Obesity-related dementia is projected to rise in England

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The rise in obesity in England if unchecked could lead to an estimated increase in dementia prevalence in over 65 year olds by 2050 from 5% to 7% (4,894 cases per 100,000 in 2010 to 6,662 cases per 100,000), conclude researchers at this year’s European Congress on Obesity (ECO), taking place in Liverpool, UK (12-15 May).

Dementia is characterised by a decline in cognitive function in areas such as memory, attention and language and increases with age making it a significant challenge to healthcare. Some recent studies suggest that obesity in mid-life increases the risk of dementia later in life. In this new study, the authors estimated the impact of changing rates of obesity on future rates of dementia and its cost to the English government.

The researchers’ projected obesity trends to 2050, and used computer modelling to simulate a ‘virtual population’ and estimate the prevalence and cost burden of obesity-related dementia. The researchers tested three scenarios. Firstly, they looked at the effect on dementia if the present rising trend in prevalence of obesity continues. Secondly, they looked at the effect of a smaller rise in obesity prevalence (a modelled 5% reduction). Thirdly, they looked at the effect if obesity levels remained constant at present levels – this allowed the researchers to distinguish between the effect of an ageing population and the rising incidence of obesity.

They found that, based on past and current data, obesity trends are projected to increase in England reaching 46% in males and 31% in females by 2050. The Health Survey for England 2011 shows male obesity to be currently at 24% and female at 26%.

This increase in obesity, could, say the researchers, have an impact upon the future incidence of dementia. In particular it is mid-life obesity that confers an almost doubling of the risk of later life dementia (Loef and Walach, 2013). By 2050, almost 7% of the population over 65 years are predicted to suffer from dementia. Holding BMI rates constant at today’s levels would result in a reduction of almost 10% of new cases of dementia in 2050 compared with if current trends continued unabated to 2050. However, the researchers caution that, since dementia typically takes two to three decades to evolve the impact of any BMI intervention upon dementia will take 25 years to show effect. Reducing BMI will have an impact on other diseases such as heart disease, stroke, type 2 diabetes sooner than the impact on dementia. The annual total cost of dementia (health, social, informal care and lost productivity) is currently estimated at £23bn per year by the Alzheimer’s Research Trust. Webber and Marsh project that based on current trends this will increase to £41bn per year by 2050.

With obesity rates projected to double by 2050, dementia-related costs are expected to increase. A modelled 5% reduction in BMI across the population would avoid an estimated £600 million in dementia-related costs in England. If the rise in obesity rates was halted and BMI levels were held at 2010 levels over the same period, an estimated £940 million in costs could be avoided.

“These are preliminary findings and we need to develop the modelling methods further to get a fuller picture. This study adds to the existing body of evidence which shows the
importance of policies and interventions to prevent obesity and its related diseases in the population, including dementia.”

\(^1\)Dementia 2010, Luengo-Fernandez, Leal, Gray 2010

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Economic burden of Obesity in the UK - these are direct from our obesity projection paper in the Lancet (see Wang et al, 2011).
The following graph shows the cumulative costs for the 3 scenarios between 2010 and 2050. SO 5% reduction is the difference between scenario 0 and scenario 2.