

Determinants  
Affecting occupational  
Diseases on Traditional Farmers  
In The village Of Air Petai,  
Seluma regency  
*by Sri Mulyati*

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# DETERMINANTS AFFECTING OCCUPATIONAL DISEASES ON TRADITIONAL FARMERS IN THE VILLAGE OF AIR PETAI, SELUMA REGENCY

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## Abstract

Farmers in the village of Air Petai are still using conventional methods to work on their fields, such as tilling the land using hoes, plowing the fields using the help of animals (cows or buffaloes) and the process of planting rice in a direct or manual way without using aid tools. The purpose of this research is to analyze determinants affecting diseases because of work on traditional farmers in Air Petai Village Seluma Regency in 2017. This research is a Cross Sectional study method with the sample size of 80 farmers by using sampling accidental sampling technique, univariate analysis, bivariate and multivariate. The results of the study showed a significant relationship between the use of Personal Protective Equipment with Occupational Diseases and there is a significant relationship between ergonomic farmers with occupational Diseases. Multivariate analysis of the most dominant variable is ergonomic. Farmers are expected to work using Personal Protective Equipment and work ergonomically in order to minimize occupational diseases.

Keywords: Determinant, Occupational Diseases, Traditional Farmers

## Introduction

Law No. 36 in 2009 on health states that health condition is a prosperous state of body, mental and social that allows everyone to live productively in social and economic. As stated earlier by WHO that health is physical, mental and social well-being, and not merely the absence of disease, disability and weakness. Article 4 of the Law on Health affirms that everyone has the right to an optimal degree of health.

Air Petai Village is one of the villages in Seluma Regency of Bengkulu Province with the majority of its livelihood is as a farmer. Farmers in the village of Air Petai are still using conventional methods to work on their rice fields, such as tilling the land using hoes, plowing the fields using the help of animals (cattle or buffalo) and the process of planting rice in a direct or manual way without using the tools. Farmers in Air Petai Village complained of frequent pain in their muscles after their activities.

Implementation of ergonomics is principled that all work activities can cause workers to experience physical and mental stress. The economy strives to keep these pressures within tolerable limits, satisfactory performance results, and the health and wellbeing of workers can increase. If the pressures experienced by workers are excessive, undesirable events may occur, such as errors, accidents, injuries, or increased physical and mental burden. Injuries and ergonomic-related diseases vary from eyestrain, headache, to musculoskeletal disorders (Pulat, 2000).

Workload is the worker's body ability to accept work and can be measured through the number of pulse. With increased body activity, the heart must pump more blood, meaning the amount of pulsation increases so that if the burden gets heavy it can cause the workers to suffer from disturbance, physical or mental fatigue and occupational diseases.

Farmers as workers in the agricultural sector is one type of work that has a high risk for workers. Extreme environmental conditions and the way and use of technology in managing land that is still quite left behind compared to other areas determine the level of health and safety of farmers.

## Research Design and Methodology

This type of research is a quantitative research with Cross Sectional approach. The population in this study was all farmers in Air Petai village Seluma Regency, Bengkulu Province

with the total of 22 to 80 people as the samples. Accidental Sampling used as the sampling technique.

This research used Independent Variable Determinants, such as age, gender, education, knowledge, attitude, skill, duration of work, working time, working equipment, nutritional status, use of protective equipment and ergonomics. While the Dependent Variables include diseases caused of work on traditional farmers, such as skin illness, allergic and muscle pain).

## Result

The results of univariate analysis showed the results of independent and dependent variables research including age, sex, education, knowledge, attitude, skill, duration of work, work time, equipment used, nutrition, use of self-protective equipment and Work Diseases.

Based on Table 1, the data showed that the young and old respondents were equal (50%), more than half (67%) are men, most (87.5%) of them have low education, knowledge more than half (65%). ) in the category of less, less than half (36%) of respondents' attitudes did not support, less than half (36%) of farmers' skills in working in the less skilled category, most (75%) of farmers had long been farmers, (less than half (40%) poor, mostly (79%) were incomplete in the use of PPE, less than half (41%) were not ergonomic and less than half (39%) of farmers experienced Occupational Diseases.

