

Community voices to support smoke free regulation advocacy

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ABSTRACT

The Smoke Free Regulation is a form of public regulation which indeed is needed in protecting the general community from the danger of smoking impacts. Currently, Indonesia was among those country which not ratifying the *Framework Convention on Tobacco Control (FCTC)*, affecting on the less public advocacy regulating in people protection from tobacco smoke. The research was aimed to gain a public voices on regulation advocacy, specifically on smoke free regulation in Greater Yogyakarta. Involving 251 respondents reside in the same province, chosen through a random sampling technique. The result has been revealed a strong support for the importance of enacting such regulation to protect people from smoking. Thus, it is suggested that that the local stake holders could accommodate and following up these people voices.

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1. Introduction

WHO survey data states that 37.3% of male and female students in Indonesia claim to have smoked and 24.5% of male students have become active smoker ([Convention, Control, & Fctc, 2017](#)). Indonesia is the third largest cigarette consumer in the world after China and India. As many as 240 billion cigarettes have been smoked by Indonesians, the high number of smokers is due to the low awareness of the dangers of nicotine in cigarettes. Based on the national economic survey of the Central Statistics Agency in the period 2001-2004, there was a spike in beginner smokers at the age of under 10 years from 0.4% up to 2.8% ([Badan Pusat Statistik, Bapenas, 2013](#)). In addition, according to a household survey conducted by Quit Tobacco Indonesia (QTI) in six regions in Yogyakarta in 2009, husbands who smoked indoors as much as 30% stated frequently, exposure to children under five with cigarette smoke which stated frequently as much as 14.9% , while respond among wives about husbands who smoke at home expressed objections to 39.8% and as many as 87.8% of wives expressed their support for the prohibition of smoking in the home ([Prabandari, Kedokteran, Gadjah, & Yogyakarta, 2014](#)).

According to many health experts that second-hand smoke inhaled by passive smokers can cause health problems. The concentration of harmful substances in the body of passive smokers is greater because the poison that is inhaled through cigarette smoke is not filtered active smokers, while the cigarette poison in the body of active smokers is filtered through the tip of the cigarette being smoked. However, the concentration of active smokers' poisons can increase if the active smoker returns to inhale the smoke he exhales ([Talhout, Schulz, Florek, Benthem, & Wester, 2011](#)). A survey conducted on school children aged 13-15 years showed that 89% of children were exposed to cigarette

smoke in public places (Eftekhar, Pourmasumi, Sabeti, & Mirhosseini, 2016) Children exposed to second-hand smoke experience slow lung growth, and are more susceptible to respiratory and ear infections and asthma. These early health disorders can cause poor health in adulthood (Rayens, Burkhart, Zhang, Lee, & Moser, 2006), (Eftekhar et al., 2016)

Based on many of the considerations above, it is necessary to have health protection for passive smokers, and one effective way to protect the public, especially passive smokers, is to make regulations on non-smoking areas in buildings in the workplace and public places including restaurants and hospital. No-smoking area is a place or room that is declared forbidden to smoke, promote, advertise, sell and / or buy tobacco products. Several studies state that this no-smoking area regulation is considered to protect the health of employees who work in public service places. For example in Scotland there was a decrease in respiratory distress symptoms of up to 26% in bar staff following the adoption of a no-smoking area policy in 2006 (Rayens et al., 2006). This policy also reduced the 13.2% incidence rate of asthma in children. In 2008 there was also a study which stated that in Kentucky the health department stated that there was a decrease in asthma incidence of about 22% after the implementation of the no-smoking area regulation in the country (Rayens et al., 2006). In Indonesia, several regulations regarding smoking-free zones have also been applied, one of which is the Governor of Yogyakarta Special Regulations No. 42 of 2009. However, the implementation of this regulation has not been optimal. For this reason, this research is intended to provide an overview of public perceptions about the application of these regulations in the Special Region of Yogyakarta.

