

## **Factors Associated with Dermatitis in Farmers in the Work Area of the Pante Ceureumen Health Center in Westh Regency.**

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**Abstrak:** Dermatitis is an inflammation of the skin caused by a substance that attaches to the skin. Based on data from Puskesmas Pante Ceureumen, dermatitis is one of the most common diseases experienced by the community with the number 2 disease in the working area of puskesmas, with the number of cases in 2018 of 735 cases. Objective: to determine the factors related to dermatitis in farmers in the working area of Pante Ceureumen . The research method is an analytic survey with a cross sectional approach. The study was conducted on August 8-22, 2019, population was 2108 and a sample of 100 people. Results: there was no relationship between age factors ( $P\text{value} = 0.064 > \alpha = 0.05$ ,  $RP = 1.477$ ), there was a relationship between personal hygiene factors ( $P\text{value} = 0.000 < \alpha = 0.05$ ,  $RP = 4.911$ ), and PPE factor ( $P\text{value} = 0.003 < \alpha = 0.05$ ,  $RP = 1,824$ ) with dermatitis in Farmers in the Work Area of Pante Ceureumen Health Center in West Aceh Regency. Conclusion: there is no relationship between age and dermatitis among farmers in the working area of Pante Ceureumen Public Health Center, Aceh Barat District. There is a relationship between personal hygiene factors, and PPE factors with dermatitis in Farmers in the Pante Ceureumen Community Health Center in West Aceh Regency. Suggestion: Pante Ceureuemen Health Center is expected to be able to provide counseling and other types of dangerous dermatitis to farmers and the causes of dermatitis so that farmers can avoid dermatitis

### **Introduction**

Skin disease is a health problem caused by the community which causes recurrence if exposed to risk factors. Various skin diseases are still a health problem for the people, especially dermatitis. Dermatitis is a type of epidermal skin disease that is acute, subacute or chronic caused by exogenous factors. Dermatitis is inflammation of the skin caused by substances attached to the skin (Djuanda, 2012).

The incidence of dermatitis is also the highest in Aceh, which is 53,461 cases where the prevalence is 68.8% (highest in Aceh Jaya (30.5%), West Aceh (27.5), followed by South Aceh (22%), Nagan Raya (13 )%) (Aceh Health Office 2017). According to data from the Dermatitis Health Service for the last 3 years in West Aceh Regency the number of dermatitis cases is still in the high category and includes the 10 most diseases. In 2016 the number of dermatitis cases was 8,076 cases, decreased in 2017 to 3,444 cases, then increased again in 2018 to 4,081 cases, the highest health center that worsened dermatitis was Meuntulang health center by 735 cases and the higher health center requiring dermatitis was Puskesmas Mali as many as 144 case. More dermatitis cases are experienced by farmers who work in the fields, and plantations (West Aceh Health Office, 2018).

Based on data from the PanteCeureumen Health Center, skin disease is one of the most diseases involving the community with the number 2 disease in the working area of the puskesmas with 735 cases in 2018 (PanteCeureumen Health Center, 2019). Based on the results of interviews conducted by the author with 8 farmers, while 3 people stated they have discussed skin diseases because their age is more than 65 years old and still working to make them easily various diseases that are really dermatitis. And then, 2 other farmers announced that when they returned from work they did not immediately take a bath

and were still wearing dirty clothes. Then 3 other people developed dermatitis because they didn't use shoes when working so they could direct the air for a long time.

Based on these factors, researchers are interested in conducting research with the title "Factors relating to Dermatitis in Farmers in the Work Area of PanteCeureumen Health Center in West Aceh Regency". The reason the authors do this research is why farmers often work in the air and swamps and direct contact with chemicals such as fertilizers and pesticides that can prevent dermatitis, but also based on research researchers related to unrelated communities after work, In addition, data from the Puskesmas is the highest Puskesmas with data on the incidence of dermatitis, besides that the author also sees that dermatitis is experienced by many people so the writer is interested in conducting this research.

## **Research Methods**

### **Research Types and Design**

This type of research is a type of analytic survey research with cross sectional approach, where the independent and bound variables are examined at the same time as the study is conducted (Notoatmodjo, 2010) which aims to determine the factors related to dermatitis in the community in the Puskesmas Work Area PanteCeureumen, West Aceh Regency.

### **Research Location and Time**

This research has been carried out in the Work Area of the PanteCeureumenPuskesmas in Aceh Barat District on August 8-August 22, 2019.

### **Population and Samples**

#### **Population**

The population in this study were all people who work as farmers in the Work Area of the PanteCeureumen Community Health Center in West Aceh Regency in 2018, totaling 2,108 households.

