2) economic consideration, 3) self value and 4) coping mechanism among youth.

Quantitative data showed that role model of smoking (sibling and peer who smoking), attachment to peer, attitude toward smoking and advertisement exposure were significantly related to smoking initiation. The exposure of that factors start at very young age resulted on the early age of intention to try smoking (6-12 years) and young age of start smoking (10-13 years). Norms toward girls who smoking was extremely negative but for boy was negative.

Socialization of the result showed that stakeholders able to identify the factors influencing smoking initiation, which were existing role model of smoking among relatives, exposure to cigarette advertisement and accessibility to get cigarette. Stakeholders able to develop the feasible target of tobacco control for short term action. The target of short term tobacco control action was controlling existing role model among youth relatives.

## **THE RESEARCH PROBLEM**

### **RATIONALE/PROBLEM JUSTIFICATION**

Indonesia has not ratified the FCTC because the fear of economic and social impact. Although some evidences show that increasing cigarette tax will increase tobacco revenues, still there is a fear of the effect on macro economic especially on unemployed impact. Smoking prevalence in Indonesia among males is 62.2% to 84% and 2.6% to 5% among females. Meanwhile, in Yogyakarta Municipality, smoking prevalence is 55.2% among males, and 3.5% among females, based on the previous study result. Youth smoking prevalence aged 15 – 24 years is 50% of males and 7.6% of females. Female smoking prevalence among youth is higher than smoking prevalence of all female in the population. This evidence shows the tendency of increasing female smoker in the future, when there is no anticipation effort.

Indonesia is a highly populated and a wide area country. The population is about 215 million and the area is lay on around 13,000 islands, consist of 33 provinces. Each provinces are divided into several districts. Head of the district together with district government and district representatives are the important party in decision making of district policy. Provincial government and representatives only role as coordinators between districts. A survey in the whole country will consume huge resources; on the other hand regulations between districts were in great difference. Sporadic study on a purposively selected area will encompass the resources and regulations problem.

Yogyakarta Municipality is a city in Yogyakarta Special Province, in Java Island. This city is the second choice for tourists to visit after Bali Island. Although there are smoking regulations in the country but the implementation so limited, it is hard to find smoke free places. People who understand the danger of passive smoking will have difficulties to avoid smoke, and foreigner who visit Indonesia do have similar problem. This loose tobacco control policy disadvantage tourism development.

Moreover, this city is also a favorite place for students to pursue undergraduate and postgraduate study in Indonesia. High smoking prevalence among female youth in Yogyakarta could lead the increasing female smoker in other region in Indonesia where the students come. On the other hand the government is encouraged the development of cigarette production from tobacco farming until

tobacco manufacturing. The impact of tourism because of loose tobacco control policy, smoking danger among girl and discourage policy regarding smoking are the reasons of selecting study site in Yogyakarta Municipality.

Increasing smoking prevalence over time is the result of increasing people who initiate smoking but only small number of smoker who able to quit smoking. There were studies that will support the result of this proposed study, Health promotion of cardiovascular disease risk factors (Proriva study) and New ways of helping poor smokers to quit in Central Java, Indonesia (Smoking cessation study). Proriva study provided data on demographic factors of smoker in the community and describes the group that burdened the most by smoking problem. Smoking cessation study provided data to describe how difficult and expensive the effort to quit smoking. The proposed study is intended to provide data on how people initiate to smoke for the first time and factors that stimulate each time smoking especially among girl, and what kind of policy needed to control tobacco. Those three studies provide policy maker to understand the need of strong tobacco control policy in FCTC.

## **RESEARCH OBJECTIVES**

This study was aimed to understand factors that stimulate youth to initiate smoking :

- To explore influencing factors of youth smoking behaviour
- To measure influencing factors of youth smoking behaviour
- Perception of tobacco control policy among youth

## **RESEARCH FINDINGS**

### **A. Qualitative research result:**

Qualitative study tried explore factors that influence smoking behavior among youth showed that those factors were classified into 4 categories that were 1) norms, 2) economic consideration, 3) self value and 4) coping mechanism among youth. The description of those factors is presented on figure 1.

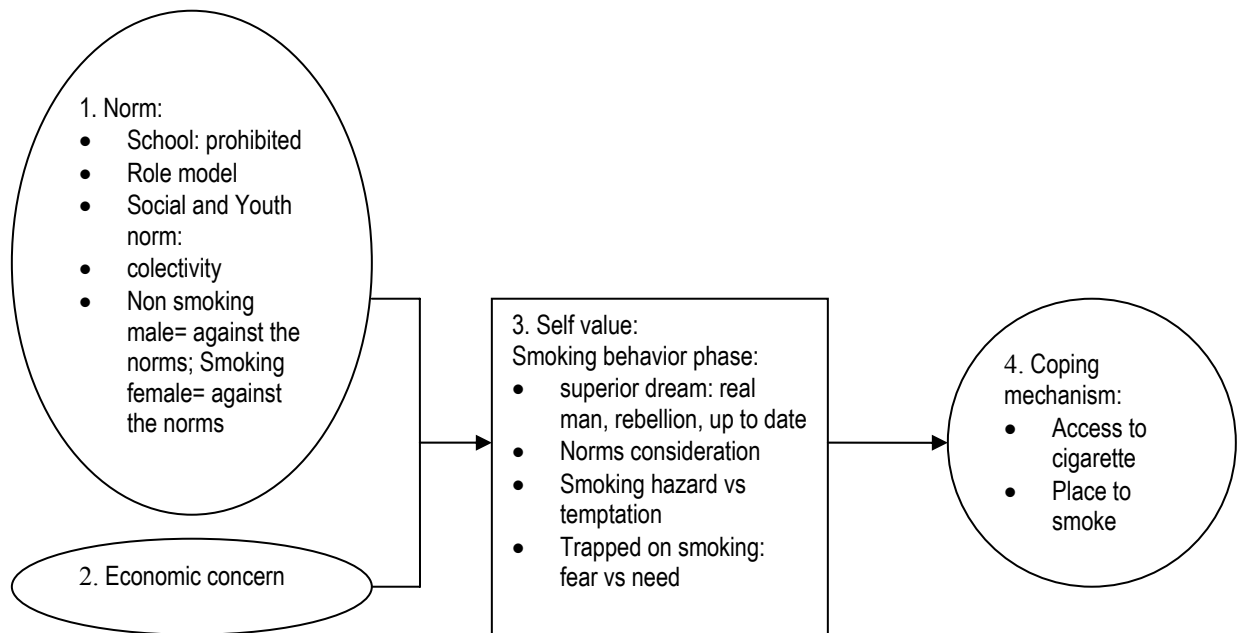


Figure 1. Scheme of factors that influencing youth smoking behavior

Self value regarding smoking was the core category of smoking behavior. Whether a boy or a girl smokes would depends on his or her own self value. Self value has been developed based on factors, norms and economic consideration. Self value was a continuous process; it would interact with those mentioned factors. The outcome of the interaction was the smoking behavior, whether smoking or not smoking. When smoking behavior was chosen, the youth need to prepare a coping mechanism to support their smoking behavior.