The application of the no-smoking area regulation is considered to have no adverse effect on business and economic activities. A study states that the regulation of non-smoking areas does not have a negative impact on the economic side of the tourism industry (attractiveness of foreign tourists). The beneficial effects for workers include increasing productivity, decreasing the level of pain of employees from exposure to cigarette smoke, and reducing the risk of fire. In Taiwan the benefits of implementing a no-smoking zone policy have been quantified more than 1 billion US dollars per year (Ekpu & Brown, 2015). The application of areas without cigarette smoke has been widely implemented in several countries. In Ireland in 2005 support for a smoke-free zone policy reached 93% of the population (Manuscript, 2013). After one year of implementation of a smoke-free zone policy in Turkish restaurants and bars it was reported that 92% of its citizens expressed strong support for this policy (Bilir, 2017). In Indonesia there have also been many studies on the effectiveness of the implementation of smoke-free policies, such as policies that have been implemented in the West Sumatra region, which includes the Payakumbuh and Padang Panjang regions, which record the successful implementation of these policies (Ilmaskal, Prabandari, & Wibowo, 2017).

From various research results above, it can be concluded that the application of a non-smoking area is indeed very necessary to protect the public from harmful exposure to cigarette smoke. In this connection, a study of community support for this policy continues to support policy makers or politicians to take action. That is the background of this research, which is to find out the perception and support of the community, especially the Special Region of Yogyakarta, for the implementation of 100% non-smoking area policy in their area.

2. Methodology

The basic method used in this research was descriptive analytic method. By describing the current state of the object of research, based on facts that appear or as they are. Descriptive method focuses on finding facts (fact finding) as the actual situation. The implementation technique of this research uses survey method, which is a study that takes a sample from a population by using a questionnaire as a tool to collect data. Types and sources of data used in this study are: 1. Primary Data Primary data is data obtained directly from respondents (research subjects) using a list of questions (questionnaire) through interviews and observations. 2. Secondary Data Secondary data is data obtained from references, books, journals, literature, and agencies related to research conducted, for example: Central Statistics Agency of DIY Province is related to the description of the Special Region of Yogyakarta as a research location. This survey was carried out in the Special Region of Yogyakarta consisting of 4 districts and 1 city with a population of around 3,452,390 people. The sampling method is based on the administrative area and the number of households (heads of

households) in the Special Region of Yogyakarta. This study involved an adult population in the Special Region of Yogyakarta, aged 15 years or more. This is based on research from the Global Youth Tobacco Survey which states that in school-age children 13-15 years (1999-2006) shows 81% of school children are exposed to cigarette smoke in public places so it is assumed that at that age someone already knows or understands about smoking (World Health Organisation, 2013). Cross sectional study is a type of research that can produce a representative sample. According to research that has been carried out in other cities in 2009, community support for non-smoking area policies is reported to range from 85% to 98%. We take a minimum value of 80% as a reference to calculate the sample size for this study. The formula for determining the sample size used is as follows:

$$n = \frac{z^2 \alpha / 2p(1 - p)}{d^2}$$

p = estimated proportion for policy support is 80% (0.8)

d = 95% confidence level with an error rate of 5% (0.05)

$z\alpha/2$ = normal standard deviation for 95% confidence level (1.96)

From the calculations, the sample size is around 246 adults aged 15 years or more, taken by simple random sampling technique. To answer the research objectives to be achieved, in this poll will be analysed data using the SPSS program. Univariate analysis was performed to obtain an overview of each variable, the frequency distribution of the various variables studied both the dependent variable and the independent variable. By looking at the frequency distribution it can be seen the description of each variable in the study. Thus a description of community support for the implementation of a non-smoking area, community knowledge and attitudes about smoking and passive smoking, smoking behaviour and exposure to community passive smoking can be seen using this univariate analysis.

3. Result

This study obtained several categories of data, which have been grouped based on the purpose of each information. Total respondents taken in this study were 251 respondents, assuming 5 backup respondents to back up data that might be deemed incomplete or invalid. The respondents are divided into two groups, namely; 154 respondents were smokers and 97 respondents were non-smokers. These data can be grouped and discussed in detail as follows:

Table 1. Data on smoking intensity at 154 Respondents of smokers

No	Statements	Yes	No
1	I smoke 1-5 cigarette sticks / day	43	111
2	I smoke 6-12 cigarette sticks / day	66	88
3	I smoke cigarettes > 12 cigarette sticks / day	47	107
4	From the first to the second cigarette stick, I need between 5-60 minutes	77	77
5	From the first to the second cigarette stick, I need > 60 minutes	67	87

