

Dementia prevention: reducing risk and improving health



Key points

- Dementia affects over 800,000 people in the UK and this number is set to double by 2040
- There are a range of behaviours which could potentially increase one's risk of developing dementia, including smoking, obesity and physical inactivity
- Changing behaviours of individuals now could help reduce the number affected by dementia in the future and reduce associated care and medical costs

Call to action

- Government should increase public awareness of the causes of dementia
- Public Health England should consider incorporating dementia prevention into health checks
- Dementia prevention should be included in training for the wider public health workforce
- Further research should be undertaken into the association between lifestyle and dementia

Background

Dementia describes a range of symptoms including memory loss, mood changes, disturbances in language and impairments in daily living.¹ There are several conditions associated with dementia, of which the most common are Alzheimer's disease, vascular dementia and lewy body dementia.¹ Around 60-80% of all dementia cases are due to Alzheimer's disease.² In the UK, there are approximately 800,000 people with dementia, of which two thirds are women.³

The prevalence of dementia nearly doubles every five years after the age of 60.⁴ It is estimated that globally, the number of people with dementia will rise from around 35.6 million in 2010 to 115.4 million in 2050 unless prevention efforts succeed.⁵

The cost of dementia care is estimated to be £23 billion per year in the UK and these figures are set to rise.⁶ Eighty percent of care home residents have dementia or experience severe memory problems⁷ and people with dementia are overrepresented in general and emergency hospital populations.⁸ The personal cost, not just for those with the condition, but to carers, family members and friends, is also immense.

Some risk factors for Alzheimer's disease, and dementia more generally, cannot be changed, such as age and genetics.⁴ However, there is also evidence of a large number of modifiable risk factors.

Research combining the results of many studies⁹ highlights that a large proportion of cases of Alzheimer's disease in the UK can be attributed to lifestyle-related risk factors. It suggests that diabetes is responsible for 1.9% of cases (14,000 cases in 2010), midlife hypertension 7.0% of cases (53,000 cases in 2010), obesity 6.6% (50,000 cases in 2010); depression 8.3% (63,000 cases in 2010); physical inactivity 21.8% (166,000 cases in 2010); smoking 10.6% (80,000 cases in 2010); and low educational attainment 12.2% (93,000 cases in 2010). Adjusting the data for the inevitable overlap between risk factors, it is estimated by the authors that 30% of Alzheimer's cases can be attributed to a combination of these risk factors. There is also evidence that a diet high in fruit and vegetables and low in saturated fat may be protective against dementia,¹⁰ as may an active social life in older people.¹¹

While there has been some debate about the extent to which causality can be ascribed to these risk and protective factors, the Blackfriars Consensus¹² on promoting brain health, authored by Public Health England and the UK Health Forum and signed by 28 national organisations, five UK ministers and 32 dementia and public health specialists, concludes that there is sufficiently strong evidence for encouraging individuals to reduce their risk of dementia through changing their behaviours.

There is also data that suggests that many of the health improvement messages of the last 50 years aimed at tackling cardiovascular disease (such as stopping smoking, maintaining a healthy weight, and taking regular exercise) have also reduced dementia prevalence over this period.¹³ It would be foolhardy to overlook these associations, although clearly, more robust longitudinal research is necessary.

Recent economic analysis attempts to estimate, assuming a causal relationship between these lifestyle risk factors and dementia, how tackling the former, could impact upon the latter. The authors suggest that if best-practice interventions on reducing six of the main risk factors (diabetes, midlife hypertension, midlife obesity, depression, physical inactivity and smoking) were implemented, nearly three million people could be prevented from developing dementia in the UK between 2013 and 2040, reducing costs to the state by £42.9 billion, minus any associated costs of intervention.¹⁴ While the methodology may be open to criticism, it begins an important debate on the impact health improvement strategies could have on dementia prevention.

What is the RSPH calling for?

- **Government should increase public awareness of the causes of dementia**

There needs to be increased public awareness of how lifestyle and unhealthy behaviours can increase risk of dementia. Recent US research suggests that in a representative sample of adults aged 50+ there was reasonable knowledge of some of these risk factors, but gaps remained – for example, one in nine respondents believed eating a healthy diet and keeping physically active were not at all effective at protecting against dementia.¹⁵ Awareness campaigns should be commissioned by national government aimed at a broad spectrum of individuals and groups, including the general public, public health commissioners and providers of services.

Building on the dementia friends campaign, the RSPH is working with the Alzheimer's Society to develop an Ofqual approved, national qualification that aims to increase knowledge of dementia. This qualification could be used in a variety of settings to help increase public awareness.