Self value regarding smoking consist of smoking behavior phase, fear versus solidarity. Smoking behavior phase initiated with an abstract dream of a smoker. If they were boys, it was a dream of superiority of a man which was spoken as a real man, a rebellion symbol, and a modish way of life. Boys thought that a smoker was a real man. Looked interesting for women because of their smoking habit, was also one thing that the boys said. Moreover, smoking was a symbol of rebellion toward tight smoking regulation especially at school and home. A sense of freedom and winning the game will be gain as he or she smokes which is a usual habit of taking risk behavior of youth<sup>1</sup>. This

<sup>1</sup> Maggs, J.L., Almeida D.M., Galambos N.L. (1995). Risky business: the paradoxical meaning of problem behaviour for young adolescents. The Journal of Early Adolescence. (Vol 15, pp. 344-362). SAGE Publication

result was fit with respondent's opinion that they smoked to avoid spoken as feminine boy, which was a threat to their identity. Similar study in Purworejo, Indonesia finds that the use of tobacco is a construction of masculinity<sup>2</sup>. Moreover, being a smoker make a boy able to actualize himself on a stylish way. For a girl, become a smoker they had perception women who smoke was a sign of modernity, independent and feminine. This was supported by the result of observation that it was easy to find girl who smoke at cafés or malls that were symbol of modernity.

The more role model of smoker surrounding the student had the more likely they thought that smoking was good. Smoking role model was perceived from close friends, family and teachers. Being part of the peer group was important need for youth, thus close friend was very important to influence youth to smoke. If the smoking behavior dominated the youth's peer group the more likely youth thought that smoking was good. Smoking behavior, that dominating one peer group, sometime became a must for the member to adopt the behavior for being accepted as a member. Urgberg K.A. et al. say that friendship group is identified as a predictor of current smoking among adolescent<sup>3</sup>. This norm of member prerequisite behavior was similar between both sexes. On the contrary, the social norms regarding smoking were totally different for both sexes. Smoking among boys was generally accepted, whereas among girls was totally prohibited. Boy who smoking was not thought as so unusual, just the time of start smoking was too early, whereas girl who smoking was stigmatized as a "bad girl". Although social norms prohibited girls from smoking, few girls still start smoking. It happened when the modernity image very demanding to be part of the girl's personality and/or when the pressure of girl's peer to start smoking was so strong.

Afterward, it will lay on youth hand whether they decide to follow or against the norms, both social and youth norms. There was different norms consideration between sexes. Among boys, being a smoker means that they need no effort to against both social and youth norms. Whereas among girls, being a smoker were much harder because they need to overcome social norms though follow youth norms. The last hypotheses need to be explored on the following data collection. Other consideration that should be taken into account was the internal conflict between known danger of smoking and temptation to smoke. Being a smoker means one needed to overcome the fear of the danger, that fear ness sometimes still persist although they already

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<sup>2</sup> Ng, Nawi. (2006). Chronic disease risk factors in a transitional country: the case of rural Indonesia. Doctoral thesis. Faculty of Medicine, Public Health and Clinical Medicine, Umea University, Sweden

<sup>3</sup> Urgberg, K.A., Degirmencioglu, S.M., Pilgrim C. (1997). Close friend and group influence on adolescence cigarette smoking and alcohol use. *Developmental Psychology*. (33, pp. 834-44)

become a daily smoker. The pattern of fear ness before and after become daily smoker was not clearly founded. Sometime, the persistent fear ness of health hazard initiate smoking cessation intention.

Social norms influence the self value development trough school norms and role model. The tighter the school prohibits smoking the more students think smoking in school is bad. This result can be shown from participant's opinion.

*"kalau melihat orang merokok, di jalan sambil mengeluarkan baju yo mesti wong ndugal, apalagi pakai seragam, kan kalau dilihat masyarakat kan kurang baik, jadi agak disengiti... mencoret nama baik sekolah (if watching somebody smoke in the street, taking his/her shirt outside, I think he/she is bad guy, moreover if he or she wears uniform. It won't be accepted well by the society, so awful...It's streaks good reputation of his or her school. "*

Other consideration of youth to choose smoking behavior was external economic opinion. It was told that being a smoker would support economic condition of the country, and all the people involved in the tobacco industry. This opinion could also been interpreted as a desperate thought because the threat of smoking was so real and to avoid smoking was very hard for male.

Finally, when a youth decided to adopt smoking behavior, they needed to prepare the coping mechanisms which consist of cigarette accessibility and place of smoking. Smoking accessibility depended on the financial ability or environment ability to provide cigarette. Place of smoking was chosen surrounding school and surrounding home where they hide their smoking behavior safely.

## **B. Quantitative research result:**

Eleven junior high schools were randomly selected out of 66 junior high schools in Jogjakarta municipality. In average 3 classes were selected in each selected school and all the students were recruited to participate on the study. It was self answered questionnaire that distributed to the students and there were assigned interviewer ready to answer any arise question. Totally 1270 students participate on the study. The result of the quantitative research consist of the knowledge and attitude of the students, smoking practice among students, factors that influencing youth to start smoking and student's perception regarding tobacco control policy.

### **a. Knowledge and attitude junior high school students toward smoking**



Knowledge was measured by 6 questions regarding danger of smoking for health and the importance of tobacco control policy. Each question was scored to be 1 if the answer was right and 0 if it was wrong. The possible total score was varying from 0 to 6. Attitude was measured by 8 questions included belief that smoking endangers health, belief that nicotine can cause dependency, image of men and women who smoking and belief that healthy body can relief the negative effect of smoking. Students may answer every question with a choice of extremely agree, agree, doubt, disagree or extremely disagree. A favorable question which was answered with extremely agree was scored at 4, agree, doubt, disagree and extremely disagree were scored 3, 2, 1 and 0 respectively. An unfavorable question was scored the opposite. All the scores of attitude then were summed up become the score of attitude toward smoking. The attitude score may vary from 0 to 32. It means that the higher the attitude score means the more positive attitude toward non smoking behavior.

The result of this study found that student's knowledge about the danger of smoking are already high. Half of the students (50.2%) reached the highest score of knowledge, means that most of students understand the danger of cigarette smoking (Figure 2)

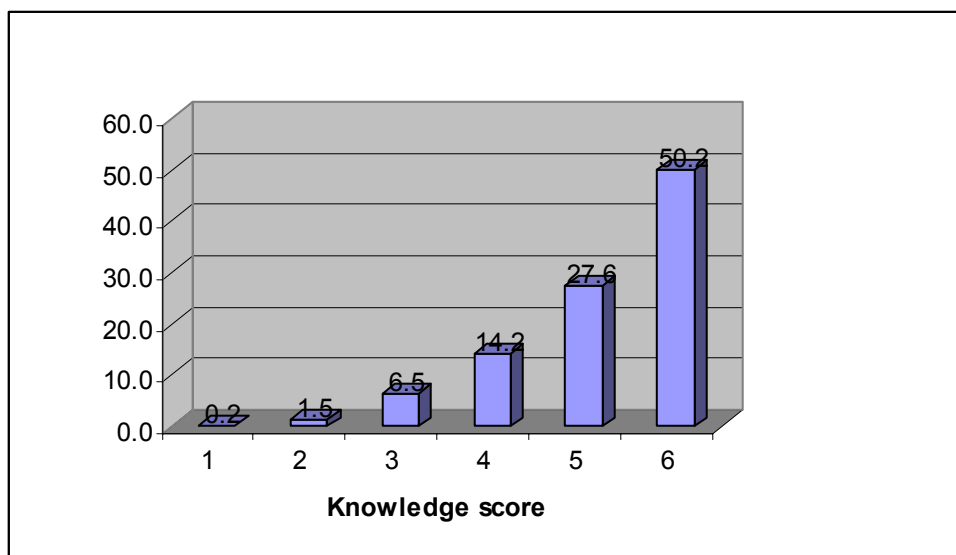


Figure 2. Percentage of the score of knowledge about the danger of smoking among students

Figure 3 described that attitude toward smoking among girls were higher than among boys. The girls more disagree with smoking habit than the boys.

