

STUDY LINKS PESTICIDES WITH PARKINSON'S

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People with long-term, low-level exposure to pesticides have a 70 percent higher incidence of Parkinson's disease than people who have not been exposed much to bug sprays, U.S. researchers reported on Monday.

Such workers include mostly farmers, ranchers and fishermen, the researchers report in the July issue of *Annals of Neurology*. Their study supports previous research that suggests pesticides can be linked with Parkinson's, which is caused by the destruction of key brain cells, the team at the Harvard School of Public Health said. "The findings support the hypothesis that exposure to pesticides is a risk factor for Parkinson's disease," they wrote.

Alberto Ascherio, an associate professor of nutrition and epidemiology and colleagues examined data from a 2001 American Cancer Society survey of 143,325 people. The researchers contacted those people who reported they had been diagnosed with Parkinson's.

The American Cancer Society was studying factors for cancer risk and all the people had reported on eating and lifestyle habits and environmental exposures.

More than 5,200 men and 2,600 women reported exposure to pesticides. After adjusting for age, sex, and other risk factors for Parkinson's disease, the researchers found a 70 percent higher incidence of the disease among these nearly 8,000 people than among people who reported no exposure. More men than women said they had been exposed to pesticides and those reporting exposure were more likely to report their occupation as farmer, rancher or fisherman, the researchers said.

People who had other jobs and who reported pesticide exposure most likely were using the chemicals at home or while gardening, the researchers speculated.

Exposure to asbestos, chemicals, acids, solvents, or coal or stone dust was not associated with a higher risk, the researchers said. "Future studies should seek to identify the specific compounds associated with risk," the researchers said. A class of chemicals called organophosphates has been linked with Parkinson's risk in other studies.

There is no cure for Parkinson's, which starts off with tremors and ends up paralyzing and often killing patients. Globally, it is estimated 6.3 million people have Parkinson's, more than a million in the United States alone.

PRESS RELEASE

HARVARD SCHOOL OF PUBLIC HEALTH

Pesticides Exposure Associated With Parkinson's Disease

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Boston, MA -- In the first large-scale, prospective study to examine possible links between chronic, low-dose exposure to pesticides and Parkinson's disease (PD), researchers at the Harvard School of Public Health (HSPH) have shown that individuals reporting exposure to pesticides had a 70 percent higher incidence of PD than those not reporting exposure. No increased risk of PD was found from reported exposure to other occupational hazards, including asbestos, coal or stone dust, chemicals, acids, or solvents. The study will appear in the July issue of *Annals of Neurology* and also appears online via *Wiley InterScience* (www.interscience.wiley.com).

Previous studies had suggested a link between PD and low-level exposure to pesticides, though the data remains inconclusive. The researchers, led by [Alberto Ascherio](#), associate professor of nutrition and epidemiology at HSPH, looked at data from the Cancer Prevention Study II Nutrition Cohort, a prospective study begun in 1992 by the American Cancer Society. Some 143,325 participants who responded to a follow-up survey in 2001 were included in the HSPH study. Researchers then contacted those individuals in the 2001 survey who reported a diagnosis of PD to ask if their medical records could be reviewed to confirm the diagnosis. Ultimately, Ascherio and his colleagues included in their study a total of 413 cases of PD with onset of symptoms and diagnosis after 1992.

The researchers used exposure data collected in 1982 from the CPS II mortality study, a study from which the Nutrition Cohort was drawn. Exposure to pesticides was reported by 5,203 men (8.2 percent) and 2,661 women (3.3 percent). Among those reporting exposure, after adjusting for age, sex, and other risk factors for Parkinson's disease, there was a 70 percent higher incidence of PD than among people who reported no exposure. Those reporting exposure were more likely to be male than female to report their occupation as farmer, rancher or fisherman and to be blue-collar workers, but none of these factors could account for the increased risk of Parkinson's disease, which was similar in men or women, and in non-farmers as well as farmers. The significant association between pesticide exposure and Parkinson's disease among individuals who are not farmers is most likely explained by use of pesticides at home or in gardening. Future studies will need to examine which specific pesticides or classes of pesticides are likely to cause Parkinson's disease.

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