Red Wine Polyphenols May Help Combat Parkinson's Disease, Report Suggests

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Researchers from the University of Malta suggest that chemicals found in red wine may protect the brain and could potentially ward off Parkinson's disease (PD). The report, "Putative role of red wine polyphenols against brain pathology in Alzheimer's and Parkinson's disease," appeared in the journal *Frontiers in Nutrition*.

Lifestyle interventions may combat neurological decline that occurs as a part of normal aging or as the result of diseases such as Parkinson's. Epidemiological studies have indicated that drinking moderate amounts of red wine could be beneficial to the brain and general health. According to the article, red wine contains potentially beneficial polyphenols known as flavonoids.

Flavonoids are produced by plants as they photosynthesize. They cause the orange, blue, and purple color found in many plants and exist in many fruits and vegetables as well as food and drinks made from plants.

Led by Mario Caruana of the Centre for Molecular Medicine and Biobanking at the University of Malta, the authors of the article reviewed current evidence supporting the positive neurological impact of red wine polyphenols. The report was part of a series called "Health-promoting effects of traditional Mediterranean Diets."

The scientists reviewed epidemiological studies showing that moderate red wine consumption improves cognition. Light-to-moderate drinking reduces risk for several types of dementia. Intake of flavonoids, found in plants and particularly in wine, reduces the risk for Parkinson's, they said. Animal studies and studies of cells grown in a dish indicate that polyphenols can protect neurons from dying. More needs to be understood, however, about how polyphenols do this. One mechanism may be by acting as an antioxidant and by mopping up damaging iron free-radicals.

Other functions of wine polyphenols could involve preventing the formation of toxic proteins. Buildup of sticky proteins in the brain could contribute to neuron death in both Parkinson's and Alzheimer's disease.

Despite the evidence collected from animal and cellular studies, there are relatively few studies of red wine neuronal protection based on human clinical trials. One study carried out over two decades showed that habitual intake of red wine and other foods containing flavonoids decreased the risk of developing Parkinson's. A direct study of flavonoid intake could confirm which components of the diet were responsible for the decreased risk.

Caruana and his co-workers emphasize that to fully realize the potential of red wine polyphenols, additional clinical research is necessary.

"Ultimately, only the success of the clinical research will determine the relevance of [red wine polyphenols] to be incorporated as key components in clinical practice or dietary guidelines to modulate the onset and/or progression of AD and PD," they wrote in their report.