

The association between dietary patterns derived by reduced rank regression and depressive symptoms over time: the InCHIANTI study

There are indications that healthy dietary patterns high in foods such as vegetables, fruit, olive oil and fatty fish may be protective for depressive symptoms. However, there are several ways to derive dietary patterns; in our study we used the reduced rank regression (RRR) method. RRR shows complementary value in identifying dietary patterns because by using this method, a dietary pattern can be obtained that is closely related to the outcome under study, in our case depressive symptoms. The aim of this study was to identify dietary patterns using RRR and to explore their associations with depressive symptoms in the InCHIANTI study.

Data was collected on 1,362 habitants residing in Tuscany, Italy (mean age 68). Participants were asked to fill in a food questionnaire to collect usual dietary intake information at baseline. Additionally, a depression questionnaire was filled in by the participants to determine whether they were suffering from depressive symptoms at baseline and after 3, 6 and 9 years of follow-up. We derived a dietary pattern that was rich in vegetables, olive oil, grains, fruit, fish and moderate in wine, red and processed meat and was labelled as 'typical Tuscan dietary pattern'.

The results demonstrated that consuming a 'typical Tuscan dietary pattern' decreases depressive symptoms at baseline. When looking at the abovementioned dietary pattern at baseline and depressive symptoms over time (at baseline and after 3, 6 and 9 years of follow-up) we also observed that high consumption of the 'typical Tuscan dietary pattern' lowers depressive symptoms in the Tuscan population.

In conclusion, the findings of this study contribute to the growing body of evidence that healthy dietary patterns might be protective for depressive symptoms. Furthermore, our results suggest that moderate intakes of red and processed meat fit into a diet that decreases depressive symptoms. Overall, diet could be a plausible tool to test in practice to lower depressive symptoms.

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