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Factors associated with acute pesticide poisoning among farmers in Northwestern Jamaica

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Abstract

The safe production and marketing of food is a major step towards food security. However, many farmers put themselves at risk from pesticide poisoning during the production process. The unsafe use of pesticides is a major problem, especially in Caribbean Common Market (CARICOM) countries where the most persistent and hazardous pesticides are used by farmers with limited training. Excessive and improper use of pesticides is one of the major causes of chemical poisoning in the CARICOM area. In Jamaica, high levels of pesticide residues have been detected in surface water and aquatic life but the extent of acute pesticide poisoning among farmers has not been determined.

We conducted a population survey using an interviewer-administered questionnaire among farmers in three parishes of northwestern Jamaica to determine the occurrence of pesticide poisoning and to identify factors associated with pesticide poisoning.

Approximately 16% of the 359 farmers who participated reported incidents of pesticide poisoning within the last two years. Age 40-49 years (compared with 20-39 years), shorter distance from home to the farm, 20-29 years of farming experience (compared with ≤ 20 years), using hand-held sprayers and never wearing masks/respirator when handling pesticides were significantly associated with pesticide poisoning. Factors that were protective against pesticide poisoning included, always reading the instructions on the pesticide bag before use, using special tools for mixing and applying pesticides, and farm owned/run by a family. The majority (60%) of farmers who reported pesticide poisoning never sought medical attention for poisoning.

Approximately one in six Jamaican farmers experienced symptoms of acute pesticide poisoning but the majority did not seek medical attention. The factors found to be associated with pesticide poisoning in this study indicate that implementation of specific intervention strategies and education of farmers can lead to safe handling and use of pesticides and reduction of acute pesticide poisoning among farmers.