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## A prospective investigation of plant foods, dietary fibre and ischaemic heart disease in the EPIC cohort

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### Abstract

**Introduction:** There is evidence that plant-based diets might be associated with a lower risk of IHD; however, previous studies have not reported on intake of subtypes of fruit and vegetables and sources of dietary fibre. This study aims to assess the associations of major plant foods, their subtypes and dietary fibre with risk of ischaemic heart disease (IHD) in the European Prospective Investigation into Cancer and Nutrition (EPIC)-CVD Consortium.

**Material and methods:** We conducted a prospective analysis of 490,311 men and women in ten European countries without a history of myocardial infarction or stroke at recruitment. Dietary intake was assessed using validated questionnaires and calibrated with 24-hour recall data. Cox regression models, adjusted for IHD risk factors, were used to estimate hazard ratios (HRs) and 95% confidence intervals (CIs).

**Results:** During a mean of 12.6 years follow-up, we documented 8504 myocardial infarction cases or deaths from IHD. Participants consuming at least eight portions (80 grams each) of fruits and vegetables a day had a 10% lower risk of IHD (HR 0.90, 95% CI: 0.82–0.98) compared with those consuming fewer than three portions a day. The risk of IHD was 6% (95% CI 0.90–0.99; P-trend = 0.009) lower for a 200 g/day higher intake of fruit and vegetables combined, 3% (0.95–1.00; P-trend = 0.021) lower for a 100 g/day higher fruit intake, and 8% (0.86–0.97; P-trend = 0.006) lower for a 50 g/day higher intake of bananas. Moreover, risk of IHD was 9% (0.83–0.99; P-trend = 0.032) lower for a 10g/day higher intake of nuts and seeds, and 10% (0.82–0.98; P-trend = 0.020) lower for a 10g/day higher intake of total dietary fibre. No associations were observed between legumes, total vegetables and other subtypes of fruit and vegetables and IHD risk.

**Discussion:** The results from this large prospective study suggest that higher intakes of fruit and vegetables combined, total fruit, bananas, nuts and seeds, and total fibre are associated with a lower risk of IHD. Given the observational design of this study, causality and potential mechanisms should be further investigated.

### Conflict of Interest

There is no conflict of interest