Can diet improve cognitive function or ward off dementia?

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With the aging of the population, the incidence of dementia is increasing. The most common type of dementia, Alzheimer's disease, accounts for more than 60% of all dementia cases. According to current estimates, nearly 36 million people worldwide suffer from Alzheimer's disease, with evidence suggesting that more than 115 million people will be affected with Alzheimer's disease by the year 2050, unless there are medical breakthroughs to prevent or cure the disease.

In addition to pharmacological approaches to manage dementia, researchers are also looking at modifiable lifestyle factors such as diet. In particular, much research has been conducted over the past few years to assess how the Mediterranean diet might affect cognitive function and dementia. Recently, the authors of "Mediterranean Diet, Cognitive Function, and Dementia: A Systematic Review of the Evidence," published in the September 2016 issue of Advances in Nutrition, critically examined the current body of scientific evidence to determine what conclusions, if any, could be drawn.

The Mediterranean diet is characterized by high consumption of unrefined cereals, fruit, vegetables, legumes, and olive oil. Moreover, it features moderate consumption of dairy products and alcohol as well as limited meat intake. Among other benefits, adhering to the Mediterranean diet has been linked to a lower risk of various chronic conditions, including cardiovascular disease and type 2 diabetes.

Overall, the authors reviewed 32 studies that examined the effect of the
Mediterranean diet on cognitive function, cognitive impairment, and dementia. Despite some inconsistencies among the studies' findings, the majority of studies showed that the Mediterranean diet may contribute to better cognitive performance and may be protective against cognitive impairment and dementia. The authors cautioned that much of the research they reviewed showed an association between adherence to Mediterranean diet and better cognitive function; however, they noted, "because the majority of studies were observational, a causational link cannot be assumed."

The authors also noted that it is not fully clear whether the Mediterranean diet exerts its effects because of the diet as a whole or through the action of individual components of the diet. Research findings do suggest that some components may be more important than others. For example, monounsaturated fatty acids and polyunsaturated fatty acids, both abundant in the Mediterranean diet, have been associated with improved cognitive performance and a decreased risk of age-related cognitive decline. Similarly, micronutrients abundant in the Mediterranean diet such as vitamin C, vitamin B-12, flavonoids, and carotenes also have been linked to a decreased risk of cognitive decline.

In their conclusion, the authors recommended that "more random control trials and large epidemiologic studies with a posteriori approaches be conducted in order to provide empirical evidence for the role of the Mediterranean diet in cognitive function and to understand the significance of individual components, as well as their synergistic effects when put together."