The data above shows the high level of cigarette consumption of smokers. Cigarette consumption for 154 smokers a day is $150.5 + 594 + 611 = 1355.5$ cigarettes. This means that each smoker consumes an average of 8.8 (close to 9) cigarettes. There is no longer any reason to allow smokers to smoke in any place, given the content of cigarette smoke which is very dangerous for the human body. In the second part of the research data, it shows a picture of knowledge about smoking among 251 respondents. The results of that knowledge section are as follows:

Table 2. Respondents general knowledge on cigarette

No	Statements	Response		
		Correct	Wrong	Doesn't know
1	Cigarettes come from tobacco and is an addictive substance that can cause addiction	216	9	26
2	Can smoking cause interference with the lungs, and hear	237	3	11
3	Can smoking disturb the health of people around smokers	229	9	13
4	Cigarettes affect oral health	221	9	21

The data above shows that the socialization and health campaign regarding the dangers of massive smoking carried out by the ranks of the Yogyakarta Health Office and other Health Offices at the district and city level have been successful, as evidenced by the knowledge of the dangers of smoking that have been known by more than 70% of respondents very well. Question no. 3 becomes an important question as smoke free advocacy material, so that the local government can immediately establish a Regional Regulation on smoke free policy.

4. Discussion

The data shows that among respondents they consumes an average of 8.8 (close to 9) cigarettes per day. Associated with the intensity of smoking, then 9 cigarettes will be smoked in 2 hours per day, meaning that in a day there will be exposure to cigarette smoke from smokers for 18 hours. Practically smokers don't smoke while they sleep. If they smoke in a designated smoking area that does not expose smoke to second-hand smoke, then it becomes no problem for the condition of air quality. However, if they smoke in the house or around the family, then for 18 hours all family members will be exposed to cigarette smoke. This cigarette exposure lead to several health defect, one of them is the possibility of suffering from asthma, both in the development and the severity increasing of this respiratory problem, especially among children (Rayens et al., 2006). Moreover, recently the use of electronic cigarette have been increased, that it is responsible for smokers to be more vulnerable toward getting lung infection and heightened chronic lung health, associated with many covid 19 severe cases and possibility of early infected by the virus (Lewis, 2020). This fact is actually enough reason to regulate smoking behaviour in a predetermined place or away from other passive smokers. Considering that cigarette smoke is very dangerous for smokers and those around them who inhale the smoke, one of the risks is the risk of cancer (Talhout et al., 2011). Smokers will also have a negative impact, for passive smokers who are exposed to the smoke, because the substance of cigarette smoke can also interfere with the development of lung function, such as the risk of asthma and pulmonary infection (Talhout et al., 2011). In more detail, the nicotine content in cigarettes will change the balance condition in the lungs (pulmonary homeostasis) associated with the function of alveoli development (Virendar K. Rehan, Kamlesh Asotra, 2010).

Smoking should be done away from people who don't smoke, because the smoke has the potential to disturb the health of people who don't smoke and are around smokers. With the non-smoking area regulation, it has been proven to provide many positive contributions and effects on society in general, such as a decrease in exposure to passive smokers (Hyland et al., 2009). Non-smoking area policies can also encourage citizens or communities to be more obedient and consistent in implementing regulations, if the government and the authorities also routinely monitor cigarette advertisements and violations in non-smoking areas, such as offices or workplaces and at schools (Manuscript, 2013). Mathematically, smoking activity has also been detrimental to economic aspects, related to direct and indirect losses, such as a decrease in work effectiveness or a decrease in health that impacts on active work days (Murukutla, Strategies, & Turk, 2016). However, the implementation of smoke-free policies still become a homework among some low- and middle-income countries (LMICs), which the progress is needed these following points to be addressed urgently (Byron et al., 2019):

- 1) Adopting an effective implementation upon a critical identification
- 2) Looking for the possibility of applying the different suitable approaches in policy enforcement
- 3) Evaluating the policy approaches that no longer effective
- 4) Empowering community for the implementation and policy support
- 5) Explaining implementation through a conceptual framework

5. Conclusion

In general, no-smoking zone policies are needed and implementation needs to be monitored consistently to meet the targets to be achieved.

6. Recommendation

The support of the DIY community in this matter, is very large, in fulfilling the public's right to obtain a decent and healthy environment. The Government and legislative institutions are expected to be active and contribute to the fulfillment of the achievement of regulation on non-smoking zones.

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