

## **FROM Alzheimer's Disease International (ADI)-What are the risk factors for dementia and how can the risk be reduced?**

**There are many factors which have been linked to the development of dementia. Some are risk factors, while others appear to be protective.**

Risk factors are characteristics that appear to have some relationship to the development of a disease. If these risk factors are present, there is an increased chance, but not a certainty, that the disease will develop. For example, not everyone who smokes develops heart disease and not everyone with heart disease has been a smoker. However, smoking is a strong risk factor for heart disease.

Some risk factors can be modified, for example lowering blood pressure reduces the risk of a stroke. Other risk factors cannot be modified, such as age or family history.

### **Risk factors infographic given below**

#### **Risk factors for dementia**

The greatest risk factor for Alzheimer's disease and other dementias is increasing age. Although age increases risk, dementia is not a normal part of ageing.

We know there are more than 20 genes which affect a person's risk of developing dementia. The gene APOE was the first known to increase a person's risk of developing Alzheimer's disease, and it is still the strongest risk gene known. There are also genes which directly cause dementia, but these deterministic genes are rare – they are estimated to account for less than 1% of dementia cases, and cause young-onset forms in which symptoms usually develop before the age of 60.

Women are more likely to develop Alzheimer's disease than men, even accounting for the fact that women live longer on average. The reasons for this are unclear.

#### **Modifiable risk factors**

Although we can't change our genes or stop ageing, there are changes that we can make to reduce our risk of dementia, either lifestyle changes as individuals or wider changes across society. A growing body of research evidence exists for 14 potentially modifiable risk factors. We might prevent or delay up to 45% of cases of dementia, if we were able to modify all of the risk factors.

Although behaviour change is difficult and some associations might not be causal, individuals have a huge potential to reduce their dementia risk. Many of the risk factors are also shared with other non-communicable diseases such as heart disease, cancer, diabetes and chronic respiratory diseases.

Keeping active, eating well and engaging in social activities all promote good brain health and may reduce your risk of developing dementia. Keeping your heart healthy, including by avoiding smoking and excessive alcohol consumption, can lower your risk of dementia and other diseases too.

The following is a list of risk factors for dementia along with suggestions of how to counteract them and reduce risk.

### **Physical inactivity**

Regular physical activity is one of the best ways to reduce your risk of dementia. It's good for your heart, circulation, weight and mental wellbeing. It is recommended that adults aim for either 150 minutes of moderate aerobic activity or 75 minutes of vigorous aerobic activity each week.

### **Smoking**

Smoking greatly increases your risk of developing dementia. You're also increasing your risk of other conditions, including type 2 diabetes, stroke, and lung and other cancers. It's never too late – stopping smoking later in life also reduces the risk of dementia.

### **Excessive alcohol consumption**

Alcohol misuse and drinking more than 21 units weekly increase the risk of dementia. The harmful use of alcohol is a causal factor in more than 200 disease and injury conditions. There is a causal relationship between harmful use of alcohol and a range of mental and behavioural disorders, other noncommunicable diseases as well as injuries.

### **Air pollution**

A growing amount of research evidence shows that air pollution increases the risk of dementia. Policymakers should expedite improvements in air quality, particularly in areas with high air pollution.

### **Head injury**

Head injuries are most commonly caused by car, motorcycle, and bicycle accidents; military exposures; boxing, football, hockey and other sports; firearms and violent assaults; and falls. Policymakers should use public health and other policy measures to reduce head injuries.

### **Infrequent social contact**

It is well established that social connectedness reduces the risk of dementia. Social contact enhances cognitive reserve or encourages beneficial behaviours. There is not much evidence for any specific activity protecting against dementia. Joining a club or community group are good ways to stay socially active.

### **Less education**

A low level of education in early life affects cognitive reserve and is one of the most significant risk factors for dementia. Policy should prioritise childhood education for all.

### **Obesity**

Particularly in mid-life, obesity is associated with an increased risk of dementia. Obesity is also associated with other NCDs and can generally be addressed through lifestyle changes such as diet and exercise.

