

# Smoking Prevalence among Head of Household in Medan

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**Keywords:** Smoking, Head of Household, Medan City.

**Abstract:** **Background:** Smoking is an important public health problem in Indonesia. Smoking prevalence among males and female is 66 % and 6,7 % (2013) increased from 53.4% and 1.7% (1995). Medan City has issued Regulation on Non-Smoking Area No. 3/2014 which became effective since January 2014. Although Medan already has regulation but data on the number of smokers has not been available, especially related to smoking behaviour of household heads. The aims of this study were to analyze and identify smoking prevalence in Medan. **Methods:** A cross sectional study was conducted using questioner among 400 head of household in Medan City. **Results:** The overall prevalence of smoking was 57,25 % (97,8 % among males and 2,2 % among females). About 47,2 % of smokers smoke 5–14 sticks per day, and 41,5 % smoke 15 or more sticks per day. Average age at smoking initiation is 19 years; 46,7 % smoker was Senior high school graduates, 20,5 % junior high school and 10,9 % Primary school compare to 21,4 % with university. About 75,5 % smokers are The National Health Insurance participant, age of initiation of smoking was 19 years. **Conclusions:** The prevalence of male smokers in Medan is higher than the national prevalence, while women smokers is lower than the national prevalence, this needs to be a concern. Most smokers are national health insurance participants, so this behaviour is very risky to cause preventable diseases. Health centre should prioritize promotive and preventive services for smokers.

## 1 INTRODUCTION

Smoking cigarette is the single, most important preventable cause of death and the most important public health issue. WHO described tobacco smoking as an epidemic with an estimated three million deaths annually worldwide because of smoking. This figure is expected to rise to 10 million by the year 2020 or early 2030, if the current trends of smoking continue. Seventy percent of these deaths will occur in the developing countries<sup>1</sup>.

Cigarette consumption in Indonesia is rising more rapidly than anywhere else in the world. Prevalence of active smokers was increasing from 1995 to 2013 in both males and females and in almost all age groups. The prevalence of smoking among male's population age 15 years and above increased from 53.4% in 1995 to 66% in 2013 and from 1.7% in 1995 to 6.7% in 2013 in females<sup>2</sup>. Medan has issued Regulation on Non-Smoking Area No. 3/2014 which became effective since January 2014.

Although Medan already has regulation but data on the number of smokers has not been available, especially related to smoking behaviour of household heads. Be advised that papers in a technically unsuitable form will be returned for retyping. After returned the manuscript must be appropriately modified. Research Objectives: To determine the prevalence of smoking among head's household in Medan.

## 2 METHODS

This research is a cross sectional study was conducted among head of household in Medan City. A total of 400 head of respondent were investigated using a structured questionnaire. Descriptive statistics which included frequency, % distribution, average.

$$\text{Sampel Size : } n = \frac{Z^2_{1-\alpha/2} PQ}{d^2} \quad (1)$$

Information :  
 $\alpha = 5\%, 1,96$

P = Proportion smokers in Indonesia= 66,0%  
 (Riskekdas, 2013)  
 Q = 1-P, 1-0,66 = 0,34  
 d = estimated difference proportion = 5%  
 Number of sampel = 400 household

Table 1. Distribution of Sample.

No	Districts	Number of hh	Sampel
1	Medan Amplas	28364	22
2	Medan Area	22380	18
3	Medan Barat	17022	13
4	Medan Baru	11071	9
5	Medan Belawan	21898	17
6	Medan Deli	41235	32
7	Medan Denai	32587	26
8	Medan Helvetia	33460	26
9	Medan Johor	30342	24
10	Medan Kota	17684	14
11	Medan Labuhan	26131	21
12	Medan Maimun	9485	7
13	Medan Marelan	35780	28
14	Medan Perjuangan	23188	18
15	Medan Petisah	15705	12
16	Medan Polonia	12727	10
17	Medan selayang	28104	22
18	Medan Sunggal	27149	21
19	Medan Tembung	31048	24
20	Medan Timur	26104	20
21	Medan Tuntungan	20051	16
	Total	511515	400

Table 2. Demographic Characteristics of head’s household in Medan.

Demographic Characteristics	n	%
Smoking status (n=400)		
Yes	229	57,25
No	171	42,75
Gender		
Males	224	97,8
Females	5	2,2
Education level		
Primary school graduates	25	10,9
Junior high school graduates	47	20,5
Senior high school graduate	107	46,7
University graduates	50	21,4
JKN status		
Yes	173	75,5
No	56	24,5
Number of stick per day		
1 – 4 stick	17	7,4
5 – 14 stick	108	47,2
15 – 25 stick	95	41,5
>25 stick	9	3,9
Total	229	100,0

### 3 RESULTS

Prevalence of smokers by demographic characteristics. The respondents were the head of household in Medan who were willing to participate in the study with a total of 400 people. The smoking status in this study was grouped into 2 categories namely smoking and not smoking. The results showed that about 57.25% were smokers, with 97.80% in males compare 2.2% to female. The prevalence of male smokers is higher than female smokers, with the number of stick per day averaged 5 to 14 stick (47.2%) and 15 - 25 sticks by 41.5%. Based on the level of education, 46.7% of SMU-educated smokers, 20.5% SMP and 10.9% SD compared with those with an educated PT of 21.4%. About 75.5% of smokers are JKN participants. The following table is the distribution of respondent characteristics.

