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Risk Factors Related to Anemia in Oil Palm Plantation Workers in Ogan Komering Ilir Regency

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ABSTRACT

Anemia is a common health problem worldwide, especially in developing countries. Oil palm plantation workers are at high risk of developing anemia due to various factors such as diet, working conditions, and pesticide exposure. This study analyzes the risk factors associated with anemia in oil palm plantation workers in Ogan Komering Ilir Regency. The research method used was an analytical survey with a cross-sectional approach. Data were collected through structured interviews and questionnaires with 33 oil palm plantation workers. The variables studied included age, occupation, level of knowledge, family support, and specific exposure. Statistical analysis was performed using the chi-square test. The results showed that the incidence of anemia in plantation workers reached 14.7%. Occupational factors (p = 0.011) and family support (p = 0.005) had a significant relationship with the incidence of anemia. However, no significant relationship was found between age (p = 0.414), level of knowledge (p = 1.000), and exposure (p = 0.634) with the incidence of anemia. This study concludes that occupational factors and family support contribute to the incidence of anemia in oil palm plantation workers. Further research is needed to explore other risk factors that may influence the incidence of anemia in this group.

Keywords: Anemia, plantation workers, risk factors, oil palm, occupational health

INTRODUCTION

Anemia is the most frequent health found worldwide, especially in developing countries. According to WHO data, the prevalence of anemia in Southeast Asia shows a figure of 27% - 55% (Erkan, 2011). Globally, the prevalence of anemia is estimated to reach 51%. Three to six percent (or around 1400 million souls) of the 3800 million population in developing countries suffer from anemia, while in developed countries prevalence only reaches about 8% (or around 100 million souls) from the estimated amount resident amounting to 1200 million souls. A person is considered anemic if their level of hemoglobin is below 12 gr/dl for a female adult, less than 11 gr/dl for a woman pregnant, and less than 13 gr/dl for male adults. In clinical, anemia is generally defined with hemoglobin levels below 10 gr/dl (Aggarwal et al., 2020).

According to Indonesian data in 2013, the prevalence of iron deficiency anemia in 15-49 years (Hb < 12 g / dl) was 22.7%, in urban areas 22.4% and in rural areas 23%. The prevalence of anemia in pregnant women (Hb < 11 g / dl) was 37.1%, in urban areas 36.4% and in rural areas 37.8%.8 (Ministry of Health of the Republic of Indonesia, 2014). Anemia is a condition when the amount cell blood red or hemoglobin

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concentration is below normal, hemoglobin levels are the most common indicators For show condition this (Adamson et al, 2015). Anemia is a symptom of various types of disease-based causes, classification of anemia according to with etiology of anemia is distinguished become disturbance production/formation of cell blood red in marrow bone, disorder maturation cell blood red, and decreased lifespan cell blood red (because bleeding and hemolysis) (Beck, 2015).

Anemia is a multifactorial problem of health (Stoltzfus, 2003; World Health Organization, 2011), where some reason the main thing covers lack of nutrition like substance iron, folate, and vitamin B12 (Khatun et al., 2013; Suwarni, 2012). Problems with health, such as disease infectious such as malaria, infections worms, tuberculosis, HIV/AIDS, and disturbance inflammation, can also contribute to the emergence of anemia (Basta et al., 1979; Domenica Cappellini & Motta, 2015; Hidese et al., 2018). Besides that, factor social economy like level of education (Callander & Schofield, 2016; Maksuk et al., 2019), income (Dewi et al., 2020), shift work (Capel, 1944; Pepłońska et al., 2019), and life (Aedh et al., 2019) can also influence the occurrence of anemia, together with with factor demographic like age, type gender, size family, and index mass body (Makurat et al., 2016; Mantika & Mulyati, 2014; Suparman, 2018). Workers with anemia in plantations need an - encompassing approach to repair patterns, increase condition work, and Health Education (Ministry of Health, RI, 2018).

