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The Effects of Organophosphate Pesticide Exposure on Hispanic Children's Cognitive and Behavioral Functioning

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Abstract

Objective This study investigates the effects of Organophosphate (OP) pesticides exposure on the cognitive and behavioral functioning of Hispanic children living in an agricultural community. **Methods** Forty-eight children were administered a battery of cognitive measures, and their parents and teachers completed behavior rating scales. Children provided a urine sample for analysis of OP pesticides metabolites. **Results** All children had a detectable level of at least one OP pesticide metabolite. Higher OP pesticide metabolite concentration levels were significantly correlated with poorer performance on some subtests of the Wisconsin Card Sorting Test. However, the significance of this association was dependent upon the inclusion of two samples with noticeable higher OP pesticide metabolite concentration levels.

Conclusions Short-term OP pesticide exposure seems to have deleterious effects on children's speed of attention, sequencing, mental flexibility, visual search, concept formation, and conceptual flexibility. This study is among a relatively


small number of studies investigating an extremely complex problem. Limitations and suggestions for future studies are discussed.

Key words: children's cognitive and behavioral functioning; organophosphates; pesticides exposure.


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