

# Mediterranean Diet Improves Cognition: PREDIMED

Sue Hughes

May 24, 2013

Further evidence that a Mediterranean diet may have benefits on cognitive function have been reported by Spanish researchers.

A substudy of the larger PREDIMED trial, the current study, [published in the \*Journal of Neurology, Neurosurgery & Psychiatry\*](#) on May 13, found that individuals randomly assigned to a Mediterranean diet supplemented with extra-virgin olive oil or mixed nuts for 6 years had better cognitive function than control patients who followed a low-fat diet.

"Our study has some limitations and the effect we saw was small, but our results were statistically significant and are in line with other research suggesting that a Mediterranean diet may be linked to reduced cognitive impairment and also reduced progression of mild cognitive impairment to dementia," senior author, Miguel A. Martinez-Gonzalez, MD, PhD, University of Navarra, Spain, commented to *Medscape Medical News*.

In addition the researchers say, "To the best of our knowledge, this is the first study evaluating the effect of a long-term randomized intervention aimed to change the overall dietary pattern on global cognitive function."

## 30% Reduction in MI, Stroke, Cardiovascular Death

The [main PREDIMED study](#), published in the *New England Journal of Medicine*, enrolled a total of 7447 individuals at high cardiovascular risk and found after a mean follow-up of 4.8 years that those randomly assigned to the Mediterranean diets had a 30% reduction in the primary endpoint of myocardial infarction (MI), stroke, or cardiovascular death.

The current study just involved the participants enrolled at 1 of the 11 recruitment centers (Navarra), which was chosen because it completed recruitment earlier than the other centers and therefore had a longer follow-up period.

In the study, 522 patients underwent cognitive testing at 6.5 years after being assigned to the different diet groups. Average age at the start of the study was 69 years. Although cognitive tests were not done routinely at the start, patients with any diagnosed memory impairment were excluded from the study.

Results showed that after adjustment for potential confounders, participants in the 2 Mediterranean diet groups had small improvements in 2 measure of cognitive function, the Mini-Mental State Examination (MMSE) and Clock Drawing Test (CDT), compared with the control low-fat diet.

**Table. Multivariable-Adjusted Mean MMSE and CDT Scores and Differences vs Control**

Endpoints	Mediterranean Diet With Olive Oil	Mediterranean Diet With Nuts	Control
MMSE score	27.73	27.68	27.11
Adjusted difference vs control	0.62 ( <i>P</i> = .005)	0.57 ( <i>P</i> = .015)	–
CDT score	5.31	5.13	4.80
Adjusted difference vs control	0.51 ( <i>P</i> = .001)	0.33 ( <i>P</i> = .048)	–

Dr. Martinez-Gonzalez noted that the main limitation of the study was that it did not assess baseline cognitive function. "So we have to assume that the randomization process balanced the 3 groups equally."

Although the differences in the cognition scores were statistically significant, he added that "it is difficult to say if this is clinically meaningful, as the differences were tiny."

But he pointed out that the control diet was also a very healthy way of eating, and patients in the control group incorporated some components of the Mediterranean diet. "But even with just a small difference in the diets, we saw a statistically significant effect in cognition in favor of the Mediterranean diets."

He added that a second PREDIMED center, Barcelona, is also looking at cognitive function, but this group did have cognitive tests at baseline. These results have not yet been published.

The researchers stress the need to assess the incidence of mild cognitive impairment and dementia in patients who are following different diets. Dr. Martinez-Gonzalez commented, "We will continue to follow our patients, but they are no longer in their randomized groups. All patients have now been recommended to move to the Mediterranean diet, but because of the 6-year randomized period, some differences may remain.

On the mechanism, he noted that the effects may be related to the general cardiovascular benefits of the Mediterranean diet, but there may also be a specific effect on the brain.

"There is good evidence in favor of cardiovascular benefits of the Mediterranean diet from the main PREDIMED trial," he said. "This is thought to be mediated by an anti-inflammatory vascular effect. The better cognitive function could be a direct result of the cardiovascular benefit — a consequence of better vascular function. But other recent studies have also shown that a polyphenol derived from olive oil can clear beta-amyloid from the brain."

*This study was funded by the official agency for funding biomedical research of the Spanish Government (ISCIII).*

*J Neurol Neurosurg Psychiatry.* Published online May 13, 2013. [Abstract](#)

Medscape Medical News © 2013 WebMD, LLC

Send comments and news tips to [news@medscape.net](mailto:news@medscape.net).

Cite this article: Mediterranean Diet Improves Cognition: PREDIMED. *Medscape*. May 24, 2013.