



Relationship between Implementation of No Smoking Areas and Smoking Behavior of Coal Mine Workers at Hasnur Riung Synergy South Kalimantan

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Abstract

Smoking is one of the biggest killers in the world. It is estimated that by 2030 tobacco-related deaths will reach 10 million per year. Coal mining is one of the jobs that workers have smoking habit. The research objective was to determine the relationship implementation no smoking area and miners smoking behavior. Research method was an observational analytic with case-control approach. The population in this study amounted to 185 people, with a total sample of 110 respondents. The sampling technique used was purposive sampling method. The results showed no relationship between the application area of smokeless cigarettes and smoking behavior with a p-value of 0.001. Expected the company may make rules or policies so that employees can smoke in the space provided.

Keywords: cigarette; no smoking area; coal

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1. Introduction

Occupational safety and health is an attempt to create a working atmosphere that is safe, comfortable, and ultimately the goal is to create the highest productivity [1].

Absolute OSH implemented on any type of work area, without exception. Implementation of OSH is one of the efforts to create a workplace that is safe, healthy, free from environmental pollution, to reduce and free of accidents that could ultimately improve the work efficiency and productivity [2]. Health is very important and priceless in human life. However, often people forget how to maintain health itself. One of his current smoking habits that become lifestyle among young and older people that can be found in many places [3].

Smoking is a health problem in Indonesia. In 2007, Indonesia was ranked the fifth largest tobacco consumer after China, USA, Russia, and Japan, and was ranked 3rd with the largest number of smokers in the world after China and India in the year 2008. Based on the basic health research results of 2013 states that smoking behavior of the population aged over 15 years is still a decline from 2007 to 2013, is likely to increase from 34.2% in 2007, 34.7% in 2010, and became 36.3% in 2013 with the proportion of 64 , 9% in men and 2.1% in women [4].

Smoking is one of the biggest killers in the world. It is estimated that by 2030 tobacco-related deaths will reach 10 million per year, and in developing countries was at least 70% of deaths are caused by smoking. Of every 10 adults who died, one of them died due to smoke. In the year 2025, when the number of smokers around the world 650 million people there will be 10 million deaths per year [5].

Losses caused by cigarettes very much for health, but unfortunately still have a lot of people who still choose to enjoy it. In 4000 cigarette smoke chemicals harmful to health, two of which are nicotine is addictive and carcinogenic tar. Toxins and carcinogens that arise as a result of burning tobacco can lead to cancer. Cigarettes contain 8-20 mg of nicotine and nicotine after burned into the blood circulation is only 25 percent, however a small number of these have just 15 seconds to get to the human brain [6].

Based on the results of a preliminary survey conducted in Hasnur Riung Synergy co.ltd engaged in coal mining, it is known that there has not been designated areas for workers to smoke. Research on the coal workers mines health of Hasnur Riung Synergy co.ltd needs to be done in order to know the smoking workers behavior after implementation no smoking area. The general objective of this study was to determine the relationship of implementation no smoking area and smoking behavior of coal miner Hasnur Riung Sybergy Co.ltd.

2. Material and Method

This research is analytic observational case control study design to determine the smoking behavior of miners. The population in this study were all coal miner Hasnur Riung Synergy co.ltd production amounting to 110 people. Instrument in this study was a questionnaire to measure smoking behavior.

3. Results

3.1 Univariate analysis

The results of the distribution of smoking behavior in miners at the Hasnur Riung Synergy co.ltd in Table 1.

Table 1: Overview of smoking behavior among miners

No	Category	Total	Percentage (%)
1	Severe	65	59,1
2	Mild	45	40,9
	Total	110	100

Based on the table it can be seen that most of the respondents belong to the category of heavy smokers in the amount of 65 people (59.1%).

3.2 Bivariate analysis

Bivariate analysis was used to examine the relationship between implementation of no smoking area and smoking behavior in miners.

Table 2: Relationship between implementation of no smoking area and smoking behaviour

Smoking behavior	Implementation of no smoking area		<i>p-value</i>
	Before	After	
Severe	65	30	0,001
Mild	45	80	

The results based on independent t test showed no association of smoking behavior of workers before and after implementation of no smoking area with p-value of 0.001 (<0.05).

