

Can a healthy diet reduce risk of Parkinson's?

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Immunohistochemistry for alpha-synuclein showing positive staining (brown) of an intraneuronal Lewy-body in the Substantia nigra in Parkinson's disease. Credit: Wikipedia

While movement problems are the main symptoms of Parkinson's

disease, people with the disease often have non-motor symptoms such as constipation, daytime sleepiness and depression 10 or more years before the movement problems start. A new study suggests that eating a healthy diet in middle age may be linked to having fewer of these preceding symptoms. The study is published in the August 19, 2020, online issue of *Neurology*.

"While this study does not show cause and effect, it certainly provides yet another reason for getting more vegetables, nuts and legumes in your [diet](#)," said study author Samantha Molsberry, Ph.D., of Harvard University in Boston, Mass. "More research is needed to determine whether eating a [healthy diet](#) could delay or even prevent the development of Parkinson's disease among people who have these preceding symptoms already."

The study involved 47,679 people who were asked about their diet every four years starting in the 1980s when they were middle-aged. Then in 2012, people were asked whether they had two conditions that are common in people who are later diagnosed with Parkinson's disease: constipation and a sleep disorder called rapid eye movement sleep behavior disorder, which includes acting out dreams during sleep by movement such as flailing arms or shouting or screaming. In 2014-2015, 17,400 of the participants were asked about five more symptoms that can precede Parkinson's disease: loss of sense of smell, impaired color vision, excessive [daytime sleepiness](#), body pain and depression.

The researchers looked at how closely people's diets followed either the alternate Mediterranean diet, which is similar to the Mediterranean diet but includes only whole grains and does not consider dairy, or the Alternative Healthy Eating Index. Both diets encourage eating fruit, vegetables, whole grains, nuts and legumes and discourage eating red meat. They divided the participants into five groups based on how closely they followed the diets.

The study found that the people with the highest adherence to the diets were less likely to have three or more symptoms that precede Parkinson's disease than the people with the lowest adherence. Those in the high group for adherence to the Mediterranean diet were 33% less likely to have three or more symptoms than those in the low adherence group. These results were found after researchers adjusted for other factors that could affect the risk of developing these preceding symptoms, such as physical activity, smoking and body mass index (BMI). The researchers found a similarly strong relationship between following the Alternative Healthy Eating Index diet pattern and having three or more of these non-motor symptoms.

Among the 29,899 women in the study, 37% of the low adherence group had constipation, compared to 32% of the high adherence group. Among the 11,493 women with all of the non-motor symptoms measured, 15% of the low group had body pain, compared to 13% of the high group. In the same 11,493 women, 17% of the low group had symptoms of depression, compared to 14% of the high group. Among the 17,770 men in the study, 22% in the low adherence group had constipation, compared to 12% of the high adherence group. Among the 5,907 men with data on all of the non-[motor symptoms](#), 14% of the low group and 16% had body pain and 13% of the low group and 12% of the high group had symptoms of depression. Molsberry noted that body pain and depression may have occurred at a higher rate in the study than in the [general population](#) due to the study design, but that this was also accounted for in the statistical analysis.

Looking at individual food groups, the researchers found that eating more vegetables, nuts, legumes and consuming a moderate amount of alcohol were all associated with a lower risk of having three or more of the preceding symptoms. Moderate alcohol consumption was considered no more than one drink per day for women and no more than two drinks per day for men.

"We need to emphasize that, while these symptoms are associated with an increased risk of Parkinson's disease, especially in combination, experiencing any or several of these symptoms does not necessarily mean that a person will eventually develop Parkinson's disease," Molsberry said.

A limitation of the study was that participants were not asked about preceding symptoms at the start of the study, so some people may have already had these symptoms, which could have influenced their diet.

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