

**HUBUNGAN KADAR KHOLINESTERASE DARAH DENGAN
PENYAKIT VESTIBULAR MENGGUNAKAN AMER DIZZINESS
DIAGNOSTIC SCALE (ADDS) PADA PETANI TERPAJAN PESTISIDA DI
KECAMATAN NGABLAK KABUPATEN MAGELANG JAWA TENGAH**

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INTISARI

Penyakit vestibular dapat menyebabkan gejala vestibular, yang paling umum berupa *dizziness* dan vertigo. Salah satu penyebab gangguan sistem vestibular yaitu pajanan pestisida. Organofosfat merupakan senyawa pestisida yang paling banyak digunakan dengan mekanisme kerja menghambat asetilkholinesterase. Penurunan kadar kholinesterase menunjukkan adanya pajanan pestisida penghambat kholinesterase. Kuesioner *Amer Dizziness Diagnostic Scale* (ADDS) digunakan sebagai alat diagnostik untuk mengevaluasi dan melakukan diagnosis banding penyakit vestibular yang belum banyak digunakan. Skala ADDS memiliki sensitivitas 96% dan spesifisitas 96%. Studi menggunakan skala ADDS masih terbatas, oleh karena itu studi ini bertujuan untuk melihat ada tidaknya hubungan kadar kholinesterase darah dengan penyakit vestibular menggunakan ADDS pada petani terpajan pestisida di Kecamatan Ngablak, Kabupaten Magelang. Studi ini menggunakan desain potong-lintang. Variabel bebas adalah kadar kholinesterase darah dengan variabel terikat penyakit vestibular yang ditentukan dengan ADDS. Dari 80 subjek, 72,5% mengalami keracunan pestisida dan 38,75% adalah gangguan vestibular sentral. Hasil analisis bivariat menunjukkan kadar kholinesterase darah tidak berhubungan bermakna dengan ADDS. Analisis multivariat didapatkan terakhir kontak pestisida bermakna terhadap ADDS. Terdapat kemungkinan lebih besar subjek mengalami BPPV apabila terakhir kontak pestisida lebih pendek.

Kata kunci: kholinesterase darah, *Amer Dizziness Diagnostic Scale*, ADDS, pestisida

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ASSOCIATION BETWEEN BLOOD CHOLINESTERASE LEVEL WITH VESTIBULAR DISORDER USING AMER DIZZINESS DIAGNOSTIC SCALE (ADDS) IN FARMER EXPOSED TO PESTICIDE IN NGABLAK, MAGELANG REGENCY, CENTRAL JAVA

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ABSTRACT

Vestibular dysfunction gives rise to a range of vestibular symptoms, with dizziness and vertigo being the most prevalent manifestations. Pesticide exposure has been identified as a contributing factor to the development of vestibular disorders. Organophosphates represent the predominant class of pesticides employed in contemporary agricultural practices, mostly due to their mechanism of action as inhibitors of the enzyme acetylcholinesterase. Exposure to cholinesterase inhibitor pesticides can be inferred from a decrease in cholinesterase levels. The Amer Dizziness Diagnostic Scale (ADDS) questionnaire is a diagnostic instrument utilised for the evaluation and differentiation of vestibular illnesses that have not gained widespread usage. The Accuracy of the Attention Deficit Disorder Scale (ADDS) was determined to be 96% in terms of sensitivity and specificity. The utilisation of the ADDS in research studies remained constrained. The objective of this study was to investigate the potential correlation between blood cholinesterase levels and vestibular disorders in farmers who have been exposed to pesticides in Ngablak, Magelang Regency, located in Central Java. The research design employed in this study was a cross-sectional design. The independent variable examined in this study was the blood cholinesterase level, while the dependent variable was the presence of vestibular impairment as defined by the Abbreviated Dizziness Disability Scale (ADDS). Out of the total sample size of 80 participants, it was found that 72.5% of them exhibited symptoms of pesticide poisoning, whereas 38.75% were diagnosed with central vestibular dysfunction. The results of the bivariate analysis indicated that there was no statistically significant association between blood cholinesterase level and Attention Deficit Disorder Symptoms (ADDS). The results of the multivariate analysis indicated a substantial association between recent exposure to pesticides and Attention Deficit Disorder Symptoms (ADDS). There may be a potential association between individuals who have benign paroxysmal positional vertigo (BPPV) and shorter duration of pesticide exposure.

Keywords: blood cholinesterase, Amer Dizziness Diagnostic Scale, ADDS, pesticide

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