Table 3. Descriptive Data about age, age of smoking and household expenditure cigarette of respondents.

	Min	Max	Mean	Std. Deviation
Age of respondent	19	70	41.55	10.617
Age of smoking initiation	0	55	19.04	7.359
HH expenditure on cigarette	36.000	1890000	574.000	264140.822

The average age of smokers is 41.5 years with a minimum of 19 years and a maximum of 70 years, with a mean age of smoking initiation 19 years. While the average cigarette expenditure is Rp. 574,000.

## 4 DISCUSSION

### 4.1 Smoking Prevalence

The analysis shows that smoking prevalence in Medan was 57.25% higher than the national rate of 54% in 2016. It means that from 100 heads of households there were 57 people who smoked, more than half of the heads of households were smokers. The epidemic of cigarette consumption in Indonesia is very worrying, where the number of smokers in Indonesia shows a tendency to increase from the previous year. In 2013 the prevalence of smokers by 36% increased to 54% by 2016. More than half of Indonesia's population is categorized as permanent smokers. This condition is very apprehensive for the health of the people of Indonesia<sup>3</sup>.

#### 4.1.1 Smokers by Gender

The results also indicate that there is a sharp difference in the prevalence of male and female smoking, where this habit is rarely done by women. Smoking behavior in men is considered part of normal behavior and acceptable to society<sup>4</sup>, which is widely promoted through cigarette advertisements<sup>5</sup>. In contrast, smoking behavior in women is considered a deviant behavior and unacceptable to society<sup>6-4</sup>. The dominance of male smokers and at least female smokers can be attributed to a culture that does not accept the behavior of women who smoke. Promotion of the cigarette industry that connects smoking with young women, singset and beautiful, can be said to fail or still have not succeeded in facing this cultural resistance. The cultural view of women smoking is considered discriminatory and as a stigma is something that ultimately has a positive impact on women's health, since the cultural outlook has made the prevalence rate of smoking among women to be low<sup>6</sup>.

The psychological literature concludes that gender differences in tobacco consumption are mainly due to different behavior, having its roots in traditional sex roles. Waldron (1991) identifies three main reasons for gender differences in smoking behavior: (i) general characteristics of traditional sex roles lead to social pressure against female smoking, (ii) traditional sex role norms cause differences in personal characteristics leading to more or less acceptance of smoking (e.g. rebelliousness among males is more accepted than among women and causes higher smoking rates), (iii) sex roles influence the assessment of costs and utility of smoking (e.g. a thin women's beauty ideal makes

weight control more important for women and therefore increases the benefits of smoking<sup>7</sup>.

#### 4.1.2 Smokers and Education Level

US surgeon general's report, upon a thorough review of the literature, concluded that education is the best sociodemographic predictor of cigarette smoking patterns<sup>8</sup>. The general consensus has been that the fewer years of education one has, the more likely this person is to smoke. Good health is positively associated with never starting to smoke, quitting smoking, and choosing low levels of tar in cigarettes and this is in line with expectations one would have for these behaviours, because smoking is considered to damage health<sup>9</sup>, higher levels of education may lead to greater levels of knowledge, if this effect exists it is actually likely to act through the greater capacity of those with higher education to both absorb and use information, education may have an indirect affect through its impact on the structuring of perceived risk and future orientation. lower educated individuals being more likely to smoke than higher educated individuals, have been widely documented<sup>10-14</sup>.

The economic literature discusses at least three partly related reasons why high educated individuals smokeless<sup>15</sup>. First, education is an investment raising future income, which increases the marginal return to health capital and leads to a higher optimal health stock<sup>16-19</sup>. Second, education can change the inputs into health production itself<sup>20-21</sup>. For instance, higher educated individuals may be more likely aware of the harmful of smoking or better able to process health information, such as following medical advice, higher education and healthier behaviour simultaneously<sup>22-23</sup>.

#### 4.1.3 Smoker by Initiation of Smoking

Most smokers started smoking at the age of 19 years, it means that most beginner smokers come from teenagers. If at a young age a person does not start to learn to smoke then he will never become a smoker. Most beginner smokers are teenagers who do not yet have the ability to properly assess the effects of smoking and they are unaware of the powerful addictive effects of nicotine that will bind and cause people to stop smoking. In order for the public to make the right choice, appropriate information is needed. There are still many community members in Indonesia who do not understand correctly about the dangers of smoking for health. One difficulty to communicate health risks is the 20-25 year grace period required since a

person starts smoking until the onset of various diseases caused by cigarettes, such as lung cancer. However, the existing evidence is sufficiently convincing that the use of tobacco kills one of two users and causes a large number of serious health effects.

Two main strategies may be used to develop preventive efforts against adolescent smoking: (i) to identify the determinants of smoking initiation, and (ii) identifying determinants of smoking cessation, which includes smoking reduction <sup>24</sup>.

#### 4.1.4 Household Expenditure on Tobacco

Data from Indonesia Statistic shows that tobacco and betel is the third highest expenditure per capita during 2014, after prepared foods and rice grains.

## 5 CONCLUSIONS

The analysis shows that the prevalence of smokers is high among head of household in Medan males, less educated and JKN participant, thus those population are mostly affected by the ill impact of smoking. Under a decentralized government system, local authorities have more power to prevent negative economic and social impact of tobacco consumption with intensive supports from the central government. Stronger pro-health leadership is required in central and local government to support programs to prevent hazardous impact of tobacco consumption.

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