

Asia

# Singapore study finds extra belly fat in Asians affects their ability to learn and remember

- The Nanyang Technological University study found that Asians with an excess amount of visceral fat tend to have poorer cognitive performance
- The findings raise the possibility that the prevention and control of obesity in Asian populations could play a role in protecting against the future risk of dementia



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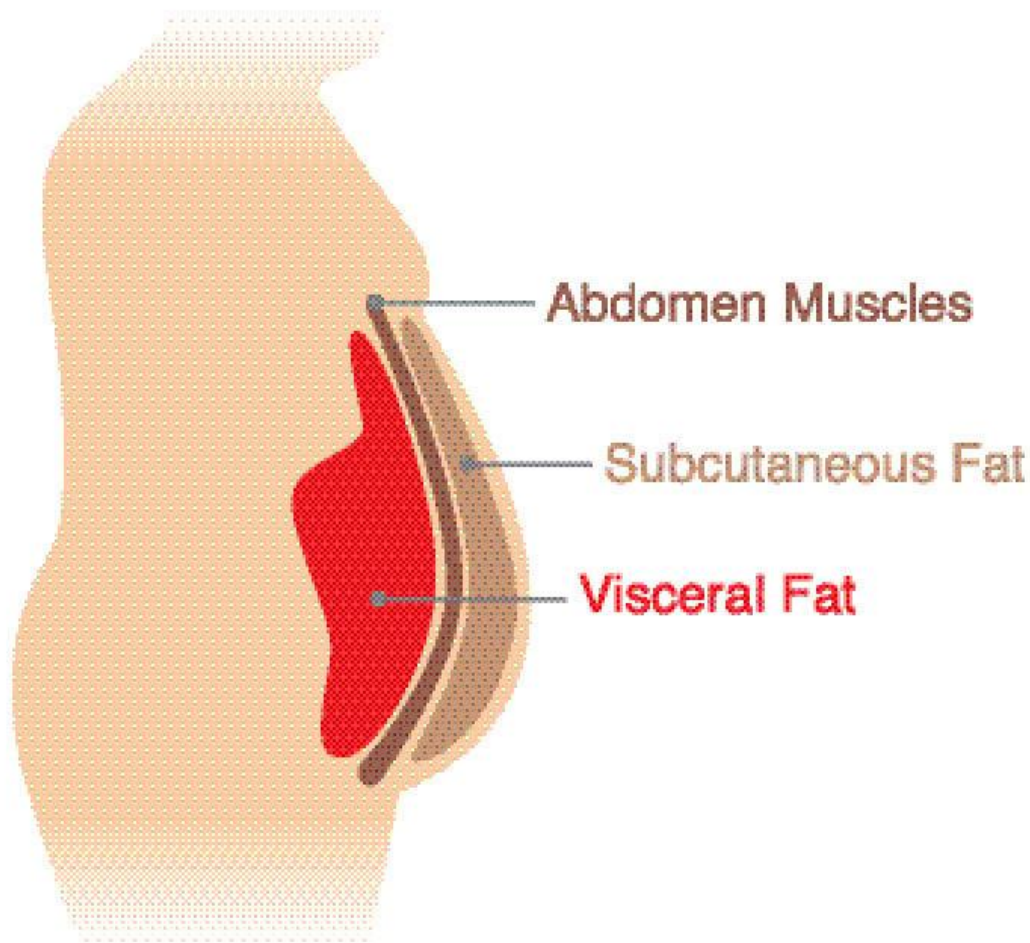
<https://www.scmp.com/news/asia/article/3219255/singapore-study-finds-extra-belly-fat-asians-affects-their-ability-learn-and-remember>

A cyclist cycles at the Merlion Park in Singapore's Marina Bay. Photo: Xinhua

Asians with an excess amount of visceral fat – the type of fat wrapped around the internal organs – tend to have poorer cognitive performance, according to a recently published study by researchers from Nanyang Technological University (NTU).

This affects their ability to think, learn and remember, the university said in a news release on Wednesday, adding that these individuals performed more poorly on tests that evaluated memory, executive function, processing speed and attention.

The study was led by scientists from the Lee Kong Chian School of Medicine (LKCMedicine), some of whom hold joint appointments at Singapore's National Healthcare Group, in collaboration with scientists at Imperial College London.



A Nanyang Technological University study found Asians with an excess amount of visceral fat tend to have poorer cognitive performance, which affects their ability to think, learn and remember. Photo: Shutterstock

It analysed the health data of about 8,700 multi-ethnic Singaporeans and permanent residents collected for the Health for Life in Singapore (HELIOS) study between 2018 and 2021. These individuals were aged between 30 and 84.

When the scientists further investigated the relationship between body fat and cognition, they also found that a higher body mass index (BMI) and BMI-adjusted waist-to-hip ratio were linked to a fall in cognitive performance.

Findings from the study, published in the April edition of *The Lancet Regional Health - Western Pacific* medical journal, highlighted the impact that preventing obesity could have on maintaining cognitive function.

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## **Through our Asian population health study, we observed a link between visceral fat and poorer cognitive performance**

**John Chambers, lead researcher**



“With dementia expected to afflict 78 million people in 2030, and 139 million people by 2050, understanding and addressing the determinants of cognitive function is a major public health priority,” said NTU LKCMedicine’s Professor John Chambers, senior author of the study and lead investigator of the HELIOS research.

“Through our Asian population health study, we observed a link between visceral fat and poorer cognitive performance, which was subsequently confirmed with a statistical analysis of global genetic data.”

He added that the findings raised the possibility that the prevention and control of obesity in Asian populations could play a critical role in maintaining cognitive function and protecting against the future risk of dementia.

### **Link to cognitive performance**

While earlier studies have shown that metabolic disorders could be risk factors for cognitive decline, NTU said scientists have been less certain that body fat is a risk factor for it.

“Most of these earlier studies were performed in western populations of older individuals, leaving out Asians, who make up 60 per cent of the world’s population and whose health and disease are determined by a different combination of factors,” said the university.

Evaluation of HELIOS data showed that three parameters were consistently associated with lower cognitive performance: Increased visceral fat mass index, increased waist-to-hip ratio and reduced high-density lipoprotein – also known as “good cholesterol”.

In contrast, parameters such as fat content in blood, blood pressure and glycaemic indices showed no association with cognitive performance.

Following the findings from this study, the LKCMedicine scientists are now looking at how excess visceral fat across Asian ethnicities contributes to traits related to one’s metabolism.

A person’s metabolism is a result of a combination of factors including genes, lifestyle and the environment. An example of a metabolic trait is insulin resistance.

They are also trying to understand the impact of metabolic traits on specific areas of cognition, said NTU.

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