

Thesis Title	Influencing Factors on Blood Cholinesterase Level among Agricultural Workers in Chainat.
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ABSTRACT

A cross-sectional study was done in order to determine the influencing factors on blood cholinesterase level among agricultural workers and the effectiveness of reactive paper. 218 samples were randomly selected from agricultural workers at Chainat province. The questionnaires were created. The blood cholinesterase was measured by reactive paper and the Ellman's method.

The results showed that 70.2 percent of workers had normal cholinesterase level. The mean of cholinesterase level was 3057.17 units per liter (u/l) with standard deviation of 812.61 u/l. The behavioral factors of usage and prevention of insecticide were dosage used higher than 150 liters per time, direct contact with insecticide by hand and time lapse between pesticide exposure less than 7 days. Agricultural workers who had these factors had lower cholinesterase level than who had not with statistically significant difference ($p=0.008$, 0.016 and 0.0007 respectively). There were no statistically significant difference in the following factors ;

index usage, high concentration usage, non use of gloves, illness, duration of contact, improper protective behavior and population factors such as; age, sex, nutrition status and having a baby (p= 0.298, 0.197, 0.099, 0.6469, 0.343, 0.276, 0.6785, 0.178, 0.2872 , 0.372 respectively). Furthermore; age, nutrition status, having a baby, dosage, duration of contact, time lapse between pesticide exposure and illness showed no correlation with cholinesterase level.

For the effectiveness of reactive paper at room temperature and the controlled temperature at 25 °c were statistically significant difference from the Ellman (p=3.07x10⁻⁸ and 2.04x10⁻⁴ respectively). Using the Ellman as a criteria, the reactive paper at controlled temperature gave more validity and effectiveness than the reactive paper at room temperature. The assessment of reactive paper was impacted by setting normal standard. The statistical standard gave more efficiency and validity than the Ellman's standard.