

Experts warn of significant cardiovascular risk with Atkins-style diets

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Women who regularly eat a low carbohydrate, high protein diet are at greater risk of cardiovascular disease (such as heart disease and stroke) than those who do not, a study published in the *British Medical Journal* today suggests.

Although the actual numbers are small (an extra 4-5 cases of [cardiovascular](#) disease per 10,000 women per year) the authors say that this is a 28% increase in the number of cases and that these results are worrying in a population of young women who may be exposed to these [dietary patterns](#) and face the excess risk for many years.

Low carbohydrate-high protein diets are frequently used for body weight control. Although they may be nutritionally acceptable if the protein is mainly of plant origin (e.g. nuts) and the reduction of carbohydrates applies mainly to simple and refined ones (i.e. unhealthy sweeteners, drinks and snacks), the general public do not always recognise and act on this guidance.

Studies on the long term consequences of these diets on cardiovascular health have generated inconsistent results. So a team of international authors carried out a study on just under 44,000 Swedish women aged between 30 and 49 years from 1991-92 (with an average follow-up of 15 years).

Women completed an extensive dietary and lifestyle questionnaire and diet was measured on the low carbohydrate-high protein (LCHP) score

where a score of two would equal very [high carbohydrate](#) and low [protein consumption](#) through to 20 which would equal very low carbohydrate and high protein consumption.

Factors likely to influence the results were taken into account including smoking, alcohol use, diagnosis of hypertension, overall level of activity and saturated / unsaturated fat intake.

After these variables were included, results showed that 1270 cardiovascular events took place in the 43,396 women (55% ischaemic heart disease, 23% ischaemic stroke, 6% haemorrhagic stroke, 10% subarachnoid haemorrhage and 6% [peripheral arterial disease](#)) over 15 years.

The incidence of cardiovascular outcomes increased with an increasing LCHP score.

Unadjusted figures show that, compared with an LCHP score of six or less, cardiovascular diseases increased by 13% for women with a score from 7 to 9, to 23% for those with a score from 10 to 12, to 54% for those with a score from 13 to 15, and to 60% for those with a score of 16 or higher.

After adjusting for other cardiovascular risk factors, there was still a significant 5% increase in the likelihood of a cardiovascular event or death with every two point increase in the LCHP score. The 5% increase resulted from a daily decrease of 20g of carbohydrates (equivalent to a small bread roll) and a daily increase of 5g of protein (equivalent to one boiled egg).

In absolute terms, the adjusted figures represent an additional four to five cases of cardiovascular diseases per 10,000 women per year compared with those who did not regularly eat a low carbohydrate, [high](#)

[protein diet](#).

Increasing level of education and physical activity reduced the risk of cardiovascular disease whilst increasing levels of smoking increased the risk.

The authors conclude that LCHP diets "used on a regular basis and without consideration of the nature of carbohydrates or the source of proteins" are associated with cardiovascular risk. This study doesn't, however, address the questions concerning the possible benefit of short-term effects of LCHP diets that can be used to control weight or insulin resistance, which the authors say needs further investigation.

An accompanying editorial argues that the short term benefits of weight loss seem outweighed by longer term cardiovascular harms. Anna Floegel from the German Institute of Human Nutrition and Tobias Pischon from the Max Delbrück Center for Molecular Medicine in Germany, say that the discrepancy between conclusions from different types of studies in this field "need to be resolved before low carbohydrate-high [protein](#) diets can be safely recommended to patients."

In the meantime, they suggest that any benefits gained from these diets in the short-term "seem irrelevant in the face of increasing evidence of higher morbidity and mortality from cardiovascular diseases in the long term."

Provided by British Medical Journal

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