

عنوان مقاله:

Association between Exposure to Pesticides and Cognitive Function in Greenhouse Workers (Case Study:
(Ahmadabad Village of Yazd Province)

محل انتشار:

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خلاصه مقاله:

Introduction: Exposure to pesticides in greenhouse workers is associated with several health outcomes, such as cognitive impairment. This study aimed to investigate the association between exposure to pesticides and cognitive function in Yazd city greenhouse workers and those living in the proximity of the greenhouses. **Materials and Methods:** In this study, three groups of participants were selected, including the greenhouse workers, the residents in the proximity of the greenhouses, and the control group. A semi-quantitative assessment of pesticide exposure was used to calculate the subjects' cumulative pesticide exposure as a proxy for long-term exposure to pesticides. Blood level of acetylcholinesterase (AChE) activity was measured as a biomarker of effect. Frontal Assessment Battery (FAB), and Mini-mental State Examination (MMSE) were used to assess cognitive functions (including memory, executive functions, attention, visual, and verbal functions). **Results:** Mean cholinesterase activity in the greenhouse workers (average = 7009.3 U/L) was lower than the two other groups. The results of the cognitive function score for both FAB and MMSE tests did not show a significant difference between the direct exposure and indirect exposure groups, although the cognitive function score in the pesticide applicators was lower than the two other study groups (e.g. for FAB score: 13.89 , 14.55 , and 15.4 for the greenhouse workers, the residents in the proximity of greenhouses, and the control group). The results also showed that in the direct exposure group, those with lower levels of cholinesterase activity also had a lower cognitive function. **Conclusion:** The findings indicated that there is a potential link between impaired cognitive function and exposure to pesticides in the greenhouse workers.

کلمات کلیدی:

Cognitive Function, Greenhouse Workers, Pesticides, Agriculture, Yazd City

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