

Studies reveal severe diabetes worsens Parkinson's symptoms

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A pair of studies from the Perelman School of Medicine at the University of Pennsylvania demonstrate a correlation between diabetes severity and parkinsonism, or parkinsonian tremors; and examine the caregiving differences between men and women with PD.

The findings will be presented this week at the American Academy of Neurology's 67th Annual Meeting in Washington, D.C.

Diabetes Severity is Associated with Worse Parkinsonism

The study enrolled 1,100 subjects over the age of 55 without Parkinson's disease or dementia from the existing Philadelphia Healthy Bran Aging cohort at the University of Pennsylvania. At baseline testing, 34 percent of subjects were found to have diabetes. A Hemoglobin A1c glucose test was performed and a diabetes severity score created that combined the presence of retinopathy, neuropathy, nephropathy and insulin dependence.

Subjects were then assessed for parkinsonian signs and cognitive impairment. The median hemoglobin A1c was 6.6 (less than 6.5 is ideal in most cases) and the median parkinsonism score was 8.3 (anything above zero is abnormal).

Higher parkinsonian scores were associated with greater diabetes

severity, older age, African-American race and a past history of arthritis. Further analysis showed diabetes severity remained significantly associated with higher parkinsonian sign scores.

"Our study was based on emerging evidence that the presence of diabetes may increase the risk of both Parkinson's disease and specific motor features in parkinsonism," said Nabila Dahodwala, MD, an assistant professor of Neurology at the Perelman School of Medicine at the University of Pennsylvania and director of the National Parkinson Foundation Center of Excellence at the Parkinson's Disease and Movement Disorders Center at Pennsylvania Hospital.

"We hypothesize that the high burden of cardiovascular risk from diabetes contributes to brain injury, which can impact cognition and parkinsonism," explains Dahodwala. Further studies are needed to show causality between diabetes and parkinsonism. These could indicate that aggressive management of diabetes could provide additional motor benefit.

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Sex Differences in Parkinson's Disease Caregiving

Researchers looked at caregiving patterns among PD patients to determine if there are sex differences in [caregiver](#) accompaniment to visits, paid caregiving and caregiving strain and found that women with PD have fewer informal caregiving resources and are more likely to use formal, paid caregiving.

"Parkinson's patients rely on formal and informal caregiver support as the disease worsens," Dahodwala said. Previous research has shown that

there is a higher incidence of Parkinson's disease among men, but little is known about caregiving patterns by sex.

Dahodwala and her team collected information on each of 4,718 men and 2,788 women in the National Parkinson Foundation Parkinson's Outcomes Project's medication, disease duration as well as caregiver presence and the caregiver type, time to first paid caregiver and more.

Their analysis showed that compared with women, men were significantly more likely to have a regular care partner (88 versus 80 percent), but less likely to have a paid caregiver at baseline than women (2.2 versus 4.9 percent). In addition, women were found to have lower odds of caregiver accompaniment at baseline visit, but faster time to first paid caregiver. Caregiver strain was found to be higher among caregivers of male subjects.

"We hope that this study spurs some of the key stakeholders in PD to develop policies that ensure adequate support for [women](#) with the disease. Our analysis shows there is a real need for it," Dahodwala said.

More information: "Diabetes severity is associated with worse Parkinsonism." (P4.148). www.neurology.org/content/84/1...plement/P4.148.short

"Sex Differences in Parkinson's Disease Caregiving." (S48.003). www.neurology.org/content/84/1.../S48.003.short?rss=1

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