

# Ultraprocessed Foods Tied to Early Signs of Parkinson's

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High intake of packaged snacks, hot dogs, sugary sodas, and other ultraprocessed foods (UPFs) was linked to increased risk for early, nonmotor signs of Parkinson's disease (PD), showed new research.

Data analysis of nearly 43,000 individuals showed that those who consumed an average of 11 or more servings of UPFs per day were twice as likely to have at least three prodromal PD features compared with those who had less than three servings per day.

Prodromal traits typically precede diagnosable symptoms of a condition. For PD, these features would precede more characteristic symptoms, such as tremors and movement problems.

Higher UPF consumption was also linked to increased odds for having individual PD prodromal features, including probable rapid eye movement sleep behavior disorder (pRBD), body pain, depressive symptoms, and constipation.



Xiang Gao, MD, PhD

The findings suggest that “a healthy dietary pattern — high in fruits and vegetables and low in UPF — could be beneficial against risk of PD, an incurable neuro-degenerative disease,” co-investigator Xiang Gao, MD, PhD, dean and distinguished professor, Institute of Nutrition, Fudan University, Shanghai, China, told *Medscape Medical News*.

The study was [published online](#) on May 7 in *Neurology*.

## Future Risk Assessments

Earlier studies by Gao's team showed that overall poor diet quality was associated with increased risk for PD.

In addition, "UPF, which is strongly associated with poor diet quality, has recently been shown to be associated with dementia, another major neurodegenerative disease. However, the relation between UPF and PD remained unknown," he said.

The investigators analyzed data on 42,853 participants (mean age, 47.8 years; 58.6% women) without PD from the Nurses' Health Study and Health Professionals Follow-Up Study.

Repeated food frequency questionnaires were used to assess UPF consumption. Investigators included types of UPFs in the analysis, such as sauces, spreads, or condiments; packaged sweets; snacks or desserts; artificially- or sugar-sweetened beverages; animal-based products; yogurt- or dairy-based desserts; and packaged savory snacks.

In addition, data were evaluated on seven PD prodromal features: pRBD, constipation, body pain, depressive symptoms, reduced ability to smell (hyposmia), excessive daytime sleepiness, and impaired color vision.

## 'Growing Body of Evidence'

After adjusting for factors such as age, alcohol and caffeine intake, physical activity, and body mass index, participants with the highest cumulative average consumption ( $\geq 11$  servings/d) were more than twice as likely to have more than three prodromal features compared with those with the lowest consumption ( $< 3$  servings/d) (odds ratio [OR], 2.5;  $P < .0001$ ).

Similar results were found in the highest consumption group for having a combination of all the prodromal features except for constipation (OR, 2.0;  $P$  for trend  $< .0001$ ), as well as for a combination of just constipation, pRBD, and hyposmia (OR, 2.5;  $P$  for trend = .008).

Those who reported the highest UPF consumption also had increased risk for the individual prodromal features of body pain (adjusted OR [aOR], 1.7), constipation (aOR, 1.6), depressive symptoms (aOR, 1.5), and pRBD (aOR, 1.2).

Drilling down even more, greater odds for prodromal features were associated with higher intake of the following specific types of UPF:

Packaged sweet snacks/desserts (OR, 1.6), sweetened beverages (OR, 1.5), sauces/spreads/condiments (OR, 1.4), animal-based products (OR, 1.4), yogurt-/dairy-based desserts (OR, 1.3), and packaged savory snacks (OR, 1.3). Ultraprocessed breads/cereals and ready-to-eat/heat-mixed dishes did not have significant associations.

“Overall, our study adds to the growing body of evidence to support the adverse effects of UPF consumption on neurodegenerative diseases,” the investigators wrote.

However, “more studies are needed to confirm our finding that eating less processed food may slow down the earliest signs” of PD, Gao added in a release.

## Findings Reinforce ‘Crucial Message’

Commenting for *Medscape Medical News*, Daniel J. van Wamelen, PhD, clinical senior lecturer in neuroscience and honorary consultant neurologist at King’s College London, London, England, noted that the study was well-designed overall, included a large number of participants, and addressed an interesting and useful topic.

However, “the results should be interpreted with some caution, given the limitations,” said van Wamelen, who was not involved with the research.

“The main message in my opinion is that external factors, such as ultraprocessed foods, may be associated with an increased presence of certain nonmotor symptoms and, pending data from future follow-up, might be shown to form a risk factor for Parkinson’s disease,” he said.

van Wamelen added separately in a press statement from the nonprofit Science Media Centre (SMC) that conditions such as constipation and sleep disturbances are common among the general population. “It is important to highlight that the symptoms examined in this study are possible early signs of [PD], not definitive indicators that someone will go on to develop it,” he said in the statement.

In an [accompanying editorial](#), Maria Maraki, PhD, University of Athens, Athens, Greece, and Nikolaos Scarmeas, MD, Columbia University, New York City, wrote that the study results “reinforce general health dietary guidelines” that emphasize minimal consumption of UPFs and are similar to previous studies.

They suggested that potential links between UPFs and PD itself, rather than just its prodromal phase, should be the focus of future research.

"The prevention of neurodegenerative diseases may begin at the dinner table. Dietary choices today may shape brain health in the decades to come," the editorialists wrote.

"This study reinforces a crucial message: excessive UPF consumption not only is a risk factor for metabolic diseases but may also accelerate neurodegenerative processes and associated symptoms," they added.

Eef Hogervorst, PhD, professor of psychology at Loughborough University, Loughborough, England, also commented on the findings in the SMC statement, noting "it seemed strange" that the investigators categorized such things as pancakes, cream, coffee, distilled alcohol, and sandwiches made with beef, lamb, chicken, or turkey as non-UPFs.

"So this study may be affected by UPF categorization as a predictor," said Hogervorst, who was not involved with the research. She also pointed out that because the study population consisted of "mainly white health professionals," the results may not be generalizable to all populations.

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