

ABSTRACT

This study examined pesticide use and cholinesterase levels among two groups of agricultural workers in Barbados. The first group worked on government-owned farms and benefit from a cholinesterase monitoring program implemented for government workers handling potentially toxic pesticides. Many of these workers attended formal seminars and workshops on pesticide use. The second group worked on privately-owned farms. Few members had ever attended seminars on pesticide use and none had had their cholinesterase levels measured prior to this study. The single measurement approach to cholinesterase monitoring was used in this study, and the cholinesterase levels of the exposed groups were compared to a control group of unexposed persons. Information on pesticide use was gathered through a questionnaire survey.

Plasma cholinesterase levels were lower for private farmworkers than government workers, and were lower for government workers than for the control group; but differences between the categories were not statistically significant at the sample sizes used. However, RBC cholinesterase levels were significantly lower

for private farmworkers than for government workers, and were significantly lower for government workers than for the control group. A number of user practices (risk factors) were identified as influencing cholinesterase levels. The most important of these was the use of adequate protective clothing, in particular the use of gloves. Cholinesterase levels were also shown to decrease significantly with increasing number of cholinesterase-inhibiting pesticides used, and the number of visits made to the doctor increased with decreasing plasma cholinesterase levels.

The implications of the results for policies dealing with pesticide use in Barbados are discussed.