

# Global longitudinal study confirms obesity increases dementia risk

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People who have a high body mass index (BMI) are more likely to develop dementia than those with a normal weight, according to a new UCL-led study.

The study, published in the *Alzheimer's & Dementia* journal, analysed data from 1.3 million adults living in the United States and Europe. The researchers also found that people near [dementia](#) onset, who then go on to develop dementia, tend to have lower body weight than their dementia-free counterparts.

"The BMI-dementia association observed in longitudinal population studies, such as ours, is actually attributable to two processes," said lead author of the study, Professor Mika Kivimäki (UCL Institute of Epidemiology & Health). "One is an adverse effect of excess body fat on dementia risk. The other is weight loss due to pre-clinical dementia. For this reason, people who develop dementia may have a higher-than-average [body mass index](#) some 20 years before dementia onset, but close to overt dementia have a lower BMI than those who remain healthy."

"The new study confirms both the adverse effect of obesity as well as weight loss caused by metabolic changes during the pre-dementia stage."

Past research on how a person's weight influences their risk of dementia has produced conflicting results. Some findings have suggested that being obese poses a higher dementia risk, but other studies have linked lower weight to increased dementia incidence.

In this study, researchers from across Europe pooled individual-level data from 39 longitudinal population studies from the United States, the United Kingdom, France, Sweden, and Finland. A total of 1,349,857 dementia-free adults participated in these studies and their weight and height were assessed. Dementia was ascertained using linkage to electronic health records obtained from hospitalisation, prescribed medication and death registries.

A total of 6,894 participants developed dementia during up to 38 years of follow-up. Two decades before symptomatic dementia, higher BMI

predicted dementia occurrence: each 5-unit increase in BMI was associated with a 16-33% higher risk of this condition (5 BMI units is 14.5kg for a person 5'7" (170cm) tall, approximately the difference in weight between the overweight and normal weight categories or between the obese and overweight categories). In contrast, the mean level of BMI during pre-clinical stage close to dementia onset was lower compared to that in participants who remained healthy.

In 2015, the number of people with dementia reached almost 45 million, two times more than in 1990. This study suggests that maintaining a healthy [weight](#) could prevent, or at least delay, dementia.

**More information:** Mika Kivimäki et al, Body mass index and risk of dementia: Analysis of individual-level data from 1.3 million individuals, *Alzheimer's & Dementia* (2017). [DOI: 10.1016/j.jalz.2017.09.016](https://doi.org/10.1016/j.jalz.2017.09.016)

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