- Sleep

Short daytime naps may keep brain healthy as it ages, study says

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Taking a short nap during the day may help to protect the brain's health as it ages, researchers have suggested after finding that the practice appears to be associated with larger brain volume.

While previous research has suggested long naps could be an early symptom of Alzheimer's disease, other work has revealed that a brief doze can improve people's ability to learn.

Now researchers say they have found evidence to suggest napping may help to protect against brain shrinkage.

That is of interest, the team say, as brain shrinkage, a process that occurs with age, is accelerated in people with cognitive problems and neurodegenerative diseases, with some research suggesting this may be related to sleep problems.

"In line with these studies, we found an association between habitual daytime napping and larger total brain volume, which could suggest that napping regularly provides some protection against neurodegeneration through compensating for poor sleep," the researchers note.

Writing in the journal Sleep Health, researchers at UCL and the University of the Republic in Uruguay report how they drew on data from the UK Biobank study that has collated genetic, lifestyle and health information from 500,000 people aged 40 to 69 at recruitment.

The team used data from 35,080 Biobank participants to look at whether a combination of genetic variants that have previously been associated with self-reported habitual daytime napping are also linked to brain volume, cognition and other aspects of brain health.

Given that such variants are set at birth and are assumed to be randomly assigned, the approach allows researchers to probe the effect of napping on the brain by reducing the impact of lifestyle factors that can influence people's napping habits and brain health, such as smoking or physical activity.

"It is like a natural randomised control trial," said Dr Victoria Garfield, a co-author of the study from University College London, adding that the variants were quite common. "They're present in around at least 1% of the population, which is actually quite a lot of people."

Indeed, while it first appeared that participants who reported never or rarely having a daytime nap had a larger total brain volume, the team found the reverse relationship when genetic predisposition to napping was considered, suggesting the initial finding could have been down to other factors muddying the relationship between a daytime doze and brain size.

Overall, the team found an association between genetic predisposition to habitual daytime napping and larger brain volume equivalent to 2.6 to 6.5 fewer years of ageing, although there was no relationship with cognitive performance such as reaction times.

"It could be having a short daytime nap ... could help preserve brain volume and that's a positive thing, potentially, [for] dementia prevention," said Garfield, adding that previous research suggested a duration of up 30 minutes may be beneficial.

Garfield noted there were a plethora of risk factors that could lead to dementia, while many other factors can also affect brain volume.

What's more, the study is based on data only from white British people, and the exact duration of naps associated with the benefits are unclear. It is also unclear if the same benefits of napping would be seen in people without a predisposition.

Prof Tara Spires-Jones, the president of the British Neuroscience Association, a group leader at the UK Dementia Research Institute, and deputy director of the Centre for Discovery Brain Sciences at the University of Edinburgh, welcomed the study, although she said it had limitations including that the self-reported napping habits of UK Biobank participants may not be entirely accurate.

"This study is important because it adds to the data indicating sleep is important for brain health," she said.