

- Brain / Blood pressure / Sleep

Hit snooze on brain health

High blood pressure, poor sleep link to dementia

Herald Sun · 2 Dec 2024 · 09 · Robyn Riley robyn.riley@news.com.au

People with high blood pressure who also don't get enough sleep are more likely to suffer brain injuries and accelerated brain ageing.

A study by Monash University has revealed the two serious health conditions may be connected and could increase the risk to brain health.

But in good news, if treated, the risk may be reduced.

Senior author Matthew Pase from the Monash University School of Psychological Sciences and Turner Institute for Brain and Mental Health said a lack of sleep was a known risk of cognitive impairment. What this study, published in the Journal of the American Heart Association, found was that poor sleep together with high blood pressure reduced cognitive performance and increased the threat of brain injury that, at the extreme, could lead to dementia.

Professor Pase said the combination of short sleep – less than seven hours a night – and hypertension (high blood pressure) on brain health was unclear before this study.

“We set out to see if there was this interaction between the two and indeed we did find it,” he said.

The good news is that it can be treated with regular bedtimes, seven to nine hours of sleep every night and high blood pressure treated by a GP.

“In a previous study we showed that individuals with high blood pressure that was untreated had a high risk of dementia and those who received treatment for their high blood pressure had about a 12 per cent reduction in their risk of getting dementia,” Professor Pase said.

This study used data from 682 middle-aged Americans involved in the Framingham Heart Study, one of the longest ongoing studies designed to identify common factors or characteristics that contribute to cardiovascular disease.

“We looked at people's thinking and memory and markers of brain health when we did imaging scans of their brain,” Professor Pase said.

It found in people with high blood pressure, shorter sleep duration was associated with poorer executive functioning and markers of brain injury and accelerated brain ageing on MRI that was not seen in people with normal blood pressure.

About one in three people in the study reported having less than six hours of sleep a night, 16 per cent had sleep apnoea and almost a quarter were using sleeping pills regularly.

“These findings have significance, given that over one-third of Australians experience sleep problems,” Professor Pase said. “Importantly, sleep problems and hypertension are treatable.”

He is now leading a new study with more than 200 Australian patients.

The Australian Brain and Cognitive Health cohort study will monitor blood pressure over 24 hours as Professor Pase said typically blood pressure should dip at night to give the brain and body a rest.

“So if you're having disrupted sleep, maybe your blood pressure isn't dipping very well at night,” he said. “That may be the connection. The first step to getting a good night's sleep is to recognise its importance.”

The study's first author, Stephanie Yiallourou, said screening people with high blood pressure for insufficient sleep could allow tailored therapies to improve brain ageing and reduce brain injury.

“The next step in this research is to explore whether the double hit of short sleep and hypertension is associated with dementia risk in the long term,” Dr Yiallourou said.