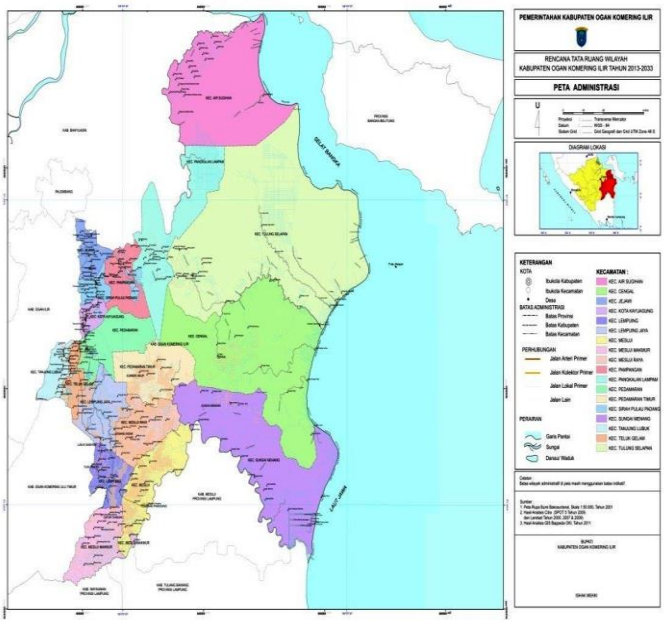
Based on research by Suparman (2018) at PT X in 2015, found that 3.59% of workers suffered from anemia, and in the year next the amount A little increased to 3.78%. In addition, research Fitri (2016) at PT. Indah Kiat Pulp & Paper, from 698 workers the woman being examined Hb levels, 52 people (87%) of them diagnosed with anemia.

Workers are a group productive society as well as play an role important in ongoing industry in Indonesia (Spurr, 1983). This also applies to activity plantation coconut palm oil, its operations in progress every day work of course needs intake of balanced nutrition for need energy for workers (Juliana et al., 2018). One of the impacts of intake nutrition that is not balanced is a lack of nutrition including the substance iron, namely anemia. Of course, if anemia occurs in workers so can experience tiredness, exhaustion, and lethargy which will result in a decline in creativity, productivity work, and accident Work as well as influence the performance company (Oppenheimer, 2001). The objectives study This is For analyze factor associated risks with the incidence of anemia in workers plantation palm oil in the Regency Coming soon Ogan Downstream.

MATERIALS AND METHODS

Research Locations

Figure 1. **Research location**



Ogan Komering Ilir is one of the regencies in South Sumatra, with an area

of 17,058.32 Ha (Central Statistics Agency 2014) consisting of 18 sub-districts. One of the sub-districts in Ogan Komering Ilir Regency is Pedamaran Timur Sub-district which includes seven villages, namely Sumber Hidup Village, Gading Raja Village, Panca Warna Village, Tanjung Makmur Village, Kayu Labu Village, Pulau Geronggang Village, and Maribaya Village. This research was conducted in Raja Gading Village.

Village Gading Raja is one of the villages that is partly big its population Works as farmer coconut palm oil, and the average is plasma farmers. Partnership coconut plasma farmers palm oil in the village This King's Ivory done with PT. Sampoerna Agriculture Tbk . and Village Unit Cooperatives All Business, things This makes the writer choose village This as location study.

Data sources

This study is an analytical survey study with a Cross-Sectional approach where the data collection process is carried out simultaneously. The population of this study were all workers at the Oil Palm Plantation in Gading Raja Village, Ogan Komering Ilir Regency. This study was conducted in July - October 2023. The number of respondents in this study was 33 people. The inclusion criteria were workers at the Oil Palm Plantation, willing to be respondents, able to interact well, and domiciled in the Oil Palm Plantation area of Gading Raja Village, Ogan Komering Ilir Regency. And willing to participate in this study. Sociodemographic data and workers' level of knowledge regarding anemia were measured using structured interviews and questionnaires. Cultural aspects related to anemia were explored through focus group discussions and in-depth interviews. The socio-demographic data measured were knowledge, age, occupation, family support, and pesticide exposure. The data obtained will be presented in the form of tables and narratives.

Data analysis

Data processing and analysis are carried out using computer programs. Analysis univariate To explain or describe variables knowledge, age, occupation, support family, and exposure to pesticides. Analysis bivariate done to two variables that are variable free consisting of from variable knowledge and support family with variable bound that is Anemia incidence in coconut plantation workers Palm oil Village Ivory King Regency Ogan Coming soon Ilir. The statistical test used is chi-square, with level significance $\alpha = 0.05$.

RESULTS AND DISCUSSION

Table 1. Characteristics demographics Respondent with anemia incident

Variables	Amount	%
Anemia Occurrence		
a. Yes	5	14.7%
b. No	29	85.3%

Based on the distribution of variables related to the incidence of anemia in workers in the Coconut Plantation Village, Palm Oil Village, Raja Gading Regency, and Ogan Komering Ilir, most respondents were not anemic, namely (85.3%).

Based on distribution the below variables show that Work Respondents with no anemia acquired as many as (66.7%) have work laborer farmer / daily with not anemic, whereas in respondents whose jobs private with not anemic as much as (100.0%).

