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Overview of Smoking History in Lung Cancer Patients at RSUD Dr. Soetomo, Surabaya

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Abstract

Introduction: Lung cancer belongs to the top ten diseases which caused death in the world. World Health Organization (WHO) estimated that there is about 2,09 milllion cases of lungcancer and 1,76 million death accident due to this disease. Smoking is defined as the most factor that can promote the lung cancer about 80% cases in male and 50% cases in female.

Aims: To identify the history of smoking activity in the lung cancer patients in the RSUD Dr. Soetomo, Surabaya.

Method: Research was determined as descriptive research with cross-sectional design. Variable in this research smoking status, age on the first time of smoking, duration of smoking, kind of smoke, and smoking level. Lung cancer patients in the RSUD Dr. Soetomo, Surabaya was addressed as subject in this research. Accidental sampling was performed as sampling method to the 53 respondents. Data was collected by distribution of questionnaire which contained risk factor of lung cancer. Data was analyzed by univariat analysis.

Result: Result saw that about 31 out of 53 respondents had history of smoking. Most of them had experienced as active smoker (22 respondents, 41,5%), had experience as first-time smoker on the age less than 15 years old (25 respondents, 47,20%), had been smoked for more than 20 years (29 respondents, 54,70%), have preferred to consume smoke with filter (21 responden, 39,60%), and considered as heavy level of smoker (15 respondents, 28,30%).

Conclusion: Most of lung cancer patient in the RSUD Dr. Soetomo, Surabaya had history as smoker.

Keywords: *Epidemiology, history of smoking, lung cancer, tobacco.*

Introduction

World Health Organization (WHO) estimates 9.6 million people worldwide deaths caused cancer(1). Lung cancer is the highest cause of death in men in 2018. The incident Lung cancer amount 22,440 cases 0r 14% of all cancer cases(2). The main risk factor for lung cancer is smoking. In general, smoking causes 80% of lung cancer cases in men and 50% of lung cancer cases in women(3).

The Result from Minister of Health Survey 2018 showed that proportion of tobacco consumption in the population aged 15 years and over were 62,9% in men and 33,8% for all. The prevalence of smoking in aged 10-18 years increased from 8.8 in 2016 to 9.1 in 2018(4).

According to Sudoyo(5) the definition of smokers is people who have smoked 1 stick or more every day for at least a year. If people were not smoking for a

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month, they called people with a history of smoking. The increased risk factors are related to the duration of smoking in a year and the factors when starting smoking (the younger the individual starts smoking, the higher risk of lung cancer). Other factors that can be considered include the types of cigarettes smoked (tar content, filter, and *kretek* cigarettes) [6].

The various research studies found that Lung cancer not only associate with active and passive smoking, but some occupational agents, and indoor or outdoor air pollution[7,8].Lung cancer has most commonly been associated with occupational exposures. Occupational exposures such as Asbestos, Vinyl chloride, Arsenic, Beryllium, Chromium and Nickel[8].

Lung cancer cases in East Java Province calculated about 34,706 cases[9]. Based on the recapitulation data for the last 10 months at Dr. Soetomo in 2018, lung cancer morbidity was 733 cases. Lung cancer morbidity is still high in Dr. Hospital Soetomo, it is necessary to conduct research on the description of smoking history as the main risk factor. This research aims to identify the history of smoking activity in the lung cancer patients.

Methodology

The research was conducted in RSUD Dr. Soetomo, Surabaya on August 2018-January 2019. The descriptive method obtained from secondary data of research by Dr. Santi Martini, dr., M. Kes about "Risk of diseases caused by smoking". Cross-sectional was performed in this research. The research sample was about 53 respondents by accidental sampling technic. Moreover, variable in this research were smoking status, age on the first time of smoking, duration of smoking, kind of smoke, and smoking level. However, another risk factor was also included in this research such, for instance, family history, exposure of asbestos, pollutant exposure at home, and pollutant exposure at workplace. The questionnaire of lung cancer risk was used in this research. Then, research was analyzed by univariate analysis and presented frequency distribution by epidemiological approach.

Results

Distribution of respondents by place and time.East Java consists of 38 districts/cities which consist of 29 districts and 9 cities. Based on the results of the study, it found that the highest lung cancer cases were in Surabaya with 14 respondents (26.41%). It can be due to the location of Dr. Soetomo located in Surabaya. Figure 1. shows that the distribution of respondents based on the year diagnosed was mostly in 2018 as many as 46 respondents (86.79%).

