

# Following a Mediterranean diet reduces the risk of cognitive decline in older people: Study

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Old people who follow a Mediterranean diet are at a lower risk of cognitive decline, according to a study [published](#) in the journal *Molecular Nutrition and Food Research*. The study provides new

evidence for a better understanding of the biological mechanisms related to the impact of the diet on cognitive health in the aging population.

The study was led by Mireia Urpí-Sardá, adjunct lecturer and member of the Biomarkers and Nutritional & Food Metabolomics research group of the Faculty of Pharmacy and Food Sciences, the Institute for Nutrition and Food Safety (INSA-UB), the Food and Nutrition Torribera Campus of the University of Barcelona, and the CIBER on Frailty and Healthy Aging (CIBERFES).

This European study, part of the Joint Programming Initiative "A Healthy Diet for a Healthy Life" (JPI HDHL) was carried out over 12 years and involved 840 people over 65 years of age (65% of whom were women) in the Bourdeaux and Dijon regions of France.

## **Healthy diet and cognitive performance**

Cristina Andrés-Lacueva, UB professor and head of the CIBERFES group, says, "Within the framework of the study, a dietary metabolomic index has been designed—based on biomarkers obtained from the participants' serum—on the food groups that form part of the Mediterranean diet. Once this index is known, its association with [cognitive impairment](#) is evaluated."

In the study, baseline levels of saturated and [unsaturated fatty acids](#), gut microbiota-derived polyphenol metabolites and other phytochemicals in serum that reflect individual bioavailability were chosen as biomarkers. Some of these indicators have not only been recognized as marks of exposure to the main food groups of the Mediterranean diet but have also been held responsible for the health benefits of the Mediterranean dietary pattern.

The metabolome or set of metabolites—related to food and derived from

gut microbiota activity—was studied through a large-scale quantitative metabolomic analysis from the serum of the participants without dementia, from the beginning of the study. Cognitive impairment was assessed by five neuropsychological tests over twelve years.

As a result, the study reveals a protective association between the score of the Mediterranean diet based on serum biomarkers and [cognitive decline](#) in older people.

## **Biomarkers to study the benefits of the diet**

According to Mercè Pallàs, professor at the UB Neurosciences Institute (UBneuro), "The use of dietary pattern indices based on food-intake biomarkers is a step forward towards the use of more accurate and objective dietary assessment methodologies that take into account important factors such as bioavailability."

Expert Alba Tor-Roca, first author of the study and CIBERFES researcher at the UB, says, "We found that adherence to Mediterranean diet assessed by a panel of dietary biomarkers is inversely associated with long-term cognitive decline in older people. These results support the use of these indicators in long-term follow-up assessments to observe the health benefits associated with the Mediterranean diet or other dietary patterns and therefore, guide personalized counseling at older ages."

**More information:** Alba Tor-Roca et al, A Mediterranean Diet-Based Metabolomic Score and Cognitive Decline in Older Adults: A Case–Control Analysis Nested within the Three-City Cohort Study, *Molecular Nutrition & Food Research* (2023). [DOI: 10.1002/mnfr.202300271](https://doi.org/10.1002/mnfr.202300271)

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