## **Hypertension**

Hypertension (high blood pressure) in mid-life increases a person's risk of dementia, as well as causing other health problems. Medication for hypertension is the only known effective preventive medication for dementia.

## **Diabetes**

Type 2 diabetes is a clear risk factor for development of future dementia. Whether any particular medication helps with this is unclear, but treatment of diabetes is important for other health reasons.

## **Depression**

Depression is associated with dementia incidence. Depression is part of the prodrome of dementia (a symptom that occurs before the symptoms that are used for diagnosis). It is not clear to what extent dementia may be caused by depression or the reverse, and both may be the case. In any case, it is important to manage and treat depression because it is associated with increased disability, physical illnesses and worse outcomes for people with dementia.

## **Hearing impairment**

People with hearing loss have a significantly increased risk of dementia. Using hearing aids seems to reduce the risk. As hearing loss is one of the risk factors which affects the most people, addressing it could result in a large impact on the number of people developing dementia.

## **Untreated Vision Loss (as identified by New Lancet Research)**

Untreated vision loss has been associated with an increased risk of developing dementia. Studies have found that some conditions of the eye such as cataracts or diabetic retinopathy can increase the risk of developing dementia. This is not true however of all conditions of the eye, for example glaucoma or age-related macular degeneration do not appear to increase risk. Through medical intervention it is possible to reduce risk, for example studies have shown that those who have undergone cataract extraction surgery have the same risk of developing dementia as those who do not develop cataracts.

## **Elevated LDL levels (as identified by New Lancet Research)**

High levels of low-density lipoproteins (LDL) cholesterol is associated with increased risk of developing dementia. In the brain, excess cholesterol is associated with an increased risk of stroke and increase in amyloid  $\beta$  and tau, two proteins which are commonly associated with some dementias, such as Alzheimer's disease.

Thus, the research, commissioned by The Lancet revised their 2020 findings to include failing eyesight and high LDL cholesterol as risk factors for dementia. (**Published Date:** 1st August 2024, **Author:** Alzheimer's Disease International)

# 14 dementia risk factors

## 1 Physical inactivity



## 2 Smoking



## 3 Excessive alcohol consumption



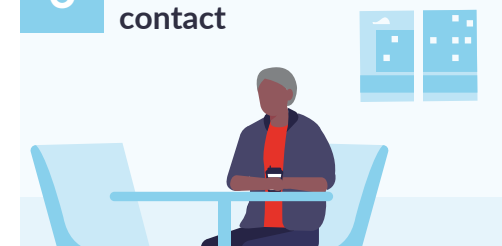
## 4 Air pollution



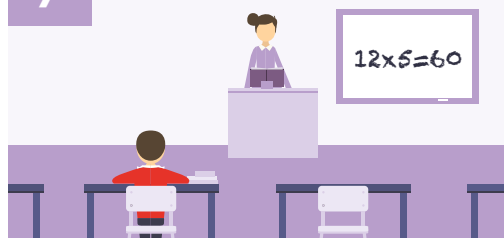
## 5 Head injury



## 6 Infrequent social contact



## 7 Less education



## 8 Obesity



## 9 Hypertension



## 10 Diabetes



## 11 Depression



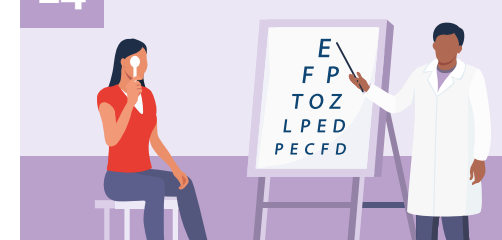
## 12 Hearing impairment



## 13 High LDL cholesterol



## 14 Vision loss



Source: Dementia prevention, intervention, and care: 2024 report of the Lancet standing Commission, Livingston, Gill et al. The Lancet, Volume 404, Issue 10452, 572–628

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