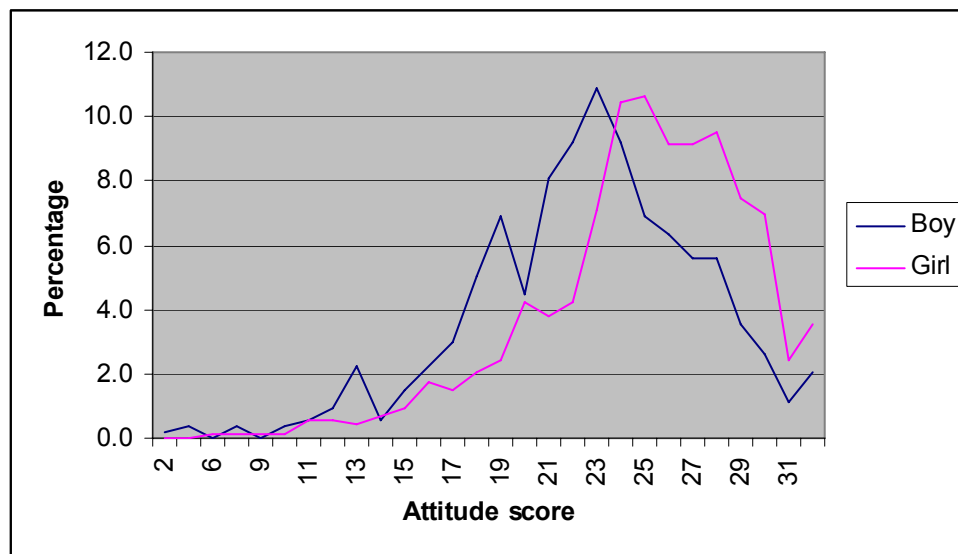


Figure 3. Percentage of the score of students concerning attitude of smoking habit

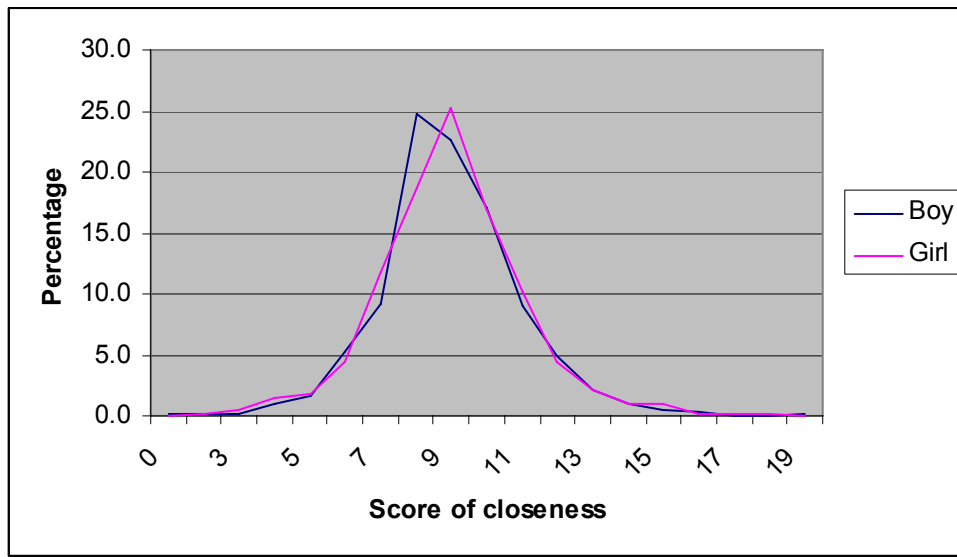
The attachment to peer and norms toward smoking habit of certain sex type are related to smoking habit according to several studies<sup>4,5</sup>. On this study attachment to peer personality were asked with 5 questions regarding their preference to go with their peer or family, how do they feel inconvenient to have conflict with their peer and their family and how do they feel comfortable to share time with their friend and their family. Norms toward smoking habit of certain sex was measured on 2 questions asking how people impress (according to student's perspective) boy of their age who smoking and girl of their age who smoking. The answering and scoring system was similar with scoring system of attitude measurement. The higher score of attachment to peer means the closer to peer, whereas the higher the score of norms the positive the impression of smoking habit of certain sex type.

It was found that the trend of attachment score between boy and girl were quite equal. If this is a strong factor that influence the smoking habit than the proportion of smoking among boys will be similar to among girl. Beside the attachment to peer personality, there are also norms toward boy and girl who smoking which is described in figure 5. Figure 5 describe the norm

<sup>4</sup> de Vries H. Engels R. Kremers S. Wetzel J. Muddle A. Parents' and students' smoking status as predictors of smoking onset: findings from six European countries. *Health education research*. 2003. 18 (5): 627-636

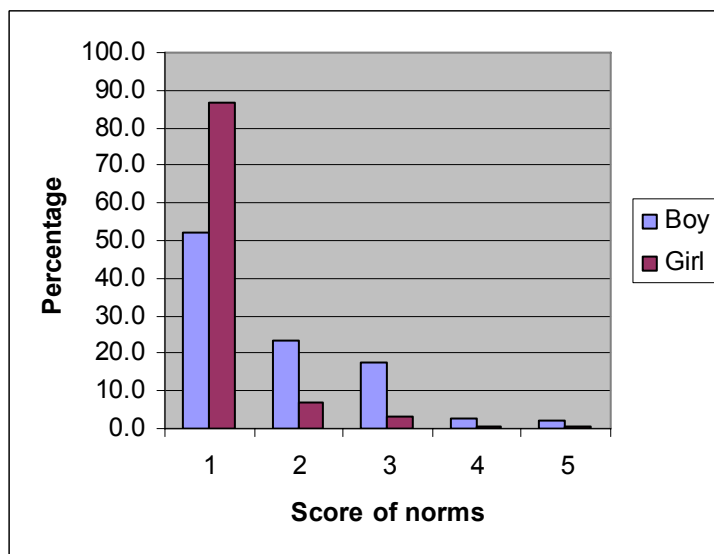
<sup>5</sup> Tyas SL. Pederson LL. Psychosocial factors related to adolescent smoking: A Critical review of the literature. *Tobacco control*. 1998. 7: 409-420

among students smoking habit of their boy or girl peer. The norms among students showed that smoking habit was perceived as negative behavior both if the smoker is a boy or girl, yet their impression was much more negative toward girl who smoke. Most of students (86.8%) had bad impression toward girl who smoking, whereas only 52.2% of students had bad impression toward boy who smoking.



Score of attachment:  
 0 : very close to family  
 20: very close to peer

Figure 4. The score of attachment to peer between boy and girl



Score of norms:

1: negative impression toward smoking habit

5: positive impression toward smoking habit

Figure 5. The score of student's norms toward boy or girl who smoking

## b. Smoking practice among students

The intention of smoking among boy and girl were measured with the question "whether they are interested to try to smoke". Boys (69.6%) were more interested to try to smoke than girls (47.2%), as described in table 1. In figure 6 it is showed that both sexes start to try to smoke at the same age. Girls were at earlier age to be more interested to try smoking than boys.

