

## ABSTRACT

### CORRELATION BETWEEN PESTICIDE EXPOSURE AND HEMOGLOBIN LEVELS IN WONODADI VILLAGE GADING REJO DISTRICT PRINGSEWU REGENCY

BY

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**Background :** WHO (2017) reported that every year as many as one million people will experience health problems due to pesticides and the prevalence continues to increase. There are many impacts due to pesticide exposure including anemia which is one form of chronic effect from pesticide use.

**Metod:** The research design used was observational analytic with a cross sectional approach. This study used purposive sampling technique with a total sample of 48 farmers. The instruments used were pesticide exposure questionnaire, WHO toxicity data and hb meter. The independent variables are pesticide exposure: working period, type of pesticide, frequency and duration of spraying, completeness of PPE and personal hygiene. The dependent variable is hb level. Data analysis included univariate and bivariate analysis performed with Chi-square test and Fisher Exact alternative test to determine the relationship between independent variables and dependent variables.

**Result:** The results showed that out of 48 respondents, 36 respondents (75%) had normal hemoglobin levels  $\geq 13\text{g/dL}$  and 12 respondents were anemic (25%). The results of bivariate analysis showed that exposure factors in the form of spraying frequency ( $p=0,001$ ), PPE completeness ( $p=0,030$ ), and personal hygiene ( $p=0,043$ ) were related to hemoglobin levels. Exposure factors in the form of work period ( $p=0,517$ ), type of pesticide ( $p=0,948$ ) and length of spraying ( $p=0,250$ ) are not associated with hemoglobin levels.

**Conclusion:** There were 12 farmers (25%) who were anemic. There is a relationship between frequency of spraying, completeness of PPE and personal hygiene with farmers' hemoglobin levels.

**Suggestion :** Future research is expected to add smoking index variables, physical activity and nutrition. Counseling is needed regarding the use of PPE, maintaining personal hygiene and spraying no more than 2 times a week. Community Health Center is expected to conduct health promotion related to the dangers of anemia to farmers.

**Keywords:** Hemoglobin, Pesticide Exposure.

## ABSTRAK

### HUBUNGAN PAPARAN PESTISIDA DENGAN KADAR HEMOGLOBIN PADA PETANI DI DESA WONODADI KECAMATAN GADING REJO KABUPATEN PRINGSEWU

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**Latar Belakang :** WHO (2017) melaporkan bahwa setiap tahun sebanyak satu juta orang akan mengalami gangguan kesehatan akibat pestisida dan prevalensinya terus meningkat. Terdapat banyak dampak akibat dari paparan pestisida diantaranya anemia yang merupakan salah satu bentuk efek kronis dari penggunaan pestisida.

**Metode:** Desain penelitian yang digunakan yaitu analitik observasional dengan pendekatan *cross sectional*. Penelitian ini menggunakan teknik *purposive sampling* dengan jumlah sampel 48 orang petani. Instrumen yang digunakan adalah kuesioner paparan pestisida, data toksisitas WHO dan *hb meter*. Variabel bebas berupa paparan pestisida: masa kerja, jenis pestisida, frekuensi dan lama penyemprotan, kelengkapan APD dan *personal hygiene*. Variabel terikat berupa kadar hb. Analisis data meliputi analisis univariat dan bivariat yang dilakukan dengan uji *Chi-square* dan uji alternatif *Fisher Exact* untuk mengetahui hubungan antara variabel bebas dan variabel terikat.

**Hasil:** Hasil penelitian didapatkan bahwa dari 48 responden, sebanyak 36 responden (75%) memiliki kadar hemoglobin normal yaitu  $\geq 13\text{g/dL}$  dan 12 responden mengalami anemia (25%). Hasil analisis bivariat menunjukkan faktor paparan berupa frekuensi penyemprotan ( $p=0,001$ ), kelengkapan APD ( $p=0,030$ ), dan *personal hygiene* ( $p=0,043$ ) berhubungan dengan kadar hemoglobin. Faktor paparan berupa masa kerja ( $p=0,517$ ), jenis pestisida ( $p=0,948$ ) dan lama penyemprotan ( $p=0,250$ ) tidak berhubungan dengan kadar hemoglobin.

**Simpulan:** Sebanyak 12 orang petani (25%) mengalami anemia. Terdapat hubungan antara frekuensi penyemprotan, kelengkapan APD dan *personal hygiene* dengan kadar hemoglobin petani.

**Saran :** Penelitian selanjutnya diharapkan dapat menambah variabel indeks merokok, aktivitas fisik dan nutrisi. Dibutuhkan penyuluhan terkait pemakaian APD, menjaga *personal hygiene* dan penyemprotan tidak lebih dari 2 kali seminggu. Puskesmas diharapkan melakukan promosi kesehatan terkait bahaya anemia kepada petani.

**Kata Kunci:** Hemoglobin, Paparan Pestisida.