Mediterranean diet improves endothelial function in patients with diabetes and prediabetes: A report from the CORDIOPREV study

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Mediterranean diet improves endothelial function in patients with diabetes and prediabetes: A report from the CORDIOPREV study

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Mediterranean diet, low-fat diet, diabetes, prediabetes, endothelial function, flow mediated vasodilation

Summary
Diabetes represents a major global clinical challenge, the incidence of which is anticipated to increase in coming years (2). It is a major risk factor for cardiovascular disease, and one of the major causes of morbidity and mortality in people with diabetes is atherosclerotic cardiovascular disease (3). The aim of this study was to utilise a large cohort of people (1002) with cardiovascular disease, who had a coronary event at least six months before enrolment in the CORDIOPREV study, to investigate the effects of different diets (Mediterranean diet compared to low-fat diet) on endothelial function (4). The study is an extension of previous work which has highlighted that a Mediterranean diet improves endothelial function in people with hypercholesterolemia (males) (5), metabolic syndrome (6), and women with hypertension (7).

Key points and implications
A total of 805 people from the CORDIOPREV study who completed this trial, were assigned to the low-fat diet group or the Mediterranean diet group, were separated into people with diabetes (n=438), prediabetes (n=289), and absence of diabetes (n=78). Briefly, the low-fat comprised of 28% calories from fat with 55% of calories from carbohydrates, and the Mediterranean diet consisted of 35% calories from fat (rich in olive oil) and 50% from carbohydrates. The major parameter that was measured was flow mediated vasodilation using ultrasonography of brachial artery. Measurements were performed at baseline and 1.5 years following the dietary interventions. The findings indicated that: 1) the Mediterranean diet increases flow mediated vasodilation in people with diabetes and prediabetes, 2) improves flow mediated vasodilation in people with diabetes and prediabetes more than the low-fat diet, and 3) both the low-fat and Mediterranean diets maintained a stable flow mediated vasodilation in people without diabetes. Overall, these findings strengthen the accumulating evidence that long-term dietary intervention, with a Mediterranean diet,
improves endothelial function in people with elevated risk of cardiovascular disease, and more generally that dietary recommendations could help prevent cardio-metabolic complications.

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