Table 1. Smoking intention among boy and girl

Sex	Want to try smoking		Do not want to try smoking		Total (n)
	n	%	n	%	
Boy	359	69.6	157	30.4	516
Girl	335	47.2	374	52.8	709
Total	694	56.7	531	43.3	1225



Figure 6. Age interested to try smoking among boys and girls who want to try smoking

The smoking status in table 2 showed that boy who already became smoker was 7.7% and only 0.7% among girl. This result need to be cautiously interpreted because the data was collected at their school. There are strict regulation at most of school that their student are prohibited to smoke, with very heavy penalty. This regulation may introduce bias because the students feel unsafe to declare that they are smoker. Few of students started to smoke at very young age (6 years), most of the started to smoke at 12 years of age. This age correspond with the time when the students graduate from elementary school. Prevention action should be performed before pupils graduate their elementary school.

Table 2. Smoking status among boy and girl

Smoking status	Boy		Girl		Total (n)
	N	%	n	%	
Never try to smoke	279	52.2	641	87.2	920
Experimenter	214	40.1	89	12.1	303
Smoker	41	7.7	5	0.7	46
Total	534	100	735	100	1269

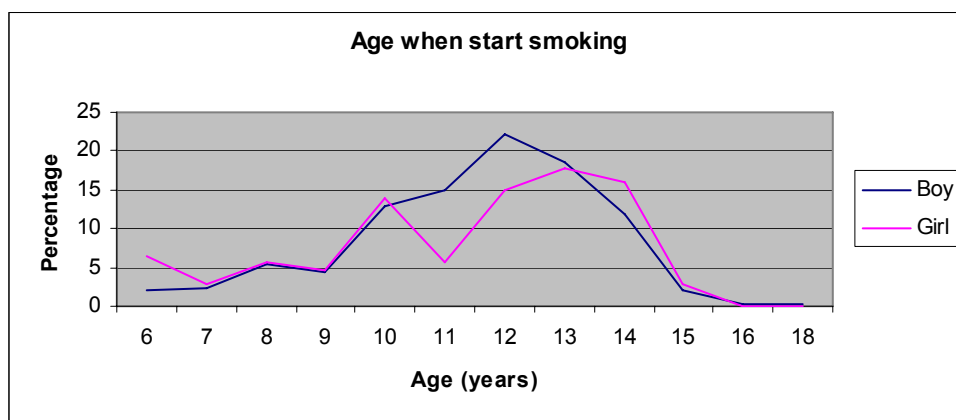


Figure 7. Age when start smoking among boys and girls who smoker

c. Factors that influencing students to start smoking

Based on qualitative result, the factors that may influence students to start smoking were measured. Those factors consist of role model of smoker surround them, knowledge and attitude toward smoking, close to peer and advertisement exposure. Each of those factors will be analyzed each for boys and girls.

Among boys, their smoking status were classified as never smoke, experimenter and smoker. Never smoke was boy who never try to smoke even one puff of cigarette, experimenter was boy who has tried to smoke even one puff but not routinely smoke. Smoker was boy who routinely smoking cigarette. Each boy then asked whether their relatives smoke or not. Their relatives divided into parental smoking if at least one of their parents is smoker, sibling smoking if at least one of their sibling is smoker, peer smoking if at least one of their close friend is smoker, teacher smoking if at least one of their teacher is smoker. There were significant relationships between smoking status of boy and the smoking status of their sibling and peer. These relationships were not significant between smoking status of the boy and the smoking status of their parents and their teacher (table 3).

Table 3. Smoking status among boys and the role model of smoking surrounding the boy

Role model/ Smoking status		Smoking status			Total
		Never smoke	Experimenter	Smoker	
<b>Parental smoking</b>					
	n	227	266	41	534
Non smoker	%	47.4	44.0	8.6	100
Smoker	%	39.4	53.5	7.1	100
<b>Sibling smoking*</b>					
	n	216	249	38	503
Non smoker	%	52.3	42.7	5.0	100
Smoker	%	28.9	59.7	11.4	100
<b>Peer smoking *</b>					
	N	217	260	39	516
Non smoker	%	64.1	35.3	0.5	100
Smoker	%	29.8	58.7	11.4	100
<b>Teacher smoking</b>					
	N	221	253	40	514
Non smoker	%	47.4	46.1	6.6	100
Smoker	%	41.2	50.6	8.3	100

Notes:

\*= $p < 0.05$  with Chi-square test

Table 4 showed the relationships between smoking status of the boy and their knowledge, attitude toward smoking, attachment to peer personality, and advertisement exposure. Advertisement exposure was measured on 7 questions. The first 6 questions asking the students to write the characteristic of advertisement the students remember and also the brand

of the cigarette, as much as the students can (maximum 6 brands of cigarettes).

Mean of score of knowledge toward danger of smoking was lower among smoker than among never smoke or experimenter, but this different was not statistically significant. Boy who smokes has more positive attitude toward smoking ( $19.6 \pm 4.1$ ) compared with experimenter ( $21.9 \pm 4.5$ ) and never smoke ( $23.9 \pm 4.8$ ), this difference was statistically significant. Children who perceived that smoking addiction will happened quickly tend to try smoking but children who perceived that smoking addiction will depends on the amount of cigarette smoked tend to try smoking<sup>6</sup>. Boys who feel more comfortable getting close to their peer than their family, had more tendencies to be a smoker. Attachment to peer had strong relationship with the student smoking status ( $p < 0.001$ ). Advertisement exposure was also statistically significant related to smoking status of the boy. The boy who smoking was related to higher exposure of cigarette advertisement. A study in Australia find that youth perceived that cigarette advertisement on media as usual and become more tolerant to smoking habit<sup>7</sup>.

Table 4. Anova Test of knowledge, attitude toward smoking, attachment to peer and advertisement exposure among different smoking status of boy students

Student's factors/ Smoking status	N	Mean	Std. Deviation	ANOVA test Significance (p)
<b>Knowledge</b>				
Never smoke	227	5.1	1.1	0.387
Experimenter	266	5.1	1.0	
Smoker	41	4.9	1.2	
<b>Attitude</b>				
Never smoke	227	23.9	4.8	0.000
Experimenter	266	21.9	4.5	
Smoker	41	19.6	4.1	
<b>Attachment to peer</b>				
Never smoke	227	8.5	2.0	0.000
Experimenter	266	9.2	1.9	
Smoker	41	9.7	2.0	

<sup>6</sup> Wang C. Henley N. Donovan RJ. Exploring children's conception of smoking addiction. Health Education Research. 2004

<sup>7</sup> Watson NA. Clarkson JP. Donovan RJ. Geles-Corti B. Filthy or fashionable? Young people's perception of smoking in the media. Health Education Research. 2003. 18(5): 554-567

<b>Advertisement exposure</b>				
Never smoke	227	9.5	3.2	
Experimenter	266	10.2	2.7	
Smoker	41	11.3	1.7	0.000

Different from their counterpart, the girls had only 5 smokers among 620 girl respondents. Consequently, the interpretation of the statistic result of girl who smoking needs to be carefully understood. Although only few girl who smoking, the result show quite similar pattern of boy who smoking. Having the similar scoring system to the boy group's, it was found that role model of smoking surrounding the girl was also significantly correlated with smoking status. Smoking status of the girls significantly correlated with having sibling who smoking, peer who smoking and teacher who smoking. Parental smoking was not significantly correlated with smoking status of the girl. Mean score of knowledge of girl who smoking was higher than non smoker and experimenter. Smoking girl had more positive attitude toward smoking, they also closer to their peer and had higher cigarette advertisement exposure. Only correlation of knowledge and cigarette advertisement exposure which was not statistically significant which probably due to small number of smoking girl. A study in America shows that the reason of initiate smoking among adolescent girls was as the stress reduction and relaxation, not because of peer pressure<sup>8</sup>. The huge culture difference between America and Indonesia is the reason of the different result.

