

DASH diet in the UK and Ireland

Addressing barriers to healthy and sustainable diets

CEDAR

Centre for Diet and Activity Research
A UKCRC Public Health Research Centre of Excellence

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Fully referenced and linked at
www.cedar.iph.cam.ac.uk/resources/evidence

The Dietary Approaches to Stop Hypertension (DASH) eating plan has proven health benefits and is more environmentally sustainable than typical UK diets. However, barriers to its widespread adoption remain. Researchers from CEDAR and the HRB Centre for Health and Diet Research in Ireland are studying the health effects of the DASH diet and how it can be more widely applied to improve population health.

Diets not nutrients

People eat foods, not nutrients. And foods are not consumed in isolation, but rather as part of an overall diet and lifestyle. Understanding these different patterns of what and how we eat is important for identifying those groups at greatest risk of disease, and deciding what actions might improve diet and health at the population level.

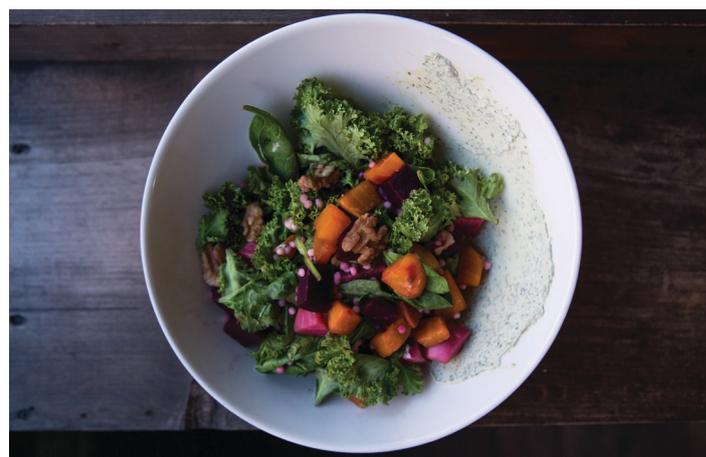
The DASH diet and cardiovascular health

One dietary pattern, which is widely-promoted in the United States but less in Europe, is the Dietary Approaches to Stop Hypertension (DASH) eating plan.

Like other healthy diets, DASH emphasises fruits, vegetables and whole grains, and is low in red and processed meats and refined carbohydrates. It is also particularly rich in low fat dairy, nuts, seeds and beans.

The DASH diet can prevent and control hypertension and reduce risk of cardiovascular disease. For instance:

- In the *US Nurses' Health Study*, those with the highest adherence to the DASH diet over a 24 year period had a 24% reduced risk of developing heart disease, and an 18% reduced risk of stroke compared to those with the lowest adherence.
- The *Irish Mitchelstown Cohort Study* suggests that greater adherence with a DASH diet is associated with lower blood pressure in older adults. Among people who had hypertension but didn't know it, those with the most DASH-accordant diet had systolic blood pressure that was on average 7.3mmHg lower than those with the least-healthy diets.



This benefit among those who have not been identified as 'at risk' of high blood pressure adds weight to the argument for population-based approaches to changing people's diets, rather than approaches that target only those who we already know to be at a higher risk of disease.

A diet people can sustain?

The DASH eating plan has been shown to be highly acceptable to consumers, and easily adaptable to fit UK and Irish food preferences. It is culturally appropriate, and aligns with national food and nutrition guidelines.

The *Food Choice at Work Study* in Ireland, has also shown that the plan can be scaled up to canteens and catering settings where meals provided can be adapted to be DASH-compliant.

Brief in Brief

- Foods and nutrients are not consumed in isolation, but rather as part of an overall diet and lifestyle. Understanding this is important for improving dietary health.
- The DASH diet is a whole-diet approach that can prevent and control hypertension and reduce risk of cardiovascular disease, has environmental benefits, and is easily adaptable to UK and Irish food preferences.
- Individual guidance and population-level interventions in food availability and cost are necessary to encourage a greater uptake of the DASH diet.

A diet the planet can sustain?

Food production is a key cause of greenhouse gas production, including methane emitted by ruminant animals and nitrous oxide released from farmed land.

Greater accordance with the DASH dietary targets has been associated with lower greenhouse gas emissions.

In a study of older UK adults, diets that were most in accordance with DASH had a greenhouse gas impact substantially lower than the least accordant diets. The difference in just one day's worth of food was the equivalent of driving a car for 6 kilometres.

Among the DASH food groups, higher greenhouse gases were most strongly associated with meat consumption, and lower emissions associated with whole grain consumption.

Barriers to uptake

Promoting the DASH diet could produce substantial benefits for public health, but there are potential barriers to adopting this way of eating at an individual and population level.

Individual-level barriers

A person's marital status and employment situation are strongly related to healthy eating. For example, Irish studies have shown that those who are single or never married, divorced or widowed have less healthy diets than those in relationships or living with others.

Similarly, evidence from the *EPIC-Norfolk* study shows that a lack of social ties among old people is associated with eating a lower variety of fruit and vegetables, particularly among men.

A person's general level of education and specific nutrition knowledge is also associated with diet quality, with low nutrition knowledge acting as a barrier to a DASH-accordant diet.

Population-level barriers

Neighbourhood characteristics can shape our diets. While living and working around an abundance of fast-food outlets can be detrimental to diet, having easier access to supermarkets can mean a healthier diet. Studies in the UK and Ireland indicate that people living closer to a large supermarket or who live in neighbourhoods with a wider range of supermarkets had more DASH-accordant diets. Those living farthest from a large supermarket were less likely to have DASH-accordant diets.

Money matters too, since food prices influence food choices, and healthier foods are more costly per calorie and per serving than less-healthy foods.

US and UK evidence indicate that DASH-accordant diets are more costly than less-healthy diets. This means that the affordability of food may limit uptake of DASH, particularly for people with lower incomes.

Implications for policy

- Improving eating habits of the population could be one of the most cost-effective ways of improving health in society. And, given the environmental benefits of DASH, these efforts could also go some way toward reducing our impact on the planet.
- In the past, dietary recommendations in Ireland and the UK have generally consisted of a number of separate recommendations for individual food groups and nutrients. The recent updates to the UK Eatwell Guide and the Irish Food Pyramid both focus more on food groups and their relative contributions to diet. A whole diet approach, such as DASH, may be easier to follow and understand than recommendations on individual foods or nutrients.
- It is necessary to improve access to healthy foods by creating neighbourhood environments that provide a better balance of healthy options, as well as addressing the higher cost of more nutritious foods.

Key references and resources

- A fully linked referenced version of this Evidence Brief can be found at www.cedar.iph.cam.ac.uk/resources/evidence
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