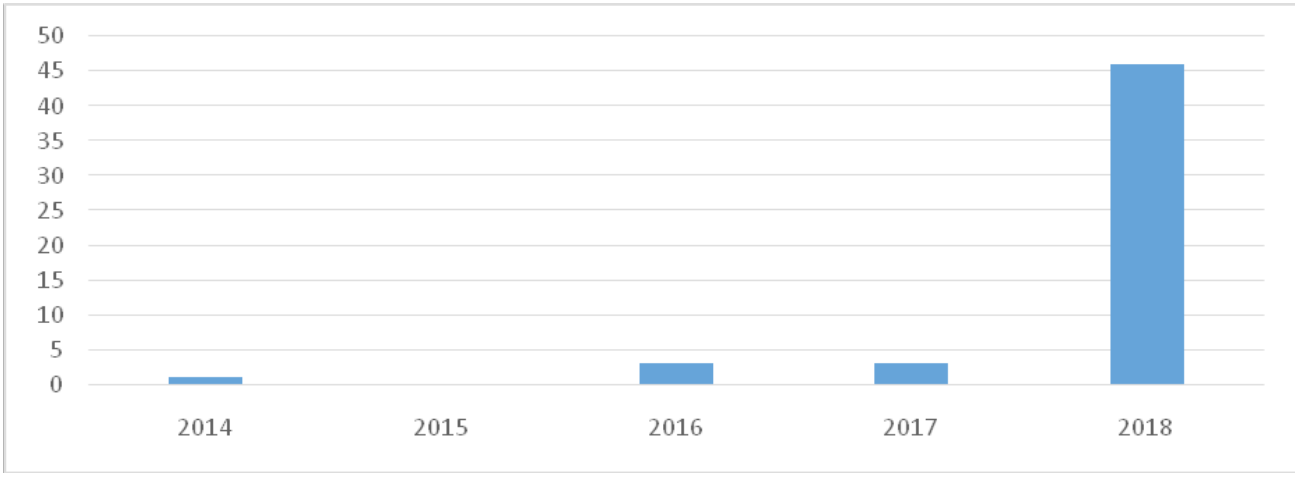

Figure 1. Distribution frequency respondent base on year when diagnose

Distribution of respondents based on people. Characteristics of lung cancer patients based on age showed that the majority of respondents belong to the age of more than 40 years as many as 47 respondents (88.70%). The characteristics of lung cancer patients based on sex are mostly male about 35 respondents (66.00%) like at Table 1. The characteristics of lung cancer patients based on education are mostly classified

into the basic education category as many as 29 respondents (54.70%) are elementary or equal. More than 50% of lung cancer patients have stage IV as many as 46 respondents (86.8%).

Table 1. Distribution frequency respondent base on person

Characteristic	Frequency	Porsentase (%)
Age >40 year	47	88,70
Men	35	66,00
Work	36	67,90
Stage IV	46	86,80
Type of Education		
Basic	29	54,70
Intermediate	18	34,00
High	6	11,30
Total	**53**	**100,0**

Distribution of respondents based on smoking history. Based on table 3, the data showed that most lung cancer patients have a history of active smoking as many as 22 respondents (41.50%). Most respondents have a history of smoking by consuming filter cigarettes as many as 21 respondents (39.6%). Most of respondents first time smoking at the age of 15-55 years as many as 25 respondents (47.2%), most respondents had a long history of smoking more than 20 years as many as 29 respondents (54.7%), and most smoking level of respondents is belong to heavy category namely 15 respondents (28.3%).

Table 2. Distribution Frequency base on history of smoking

Variable	Frequency	Porsentase (%)
History of Smoking		
Never Smoke	12	22,60
Active Smoker	22	41,50
Passive Smoker	10	18,90
Active and passive smoker	9	17,00
Type of Cigarette		
No Type (Never & Passive smoker)	22	41,50
Filter	21	39,60
Non Filter	10	18,90
Initial Smoking Age		
Never & Passive smoker	22	41,50
1-14 years	6	11,30
15-55 years	25	47,20
Duration Smoking		
Never & Passive smoker	22	41,50
≤20 years	2	3,80
>20 years	29	54,70
Level of Smoking		
Never & Passive smoker	22	41,50
Mild	4	7,50
Middle	12	22,60
Heavy	15	28,3
Total	**53**	**100,0**

Distribution of respondents based on other risk factors. Based on Table 2, most respondents did not have a family history of lung cancer about 51 respondents (96.2%), most of the respondents were not exposed to asbestos as many as 40 respondents (75.5%), most respondents were not exposed to pollutants in the residence as many as 49 respondents (92.5%), and the majority of respondents were not exposed to pollutants in the workplace about 44 respondents (83.0%).

