

# Research reveals link between pesticide use and Parkinson's

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Exposure to pesticides and traumatic head injury are associated with Parkinson's disease, according to EU-funded researchers.

The work, which is published in the journal *Occupational and Environmental Medicine*, was carried out under the Fifth Framework Programme (FP5) Geoparkinson project, which aimed to investigate how genetic and environmental factors interact to cause Parkinson's disease and related conditions.

The researchers interviewed almost 1,000 patients with Parkinson's or related disorders from Italy, Malta, Scotland, Sweden and Romania. Participants were quizzed on their lifetime exposure to pesticides, solvents, iron, copper and manganese, as well as their experiences of being knocked unconscious and any family history of Parkinson's. The researchers also interviewed 2,000 people without Parkinson's, and compared their responses to those of the group with Parkinson's.

They found that people who had been exposed to low levels of pesticides were 1.09 times more likely to develop Parkinson's disease than those who had never been exposed, while people who had been exposed to high levels of pesticides were 1.39 times more likely to be affected.

'This has implications for occupational and, perhaps, recreational users of these agents,' the researchers comment. 'Further research is needed to establish which pesticides are associated with this effect.'

The study also revealed an association between head injury and Parkinson's, with people who had been knocked out once being 1.28 times more likely to develop Parkinson's than people who had never been knocked out. Furthermore, people who had been knocked out frequently were found to be 2.56 times more likely to develop the condition.

'This finding, if confirmed, has implications for all contact sports and, in particular, combat sports such as boxing,' the researchers write.

Meanwhile the study did not throw up any evidence linking solvent exposure or metal exposure to Parkinson's disease.

The study did however confirm that the strongest risk factor was having a close family relative with the disease, although the scientists stress that whether this is due to a shared environment or genetic predisposition is unclear.

'This study has provided important evidence of the increased risk of Parkinson's disease in relation to exposure to pesticides,' the scientists conclude. 'The exposure-response relationship suggests that pesticide exposure may be a causative and potentially modifiable risk factor.'

Source: CORDIS

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