- **Public Health England should consider incorporating dementia prevention into health checks**

The NHS Health Check is a national initiative that started in 2009 to prevent heart disease, stroke, diabetes and kidney disease through early identification and management of certain risk factors. It is aimed at individuals aged 40-74 who have not already been diagnosed with these conditions. Since April 2013, health checks have also incorporated dementia awareness and signposting for adults aged 65-74.¹⁶ Despite this, there is currently no provision for discussing dementia prevention with younger adults aged 40-64. Health checks currently focus on heart health, and as some of the risk factors for heart disease overlap with dementia, there is a potential opportunity to include dementia prevention within the healthy conversation between practitioner and patient. This should be further investigated by Public Health England.

What is the RSPH calling for?

- **Dementia prevention should be included in training for the wider public health workforce**

Health improvement messages should acknowledge the potential role a healthy lifestyle may have in preventing dementia. The wider public health workforce, particularly health trainers and health champions, could be instrumental in helping to share these messages with their clients and support behaviour change. This is especially important for addressing health inequalities, as health trainers and champions are particularly well placed to work with people from lower socio-economic groups.¹⁷ Dementia prevention should therefore be incorporated into their learning.

- **Further research should be undertaken into the association between lifestyle and dementia**

Although great strides have been taken in the understanding of dementia prevention, there remain gaps. It is clear that longitudinal research over many decades to test the causal relationships between modifiable lifestyle determinants and dementia is essential.

References

- ¹ Burns, A., 2009. Dementia. *British Medical Journal*, 338:b57.
- ² Barnes, D.E., and Yaffe, K., 2011. The projected effect of risk factor reduction on Alzheimer's disease prevalence. *The Lancet Neurology*, 10:819-828.
- ³ Alzheimer's Society, 2014. Statistics http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=341 (accessed 21 July 2014).
- ⁴ Ngandu, T., Mangialasche, F., Kivipelto, M., 2014. Chapter 1: The Epidemiology and Prevention of Alzheimer's Disease and Projected Burden of Disease. In M. Bairu and M.W. Weiner (Eds): *Global Clinical Trials for Alzheimer's Disease*. London: Elsevier
- ⁵ Prince, M., Bryce, R., Albanese, E., Wimo, A., Ribeiro, W., Ferri, C.P., 2013. The global prevalence of dementia: a systematic review and metaanalysis. *Alzheimer's and Dementia*, 9(1):63-75.
- ⁶ Age UK., 2014. Later life in the United Kingdom. June 2014. Available at http://www.ageuk.org.uk/Documents/EN-GB/Factsheets/Later_Life_UK_factsheet.pdf?dtrk=true (accessed 21 July 2014).
- ⁷ Alzheimer's Society, 2013. Low expectations: Attitudes on choice, care and community for people with dementia in care homes. Available at http://www.alzheimers.org.uk/site/scripts/download_info.php?fileID=1628 (accessed 21 July 2014).
- ⁸ Banerjee, S., 2013. Good news on dementia prevalence – we can make a difference. *The Lancet*, 382:1384-1386.
- ⁹ Norton, S., Matthew, F.E., Barnes, D.E., Yaffe, K., Brayne, C., 2014. Potential for primary prevention of Alzheimer's disease: an analysis of population-based data. *The Lancet Neurology*, 13:788-794.
- ¹⁰ Lourida, I., Soni, M., Thompson-Coon, J., Purandare, N., Lang, I.A., Ukoumunne, O.C., Llewellyn, D.J., 2013. Mediterranean diet, cognitive function, and dementia. *Epidemiology*, 24(4): 479-89.
- ¹¹ Fratiglioni, L., Paillard-Borg, S., Winblad, B., 2004. An active and socially integrated lifestyle in late life might protect against dementia. *Lancet Neurology*, 3:343-352.
- ¹² Public Health England and UK Health Forum (2013). Blackfriars Consensus on promoting brain health: reducing risks for dementia in the population. Available at http://nhfshare.heartforum.org.uk/RMAssets/Reports/Blackfriars%20consensus%20%20_V18.pdf (accessed 21 July 2014).
- ¹³ Matthews, F.E et al., 2013. A two-decade comparison of prevalence of dementia in individuals aged 65 years and older from three geographical areas of England: results of the cognitive function and ageing study I and II. *The Lancet*, 382:1402-1412.
- ¹⁴ ILC-UK., 2014. Preventing dementia: a provocation. July 2014. London: International Longevity Centre.
- ¹⁵ Roberts, J.S., McLaughlin, S.J., Connell, C.M., 2014. Public beliefs and knowledge about risk and protective factors for Alzheimer's disease. *Alzheimer's & Dementia*, doi: 10.1016/j.jalz.2013.07.001
- ¹⁶ NHS., 2014. Update on the addition of dementia awareness and signposting to local memory clinics. Available at <http://www.nhshealthcheck.nhs.uk/default.aspx?alD=76> (accessed 29 July 2014).
- ¹⁷ RSPH, 2014. Tackling health inequalities: the case for investment in the wider public health workforce. Available at <http://www.rsph.org.uk/en/policy-and-projects/reports-and-publications.cfm> (accessed 21 July 2014).