Table 2. Related factors with anemia incident

Variables	Anemia Occurrence				Total		P value	OR
	Yes		No					
	N	%	N	%	N	%		
Work								
a. Laborer	5	33.33	10	66.7	15	100.0		
Farmer / Daily							0.011	0.667
b. Private	0	0.0	19	100.0	19	100.0		
Age Responder								
a. Old	5	38.5	8	61.5	13	100.0	0.414	0.667
b.Young	0	0.0	21	100.0	21	100.0		
Knowledge								
a. Good	3	15.0	17	85.0	20	100.0	1,000	1,059
b. Less	2	14.3	12	85.7	14	100.0		
Support Family								
a. Good	5	38.5	8	61.5	13	100.0	0.005	0.615
b. Less	0	0.0	21	100.0	21	100.0		
Exposure pesticide								
a. No Exposed	2	10.5	17	89.5	19	100.0	0.634	0.471
b. Exposed	3	20.0	12	80.0	15	100.0		

Based on distribution the above variables show that Knowledge Respondents about the incidence of anemia data obtained that as many as (85.0%) knew Good with not anemic, whereas in respondents who knew not enough with not anemic as much (85.7%).

Support family Respondents to the incidence of anemia data obtained that as much as (61.5%) of respondents who have support family Good with not anemic, whereas in respondents who were less own support family with not anemic as much as (100.0%).

Exposure to pesticides in respondents with anemia incidence is obtained that as many as (89.5%) who not exposed pesticide Good with not anemic, whereas in respondents who were exposed to pesticides with the incidence of anemia was (80.0%).

DISCUSSION

Based on the results study obtained respondents aged 21-28 years as many as 50.0 %, respondents aged 29-37 years as much as 41.2%, and respondents aged 38-45% as much as 8.8%. This shows that part big respondents working in Coconut Plantations Palm oil Regency Ogan Komering Ilir aged 21-28 years. After conducting statistical tests obtained P value = 0.414 p This means No There is connection between the age Respondent with the incidence of anemia in plantations coconut oil palm plantations in Ogan Komering Ilir Regency. Because of knowledge workers do not enough to occurrence of anemia.

According to research by Rahmawati *et al*. 2021, age has a significant effect on hemoglobin levels in field workers in the agricultural sector. The effect of age on hemoglobin levels in field workers in the agricultural sector found that workers aged 20-30 years are more susceptible to anemia, mainly due to poor eating habits and high physical activity without adequate nutrition. Meanwhile, the age group over 40 years tends to have lower levels of anemia because they are more aware of the importance of consuming healthy foods and iron supplements.

Based on the results analysis of work respondents in plantations coconut palm oil obtained as many as 55.9% of workers are working as laborer farmer/laborer daily off. Based on statistical tests obtained P value = 0.011 which means There is a connection between the work Respondent and with anemia incident in coconut oil palm plantations in Ogan Komering Ilir Regency.

In line with the research of Rahmawati et al., 2021 showed that there is a relationship between field workers in the agricultural sector, namely workers have a higher risk of experiencing anemia compared to workers in other sectors. The causes include lack of consumption of nutritious food, specific exposure, and high physical activity without adequate nutritional intake. Based on results analysis knowledge respondents in plantations coconut palm oil namely 58.8% of respondents. Based on statistical tests obtained P value = 1,000, meaning No There is a connection between knowledge Respondent with anemia incident in coconut oil palm plantations in Ogan Komering Ilir. Research by Mostafalou and Abdollahi (2013) showed that there was no relationship between the level of worker knowledge and the incidence of anemia (P=1,000) because long-term exposure was more influential than the level of knowledge. While the main factors causing anemia are heavy workload, exposure to lack of iron intake, and limited access to health.

Based on results analysis support family Respondent to plantation coconut palm oil Regency Ogan Coming soon Downstream as many as 50.0% of respondents. Based on the results study obtained a P value = 0.005 which means There is a connection between the support family Respondent and with anemia incident in coconut oil palm in Ogan Komering Ilir Regency.

In line with the research of Fitriani et al. (2020), shows that there is a relationship between family support and the incidence of anemia in agricultural sector workers. Family support helps workers maintain their diet and health, so it can reduce the risk of anemia.

CONCLUSION

Based on the results of research conducted on Coconut Plantation Palm oil Regency Ogan Komering Ilir shows that variables that are statistics No have a significant relationship with the incidence of anemia in plantations that is age, knowledge, and exposure pesticides. This proves that Still There are factors or other variables that have contributed big to the incidence of anemia in workers on coconut plantations Palm oil Regency Ogan Coming soon Ilir. Because of that, That is recommended To study more about Factor risk related related to the occurrence of anemia.

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