Table 3. Distribution frequency of respondent base on others factor

Other risk factor	Frequency	Porsentase (%)
History of Family		
Yes	2	3,8
No	51	96,2
Asbestos Exposure		
Exposure	13	24,5
Not Exposure	40	75,5
Polutant exposure at home		
Exposure	4	7,5
Not Exposure	49	92,5
Polutant exposure at work place		
Exposure	9	17,0
Not Exposure	44	83,0
Total	**53**	**100,0**

Discussion

Distribution of respondents based on people. Based on the results, it exhibited that the majority of respondents was on the age more than 40 years old. About 95% of lung cancer patients at the age more than 40 years old which conducted by Malhotra as a trend of lung cancer in Delhi, India. Moreover, data showed that most of the respondents were male[3]. This study was in line with the research conducted by Neupane[10]. It stated that most

lung cancer is suffered by men. Then, based on the results, the respondents had the type of basic education[10]. This research is in agreement with the research conducted by Ernawatiet al[11]which started most lung cancer patients have a history of junior high school level. Based on the results, most of the respondents are worker. Furthermore, other data showed that the majority of respondents belonging to stage IV. Some Research performed [12], [13] that the stage of lung cancer patients is found in the late stages. Lung detection is generally slow in process. This also can promote patients to have less awareness to see themselves. Most patients are referrals from regional hospitals and health centers, including some services which do not have specialist doctors or supporting tools for diagnosing lung cancer. Another thing considered as a factor is the policy to go to the health center before going to the hospital. There are many reasons for improving the quality of care, evaluation of the cost, and reluctant to do the examination.

Distribution of respondents based on history of smoking. Based on the results, it found that most respondents had a history of active smoking. This research is in line with the research conducted by Hulma, Basyar, and Mulyani[14]found that smoking history in most detected in lung cancer patients. Based on the results of the study, it was found that the majority of respondents consumed filter cigarettes. This research is supported by research conducted by Herlina, Rahmalia, and Dewi[15]. They stated that lung cancer patients who have a history of smoking more often consume filter cigarettes. Other study found that Smoker have Risk more than 5 times death rate higher than No Smoker for Asian people[16].

Based on the results of the study it was found that the majority of respondents who had a history of smoking, first smoked at the age of less than 15 years with 25 respondents (47.20%). This research is in line with the research conducted by Putera et al [17] states that most of lung cancer patients smoke at the age of 17-25 years old. This study is in line with the research conducted by Setyanda et al [18] that the average person has a long history of smoking with more than 20 years. The British Doctors' Study found that the relative risk (RR) of smoking for lung cancer have increased over the 20-year, 40- year, and 50-year follow up [16]. Based on the results of the study, it was found that most of the respondents were classified as heavy smoking level. This study is similar with Naser, Medison, and Erly[19], that the highest number of smoking is in the level of heavy smoking. The number of lung cancer patients who have a history of heavy smoking consuming large quantities of cigarettes per day has a greater risk of lung cancer.

Distribution of respondents based on other risk factors. Based on the results of the study, it found that most respondents did not have a family history of lung cancer. This research is in line with the research conducted by Ernawati et al [11]stated that most of lung cancer patients do not have a family with a history of cancer. The research by Yoshida et al [20]stated that a family history of lung cancer in the close relatives was associated with an increased risk of lung cancer between the sexes. Families who have cancer will increase the risk of lung cancer by 13.8%. First sisters allow a greater risk than brothers [21].

This study was found that the majority of respondents were not exposed to asbestos. This can be seen from the top use (platonic) of occupied houses made of abscesses. Continuous exposure to asbestos and increased amount of exposure will increase the risk of lung cancer. Smokers exposed to asbestos have a higher risk of lung cancer[22]. Based on the results of the study, it was found that more than 80% of respondents were not exposed to pollutants in their homes. The pollutants came from the use of wood fuel stoves, the use of kerosene fuel stoves, and mosquito coils. Continuous exposure to the smoke will increase the risk of lung cancer [23].

Conclusion

Most of lung cancer patient in the RSUD Dr. Soetomo, Surabaya had history as smoker.

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