Health effects of olive oil and the mediterranean diet

INFLAMMATION

EFFECT SIZE

"Evidence from randomised controlled trials shows olive oil exerts beneficial effects on markers of inflammation and endothelial function."

Schwingshackl, L., M. Christoph, and G. Hoffmann, Effects of Olive Oil on Markers of Inflammation and Endothelial Function-A Systematic Review and Meta-Analysis. Nutrients, 2015. 7(9): p. 7651-75.

What is the effect?

- No significant effect for **TNF-α or Adiponectin**
- No significant effect for **ICAM-1 or VCAM-1**

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WHAT IS THE QUALITY OF THE EVIDENCE?

markers of inflammation and endothelial function

Diets containing olive oil

28 Random controlled trials

Systematic literature and meta-analysis

KEY RESULTS

The olive oil intervention resulted in:

REDUCTION IN CRP	REDUCTION IN IL-6	INCREASE IN FMD	REDUCTION IN SE-SELECTIN
Mean difference = -0.64; 95% CI -0.96 to -0.31; P<0.0001 (15 studies)	Mean difference = -0.29; 95% CI -0.7 to -0.02; P<0.04 (7 studies)	Mean difference = 0.76; 95% CI 0.27 to 1.24; P<0.002 (8 studies)	Mean difference = -3.16; 95% CI -4.07 to -2.25; P<0.00001 (2 studies)

WHAT TO KEEP IN MIND?

Limitations

- There was considerable amount of heterogeneity between studies e.g., the length of intervention, amount and type of olive oil used, classification of control and the number of participants.
- Some studies prescribed the intake of olive oil in addition to a baseline
- Mediterranean diet that already consisted of olive oil, which means the absolute quantity of olive oil consumed could not be determined.

WHAT'S THE BOTTOM LINE?

Markers of inflammation (CRP, IL-6) and endothelial function (FMD, sE-Selectin) were improved following interventions with olive oil.

These markers are generally regarded to influence CVD risk and may help to explain the cardio-protective associations of olive oil in observational studies.

OTHER REVIEWS

Mayr, H.L., et al., Mediterranean-type diets and inflammatory markers in patients with coronary heart disease: a systematic review and meta-analysis. Nutr Res, 2018. 50: p. 10-24.

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Ahluwalia, N., et al., Dietary patterns, inflammation and the metabolic syndrome. Diabetes Metab, 2013. 39(2): p. 99-110.

Barbaresko, J., et al., Dietary pattern analysis and biomarkers of low-grade inflammation: a systematic literature review. Nutr Rev, 2013. 71(8): p. 511-27.

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