

DECREASE OF CROSS SHIFT AND CROSS WEEK BLOOD CHOLINESTERASE ACTIVITY IN PESTICIDE SPRAYER OF ONION FARMERS

Abstrak :

Exposed to organophosphate and carbamate pesticides may lead to decrease of blood cholinesterase activity. Therefore, the aim of this study was to measure decrease level of cholinesterase in pesticide sprayer of onion farmers who exposed to organophosphate and carbamate pesticides. This study was designed as a cross-sectional observational study. Number of sample was 41 onion farmers taken by simple random sampling technique, consisting of 21 pesticide sprayers and 20 non-spraying farmers who live in Sukorejo Village, Rejos Subdistrict, Nganjuk Regency, East Java, Indonesia. Data were collected by conducting a self administered questionnaire on pesticide intoxication and taking blood samples for blood cholinesterase activity levels in Monday morning (before work), Monday afternoon (after work), and Saturday afternoon (end of week day). Surprisingly, neither exposed to pesticide onion farmers (study group) nor not exposed to pesticide onion farmers (control group) showed any acute pesticide intoxication complaints, although the study showed that blood cholinesterase level in pesticide sprayer farmers decreased significantly 5.80 % along cross shift and 4.68 % along cross week (One Way ANOVA, $p = 0.01$; and $p < 0.05$ respectively). It is concluded that although it is free from intoxication symptoms, pesticide sprayer onion farmers show a mild intoxication that means they could continue work without any restriction since the decrease of blood cholinesterase activity is only 5.80 % in cross shift and 4.68 % in cross week. Good work practices, hygienic measures, and recommended safety precautions in field use should be maintained in order to decreasing level of intoxication.

Keyword :

blood cholinesterase activity, lung function, pesticide sprayer onion farmers

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