

Study demonstrates one of the reasons why the Mediterranean diet improves kidney health in patients with diabetes

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The Mediterranean diet garners praise once again, with another study ratifying its list of health benefits. In addition to preventing

cardiovascular accidents, boosting the immune system, and averting oxidative stress, this diet can also help slow the deterioration of the kidneys. It is a benefit that, although already known by the scientific community, now, for the first time, has been demonstrated in patients suffering from type 2 diabetes, a condition affecting almost 15% of the Spanish population, according to the latest report by the Spanish Diabetes Society.

This is at least one of the main conclusions of a new study published by the University of Cordoba (UCO) and the Maimonides Institute for Biomedical Research (IMIBIC). The work has managed to unravel one of the reasons for this relationship between the Mediterranean diet and the improvement of kidney function; that is, one of the molecular mechanisms by which this phenomenon occurs.

The key lies in compounds called advanced glycation end products, better known as AGEs. As researcher Alicia Podadera points out, these are molecules with an inflammatory and oxidizing capacity. They can be produced naturally in the human body, and also ingested, depending on one's diet. Although they are usually discharged through urine, diabetic patients with kidney problems (one of the most recurrent complications) have more trouble eliminating them, such that the levels of these products in their bodies are usually higher.

The study, carried out by the Nutrigenomics and Metabolic Syndrome Group at the IMIBIC, analyzed the levels of these harmful compounds in more than 500 diabetics, comparing, over a period of five years, how two types of healthy diets affect the body: the Mediterranean diet and another low-fat diet richer in carbohydrates.

According to the results of the study, patients who had eaten a Mediterranean diet during those years had lower levels of these harmful compounds in their blood.

"We were able to verify that this diet better activates the detoxification process; that is, the mechanism by which the body eliminates these harmful substances," said Francisco Miguel Gutiérrez, another of the study's authors.

Although the relationship between these compounds and [kidney disease](#) was already known, this is the first demonstration of "how a defined dietary pattern can mitigate the deterioration of kidney function in [diabetic patients](#)," says researcher Elena Yubero. The Mediterranean diet, therefore, "could be an effective strategy for the management of these substances," she concludes.

There are multiple reasons why this diet is beneficial for health. In addition to the antioxidant capacity of extra virgin [olive oil](#) (EVOO), previous studies have shown how ways of cooking with it also play an important role. For example, foods that are cooked at high temperatures for short periods of time "contain a higher amount of these harmful substances" than other cooking techniques typical of the Mediterranean diet that "require longer cooking times, and are gentler on the food," Yubero said.

The research is [published](#) in the journal *Diabetes & Metabolism*. This work was published within the framework of the Cordioprev study, carried out over the course of seven years with more than 1,000 patients with [heart disease](#), and in which the differences between a healthy low-fat diet and a Mediterranean diet rich in virgin olive oil are compared.

More information: Francisco M. Gutierrez-Mariscal et al, Reduction of circulating methylglyoxal levels by a Mediterranean diet is associated with preserved kidney function in patients with type 2 diabetes and coronary heart disease: From the CORDIOPREV randomized controlled trial, *Diabetes & Metabolism* (2023). [DOI: 10.1016/j.diabet.2023.101503](https://doi.org/10.1016/j.diabet.2023.101503)

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