

Fruit and vegetables aren't only good for a healthy body—they protect your mind too

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Credit: Anna Langova/Public Domain

Eating a Mediterranean diet or other healthy dietary pattern, comprising of fruit, vegetables, legumes, and nuts and low in processed meats, is associated with preventing the onset of depression, according to research published in the open access journal *BMC Medicine*. A large study of 15,093 people suggests depression could be linked with nutrient deficits.

Following extensive research into diet and its effect on our [physical health](#), researchers are now exploring the link between nutrition and [mental health](#). This is the first time that several healthy dietary patterns and their association with the risk of [depression](#) have been analyzed together.

The researchers compared three diets; the Mediterranean diet, the Pro-vegetarian Dietary Pattern and Alternative Healthy Eating Index-2010. Participants used a scoring system to measure their adherence to the selected diet, i.e. the higher the dietary score indicated that the participant was eating a healthier diet.

Food items such as meat and sweets (sources of animal fats: saturated and [trans fatty acids](#)) were negatively scored, while nuts, fruits and vegetables (sources of omega-3 fatty acids, vitamins and minerals respectively) were positively scored.

Lead researcher, Almudena Sanchez-Villegas, University of Las Palmas de Gran Canaria, says "We wanted to understand what role nutrition plays in mental health, as we believe certain dietary patterns could protect our minds. These diets are all associated with physical health benefits and now we find that they could have a positive effect on our mental health."

"The protective role is ascribed to their nutritional properties, where nuts, legumes, fruits and vegetables (sources of omega-3 [fatty acids](#), vitamins and minerals) could reduce the risk of depression."

The study included 15,093 participants free of depression at the beginning of the study. They are former students of the University of Navarra, Spain, registered professionals from some Spanish provinces and other university graduates. All are part of the SUN (Seguimiento Universidad de Navarra) Project, a cohort study started on 21st

December 1999. The cohort has been used to identify dietary and lifestyle determinants of various conditions, including diabetes, obesity and depression.

Questionnaires to assess dietary intake were completed at the start of the project and again after 10 years. A total of 1,550 participants reported a clinical diagnosis of depression or had used antidepressant drugs after a median follow-up of 8.5 years.

The Alternative Healthy Eating Index-2010 was associated with the greatest reduction of risk of depression but most of the effect could be explained by its similarity with the Mediterranean Diet. Thus, common nutrients and food items such as [omega-3 fatty acids](#), vegetables, fruits, legumes, nuts and moderate alcohol intake present in both patterns (Alternative Healthy Eating Index-2010 and Mediterranean diet) could be responsible for the observed reduced risk in depression associated with a good adherence to the Alternative Healthy Eating Index-2010.

Almudena Sanchez-Villegas says, "A threshold effect may exist. The noticeable difference occurs when participants start to follow a healthier diet. Even a moderate adherence to these healthy dietary patterns was associated with an important reduction in the risk of developing depression. However, we saw no extra benefit when participants showed high or very high adherence to the diets.

So, once the threshold is achieved, the reduced risk plateaus even if participants were stricter with their diets and eating more healthily. This dose-response pattern is compatible with the hypothesis that suboptimal intake of some nutrients (mainly located in low adherence levels) may represent a risk factor for future depression."

A limitation of this study was that the results are based on self-reported dietary intake and a self-reported clinical diagnosis of depression. More

research is needed to predict the role of nutrient intake for neurophysiological requirements and identify whether it is minerals and vitamins or proteins and carbohydrates that cause depression.

More information: A longitudinal analysis of diet quality scores and the risk of incident depression in the SUN Project. Almudena Sanchez-Villegas, Patricia Henriquez-Sanchez, Miguel Ruiz- Canela, Francisca Lahortiga, Patricio Molero, Estefania Toledo and Miguel A Martinez-Gonzalez *BMC Medicine* 2015 [DOI: 10.1186/s12916-015-0428-y](https://doi.org/10.1186/s12916-015-0428-y)

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