Furthermore, Bivariate Analysis presents the relationship between sex, education, knowledge, attitudes, skill and Occupational Diseases, the relationship between working time, nutritional status, the use of PPE, and ergonomic with work-related illness. The relationship between work equipment with work-related illness has still been analyzed because there is no comparison due to all the respondents use the same work equipment then did not appear OR.

Then, Multivariate analysis was conducted to determine the most dominant factors affecting work-related illness.

Table 2 Results of the Final Model Logistic Regression Test

Variable	p	OR CI 95%
Attitude	0,133	2,617 ( 0,747- 9,170)
Duration of work	0,185	2,728 ( 0,619- 12,031)
Ergonomic	0,000	22,831 ( 6,586- 79,142)

Based on the above table it is found that the ergonomic variables are significantly related (the most dominant variable) to the occupational diseases with the value of OR 22,831, meaning that farmers who are not ergonomic in work will have a chance 23 times experience occupational diseases.

## Discussion

Based on the univariate analysis of age between the old and young respondents were alike. This happens because farmers work in one field consists of two till three families and consists of husband and wife. More than half of the respondents are men because the farmers' work requires special powers that only men, women farmers only do the activities in the fields help or incidental nature. Ergonomic farmers in less than half ergonomic work were obtained from farmers' complaints during work and less than half of the farmers experienced Occupational Diseases data were supported by less than half the results of ergonomic farmers.

Based on the results of bivariate analysis there is a relationship between the use of PPE with occupational diseases and univariate analysis a half of farmers are not complete in using PPE. PPE is a fitting according to the hazard and work risk that must be used when working to

safeguard the safety of workers and others around them. The obligations are agreed upon by the government through the ministry of labor. Work accidents cause material ruin and suffering from the lightest to the most severe, so to avoid the risk of work accident and infected farmers against harmful chemicals such as pesticides, then the precautions taken with the use of PPE.

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Based on the results of bivariate analysis there is a significant relationship between the ergonomics of respondents with occupational diseases. Wrong attitudes at work is the cause of fatigue and muscle pain complaints that are often not realized by the sufferer. Especially work attitude that has become a habit. Habits such as sitting, standing, bending can cause fatigue, muscle tension, and ultimately pain other than that the bone is not straight, muscles, segments and ligaments will be attracted harder (Gestoni, 2014). Old age farmers in Air Petai village suffer from occupational diseases because of degenerative factor which tend to do the position which is not ergonomic.

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Based on the result of multivariate analysis, the final result of the most dominant variable influencing the occurrence of Occupational Disease on farmers in Air Petai village of Seluma Regency is ergonomic with Exp (B) value 22,831. This result is in accordance with univariate result of less than half of farmer is not ergonomic at work. One is the cause of fatigue and muscle pain complaints that are often not realized because of work habits. Habits such as sitting, standing, bending can cause fatigue, muscle tension, and ultimately pain other than that the bone is not straight, muscles, segments and ligaments will be attracted harder (Imam Budi, 2014).

### Conclusion

Occupational diseases experienced by farmers are muscle pain, dizziness, allergies, age of young and old farmers are comparable, less than half of respondents are female peasants, mostly low-educated peasants, more than half of peasant knowledge is less, less than half the attitude of farmers support, less than half the skills of enough farmers, most farmers have long worked, a small percentage of farmers who work more than 8 hours a day, all the equipment used by farmers are the same, less than half of the nutritious farmers are less, most farmers are incomplete using PPE while working and less than half of farmers are not ergonomic at work. There is no relationship between age and occupational diseases, no relationship between sex and occupational diseases, no relationship between education and occupational diseases, no relationship between knowledge and occupational diseases, no relationship between attitudes and occupational diseases, no relationship between skills and occupational diseases, no relationship between the length of work with occupational diseases, no relationship between workload / work time with occupational diseases. There is a significant relationship between the use of PPE and occupational diseases and there is a significant relationship between ergonomic and occupational diseases. The most dominant factor influencing the occurrence of Occupational Disease is ergonomic.

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## Biography



Sri Mulyati was born on February 22<sup>nd</sup> in Jakarta. She earned Bachelor degree from Indonesia University in Jakarta in 1995. After graduation she involved in Health Academy(Nurse). In 2002 she studied in Gajah Mada University and after the graduation she received Master's Degree in 2004. And now she isalecturer at Environment Healthof Health Polytechnic of Health Ministry Bengkulu.

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