The Influence of Non Smoking Area Policy on the Proportion of Active Smokers in Student Groups

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Abstract: Cigarettes contain harmful chemicals such as tar, nicotine and formalin. These chemicals can be a risk factor for lung cancer, coronary heart disease and other chronic diseases. The prevalence of active smokers is increasing every year in Indonesia. Teenagers contribute to the considerable cigarette consumption and 1 in 4 teenagers become active smokers. Therefore, people need to be protected from the hazards of cigarette smoke in the environment. The non-smoking area policy aims to reduce the number of smokers and to realise the potential of healthy air. The policy has seven targets; one of them is an educational institution. The purpose of this study was to explain the impact of non-smoking area policy on the proportion of active smokers in teenage groups in the school environment. This study was conducted using the descriptive method. The data was collected from a secondary data source. The results showed that the proportion of active smokers in junior and senior high school students following the enactment of the non-smoking area policy has increased mainly in male students. In addition, active smokers who are junior high school students located in districts and cities alike have increased in number. The proportion of smokers who are high school students located in districts and cities has tended to decrease since the policy implementation.

1 INTRODUCTION

Cigarettes contain 4,000 components that are hazardous chemicals. These chemicals can be toxic or change the nature of the body's cells in to becoming malignant. There are 43 chemicals in cigarettes that can cause cancer such as tar, nicotine and carbon monoxide (Depkes RI, 2013b). Some chemicals should not be used in cigarettes such as arsenic as used in pesticides, toluene in paints, formaldehyde in corpse preservatives, and benzene used in addition to fuel oil (Depkes RI, 2017). One of the substances that causes a person to become addicted to cigarette consumption is nicotine. The addiction of a smoker is not only physical, but it is also psychological in nature.

Indonesia is the fifth highest cigarette consuming country in the world of 215 billion (WHO, 2017). The number of Indonesians in 2011 who smoked was as many as 59.9 billion (34.8%) (WHO, 2012). The proportion of active smokers who smoked daily and were aged >10 years experienced an increase of 0.6% in 2007 & 2013 (Depkes RI, 2013a). Indonesian teenagers aged <19 years old becoming new smokers amounting to 16.4 million per year in the period 1995-2013 (Menkes RI, 2016). 1 in 4 Indonesian adolescents become active smokers who smoke every day (BNN, 2017). The high number of adult smokers is of particular concern as they are at risk of chronic disease later on in life.

A smoker is at risk of suffering from various chronic degenerative diseases such as chronic obstructive pulmonary disease, pulmonary tumours, mouth and throat tumours, stroke and coronary heart disease. In 2013, lung, bronchial and tracheal lung disease had the most prevalent cigarette disease in Indonesia. Cerebrovascular disease, ischemic heart disease and tuberculosis are the three most common causes of death from smoking (Menkes RI, 2016). Various diseases appear in line with the increase in the number of cigarettes consumed.

One of the government's efforts to protect people from exposure to tobacco smoke that is dangerous is through the policy of having area without any smoking. The definition of a non-smoking area is a non-smoking area or a place that does not produce, sell or advertise tobacco products (Presiden RI,

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2012). The legal basis governing the non-smoking area is UU no. 36 year 2009 about health and PP no. 109 year 2012 about securing materials containing addictive ingredients such as tobacco products. The public spaces targeted by non-smoking areas include health care, teaching and learning, children's playgrounds, places of worship, public transport, workplaces etc.

The school environment is one of the target non-smoking areas where the area is smoke-free, and there are no cigarette products or cigarette advertisements. The purpose of non-smoking area is to reduce the number of smokers. Target areas without cigarettes in schools include school leaders, teachers, students, and other employees at the school. The non-smoking area policy is expected to create a 100% non-smoking learning area (Depkes RI, 2010).

The policy about non-smoking area has been going on for nine years and school has become one of its targets. Therefore, this study aims to explain the impact of the non-smoking area application on the proportion of active smokers in the student group.

2 METHOD

This study using descriptive method that will describe a situation objectively. The type of data used is secondary data. The data analysis was done by comparing the prevalence of smoking in 2006 and 2016 in students from BNN. The data comes from students who are in junior high and high school. Furthermore, the results of the analysis are also supported by the exploration of other research results with related themes.

3 RESULT

The table below shows the results of a survey of cigarette consumption by the National Narcotics Agency (BNN) on students in 18 provinces of Indonesia. Table 1 shows that the proportion of active smokers who are junior high school students has increased in 2000-2016 by 5%. The proportion of high school students who smoke has decreased from 33% to 31%.