Table 5. Smoking status among girl and the role model of smoking surrounding the girl

Role model/ Smoking status		Smoking status			Total
		Never smoke	Experimenter	Smoker	
<b>Parental smoking</b>					
	n	620	110	5	735
Non smoker	%	88.0	11.4	0.6	100
Smoker	%	81.5	17.8	0.7	100
<b>Sibling smoking*</b>					
	n	583	103	4	690
Non smoker	%	89.6	10.0	0.4	100
Smoker	%	71.9	27.1	1.0	100
<b>Peer smoking*</b>					
	N	601	105	5	711

<sup>8</sup> Nichter M. Nichter M. Vuckovic N. Quintero G. Ritenbaugh C. Smoking experimentation and initiation among adolescent girls: qualitative and quantitative findings. Tobacco Control. 1997; 6: 285-295



Non smoker	%	90.8	9.2	0.0	100
Smoker	%	69.7	28.0	2.4	100
<b>Teacher smoking*</b>					
	N	580	103	4	687
Non smoker	%	88.5	11.2	0.3	100
Smoker	%	80.8	18.4	0.8	100

Notes:

\*= $p < 0.05$  with Chi-square test

Table 6. Anova Test of knowledge, attitude toward smoking, attachment to peer and advertisement exposure among different smoking status of girl students

Student's factors/ Smoking status	N	Mean	Std. Deviation	ANOVA test Significance (p)
<b>Knowledge</b>				
Never smoke	620	5.3	1.0	0.441
Experimental smoker	110	5.2	1.0	
Smoker	5	5.8	0.4	
<b>Attitude</b>				
Never smoke	620	25.3	3.9	0.000
Experimental smoker	110	22.4	5.5	
Smoker	5	15.6	6.8	
<b>Attachment to peer</b>				
Never smoke	620	8.8	1.9	0.000
Experimental smoker	110	9.7	2.5	
Smoker	5	11.6	3.8	
<b>Advertisement exposure</b>				
Never smoke	620	9.2	3.2	0.055
Experimental smoker	110	9.8	2.9	
Smoker	5	11.4	1.3	

d. Student's perception of tobacco control policy

Some questions of tobacco control policy were asked for to understand the student's perception toward the policy. The questions were whether students agree or not for increasing price of cigarette, clear information of nicotine and tar level, health warning label on the cigarette package, and involvement of citizen on tobacco control policy. The possible answer of

those questions were extremely agree, agree, doubt, disagree and extremely disagree. Only few students disagree and extremely disagree to any of those policies perhaps because of worrying when not supporting the policy that had applied.

The preferred tobacco control policies were different among different smoking status. Non smoker and experimenter tend to agree all the policy, while smoker tend to disagree to those policy. The most preferred policy was information of nicotine and tar level on the cigarette package, followed by involvement of citizen on tobacco control policy, health warning label and the least popular policy was increasing the price of cigarette. Increasing price of cigarette, nicotine and tar level information, and involvement of citizen on tobacco control action policy were not preferred by smoker but more preferred by never smoke and experimenter (figure 8, 9, 10, 11).

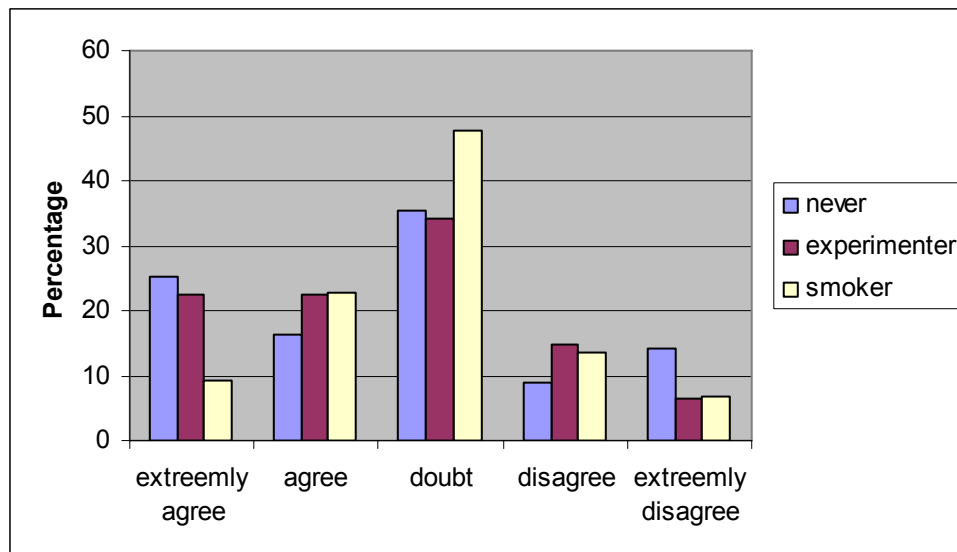


Figure 8. Student's opinion toward Tobacco control policy: increasing the price of cigarette between student who never smoke, experimenter and smoker

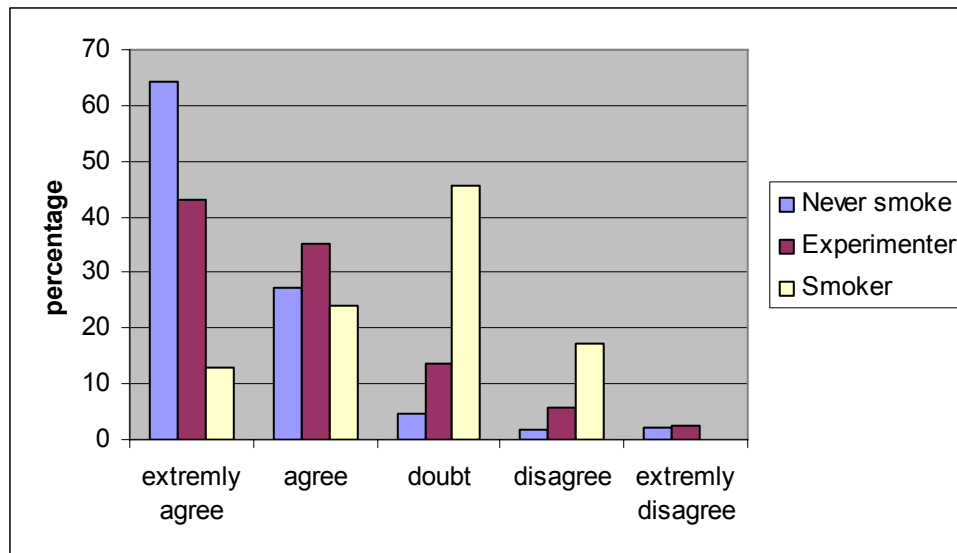


Figure 9. Student's opinion toward Tobacco control policy of information of nicotine and tar level between student who never smoke, experimenter and smoker

