

**“HUBUNGAN AKTIVITAS ENZIM KOLINESTERASE DENGAN  
KEJADIAN ANEMIA PADA PETANI TERPAPAR PESTISIDA  
DI DESA LINGGASARI KECAMATAN KEMBARAN  
KABUPATEN BANYUMAS”**

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**ABSTRAK**

**Latar Belakang** – Kejadian keracunan pestisida dan anemia yang masih tergolong tinggi di Indonesia menjadi salah satu kekhawatiran di bidang kesehatan. Enzim kolinesterase dalam darah merupakan salah satu *biomarker* yang dapat digunakan untuk menilai kejadian keracunan pestisida. Sifat menghambat kolinesterase yang dimiliki pestisida mampu menyebabkan timbulnya stres oksidatif yang berpotensi mengakibatkan terjadinya hemolisis yang berujung pada penurunan nilai hemoglobin.

**Tujuan** – Mengetahui hubungan aktivitas enzim kolinesterase dengan kejadian anemia pada petani terpapar pestisida di Desa Linggasari Kecamatan Kembaran Kabupaten Banyumas

**Metode** – Penelitian ini merupakan penelitian analitik dengan pendekatan *cross sectional*. Data penelitian terdiri dari data primer berupa karakteristik responden yang diperoleh melalui wawancara dan data sekunder meliputi enzim kolinesterase dan hemoglobin. Responden pada penelitian ini diambil dengan metode *consecutive sampling* sebanyak 30 responden yang telah memenuhi kriteria inklusi dan eksklusi penelitian ini. Data penelitian dianalisis menggunakan uji alternatif *Fisher's exact test*.

**Hasil** – Dari 30 responden, terdapat 2 responden dengan aktivitas enzim kolinesterase diatas nilai rujukan dan terdapat 4 responden mengalami anemia. Responden yang mengalami anemia memiliki nilai aktivitas enzim kolinesterase dalam rentang normal. Hasil *Fisher's exact test* diperoleh *p-value*=1.000 yang berarti tidak terdapat hubungan signifikan antara aktivitas enzim kolinesterase dengan kejadian anemia

**Kesimpulan** – Tidak terdapat hubungan antara aktivitas enzim kolinesterase dengan kejadian anemia pada petani terpapar pestisida di Desa Linggasari Kecamatan Kembaran Kabupaten Banyumas.

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**Kata kunci:** Anemia, Kolinesterase, Pestisida

**“ASSOCIATION BETWEEN CHOLINESTERASE ENZYME ACTIVITY  
AND ANEMIA INCIDENTS IN PESTICIDE-EXPOSED FARMERS OF  
LINGGASARI VILLAGE, KECAMATAN KEMBARAN, KABUPATEN  
BANYUMAS”**

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**ABSTRACT**

**Background** – Pesticide poisoning and anemia incidents are still classified as one of the health concerns in Indonesia. Cholinesterase enzyme can be used as a biomarker to grade pesticide poisoning. Cholinesterase-inhibiting nature of pesticide cause oxidative stress that might potentially lead to hemolysis which culminates in to decrease in hemoglobin levels.

**Purpose** – this study was done to learn about the relation of cholinesterase enzyme activity with anemia incidence in pesticide-exposed farmers in Linggasari Village, Kembaran Districts, Banyumas Regency.

**Methods** – This study was an analytical study using cross-sectional approach. The data that were used in the analysis consist of primary data including respondent's characteristics which were collected using a questionnaire and secondary data including cholinesterase enzyme and hemoglobin. The thirty respondents who fulfilled the inclusion and exclusion criteria in this study were collected using consecutive sampling method. The data were analyzed using the alternative Fisher's Exact Test.

**Result** – Out of 30 respondents, there were found 2 respondents with cholinesterase enzyme activity above the normal range and 4 respondents experiencing anemia. The respondents with anemia have normal cholinesterase enzyme activity, The Fisher's Exact Test result show a p-value equals 1.000 meaning there were no association between cholinesterase enzyme activity with anemia incidents.

**Conclusion** – There was no association between cholinesterase enzyme activity and anemia incidents in pesticide-exposed farmers in Linggasari Village, Kecamatan Kembaran, Kabupaten Banyumas.

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**Keywords:** Anemia, Cholinesterase, Pesticide