Table 1: The proportion of active smokers in junior and senior high school students in 2006 and 2016 (%)

Students	Year	
	2006	2016
Junior High School	22	27
Senior High School	33	31

Source : BNN, 2017

In Table 2, it can be seen that the distribution of active smokers by sex has a difference evident within the results. Male junior high school students experienced a significant increase of 44.8%. The female SMP smokers decreased from 21.5% to 4.6%. Similarly with the high school students, male high school smokers experienced a significant increase of 49.2% while female high school female smokers decreased by 26.8%.

Table 2: The proportion of active smokers in junior and senior high school students in 2006 and 2016 by sex (%)

Sex	Junior High School		Senior High School	
	2006	2016	2006	2016
Male	4,7	49,5	11,6	60,8
Female	21,5	4,6	32,7	5,9

Source : BNN, 2017

The data in Table 3 shows that there is a difference between active smokers in junior and senior high school students in cities and districts. Junior high school students in the city experienced an increase of 7.8% and in the district also experienced an increase of 3.6%. The proportion of smokers in high school students in the city decreased by 2.6% and districts decreased by 0.8%.

Table 3: The proportion of active smokers in junior and senior high school students in 2006 and 2016 by location (%)

Location	Junior High School		Senior High School	
	2006	2016	2006	2016
City	20,1	27,9	33,1	31,7
District	23,2	26,8	32,1	31,3

Source : BNN, 2017

4 DISCUSSION

The Government of Indonesia has instructed on the policy making of non-smoking areas since the issuance of UU no. 36 tahun 2009 on the health mandate to the local government in order to implement areas without smoking in their respective regions. Schools are one of the areas that must apply the area without smoking policy and students have become one of the targets. Students are expected not to become new active smokers and to assist in reducing the smoking rates among adolescents.

Based on the table presented, the proportion of active smokers among junior high school students has increased after the implementation of the non-smoking area policy. This is in contrast to high school students who showed a 2% decline rate in the number of active smokers after the implementation of a non-smoking area policy. The facts show that junior high school adolescents are an increasingly widespread target of the tobacco industry. The tobacco industry proved that it has expanded its marketing to an early age of only 10-14 years (Afiati, 2015). In addition, junior high school is also a vulnerable age group because it is in a critical period of searching for their identity. Cigarettes are considered to be a symbol of maturity and coolness by teenage groups (BNN, 2017).

The proportion of smokers in junior and senior high school students of the male sex tends to increase considerably. Junior and senior high school students of the female gender decreased after the implementation of the policy of non-smoking areas. The difference in the proportion of smoking is because men smoke more than women, which can be caused by stress factors. How stress is dealt with in men tends to lead to negative things such as smoking while women only tend to react with feelings of anxiety. In addition, cigarettes are also used as a social tool to forge friendships with other men around them (Afiati, 2015).

Active smokers in the junior high school student context in both cities and districts alike has increased after the adoption of the non-smoking area policy. High school students who are in the city or districts have decreased the proportion of active smokers. The proportion of active smokers in junior high school students increased as the age of 10-14 years old has become the dominant first age of starting to smoking (Afiati, 2015). At that age, teenagers start trying to smoke because they want to learn due to peer pressure (Rachmat, Thaha and Syafar, 2013).

Judging from the implementation of the non-smoking area policy, schools that have been smoke-free and areas that are without cigarette advertisements in Indonesia total only 90 (Yayasan Lentera Anak, 2017). Tens of thousands of other junior and senior high schools have not implemented a comprehensive or consistent non-smoking area policy in the school environment. Factors that hamper the implementation of a non-smoking area policy in some schools includes socialisation from the local government to the school not being optimal. There is no special team to oversee the implementation of an area without cigarettes, the availability of facilities and infrastructure of non-smoking areas is not sufficient, and the school's commitment in the form of sanctions to the offenders is still low (Argameli, 2017 dan Panjaitan, 2015). The optimal application of cigarette smoking areas in every school is actually very important for better growth and development in the younger generation. This is evidenced by research that explains that adolescents in schools with non-smoking areas have a 3.2 times better chance of having a positive attitude and are 2.6 times more likely to quit smoking than teenagers in schools that have not implemented an area without smoking (Rachmat, Thaha and Syafar, 2013).

5 CONCLUSIONS

The results showed that the proportion of active smokers in junior and senior high school students following the enactment of a non-smoking area policy has increased, mainly in the male students. In addition, active smokers in relation to the junior high school students located in districts and cities alike has also increased in number. The proportion of smokers of high school student age located in the districts and cities has tended to decrease.

The increase in the proportion of active smokers in students following non-smoking area policy was due to less intensive dissemination of non-smoking area policy, no special team of non-smoking area policy, and lack of facilities or supporing infrastructure. In addition, further research is needed on the causes of an oncrease in the proportion of active smokers among adolescents.

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