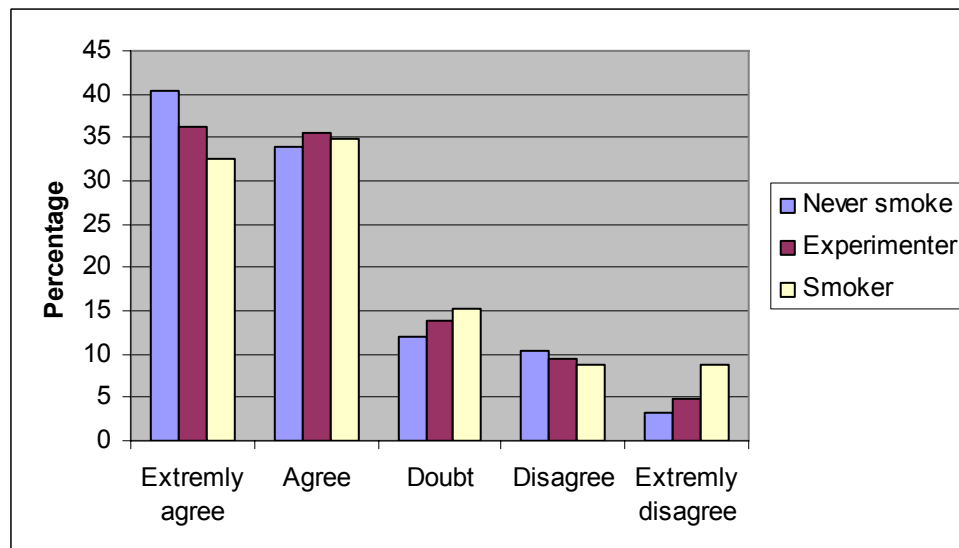


Figure 10. Student's opinion toward Tobacco control policy of health warning label on cigarette pack between student who never smoke, experimenter and smoker

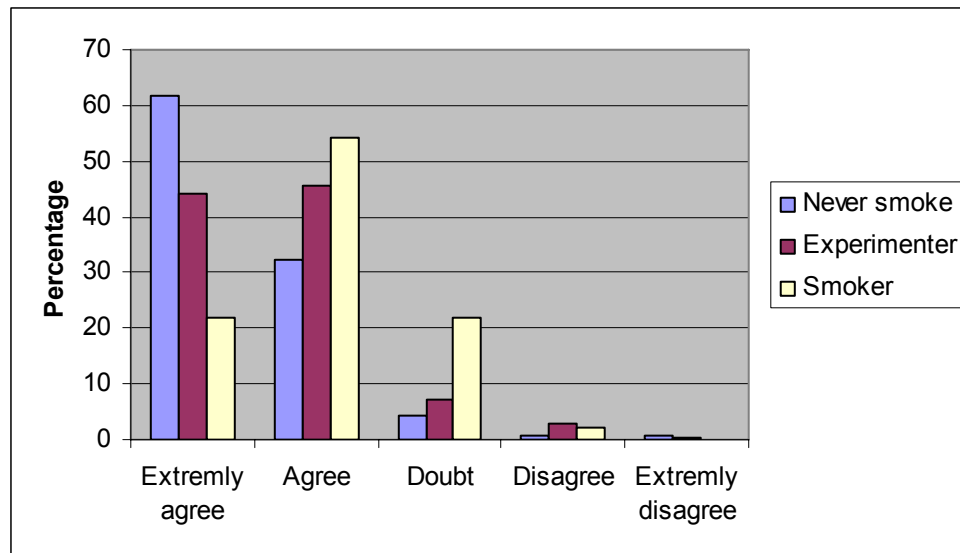


Figure 11. Student's opinion toward Tobacco control policy of every citizen should involved on tobacco control activities between student who never smoke, experimenter and smoker

## FULFILLMENT OF OBJECTIVES

This study aims to understand factors that stimulate youth to initiate smoking

- To explore influencing factors of youth smoking behaviour
- To measure influencing factors of youth smoking behaviour
- Perception of tobacco control policy among youth

Fulfilment of the objectives:

Qualitative study found that smoking among youth was influenced by norms, economic consideration (price of cigarette), exploring self value and coping mechanism on how to be a smoker for girls and how to be a non smoker for boys.

Quantitative study found that:

1. Knowledge of youth concerning smoking hazard were already high
2. Almost half of girls had the intention to try smoking, which arose at 6 to 12 years old
3. Only few youth reported they were smoker but half reported that they were experimenter

Factors that stimulating smoking initiation:

Among girls:

1. The norms toward girl who smoking was extremely negative
2. Existing role model of smoking surround them especially sibling, peer and teacher who smoking
3. Attitude toward smoking, the more positive the attitude toward smoking the more possibility to smoke
4. Attachment to peer, the closer to peer the more possibility to smoke

Among boys:

1. The norms toward boy who smoking was negative
2. Existing role model especially sibling and peer who smoking
3. Attitude toward smoking, more positive the attitude more possibility to smoke
4. Attachment to peer, the closer to peer the more possibility to smoke
5. Advertisement exposure, the more exposed to advertisement the more possibility to smoke

Perception of youth concerning tobacco control policy:

1. Smoker tend to disagree to all tobacco control policy
2. The most preferred tobacco control policy:
  - a. Information of tar and nicotine level on cigarette package
  - b. Involvement of citizen on tobacco control policy
  - c. Health warning label on cigarette package
3. The most unwanted tobacco control policy was increasing the price of cigarette

## **PROJECT DESIGN AND IMPLEMENTATION**

### **A. Project design**

This study was done through a qualitative and quantitative approach. The qualitative approach was exploring the factors influencing student to smoke and their perception toward tobacco control policy. To reach those objectives, focus group discussion (FGD) and in-depth interview was conducted. Participants of the FGD are male smoker students, male students who do not smoke, and female students who do not smoke. Meanwhile, in depth interview was conducted to explore perception of female smoker students. The subjects of qualitative study are 47 junior high school students at Yogyakarta Municipality, Indonesia.

The quantitative approach had been conducted to measure factors influencing students to smoke. Based on existing questionnaire and adjusted to the result of qualitative study, a questionnaire was developed. Sampling selection was a combination of simple random sampling and cluster sampling design. The first step was simple random sampling to select 11 junior high schools out of 66 existing schools, there were 3 classes selected from each selected school. All students on the selected class were asked for their participation. Totally, 1270 students were participated on this survey. Next, students were received the questionnaire wrote down the answer on their own school. The surveyor were there and ready to answer any question.

The result of this data collected from quantitative study was occupied on the socialization action to highlight the importance of controlling tobacco among youth especially girls.

## **B. Project Implementation**

As the MGC (Memorandum of Grant Condition), this research should be started on December 23<sup>th</sup> 2005. However, the research could not be done at that time because there is several administrative procedures should be done. The activities that was conducted on this period were administrative procedure arrangements, study clearance arrangement, field coordinator selection, sample size recalculation, rescheduling research planning, tried out in depth interview and focus group discussion guide, preparation of quantitative data collection questionnaire, qualitative data collection and analysis, quantitative data collection and analysis, as well as report building.

Below are the explanation of each activities:

### **1. Administrative procedures arrangement**

MGC between RITC, LIPI and GMU (Gadjah Mada University) need sign from each party. To get sign from LIPI the Principle Investigator should visit the institution in the capital city and undergone on interview and signed up a letter of statement. After got sign up from LIPI, and successfully got the sign of vice rector IV of GMU, the MGC had been sent back to RITC, LIPI and GMU.

The administrative procedures of fund begin. There was a request to send the bank account and name of the recipient from RITC administrative. The bank account under the name of vice rector IV was sent to RITC, but rejected because RITC only accepted bank account under institution name

but not under personal name. Following the rule, a bank account under GMU institution was sent to RITC. There was an e-mail confirming that RITC already sent. GMU bank account had been checked up weekly, and by the date of January 16<sup>th</sup> the fund already accepted by GMU. After processing the administrative requirement from GMU, the fund finally can be accepted by researchers (at February 3<sup>rd</sup>). The amount of fund accepted by researcher is reduced by 5% for the institutional fee according to GMU regulation.