4. Discussion

Smoking habits detrimental to health, this fact cannot deny. Many diseases have been shown to be the result of smoking, either directly or indirectly. Chemicals that cigarette smoke is inhaled from the cell surface to stimulate the respiratory tract, causing discharge of mucus or phlegm. Similar to the stimulation of dust, viruses, or bacteria, by the time we flu. The difference phlegm caused because the flu virus will be pushed out the vibrating bristles along the airways by stimulating the cough reflex. In smokers, the vibrating bristles largely paralyzed by cigarette smoke so that lenders in the respiratory tract, can be an excellent growth of bacteria that will cause bronchitis. Tar in cigarette smoke particles will settle to the lenders that are long enough in the respiratory tract. Chronic stimulation of tar on the walls of the respiratory tract will change the shape of lung cells (starting with the pre-cancer, which eventually became lung cancer). The habit of smoking is causing 80-90% of lung cancers. A smoker has 4-14 times higher possibility of lung cancer than non-smokers [7]. Smoking

can cause changes in the structure and function of the respiratory tract and lung tissue. If the working conditions are a smoker has a high concentration of dust. Smoking habits will accelerate the decline in pulmonary function. The decline in forced expiratory volume per year was 28.7 ml to 38.4 ml for former smokers and 41.7 ml for active smokers [8].

In the large airways, mucous cells enlarge (hypertrophy) and increased mucous glands (hyperplasia). In the small airways, mild inflammation occurs to constriction caused by the increase of cells and mucus buildup. In the lung tissue, numbers of inflammatory cells increased and damage to the alveoli. Lung tissue, numbers of inflammatory cells and damage to the alveoli increased. The evidenced in the journal of research Petsonk 2007 which states that smoking may increase the risk of coal workers to suffer from pulmonary disorders, especially for the age above 30 years [9]. Losses caused by cigarettes very much for health, but unfortunately still have many people who still choose to enjoy it. In cigarette smoke 4000 chemicals harmful to health, two of which are nicotine is addictive and carcinogenic tar. Toxins and carcinogens that arise as a result of burning tobacco can lead to cancer. Cigarettes contain 8-20 mg of nicotine and nicotine after burned into the blood circulation is only 25 percent, however a small number of these have just 15 seconds to get to the human brain [5].

Implementation of no smoking area can reduce health problems caused by cigarette smoke by active smokers so that the impact on passive smoker can be reduced, in addition to the provision of designated places would make smokers not to smoke because they have to go to a special place smokers to smoke. With the implementation no smoking area higher chance to make workers stop smoke [10]. Experts from the World Health Organization concluded that smoking can cause a person to lung cancer, chronic bronchitis, emphysema, ischemic heart disease, peptic ulcer, cancer of the mouth, throat and esophagus cancer, cerebro vascular disease, disorders of pregnancy and the fetus. Meanwhile, the National Agency of Drug and Food of the Republic of Indonesia states that 90% of the number of cases of cancer of the mouth and throat, bronchitis, and lung disorders; 75% of the number of cases of chronic lung disease; 40% of the number of cases of cerebro vascular diseases caused by smoking. Each one of cigarettes smoked will take seven minutes someone's life.

The habit of smoking is not only bad for those who smoke, but also for those around him who also inhale cigarette smoke from people who smoke, or better known as passive smokers. Passive smokers inhale smoke is the smoke byproducts of combustion of cigarette ends, then spread into the air. Side stream smoke has a higher concentration, because no screening process is sufficient. Thus inhalation in passive smoking have a higher risk to suffer from health problems caused by smoking. The passive smokers experienced 14 times the risk of lung cancer, mouth, throat, esophagus cancer 4 times, 2 times with bladder cancer, and 2 heart attacks when compared with current smokers [11].

The habit of smoking in public areas may have a negative impact, especially the health of people around. Which is a highly toxic cigarette can give a very harmful effect on children as passive smokers smoke accidentally contacted. Nicotine with thousands of other dangers of toxic smoke into the toddler respiratory tract of that will accumulate in the body and endanger the health of infants that can cause infections of the respiratory tract.

5. Conclusion

The results showed implementation no smoking area reduce the amount of coal miner Hasnur Riung Synergy co.ltd South Kalimantan who smoke in the open.

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