#### **Samples**

Then the minimum sample size taken in this study according to the Slovin formula above is as many as 100 families. The research sample was taken by using purposive sampling technique, namely taking respondents intentionally, which means the researchers determined their own samples taken based on certain considerations. Samples taken were farmers who were at home at the time the study was conducted.

### **Data Collection Methods**

To obtain relevant data in discussing this research, the author uses a method that is through several stages consisting of field data collection and library data, namely as follows:

- a. Library Research, research carried out through library research with scientific and theoretical, that is by reading, quoting and directing directly from several books and articles using the opinions of experts who are related to this research.
- b. Field Research ,namely research conducted by collecting data that is carried out directly to the intended object.

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## **Results and Discussion**

### **General description**

Pante Ceureumen is a one of Area in Aceh Barat Regency-Aceh Province, Indonesia. The topography of the PanteCeureumen sub-district, among others, 10 villages are in the

plains and 18 villages are in valleys / watersheds with an average height of 20-80 meters above sea level. Types of land use include: 2916 hectares of paddy fields, 11,469 hectares of non-paddy fields, and 34,640 hectares of non-agricultural land. The total population in 2015 was 11,378 inhabitants and in 2016 it became 11,486 inhabitants. Population growth per year is 0.95% with a density of 21.86 people / Km<sup>2</sup>. The average sex ratio is 104, with a population of 5,865 males and 5,621 females divided into 2,083 households.

Pante Ceureumen Health Center, this Puskesmas was established in 1992, with the working area of PanteCeureumen sub-district, West Aceh District. The PanteCeureumen Community Health Center which is approximately 40 km from the district capital has a working area of approximately 153 km<sup>2</sup> with a population of up to the end of 2007 reaching 10,105 people. This health center will change its status from an outpatient health center to an inpatient health center, which after renovation and construction of 2 wards by BRR, with a capacity of 12 beds, is expected that after this health center changes to inpatient status, it can provide first-level inpatient services to 25 villages in the working area, so as to reduce the risk of death due to late handling because hospital facilities can only be reached after 2 hours of travel.

The working area of the PanteCeureumen Community Health Center consists of 3 settlers, namely:

## Results

### Characteristics of Respondents

The characteristics of respondents is to see the characteristics of respondents displayed in the form of frequency distribution tables.

#### 1. Age of Respondents

The results of the calculation of frequency of the respondent's age variable showed that respondents aged 21-30 years were 28 respondents (28%), respondents aged 31-40 years were 18 respondents (18%) and respondents aged > 40 years were 54 respondents (54%).

#### 2. Personal Hygiene

The results of the research of personal hygiene variables can be seen in the following table 4.5 below:

**Table 4.5. Distribution of Respondents by Personal Hygiene in the Work Area of Pantec Ceureumen Health Center of West Aceh Regency**

No	<i>Personal Hygiene</i>	Frequency (n)	Percentage (%)
1	Good	56	56
2	Less well	44	44
	Total	100	100

Source: primary data 2019

Based on table 4.8. It is known that there were 58 respondents who had dermatitis (58.0%), and 42 respondents (42.0%) had no dermatitis.

## Bivariate Analysis

### Relationship between Age and Dermatitis in Farmers

Table 4.9. Relationship between Age and Dermatitis in Farmers in the Work Area of PanteCeureumen Health Center of West Aceh Regency

age	Dermatitis in farmers				Total		p	RP	
	There is nothing				f	%		Value	CI 95%
	f	%	f	%					
Old	42	65,6	22	34,4	64	100	0,064	1,477	
Young	16	44,4	20	55,6	36	100	(0,984-2,216)		

Source: primary data 2019

Based on table 4.9 it is show that form 64 elderly respondents, 42 respondents (65.6%) had dermatitis and 22 respondents (34.4%) who did not have dermatitis. Furthermore, from 36 young respondents, 16 respondents (44.4%) had dermatitis and 20 respondents (55.6%) who did not have dermatitis.

Based on the chi-square test results obtained value P.Value = 0.064 and this is greater than  $\alpha = 0.05$  (P.Value = 0.064 >  $\alpha = 0.05$ ) so that it can be concluded that there is no age relationship with dermatitis in farmers in the working area of PanteCeureumen Public Health Center West Aceh Regency. Based on the results of the study, the hypothesis (Ha) in this study was rejected.