## 2. Study Clearance arrangement

To do this research, the first step was to contact the Development Planning Board (Badan Perencanaan Daerah – Bappeda) of Yogyakarta Special Province to seek permission for undertaking the research. Once permission was received a letter was sent to the District Development Planning Board (Badan perencanaan pembangunan daerah - Bapeda) and education board (Dinas pendidikan dan pengajaran) of Yogyakarta Municipality to gain approval to do this research at junior high schools in Yogyakarta. After got their permission, next we asked permission to each junior high school that involved in this study.

Actually, we had asked permission from all (14) sub district office and each village office in Yogyakarta Municipality. However, we change our study site. When we developed our proposal, we have decided to use community setting. This decision is based on previous research regarding survey on cardiovascular risk factors (included smoking risk factor). This research showed that there are no children as age school were not having school. It is because the number of the age school which is not having school is minimum, so it can not detect the surveys with representative samples.

## 3. Field coordinator selection

The first step of this study was to do the qualitative data collection and the second step was to collect quantitative data through survey. Both steps need field coordinator. For the first step the field coordinator needed to arrange meeting with appropriate participants on each qualitative data collection process, whereas on the second step, the field coordinator function as the manager of the data collection process. Field coordinator for qualitative and quantitative study had been selected and has been doing her task.

#### 4. Sample size recalculation

A literature review was done to learn a good sample size calculation and sample design. It was realized that the resources was limited, and then it was considered to do sample size recalculation. Based on previous study, the proportion of smoker among girls 12-19 years are 6.7%. A sample size equation was used to estimate proportion of one population (Lemeshow , et. al. 1997), using significance level at 95% and difference accepted as 2% from the real proportional and found the sample size was 595 people. Because the sample selection design was multistage cluster sampling, the sample was multiplied by 2 to anticipate effect design. Furthermore, to anticipate non response of 5%, the sample size result was 1249.5 rounded to 1250.

#### 5. Rescheduling of research activities

There was earthquake that hit Yogyakarta in 27<sup>th</sup> of May 2006, all school hold their activities back for at least one week. The traumatic condition of the pupils and teacher were not allowed the study continue very soon after the earthquake. Action to relief the disaster needed to be done within 2<sup>nd</sup> week after disaster. Thus, the project was postponed. RITC had agreed our proposal to postpone by an amendment of MGC. The timetable of this research is shown at the table 7 below.



Table 7. Revised schedule of the project to adjust the earthquake disaster

[illegible]

Table 7. Revised schedule of the project to adjust the earthquake disaster (continued)

No	Activities	Time line (2007)			
		Jan		Feb	
1	Administrative procedure				
2	Field Coordinator Selection				
3	Study Clearance arrangement				
4	Qualitative respondent identification				
5	Qualitative data collection				
6	Qualitative data analysis				
7	Questionnaire development				
8	Questionnaire try out				
9	Quantitative respondents identification				
10	Training for quantitative data collector (enumerator)				
11	Quantitative data collection				
12	Quantitative data analysis				
13	Socialization				
14	Report writing				

## 6. Preparing data collection instrument

Before qualitative data collection, we prepared some instrument. The instruments were researchers, focus group discussion guide, indepth interview guide, camera, tape recorder, and picture.

## 7. Try out for in depth interview guide and focus group discussion guide



The in depth interview and focus group discussion guide was tried out at April 4<sup>th</sup> 2006. The try out was conducted at junior high school that representing of Yogyakarta junior high school.

Figure 12. Try out of focus group discussion guide

## 8. Qualitative data collection and analysis

Qualitative data collection had been performed through focus group discussion (FGD). The first FGD was carried out at Faculty of Medicine on April 13<sup>th</sup> 2006. The participant came from five junior high schools. The first FGD's participants were male youth (junior high school student) who do not smoke. The FGD's participants were 10 students from 5 different schools, which were delegated by two students. The school that we select was the schools that represent the school characters in Yogyakarta municipality. Likewise the students that we selected as an informant also being selected based on characteristics that thought to be representative of Yogyakarta's students. Each FGD was arranged in homogen characteristics in order to encourage participants to discuss openly. The FGD participants were arranged based on characteristics of gender and smoking status. The students were selected from junior high schools in Yogyakarta. There were 8 students attended among 10 invitated students. But after screening process, most of them (3 students) had tried smoking before, although two of them had stopped smoking. Because of that reason, we separated them into 2 groups. In addition to held FGD for certain themes that we already had decided, the researchers also asking about the data of boys who smoke from the participants.

The second FGDs was carried out at faculty of medicine on May 1<sup>st</sup> 2006. The participants were boys who smoke. From all the FGD's participant, there was one

student who had stopped smoking. From the first experience, it was known that the characteristic of student who attend the invitation was not appropriate with the expected characteristics. Because of that, the researchers tried to invite more FGD's participants. Consequently, number of participants from each school was more than one person. Unanticipated before, the atmosphere of FGD was not convenient because participants who know each other disrupt the FGD. Finally, the researchers decided to separate the FGD's participants into 2 groups. Relied on this experience, the researcher decided to invite only one student each school for the following FGD. However, there was another consideration that one participant from each school would probably did not want to attend the invitation because of lonely feeling, thus two students would be invited from each school but only one student who will be involved in the discussion. Another beneficial



experience was the place of discussion in the university was not convenient for the students especially FGD among boys who smoke. The room's milieu that was not familiar with the pupils tended to discourage them to talk. It was decided to perform FGD in one school among the participated schools.

Figure 13. Focus group discussion for non smoker boys

The next FGD was done at SMP Negeri 3 (a public junior high school) in June 26<sup>th</sup> 2006. The participants came from six junior high schools. They were girls who did not smoke. Data analysis of this FGD was delayed because of disaster disrupt Yogyakarta, however the analysis had already finished. Based on the last analysis it emerged the importance of exploring the girl's norms about smoking behavior.

As the planning of this research, indepth interview of smoker girls run after the FGD finished. It was very hard to get information about the girl who smoking. That was because the Yogyakarta's norm did not allow girls to smoke and the strict rule of smoking at school. At school, smoking is defined as a little crime, and the smoker will be punished by their teacher.

Smoker girls were identified through snowballs approach. First, researcher asked the non smoker student to suggest their friend who smoking. Based on this information, researcher tried to approach the informant. It was very difficult step. It was impossible to meet the subject at school, because the teacher would

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fine them if she/he knew that their students smoke. Moreover, their parents would be angry if they know their children smoke. So, researcher tried to meet the student at restaurant. We failed to make an interview at the first meeting. The girls is very curious how we got their identity (such as name, phone number, address), and what was our objective to invite them on the restaurant. They seem scared and curious. After the third meeting, we told the objective. Unfortunately, they had never smoking. Nevertheless, they had promised us to looking for their friend who ever smoke.

As the informant promise, we met with smoker girl. After the depth interview, we knew that the informant (smoker) smoke because her gang. Her gang always forces her to smoke. If she refused their asked, they will hit her. No body can control the gang, included the girl's parent. Finally, she smoked even thought she does like it and know that smoking is harmful her health.

The other way to looking for informant is by met them at the music concert. Most of music concert at Yogyakarta are supported by tobacco's company, and give some cigarettes to the visitor freely. There are a lot of teenagers who are smoking at the concert. We were making approach with them there. The depth interview result showed that they are experimenter smoker, instead of regular smoker. They only smoke at the concert or other event, but did not smoke daily.

