

COGNITIVE HEALTH AND YOU



Feed your brain.

Eating healthily will reduce your risk of developing cognitive impairment and dementia.

Diet & brain health

Most of us are aware of the links between keeping physically, socially and mentally active so that we keep our brains healthy. But many of us are less aware that what we eat and drink is also important for brain health.

We eat a variety of foods in our diet and individual dietary components interact with each other. Because of this scientists are focusing on dietary patterns instead of single dietary factors.

We know that some individual factors like dietary components promote healthy ageing, but we also know that they are most effective when combined with a **healthy dietary pattern**.

Dietary components

4 dietary components that have important roles in helping to prevent cognitive decline, or sometimes to improve cognitive performance include –

B-Vitamins
Especially B6, B9 and B12

Fatty acids
Especially Omega-3 and Omega-6

Phytochemicals
Especially carotenoids and polyphenols

Possibly Alcohol
But limit to 1 standard drink a day to minimise risk

But no single food or dietary component has been shown to prevent cognitive decline. The best thing to do is to include good dietary components in a healthy dietary pattern.

Dietary patterns

A **dietary pattern** to promote cognitive health should be rich in fruits, vegetables and whole grains and low in saturated fat, refined sugar and salt, like the DASH, MeDi and MIND diets.

DASH
Dietary Approaches to Stop Hypertension

FRUITS
VEGETABLES
LOW-FAT DAIRY
WHOLE GRAINS

MeDi
Mediterranean Diet

CEREALS
OLIVE OIL
FISH & FRUITS
LOW IN DAIRY & RED MEAT

MIND
Hybrid of MeDi & DASH Intervention for Neurodegenerative Delay

GREEN LEAFY VEGETABLES
BERRIES
LEGUMES
NUTS & POULTRY

Diet and Cognitive Health

Cognitive health is having a healthy brain that can perform all our mental processes – our cognitive abilities – like remembering, reasoning, planning, learning, and language.

Having good cognitive health is about keeping our brains 'sharp'.

Food for thought

While most of us are aware of the links between keeping physically, socially and mentally active so that we keep our brains healthy, many of us are less aware that what we eat and drink is also important for brain health.

Dietary components versus dietary patterns

Traditionally, research studies that looked at the relationship between diet and cognitive health have tended to focus on the components in our diet. For example, single nutrients like the relationship between Vitamins A and E and cognitive performance.

Now scientists are focussing on the effect of dietary patterns on cognition. This is because individual dietary components interact with each other making it almost impossible to pinpoint any single dietary factor as being the cause of poor or declining cognitive health.

Making sense of it

Dietary components like the B vitamins, fatty acids, phytochemicals – even alcohol – have, to some extent, been shown to have important roles in helping to prevent cognitive decline, or sometimes to improve cognitive performance.

- **B-vitamins:** B-vitamins help to convert the food we eat into fuel and allow us to stay energised throughout the day. Food sources include fish, poultry, meat, eggs, dairy products and fortified breakfast cereals. There are eight different chemically distinct types of Vitamin B, with B6, B9 and B12 linked to protective roles in cognition.
- **Fatty acids:** Fatty acids play an important role in cell development, regulation of blood pressure, immune response and liver function. Observational studies have consistently shown that greater saturated fat intake is linked to poor cognitive health, while greater intake of omega-3 (found in fish) and omega-6 (found in legumes and nuts) is linked to greater brain volume, better cognitive function and reduced risk of dementia.
- **Phytochemicals:** These are naturally occurring compounds that give plants their colours and help to protect them from disease and predatory insects. Two relevant groups of phytochemicals are the carotenoids (used by the body to form vitamin A and found in orange-based and some dark green leafy vegetables) and the polyphenols which are found in berries, red wine, dark chocolate, tea, eggplant, and a number of spices including curcumin and cinnamon. Phytochemicals have antioxidant and anti-inflammatory properties.
- **Alcohol:** Alcohol is toxic to brain cells and long-term over-consumption is associated with smaller brain volume and increased risk of cognitive decline and dementia. It is incredibly hard to interpret the evidence relating to alcohol because people choose to drink or not drink or to drink more or less for many different reasons. Some of these reasons may also be associated with better or worse cognitive function. We cannot recommend starting to drink alcohol to support brain health but if you do wish to drink the Mayo Clinic defines moderate consumption as up to one drink a day for women of all ages and for men over 65 and the NHMRC guidelines say that for healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.

Dietary patterns that are largely plant based, and which are low in saturated fat, red meat, and sweets, have also been examined in relation to cognitive health.

- **DASH – Dietary Approaches to Stop Hypertension.** This is a pattern of eating that focuses on consuming fruits and vegetables, low-fat dairy products and whole grains. Overall it is high in fibre and rich in potassium, calcium and magnesium. Both observational and intervention studies have reported some cognitive health benefits with greater adherence to a DASH-style diet. However, the number of intervention studies based on the DASH diet are limited and further research is needed before this style of diet can be recommended.
- **MeDi – Mediterranean Diet.** This is one of the most studied dietary patterns. It is a diet rich in cereals, olive oil, fish, fruits and vegetables and low in dairy products and red meat, and includes moderate consumption of red wine. In observational studies, the MeDi has been linked to a reduced risk of developing Alzheimer's disease, mild cognitive impairment (MCI) and cognitive decline. In a randomised trial, the Mediterranean diet supplemented with additional olive oil was associated with improved cognitive functioning over 5-years in a sample of older Spanish people.
- **MIND – Mediterranean-DASH Intervention for Neurodegenerative Delay.** This is a hybrid of the MeDi and DASH diets which uniquely specifies consumption of berries and green leafy vegetables. It consists of whole grains, vegetables, legumes and nuts, poultry and one fish meal a week, while limiting red meats, dairy products and pastry. Two observational studies showed that a greater adherence to MIND guidelines resulted in a reduced risk of Alzheimer's disease development and better cognitive performance. However, further intervention trials are needed.

References

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