



Community and Mental Health Services

2 November 2022

# Systematic Reviews

#### Air pollution and dementia risk review suggests particulate matter has greatest effect

Researchers in Canada have carried out a review of existing evidence of a link between dementia and air pollution. They found a link between exposure to a type of pollution – particulate matter – and the development of dementia. They found no link between dementia and nitric oxide, dioxide and ozone. Researchers reviewed information collected in 17 existing studies, involving 91 million people, with 5.5 million people developing dementia. The researchers found that the risk of dementia increased by 3% for every one microgram per cubic meter (µg/m3) increase of fine particulate matter exposure.

# Effectiveness of Computerized Cognitive Training in Delaying Cognitive Function Decline in People With Mild Cognitive Impairment: Systematic Review and Meta-analysis

This systematic review suggests that CCT interventions could improve global cognitive function in patients with MCI. Considering the relatively small sample size and the short treatment duration in all the included studies, more comprehensive trials are needed to quantify both the impact of CCT on cognitive decline, especially in the longer term, and to establish whether CCT should be recommended for use in clinical practice.

### **Studies**

#### People with recent dementia diagnosis found to have higher suicide risk

People who have recently been diagnosed with dementia, or who are diagnosed with the condition at a younger age, are among those at increased risk of suicide, researchers have found. The findings have prompted calls for greater support for those experiencing such cognitive decline.

#### Signs of dementia may be detectable nine years before diagnosis

Scientists have discovered that it may be possible to spot signs of dementia as early as nine years before patients receive an official diagnosis. Researchers at Cambridge University published the study – funded by the Medical Research Council with support from the NIHR Cambridge Biomedical Research Centre – in <u>Alzheimer's & Dementia: The Journal of the Alzheimer's Association</u>.

#### Does diet really affect our dementia risk?

Research published suggests that following a Mediterranean diet does not reduce risk of dementia, including Alzheimer's disease and vascular dementia. Results <u>published</u> in the journal Neurology show that diet was not associated with the presence of amyloid, the hallmark Alzheimer's disease protein.

#### Omega-3 intake in midlife reduced dementia risk

A new research study conducted in the US suggests that people who have higher levels omega-3 fatty acids in their blood during midlife have better thinking skills than people who have lower levels of the fatty acid. Results from the study also suggest that omega-3 intake in midlife is linked to better brain structure.







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'Concerning' links between former international rugby players and neurodegeneration revealed Research conducted at University of Glasgow finds a group of former international rugby players are at around two and a half times higher risk of dementia, and over 15 times greater risk of motor neurone disease (MND), compared to the general population. Player position had no impact on dementia risk. The Journal of Neurology, Neurosurgery and Psychiatry, published the research.

#### Scientists reveal new insight

Researchers have uncovered a new biological pathway that could be linked to Alzheimer's disease, in a <u>study</u> led by Prof Paul Elliott (UK DRI at Imperial). The findings, published in the journal Proceedings of the National Academy of Sciences (PNAS), provide new insight into the underlying mechanisms of the disease, and could offer targets for future drug discovery.

### 'Cell-penetrating' proteins implicated in Parkinson's and dementia with Lewy bodies

Small, aggregated proteins capable of entering cells have been shown to cause distinctive toxic effects in Parkinson's disease and dementia with Lewy bodies, according to a new <u>study</u> led by Dr Yu Ye (UK DRI at Imperial). The findings, published in the journal Proceedings of the National Academy of Sciences (PNAS), offer useful insight into the underlying mechanisms of these diseases, and highlight potential future targets for disease detection and therapeutic intervention.

## Stigma among UK family carers of people living with dementia

The FAMSI offers new avenues for understanding the contribution of stigma to caregiver burden in dementia. It also captures the positive aspects of caregiving, which may mitigate internalised stigma in family carers, and has good potential for evaluating stigma-neutralising interventions in dementia care.

# <u>Risk factors, ethnicity and dementia: A UK Biobank prospective cohort study of White, South Asian</u> and Black participants

We find that Black participants were more likely to develop dementia than White participants, but South Asians were not. Identified risk factors in White European origin participants had a similar effect in Black and South Asian origin participants.

# **Cochrane Clinical Answer**

What is the accuracy of clinical judgment by primary care physicians for the diagnosis of dementia or cognitive impairment in symptomatic people?

For people with symptoms suggestive of dementia, using recognized classification systems applied by an experienced clinician as the reference standard, average sensitivities of the clinical judgment by primary care physicians for the detection of dementia ranged from 34% to 91%, and specificities ranged from 58% to 99%. The pooled estimate was 58% for sensitivity and 89% for specificity. The positive and negative likelihood ratios were 5.3 and 0.47, respectively. Using the same reference standard for people with symptoms suggestive of dementia, average sensitivities of the clinical judgment by primary care physicians for the detection of cognitive impairment ranged from 58% to 97%, and specificities ranged from 40% to 88%. The pooled estimate was 84% for sensitivity and 73% for specificity. The positive and negative likelihood ratios were 3.1 and 0.23, respectively.





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# Report

## Inaction over lack of exercise will cost £24bn a year globally by 2030, WHO warns

Nearly 500m new cases of diseases such as type 2 diabetes, high blood pressure and dementia will occur globally by 2030 if governments do not take urgent action to encourage more people to take regular exercise, a report has found. In a stark warning to countries where health services are already creaking, the World Health Organization said the cost of failing to get people moving more would be about \$27bn (£24bn) a year.

# Information

Supporting family and friends: how can research help carers?

This Collection, focuses on the impact a caring role can have on people, and explores how the health and care system could support carers.

# **Advice**

How to keep yourself safe when you care for someone with dementia

Advice for carers on how to keep safe.

# News

#### Three promising drugs for treating Alzheimer's disease bring fresh hope

There are 143 drugs being tested in clinical trials for the treatment of Alzheimer's disease. Over 80% of these drugs are designed to try and slow down how quickly Alzheimer's gets worse and progresses. We examine the three most promising drugs, lecanemab, gantenerumab and donanemab and summarise their journey so far.

Progress with new Alzheimer's drug lecanemab announced by manufacturers Eisai and Biogen

Eisai Co. Ltd. and Biogen have announced top-line results for a major trial on the drug lecanemab in slowing down the progress of Alzheimer's disease.