INFOBITE

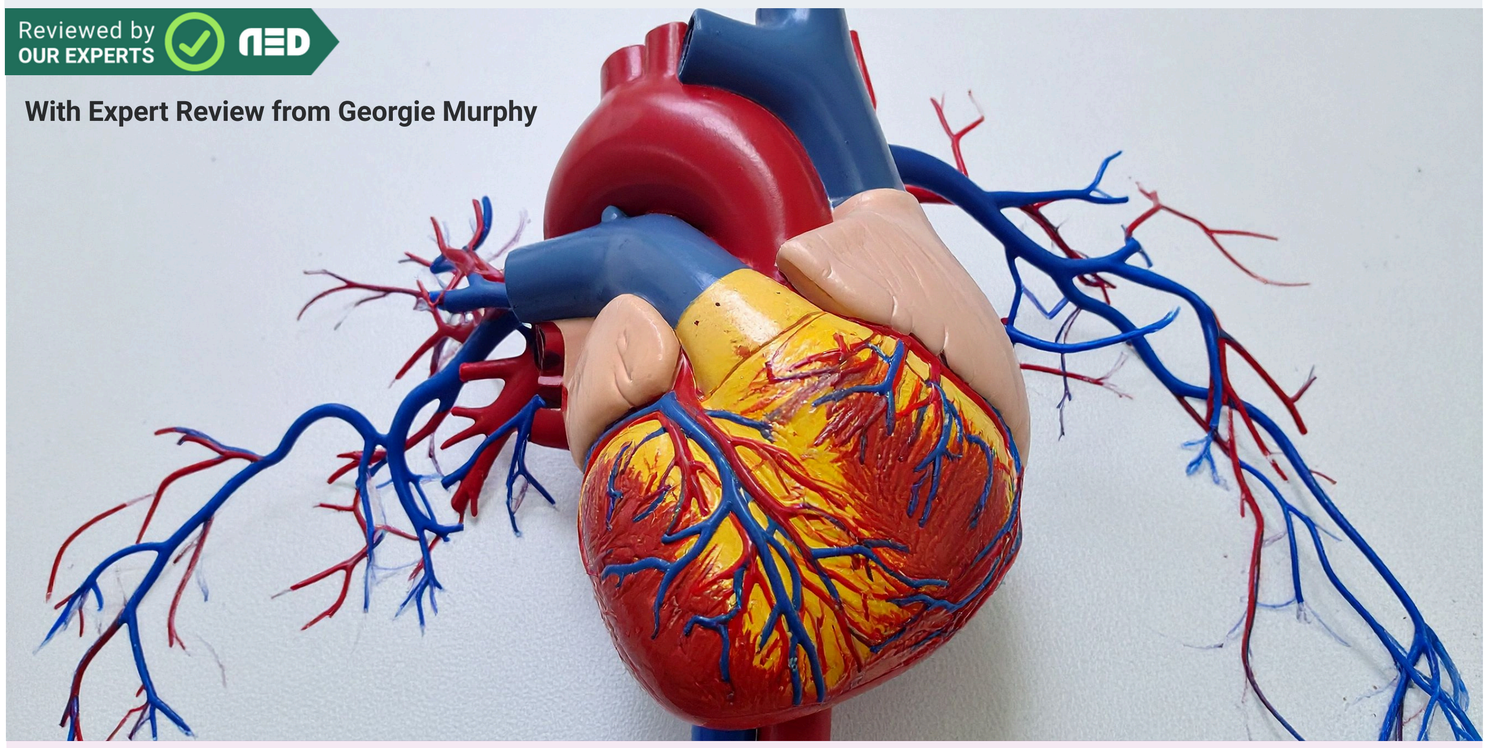
Cardiovascular Health & Nutrition

Impact of a 12-week personalized dietary intervention on vascular function and cardiovascular risk factors.

EDITH J M FESKENS, GIJS H GOOSSENS, ANOUK GIJBELS, ET AL.
JOURNAL: DIABETES, OBESITY & METABOLISM 2025;27(5):2601-2612

Reviewed by OUR EXPERTS

With Expert Review from Georgie Murphy



TAKE HOME MESSAGE: In individuals with Insulin Resistance (IR) a low-fat, high-protein, high-fibre diet diet over 12 weeks resulted in greater improvements in markers of CVD risk and IR than high in monounsaturated fat or a phenotype-based diet.