### Relationship of Personal Hygiene with Dermatitis in Farmers

Table 4.10. Relationship of Personal Hygiene with Dermatitis in Farmers in the Work Area of PanteCeureumen Health Center in West Aceh Regency

Personal Hygiene	Dermatitis in farmers				Total		p	RP	
	There is nothing				f	%		Value	CI 95%
	f	%	f	%					
Good	8	18,2	36	81,8	44	100	0.000	4,911	
Less well	50	89,3	6	10,7	56	100	(2,607-9,251)		

Source: primary data 2019

Based on table 4.10 it is known that of the 44 respondents who had good personal hygiene, 8 respondents (18.2%) had dermatitis and 36 respondents (81.8%) who did not have dermatitis. Furthermore, of the 56 respondents who had poor hygiene, 50 respondents (89.3%) had dermatitis and 6 respondents (10.7%) who did not have dermatitis.

Based on the results of the chi square test, the value of P.Value = 0.000 and this is smaller than  $\alpha = 0.05$  (P.Value = 0.000 <  $\alpha = 0.05$ ) so that it is described that there is a relationship of personal hygiene with dermatitis in farmers in the working area of PanteCeureumen Public Health Center in Aceh Barat Regency . Based on the results of the study, the hypothesis (Ha) in this study was accepted.

### Relationship between the use of PPE and dermatitis in farmers

Table 4.11. Relationship between the use of PPE and dermatitis among farmers in the working area of PanteCeureumen Public Health Center, Aceh Barat District

Use Of PPE	Dermatitis in farmers				Total		RP Value	CI 95%
	There is nothing				p			
	f	%	f	%	f	%		
Complete	16	39,0	25	61,0	41	100	0.003	1,824
No complete	42	71,2	17	28,8	59	100		(1,204-2,764)

Source : primary data 2019

Based on table 4.11 it is known that of 41 respondents who complete using PPE, as many as 16 respondents (39.0%) who experienced dermatitis and as many as 25 respondents (61.0%) who did not experience dermatitis. Furthermore, of 59 respondents who did not use PPE, 42 respondents (71.2%) had dermatitis and 17 respondents (28.8%) who did not have dermatitis.

Based on the chi square test results obtained value P.Value = 0.003 and this is smaller than  $\alpha = 0.05$  (P.Value = 0.003 <  $\alpha = 0.05$ ) so that it is described there is a relationship between the use of PPE with dermatitis in farmers in the PanteCeureumen Public Health Center . Based on the results of the study, the hypothesis (Ha) in this study was accepted.

The results of RP 1,824 can be concluded that, the use of PPE has a risk of 1,824 times with dermatitis in farmers in the PanteCeureumen Community Health Center in West Aceh Regency. Supported by research results (Suryani, 2017) found that there is a relationship between the incidence of irritant dermatitis with the use of personal protective equipment in salt farmers in Kaliiori District, Rembang Regency.

### Discussion

The research conducted aims to determine the factors related to dermatitis in farmers in the working area of PanteCeureumen Public Health Center in Aceh Barat District. The variables examined in this study are independent variables, namely age, personal hygiene, the use of PPE with the dependent variable, dermatitis. Based on the results of the study there are variables that are related because seen from the value of P.Value which is smaller than the value of  $\alpha 0.05$  while the variables that are not related because the results of the research of P.Value are greater than  $\alpha 0.05$ .

#### Relationship between age and incidence of dermatitis in farmers

Based on the chi square test results obtained value of P.Value = 0.064 and this is smaller than  $\alpha = 0.05$  (P.Value = 0.064 >  $\alpha = 0.05$ ) so that there is no age relationship with dermatitis described in the community in the PanteCeureumen Community Health Center in West Aceh Regency . Based on the results of the study, the hypothesis (H0) in this study was rejected. Based on the results of RP 1.477, age can have a smaller risk of 1.477 times with dermatitis in the community in the PanteCeureumen Community Health Center in West Aceh Regency.

The results of this study are supported by research by Azhar (2011). The results of the study indicate that there is no age relationship with the incidence of dermatitis in farmers in Banteng Regency, South Sulawesi, where the results of  $p_v = 0.998 > \alpha 0.05$ .

The results of this study were supported by Endang's research (2014). The results of the study found that the prevalence of tineacruris in street food seafood workers in Taman Sari District showed that age was not a risk factor for the incidence of skin disorders  $p_v < \alpha 0.05$ .