#### 9. Preparing for quantitative instrument

The instrument of quantitative data collection is questionnaire. We had collected several questionnaire from previous research included from D-Group resource and Global Youth Tobacco survey. We had been modified the questionnaires by adjusted with our qualitative results.

#### 10. Questionnaire tried out

The questionnaire try out was conducted at public junior high school at Yogyakarta Municipality that was not chosen as the school of the sample of this research.

#### 11. Quantitative data collection and analysis

The quantitative data were collected by surveyor, totally there were 1270 respondents participate on the survey. Respondents were come from 11 junior high school (public and private school) at Yogyakarta Municipality that chosen randomly. The first step was the selection of 11 junior high schools out of 66 junior high schools in Jogjakarta municipality using simple random sampling and respondents were selected using cluster random sampling design. Totally, 1270 students participate on the survey.

## 12. Printed media development

There were 2 printed media that conducted through this study. They were smoke free area poster and smoking area sign, as the figure 14 below. Both of the printed media were distributed to junior high schools that chosen as research venue.



Figure 14. Smoke free area poster and smoking area sign

## 13. Dissemination

The dissemination was conducted after the quantitative data collection and analysis finished. This was done through a small seminar and press release at the local mass media (Kedaulatan Rakyat). The participant of the small seminar were provincial parliament, Yogyakarta Municipality parliament, Provincial and district development planning board, provincial and district education board, as well as provincial and district health office.

## PROJECT OUTPUTS AND DISSEMINATION

The output of the project was planning collaboration (with provincial health office) for results dissemination, research protocol and qualitative data. The research protocol conducted through several steps. First, sample size calculation was recalculated. Second, a timetable and budget allocation was developed following the sample size recalculation. Finally, a content research protocol had been developed. Moreover, we had been got the qualitative data from male youth smoker, male youth who have never smoking, and female who did not smoke.

After qualitative data collection we will understand the factors that stimulate youth to smoke for the first time, both boy and girl. Moreover factors influencing youth to start smoking each time is also explored. A comparative analysis based on grounded theory between boy and girl will be done to understand the difference of stimulating factors and influencing each time smoking between sexes. Based on those findings, a questionnaire will be developed and tried out, and a survey using the interviewed questionnaire will be done. The result of factors stimulating youth to smoke for the first time and factors that influencing youth each time start smoking will be found in the population. These facts will be disseminated to policy makers in order to motivate them response adequately. Policy makers divided into related government institutions, non government institution and representatives.

Output of the qualitative study was the understanding factors influence youth to smoke. The main factor was self value. This self value was depends on norms factor and economic consideration. If a youth decided to adopt smoking behaviour, then she or he needed to find coping mechanism which consist of cigarette accessibility and place to smoking factors.

The other output was sharing information between tobacco researcher under fctc-research-network. This virtual organization was enriched our knowledge about tobacco control. Moreover, the fellowships from IDRC to attend the 13<sup>th</sup> world conference on tobacco or health, the Ontario Tobacco Conference and the effective mentoring program for tobacco control (held by RITC and CCGHR) was a great support for us to improve our capacity.

## **CAPACITY BUILDING**

It is worthwhile to understand the bureaucracy in some institution to retrieve fund which come from international institution directly to researcher. It was the first time to visit and understand the function of LIPI, this experience was important for future collaboration. This project reinforce the need of learning how better research were done, motivate to have more intensive discussion trough internet with consultants from Umea University. This activity also enriches the experience to pursue future collaboration.

Other capacity building was improving our experience on the qualitative research method. It was hard to get male youth smoker as respondent, because the schools in Yogyakarta already had "a point rules" to every violation for their student. Smoking was one of the violations that it took large of points of punishment (25 points). Larger points would be executed if they involved in drug abuse or even criminal act. The students will be dropped out from their school if they already reach 200 points. Thus, smoking was an under covered activity for student at junior high schools in Yogyakarta, however using snow ball to select sample, finally a girl who smoke can be reached and interviewed.

Also, we feel our skill was improved on presenting data to convince stakeholder to participate on the activities.

## **PROJECT MANAGEMENT**

To accomplish this project, we have been conducted a research protocol. The research protocol explains the detail steps on the research. Based on the research protocol we have determined the person who responsible to handle the each step on the research protocol. Principle researcher should responsible to the project running. Beside that, principle researcher is responsible to quantitative data. On the other hand, the researcher is responsible to qualitative data and the research administrative. As the project implementation, there were field coordinator, data entry officer, secretary and treasure. Field coordinator is person who responsible to both of qualitative and quantitative data collection. Meanwhile, data entry officer is the people who responsible to data entry processing.

The subjects of this research are junior high school students. The Indonesian junior high school students have a tight time schedule. They should study hard in order to they success in the next future (such as accepted by favorite senior high school). There was a technical treat to accomplish this research. Researcher had to adjust the research



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schedule to the academic schedule of the junior high schools. The other problem arose when earthquake hit Yogyakarta. All of routine activities had stopped included academic activity. So, this research proposed to be prolonged until February 2007. This was supported by amendment of MGC from IDRC.

It was very tough to get female smoker as participant of this research, because the norm of Yogyakarta community and tight junior high school regulation on non smoking policy. The norms tell us that smoking is prohibited for female, moreover for girl.

## IMPACT

The apparent impact was increasing awareness of the school's teacher regarding smoking problem on their own site because there was other party (researcher) concern about smoking problem on their school. It seems that schools were worrisome with their school reputation will be destroyed by smoking problem. School reputation is essential to attract qualified students who would be the future of the school.

Other impact was increasing awareness of the stakeholder of tobacco control activity. Stakeholder involved in the dissemination were provincial parliament, Yogyakarta Municipality parliament, Provincial and district development planning board, provincial and district education board, as well as provincial and district health office. Stakeholders supported to control tobacco problem among youth and identified the factors related to youth smoking behaviour. The identified factors were role model of smoking among youth's relatives, exposure to cigarette advertisement and accessibility to get cigarette. After several discussions, the stakeholders agree to focus the program to reduce the role model of smoking at school and at home. This goal was selected as the most feasible target to be achieved for short term activities. Each participant agree to enforce this goal on their own institution.

There was a need to follow up the discussion on larger forum which involve more related institution such as Provincial planning board, NGO's interested on tobacco control activities.

## OVERALL ASSESSMENT

Result of both qualitative and quantitative research found the evidence:

1. There was positive image of boy who smoking but still limited among girls. This image was developed and kept by advertisement and role model of smoking among relatives

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2. There was positive norms of boy who smoking but still negative for girls. This norms was the only barrier of girl to smoke. When the norms was perceived as old-fashion by the population then there will be a strike on women who smoking. There is a need to prevent this disaster of upsurge prevalence of smoking among women in the future.

To enforce tobacco control activities, there should be a continuous effort because the opponents of these activities were so real, at least the tobacco company and the positive norms of smoking among males. Hazard of smoking should be campaigned in good manner in order to reduce the decay of negative norms to girl who smoking.

Any activities to control tobacco should consider to reinforce the negative norms to girl who smoking and emphasize hazard of smoking in accordance with reduce positive norms to boy who smoking and existence of role model of smoking.

## **RECOMMENDATION**

The result of this study should be followed up by continuous activities to motivate tobacco control policy. Because the end of the project had been prolonged, the follow up of the result cannot be proposed to the following round call for proposal. It is suggested that the already accepted proposed project become flexible enough to following up the result of previous project while performing the new project.