

# Physical activity level inversely linked to Parkinson's disease in women

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In women, a higher physical activity (PA) level is associated with a lower

incidence of Parkinson's disease (PD), according to a study published online May 17 in *Neurology*.

Berta Portugal, Ph.D., from Université Paris-Saclay, and colleagues examined the association between time-varying PA and PD using lagged analyses to address the potential for reverse causation. Data were obtained from the E3N cohort study of [women](#) affiliated with a national health insurance plan (1990 to 2018).

During the follow-up period, PA was self-reported in six questionnaires. A time-varying latent PA (LPA) variable was created as questions changed across questionnaires. Differences in LPA trajectories were examined, and the association between time-varying LPA and PD incidence was estimated.

The researchers found that among 1,196 cases and 23,879 controls, analyses of trajectories showed that LPA was significantly lower in cases than controls throughout follow-up, including 29 years before [diagnosis](#); about 10 years before diagnosis, the difference between cases and controls started to increase.

In the main survival analysis involving 95,354 women free of PD in 2000, 1,074 developed PD over 17.2 years of follow-up. The incidence of PD decreased with increasing LPA (adjusted hazard ratio, 0.75 for highest versus lowest quartile). Similar conclusions were observed using longer lags.

"Our results support the creation of exercise programs to help lower the risk of Parkinson's disease," a co-author said in a statement.

Several authors disclosed financial ties to the biopharmaceutical industry.

**More information:** Berta Portugal et al, Association of Physical Activity and Parkinson Disease in Women: Long-term Follow-up of the E3N Cohort Study, *Neurology* (2023). [DOI: 10.1212/WNL.0000000000207424](https://doi.org/10.1212/WNL.0000000000207424)

Lana M. Chahine et al, Physical Activity and the Risk of Parkinson Disease: Moving in the Right Direction, *Neurology* (2023). [DOI: 10.1212/WNL.0000000000207527](https://doi.org/10.1212/WNL.0000000000207527)

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