

Pesticide Usage and Its Association with Health Symptoms among Farmers in Rural Villages in West Java, Indonesia

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The improper handling of pesticides in agriculture has caused serious health problems in many developing countries. In this study, we report the pesticide usage condition among Indonesian farmers and its association with symptoms of pesticide toxicity. A questionnaire survey on personal history regarding agricultural labor, pesticide storage and disposal, pesticide use and health history was conducted using a structured questionnaire in rural Sundanese villages in West Java, Indonesia. The most frequently used pesticides included dithiocarbamates, pyrethroids and organophosphates. In approximately 80% of sprayings, category II pesticides (World Health Organization (WHO) categorization; “moderately hazardous”) were used. Many of the subject farmers worked in a highly unsafe occupational environment; protective measures and safe handling were rarely observed, whereas smoking and drinking during spraying were frequently practiced. Correlation analysis revealed that farmers who wore a long sleeve shirt and headgear showed health symptoms less frequently. Moreover, farmers who had skin contact with the spray solution during measuring or mixing (excluding the hands), who wore wet clothing (skin exposure to pesticide), and who smoked and rubbed their eyes during spraying showed more symptoms. Among these factors, headgear use, wearing wet clothing (skin exposure to pesticide), and smoking during spraying were the significant determining factors for developing health symptoms. Preventing such behaviors will be an effective method of reducing health problems among the subject farmers.