### **Relationship of Previous Personal Hygiene with Occurrence of Dermatitis in Farmers**

Based on the results of the chi square test, the value of P.Value = 0.000 and this is smaller than  $\alpha = 0.05$  (P.Value = 0.000  $< \alpha = 0.05$ ) so that it is described that there is a relationship of personal hygiene with dermatitis in farmers in the working area of PanteCeureumen Public Health Center in Aceh Barat Regency . Based on the results of the study, the hypothesis (Ha) in this study was accepted. Based on the results of RP 4.911, personal hygiene can have a less than 4.911 times the risk of dermatitis in farmers in the PanteCeureumen Community Health Center in West Aceh Regency.

Based on observations in the field that respondents who have less personal hygiene experience more dermatitis events because respondents do not maintain personal hygiene properly, respondents do not immediately change dirty clothes used while working, the clothes are still used when returning from work. Respondents also did not wash immediately and change clothes. Respondents first take a break or do other homework such as washing dishes and sweeping the yard. Personal hygiene of respondents based on the assumption of researchers seeing the lack of respondents maintaining personal hygiene, where there are still many respondents who do not immediately change clothes after work, there are still respondents who use work clothes a few days that have been used, there are still respondents who do not wash their hands and feet after work so that the feet are moist and dirty so they can get dermatitis quickly.

Whereas fewer respondents who had good personal hygiene experienced dermatitis because respondents always maintain personal hygiene by directly changing dirty work clothes, namely immediately taking a clean bath and using clean clothes again. Respondents also maintain personal hygiene by using clean clothes while working so that the clothes used when working are always clean and avoid dermatitis

According to the Ministry of Health of the Republic of Indonesia (2011) that to conduct a clean and healthy lifestyle pattern, several assessments are carried out, namely using clean water (PAM, wells) for daily needs, bathing using soap, always washing hands before eating using soap, and washing equipment using soap.

The results of this study are also supported by Dewi's research (2016). Based on a bivariate statistical test using the chi square test between the dependent and independent variables, it is known that of the 60 respondents examined there is a significant relationship between personal hygiene with the incidence of contact dermatitis in Trash Scavengers PuuwatuKendari City in 2016 with a value of 0.001.

### **Relationship between the use of PPE and dermatitis in farmers**

Based on the chi square test results obtained value P.Value = 0.003 and this is smaller than  $\alpha = 0.05$  (P.Value = 0.003  $< \alpha = 0.05$ ) so that it is described there is a relationship between the use of PPE with dermatitis in farmers in the PanteCeureumen Public Health Center . Based on the results of the study, the hypothesis (Ha) in this study was accepted. Based on the results of RP 1,824, the use of PPE has a risk of 1,824 times with dermatitis in farmers in the PanteCeureumen Community Health Center in West Aceh Regency.

Based on observations in the field of respondents who use shoes, socks, long clothes and other PPE during work have fewer dermatitis because their feet and other limbs are more awake at work. While respondents who did not use shoes more experienced dermatitis because they could not avoid the fungus that is around the workplace. Based on the assumptions the researchers saw that there were still many respondents who did not use PPE, which like peasants in their paddy fields at work did not use boots, long-sleeved clothes and did not use gloves. Whereas farmers of oil palm plantations, peanuts, long beans, they are based on the observations of researchers when the study did not wear long clothes, do not use gloves, hats and boots as well as socks when working.

This research is in accordance with Fathin's research (2016). Based on the research that has been done, it can be concluded that there is a significant relationship between the long wearing of boots with the incidence of skin diseases in garbage collection workers of the Surakarta City Sanitation Department, with a p value = 0.004 ( $p < 0.05$ ).

### Conclusions

Based on the results of research on the factors associated with dermatitis in farmers in the PanteCeureumen Community Health Center in West Aceh Regency, it can be concluded that:

1. There is no relationship between age and dermatitis among farmers, with a value ( $Pvalue = 0.064 > \alpha = 0.05$ ,  $R_p = 1.477$ )
2. There is a relationship between personal hygiene factors with dermatitis in farmers in the, with a value ( $Pvalue = 0.000 < \alpha = 0.05$ ,  $R_p = 4.911$ )
3. There is a relationship between PPE factors and dermatitis in farmers in the, with a value ( $Pvalue = 0.003 < \alpha = 0.05$ ,  $R_p = 1.824$ )

### Suggestions

1. It is expected for farmers to be able to maintain personal hygiene (Personal Hygiene) by changing clothes when returning from work, always wearing clean clothes and bathing with clean so as to avoid dermatitis and using PPE when going to work or do anything.
2. It is hoped that PanteCeureumen's Puskesmas can provide counseling and other types of dangerous dermatitis to farmers about the causes of dermatitis so that farmers can avoid dermatitis.
3. The next researcher is expected that this research can be used as a reference in conducting further research with different variables.

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