

Prospective study of inflammatory diet patterns and cognition among European seniors

Project: 527

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Background

Diet patterns associated with low chronic inflammation might modulate the progressive decline in cognition.

Objective

We investigated dietary patterns associated with inflammation in older adults from five European countries and their association with cognitive changes over 3 - years.

Methods

We conducted a prospective study in 2157 community dwelling - seniors 70 years and older, followed for 3 years as part of DO - HEALTH, a randomized clinical trial. At baseline, participants completed a food frequency questionnaire and blood samples were collected for the assessment of CReactive Protein (CRP) and interleukin - 6 (IL - 6). Cognitive function was assessed with the Montreal Cognitive Assessment (MoCA) every year of the study. We identified two inflammatory diet patterns, a literature derived inflammatory index and an empirical pattern derived with reduced rank regression to determine a diet associated with CRP and IL - 6. The association between the dietary patterns and cognitive function was assessed with linear mixed models adjusting for age, total calories, BMI, study center, time, alcohol intake, education, physical activity, presence of depression symptoms, hypertension, diabetes or heart disease.

Results

Using reduced rank regression, we identified an inflammatory diet pattern characterized by higher intakes of red and organ meat, refined grains, legumes, poultry and white fish, and lower intakes of coffee, tea, ginger, nuts and cheese. In the fully adjusted models, participants with lowest adherence to the inflammatory diet pattern (range - 7.3 to - 0.3) increased their MoCa scores 0.7 points over three years whereas those with highest adherence (range 0.4 - 10.1) increased their MoCA scores only by 0.2 points ($p=0.01$). There was no significant association with the literature derived inflammatory index and cognitive function.

Conclusion

A data - driven low inflammatory diet pattern was associated with better cognitive function over time among adults 70 years and older from five European countries. This finding supports the role of diet in the promotion of cognitive health among older adults.