BMJ OPEN

Peer reviewed? Yes
Evidence type: Observational
Subjects: People

Weight gain and loss may worsen dementia risk in older people

Study recommends continuous weight control and monitoring of weight changes to prevent dementia development

Older people who experience significant weight gain or weight loss could be raising their risk of developing dementia, suggests a study from Korea published today in the online journal ***BMJ Open***.

Dementia is an important health problem especially with increasing life expectancy and an ageing population. In 2015, there were an estimated 46.8 million people diagnosed with dementia.

Meanwhile, the global prevalence of obesity, which is closely related to cardiometabolic diseases, has increased by more than 100% over the past four decades.

There is existing evidence of a possible association between cardiometabolic risk factors (such as high blood pressure, cholesterol and blood sugar levels) and dementia. However, the association between body mass index (BMI) in late-life and dementia risk remains unclear.

Therefore, a team of researchers from the Republic of Korea set out to investigate the association between BMI changes over a two-year period and dementia in an elderly Korean population.

They examined 67,219 participants aged 60–79 years who underwent BMI measurement in 2002-2003 and 2004-2005 as part of the National Health Insurance Service-Health Screening Cohort in the country.

At the start of the study period, characteristics were measured including BMI, socioeconomic status and cardiometabolic risk factors.

The difference between BMI at the start of the study period and at the next health screening (2004-2005) was used to calculate the change in BMI.

After two years, the incidence of dementia was monitored for an average 5.3 years from 2008 to 2013.

During the 5.3 years of follow-up time, the numbers of men and women with dementia totaled 4,887 and 6,685, respectively.

Results showed that there appeared to be a significant association between late-life BMI changes and dementia in both sexes.

Rapid weight change – a 10% or higher increase or decrease in BMI – over a two-year period was associated with a higher risk of dementia compared with a person with a stable BMI.

However, the BMI at the start of the period was not associated with dementia incidence in either sex, with the exception of low body weight in men.

After breaking down the figures based on BMI at the start of the study period, the researchers found a similar association between BMI change and dementia in the normal weight subgroup, but the pattern of this association varied in other BMI ranges.

Cardiometabolic risk factors including pre-existing hypertension, congestive heart failure, diabetes and high fasting blood sugar were significant risk factors for dementia.

In particular, patients with high fasting blood sugar had a 1.6-fold higher risk of developing dementia compared to individuals with normal or pre-high fasting blood sugar.

In addition, unhealthy lifestyle habits such as smoking, frequent drinking and less physical activity in late life were also associated with dementia.

This is an observational study, so can’t establish cause, and the researchers point to some limitations, including uncertainty around the accuracy of the definition of dementia and reliance on people’s self-reported lifestyle habits, which may not be accurate.

However, the study included a large amount of data and reported various modifiable risk factors of dementia in late life.

As such, the researchers conclude: “Both weight gain and weight loss may be significant risk factors associated with dementia. This study revealed that severe weight gain, uncontrolled diabetes, smoking and less physical activity in late-life had a detrimental effect on dementia development.

“Our results suggest that continuous weight control, disease management and the maintenance of a healthy lifestyle are beneficial in the prevention of dementia, even in later life."