Insulin resistance (IR) phenotypes, liver IR (LIR) or muscle IR (MIR), may respond differently to specific diets. The aim of this study was to explore if a 12-week personalised dietary intervention, linking the IR phenotype to the type of diet, would improve vascular function and CVD risk factors in individuals with IR.

This sub-study included 119 participants with tissue-specific IR, who were living with overweight or obesity. They were randomly allocated to Phenotype-based diet (PhenoDiet) group A: low-fat, high-protein, high-fibre diet (LFHP) for LIR, high in monounsaturated fat (HMUFA) for MIR; or PhenoDiet group B: LFHP for MIR, HMUFA for LIR.

Over 12 weeks physical activity, vascular function and disposition index did not change with either diet. However, cardiovascular risk factors decreased, and insulin sensitivity improved, particularly total cholesterol, with PhenoDiet group B when compared to group A. In individuals with IR a LFHP diet over 12 weeks resulted in greater improvements in markers of CVD risk and IR than HMFUA or a phenotype-based diet ■

Regular use of fish oil supplements and course of cardiovascular diseases: prospective cohort study

Reviewed by OUR EXPERTS

GE CHEN, ZHENGMIN MIN QIAN, JUNGUO ZHANG, ET AL.
JOURNAL: BMJ MEDICINE 2024;3(1):E000451

With Expert Review from Gail Brady

The primary aim of this study was to assess associations between regular use of fish oil supplements and cardiovascular disease (CVD) outcomes and events in people with no known CVD. People at high risk of CVD were included. A secondary aim was to examine the modifying effects of fish oil supplements in people with known CVD for disease progression.

Participants from the UK Biobank (n=415,737) without known CVD, were followed up over a median period of 11.9 years. N=130,365 (31.4%) self-reported as regular fish oil users at baseline.

This study found associations between the use of fish oil supplements and an increased risk of atrial fibrillation and stroke. Conversely, a beneficial association was reported against the progression of CVD. It is not currently known why fish oil supplements may have differential roles.

Further studies are needed to confirm these results along with identification of the exact mechanisms. No causal relationships can be drawn due to the observational nature of this study ■

Effect of synbiotics on the cardiovascular risk factors in patients with non-alcoholic fatty liver: a GRADE assessed systematic review and meta-analysis

MINFANG LV, GHAVAM SHAFAGH, SAITING YU
JOURNAL: BMC GASTROENTEROLOGY 2025;25(1):407

Gut microbiota may play a role in the development of non-alcoholic fatty liver disease (NAFLD) and heart disease by acting on inflammation and digestion. This systematic review and meta-analysis of 15 randomised controlled trials examined the effects of synbiotics (a combination of probiotics and prebiotics) on the risk of heart disease in patients with NAFLD.

The results showed that synbiotics had no effect on blood pressure, blood lipid levels or most anthropometric measures. There was a decrease in weight however, following synbiotics. Some but not all markers of inflammation were decreased with synbiotic supplementation. It was concluded that synbiotics could have a positive impact on certain heart disease risk factors among individuals with NAFLD. However, the results from the included studies varied, highlighting the need for careful interpretation of the data ■

Cardiovascular health and cancer risk associated with plant based diets: An umbrella review

Reviewed by OUR EXPERTS

ANGELO CAPODICI, GABRIELE MOCCIARO, DAVIDE GORI, ET AL.
JOURNAL: PLOS ONE 2024;19(5):E0300711

With Expert Review from Jessica Rigutto

Cardiovascular diseases (CVD) and cancer are leading causes of morbidity and mortality worldwide. This umbrella review sought to synthesise evidence from systematic reviews and meta-analyses describing the effect of plant-based diets on the incidence of CVD and cancer, and related morbidities globally. 49 articles were included in the final analysis and found that plant-based or vegetarian and vegan diets may afford some protection against CVD and cancer, and their associated morbidities.

Vegetarian and vegan diets appeared to reduce/improve total and LDL cholesterol, fasting glucose and HbA1c, bodyweight/BMI and inflammation. Other indices including HDL cholesterol, triglycerides, and blood pressure were inconclusive. General results from three meta-analyses suggested favourable outcomes for cancer, though when analyses were stratified by cancer type, results were inconsistent. However, an overall low quality of the included publications was noted, which lowered the strength of evidence and reduced external validity of findings ■