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Alternative methods for assessing the link between diet and coronary heart disease
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Background – Analysis of the effects of overall dietary patterns offers an alternative approach to the investigation of the role of diet in coronary heart disease (CHD).

Objectives – The aim of this study was to identify blood lipid-related dietary patterns using a new method of dietary pattern assessment and to assess the prospective association of the identified pattern with incident CHD.

Design – Analysis was based on 7314 participants of the Whitehall II study. Diet was measured using a 127-item food frequency questionnaire. Reduced rank regression was used to derive dietary pattern scores using baseline serum total and HDL cholesterol, and triglyceride levels as dependent variables. Cox proportional hazard regression was used to confirm the association between dietary patterns and incident CHD (n=243) over 15 years of follow-up.

Outcomes – Increased CHD risk (hazard ratio for top quartile: 2.01, 95% CI 1.41 - 2.85, adjusted for age, sex and ethnicity) was observed with a diet characterised by high consumption of white bread, fried potatoes, sugar in tea and coffee, burgers & sausages, soft drinks, and low consumption of salad dressing and vegetables. The relationship was attenuated, but remained significant, after adjustment for employment grade, smoking, alcohol and physical activity (HR: 1.81, 95% CI 1.26 - 2.62), and blood pressure and BMI (HR: 1.57, 95% CI 1.08 - 2.27).

Conclusion – Certain dietary patterns are associated with blood lipids and risk of CHD. This method of identifying dietary patterns uses prior knowledge and focuses on the pathways through which diet may influence disease. This study adds to the evidence that dietary patterns are an important risk factor for CHD.