



Systematic review and network meta-analysis: the Mediterranean and low-fat diets reduce all cause mortality in patients with increased cardiovascular risk |

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Dietary guidelines recommend various dietary programs for patients with increased cardiovascular risk, but they may be based on low-certainty evidence, such as non-randomized studies. Systematic reviews of randomized trials have reported the benefits of dietary programs, but have not used network meta-analysis to provide absolute estimates and certainty of estimates for patients at intermediate and high risk. The objective of this network meta-analysis was to determine the relative efficacy of structured diet and health behavior programs (dietary programs) for the prevention of mortality and major cardiovascular events in patients at increased risk of cardiovascular disease. The results showed that the Mediterranean diet reduces all-cause mortality in patients with increased cardiovascular risk.

Numerous diets, with or without exercise and behavioral support (known as dietary programs), reduce major cardiovascular events. These diets include diets low in total or saturated fats (e.g., the National Cholesterol Education Program diets), Mediterranean-style diets, and the Dietary Approaches to Stop Hypertension (DASH) diet.

The Mediterranean diet is a century-old approach, traditional to the countries bordering the Mediterranean Sea. The bulk of the diet consists of colorful fruits and vegetables, whole grains, legumes, nuts, seeds, fish, seafood, olive oil, and perhaps a glass of red wine. There is no butter, refined grains (like white bread, pasta, and rice), and very little red or processed meat (like bacon). In a Mediterranean-style diet, every meal should have vegetables and fruits as a base. Any grains should be whole grains, like quinoa, brown rice, corn, farro, or whole wheat. Legumes are an excellent source of plant protein, such as lentils, garbanzo, cannellini, or black beans. Nuts and seeds contain protein and healthy fats, olive oil provides even more healthy fats. Including fish and seafood is traditional.

Healthier dietary patterns, in particular the Mediterranean diet, were proposed as a strategy to reduce the risk of dementia. A large population-based prospective cohort study showed that higher adherence to the Mediterranean diet is associated with a lower risk for all-cause dementia.

<https://discovermednews.com/the-mediterranean-diet-is-associated-with-a-lower-risk-of-dementia/>



About the study

This network meta-analysis compared the effects of different dietary programs on clinical outcomes, such as mortality and cardiovascular events, using GRADE (Grading of Recommendations Assessment, Development, and Evaluation) methods. The objective was to determine the relative efficacy of structured diet and health behavior programs (dietary programs) for the prevention of mortality and major cardiovascular events in patients at increased risk of cardiovascular disease.

The authors searched five databases: AMED (Allied and Complementary Medicine Database), Cochrane Central Register of Controlled Trials (CENTRAL), EMBASE, Medline, and CINAHL (Cumulative Index to Nursing and Allied Health Literature) and ClinicalTrials.gov for unpublished and ongoing trials.

Eligible trials enrolled patients with two or more established risk factors for cardiovascular disease (eg, hypertension, dyslipidemia, obesity, diabetes mellitus), or established cardiovascular disease (history of coronary artery disease, myocardial infarction, stroke, or peripheral artery disease). In addition to the diet intervention, structured dietary programs could include non-dietary interventions, such as exercise, and psychosocial or behavioral support. Smoking cessation interventions and drug treatments were also permitted but were considered co-interventions.

The authors divided low-fat diet category into low-fat (20-30% calories from fat) and very low-fat ($\leq 20\%$ calories from fat) to distinguish standard low-fat dietary programs from



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programs with a more intense fat reduction goal. They also added a modified fat category (not a reduction in total fat intake, but an increase in polyunsaturated fats).

Results

40 eligible trials were identified with 35 548 participants across seven named dietary programs (low fat, 18 studies; Mediterranean, 12; very low-fat, 6; modified fat, 4; combined low-fat and low-sodium, 3; Ornish, 3; Pritikin, 1).

The results of this study showed that Mediterranean and low-fat diets reduce all-cause mortality and non-fatal myocardial infarction in patients with increased cardiovascular risk. A Mediterranean diet was not convincingly superior to a low-fat diet for these results. The absolute effects of both dietary programs were more pronounced in high-risk patients.

The Mediterranean dietary programs were superior to minimal intervention for the prevention of all-cause mortality, cardiovascular mortality, stroke, and non-fatal myocardial infarction in patients with increased cardiovascular risk. Low-fat dietary programs were also superior to minimal intervention, with low to moderate certainty for the prevention of all-cause mortality and non-fatal myocardial infarction.

There were no convincing differences between Mediterranean and low-fat programs for mortality or non-fatal myocardial infarction. The five remaining dietary programs generally had little or no benefit compared to a minimal intervention typically based on low to moderate certainty evidence.

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