Am I at risk of developing dementia?

Information sheet 450

Many people worry that they may be at risk of developing dementia - particularly if they have a close relative with the condition. This factsheet explains what we know about the risks associated with different types of dementia, and gives some advice on how people can reduce their risk. There is ongoing research in this field.

What do we mean by 'risk' and 'risk factor'? 

Risk is a person's chance of getting a disease over a certain period of time. For example, an 80-year-old woman is more at risk of developing dementia than a 30-year-old man. This does not mean that the older woman will definitely develop dementia (in fact, her chance of developing it is only slightly higher than one in five) or that the younger man will not.

A risk factor is anything that increases or reduces a person's chance of developing a condition. A person's risk factors make up their individual risk. Some of these factors can be controlled, for example by lifestyle modification or drug treatment.

What are the risk factors for dementia?

Researchers have highlighted some important factors that affect our risk of developing different types of dementia. Most now believe that our risk of developing dementia depends upon a combination of genetic and environmental factors. We are all at some risk of developing dementia, but some of us are more at risk than others. However, a person who has some of the risk factors for dementia will not necessarily go on to develop the condition, and avoiding risk factors does not guarantee that you will be healthy - although it does make it more likely.

The specific risk factors that have been associated with dementia are detailed below.

Age

Age is the most significant known risk factor for dementia. It is possible to develop dementia early in life, but the chances of developing it increase significantly as we get older. One in 50 people between the ages of 65 and 70 has some form of dementia, compared to one in five people over the age of 80. This increased risk may be due to factors associated with ageing, such as:

- higher blood pressure
- an increased incidence of some diseases (for example, heart disease and stroke)
- changes to nerve cells, DNA and cell structure
- the weakening of natural repair systems.
Gender

Gender affects different types of dementia in different ways.

Women are slightly more likely to develop Alzheimer's disease than men, even if we discount the fact that women are more likely to live longer. One factor that has been suggested in the development of Alzheimer's disease is a lack of the hormone oestrogen in women after the menopause. However, controlled studies have suggested that hormone replacement therapy (HRT) has no beneficial effect on the development of Alzheimer's disease, and may even increase a person's risk of developing the condition. It is not recommended that women take HRT as a way to reduce their risk of developing dementia.

Vascular dementia, on the other hand, seems to be more common in men than women. This may be because common risk factors for vascular dementia, such as heart problems and high blood pressure, are more common in men than women. (See Factsheet 402, What is vascular dementia?)

Genetics

Scientists have been aware for some time that the genes we inherit from our parents may partly determine whether we will develop specific diseases. The role of genetics in the development of dementia is still not fully understood, but researchers have made some important advances in recent years.

There are some families in which there seems to be a very clear inheritance of dementia from one generation to the next. This is usually in families where the disease appears relatively early in life. Dementia-causing diseases that may be hereditary in some cases include Huntington's disease, Familial Alzheimer's disease (a very rare form of Alzheimer's) and Niemann-Pick Type C disease.

Certain genes can affect a person's risk of developing Alzheimer's disease, and scientists are learning more about these. For example, a gene called apolipoprotein E (ApoE) has been shown to play a part in the development of Alzheimer's disease and vascular dementia. However, having a parent or other relative with later onset Alzheimer's disease only makes your own chances of developing it a little higher than if there were no cases of dementia in the family at all. (For more information, see Factsheet 405, Genetics and dementia.)

Medical history

Specific medical conditions can increase a person's chances of developing dementia. These include multiple sclerosis, Huntington's disease, Down's syndrome and HIV. (See Factsheet 442, Rarer causes of dementia.)

Conditions that affect the heart, arteries or blood circulation can particularly affect a person's chances of developing vascular dementia. These conditions include mid-life high blood pressure and high blood cholesterol levels, stroke, diabetes, and heart problems such as a
heart attack or irregular heart rhythms. Mid-life obesity can also increase a person’s risk of developing dementia in later life. (See Factsheet 402, What is vascular dementia?)

People who suffer severe or repeated head injuries are at a three-to-four-fold increased risk of developing dementia. It is possible that deposits that form in the brain as a result of the injury may be linked to the onset of dementia. Professional boxers sometimes develop a form of dementia known as ‘dementia pugilistica’.

Environment and lifestyle factors

**Diet**? Diet can affect a person’s risk of developing many types of illness, including dementia. A healthy and balanced diet that enables a person to maintain a normal body weight is likely to reduce the likelihood of developing high blood pressure or heart disease, both of which put a person at greater risk of developing dementia.

Too much saturated fat can cause narrowing of the arteries, making heart attack or stroke more likely and heart attacks, stroke and vascular disease increase a person’s risk of developing vascular dementia.

Fresh fruit and vegetables contain many vitamins and antioxidants, which may prevent heart disease and protect the brain. A number of research studies have shown that the polyunsaturated fatty acids found in oily fish might also help to protect the heart and blood vessels and lower the risk of developing dementia.

Some research has suggested that caffeine, and various spices and herbs including curcumin, sage and lemon balm, might have a protective effect on the brain. However, research is continuing and there is no conclusive evidence as yet. Recent trial results have revealed that ginko biloba has no benefit for people with dementia.

