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Living Near the Greenhouse and children's Function

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Abstract

Objective: Exposure to pesticides is associated with various health concerns. This survey aimed to investigate the relationship between greenhouse proximity and cognitive function in primary school children by using of WISC method.

Methods: This study was performed on 128 children (6 – 9 y) in Ashkezar, Yazd, Iran (2019). Children's cognitive function was assessed by the Wechsler Intelligence Scale for Children (WISC-IV). GC-FID instrument was used to detect ambient pesticide concentrations.

Results: There was a significant inverse relationship between greenhouse' density in children's homes and scores of cognitive functions with verbal thinking scores (p-value = 0.003) and the total scale (p-value = 0.0001). Also, the results of environmental pesticide detection confirmed the presence of Malathion with maximum concentration of 183 $\mu\text{g}/\text{m}^3$.

Conclusion: Present study showed that increasing the density of greenhouse has reduced children's cognitive functions. The results of ambient air analysis confirmed the environmental exposure of pesticides, too. Due to long-term chemical effects, management measures such as environmental monitoring, public education, substitute the type of crop and usage the eco-friendly are necessary.

Keywords: Greenhouse Proximity, Health Concern, Environmental assessment, Pesticide, Monitoring