

ABSTRACT**ANALYSIS OF FACTORS RELATED TO BLOOD CHOLINESTRASE
ACTIVITY IN HORTICULTURAL FARMERS****(A Study of Organophosphates-Spraying Farmers and Their Wives in Kelurahan
Pattapang, Kecamatan Tinggimoncong-Malino of Gowa)**

The present study was conducted in the Pusat Pelatihan Pertanian Pedesaan Swadaya (P4S) in Kelurahan Pattapang, Kecamatan Tinggimoncong-Malino. Pesticides of systemic class widely used by farmers in Indonesia, including those in Kelurahan Pattapang, are organophosphates with profenofos as the active substance.

The purpose of this study was to determine factors associated with blood *cholinesterase* activity in the families of horticultural farmers spraying organophosphate insecticides in Kelurahan Pattapang, Kecamatan Tinggimoncong-Malino. This study was a quantitative and observational-analytical survey with a cross-sectional design.

Population was the families of farmers spraying organophosphates, as much as 175 people. A sample of 92 people, consisting of 46 husbands and 46 wives, was selected by using the simple random sampling technique.

Results of the examination of blood cholinesterase activity in the families of farmers spraying organophosphates showed an average value of 11400 U/L with a minimum value of 7304 U/L and maximum value of 16882 U/L. Based on these values, the blood cholinesterase activity of the respondents remained above the minimum reference value. Results of the binomial logistic regression analysis of factors related to blood cholinesterase activity with $p < 0.05$ indicated that a poor personal hygiene had a 4-times higher risk for decreased cholinesterase activity compared with a good personal hygiene. The more the personal protective equipment (PPE) were used, the less the chance for cholinesterase activity (0.2 times), and for each one-hour increase in blood sampling and spraying interval the risk of ChE < 11.400 would be increased by 1.4 times.

To control blood *cholinesterase* activity, the respondents are expected to conduct periodic checks, always equip themselves with the PPE and maintain their hygiene after contact with pesticides.

Keywords: Bulluballea, families of farmers, profenofos, cholinesterase activity