**Smoking**? Smoking has an extremely harmful effect on the heart, lungs and vascular system, including the blood vessels in the brain. This increases the risk of developing vascular dementia. (See Factsheet 402, What is vascular dementia?) Despite early studies which suggested that smoking might cause a reduced risk for Alzheimer’s disease, more recent epidemiological research has shown that smoking is a significant risk factor for Alzheimer's disease, with smokers almost twice as likely to develop the disease as non-smokers.

**Alcohol**? People who drink excessive amounts of alcohol over a long period of time increase their risk of developing a form of dementia. (See Factsheet 438, What is Korsakoff’s syndrome?) However, some research has suggested that moderate amounts of red wine, which contains antioxidants, might help to protect the brain against dementia and keep the heart and vascular system healthy.

**Physical exercise**? A good level of physical health helps to protect against many conditions, including dementia. Regular physical exercise helps to keep the heart and vascular system healthy. This helps to reduce a person’s risk of developing vascular dementia, which is caused by problems with the circulation of blood to and around the brain.
Aluminium and other metals? Trace levels of many metals are present in the brain. Aluminium is the metal that has been most often studied in this context, and that has received the most publicity. Aluminium is extremely common within the environment, and exists in many different chemical forms, so exposure is very difficult to measure. However, the majority of scientists do not believe that there is a causal link between aluminium and Alzheimer’s disease. Other metals, such as copper and zinc, may be important in the way that key proteins are processed in the brain.

How can I reduce my risk of developing dementia?

Adopt a balanced diet for life, moderating your saturated fat intake most of the time. A Mediterranean style diet may help reduce risk and is relatively easy to follow. This will help to manage your cholesterol and blood pressure. Drink alcohol, especially red wine, in moderation, if you wish.

Avoid obesity and weight gain by eating healthily and taking exercise. Try to be physically active for at least 30 minutes, five times a week - not only will this help reduce your risk of dementia but also your risk of heart disease and diabetes.

If you are over 40 (or have a history of dementia or cardiovascular problems in your family) you should get regular blood pressure checks to ensure it is at recommended levels.

If you smoke, try to stop - this will be of huge benefit to your health in a number of ways as well as reducing your risk of dementia.

Try to lead an active lifestyle combining physical, social and mental activity.

For details of Alzheimer’s Society services in your area, visit alzheimers.org.uk/localinfo
For information about a wide range of dementia-related topics, visit alzheimers.org.uk/factsheets

Further Reading

www.eatwell.gov.uk/healthydiet

Practical tips from the Food Standards Agency on how you can make healthier choices for a healthier diet.

Useful organisations

Alzheimer's Society
Devon House
58 St Katharine’s Way
London E1W 1JX
T 020 7423 3500
0845 300 0336 (helpline open 8.30am-6.30pm weekdays)
E info@alzheimers.org.uk (general information)
helpline@alzheimers.org.uk (helpline)
W alzheimers.org.uk

The UK's leading care and research charity for people with dementia and those who care for them. The helpline provides information, support, guidance and referrals to other appropriate organisations.

Blood Pressure Association
60 Cranmer Terrace
London SW17 0QS
T 0845 2410989 (helpline open weekdays 11am-3pm)
E info@bpassoc.org.uk
W www.bpassoc.org.uk

UK charity aiming to lower the UK's blood pressure for life. Provides information and support for individuals and healthcare professionals, and runs awareness-raising activities.

British Heart Foundation
Greater London House
180 Hampstead Road
London NW1 7AW
T 0845 070 8070 (information line, open weekdays 9am-6pm)
E internet@bhf.org.uk
W www.bhf.org.uk

National heart charity that invests in research, supports and cares for heart patients, and provides information to help people reduce their own risk of dying prematurely from a heart or circulatory illness.

Diabetes UK
Macleod House
10 Parkway
London NW1 7AA
T 0845 120 2960 (Careline, open weekdays 9am-5pm)
E info@diabetes.org.uk
W www.diabetes.org.uk

Charity devoted to the care and treatment of people with diabetes in order to improve the quality of life for people with the condition. Provides a range of information and support through its website and helpline.
HEART UK
7 North Road
Maidenhead
Berkshire SL6 1PE
T 0845 450 5988 (helpline, open weekdays 10am-4pm)
E ask@heartuk.org.uk
W www.heartuk.org.uk

National charity that works to support those at risk of inherited high cholesterol and cardiovascular disease. Provides a range of information, advice and support on its website and through the helpline.

Huntington’s Disease Association
Neurosupport Centre
Liverpool L3 8LR
T 0151 298 3298
E info@hda.org.uk
W www.hda.org.uk

Association that provides information, advice, support and useful publications for families affected by Huntington's disease in England and Wales. It can put you in touch with a regional adviser and your nearest branch or support group.

Stroke Association
240 City Road
London EC1V 2PR
T 0845 3033 100 (helpline 9am-5pm weekdays)
E info@stroke.org.uk
W www.stroke.org.uk

National charity providing information and practical support for people who have had strokes and their families or carers. It aims to help reduce the incidence of stroke through health education, and funds research and campaigns for better services.

Factsheet 450

Last updated: March 2010
Last reviewed: March 2010

Reviewed by: Dr Ann Hale, Head of Public Health Research, Alzheimer’s Society