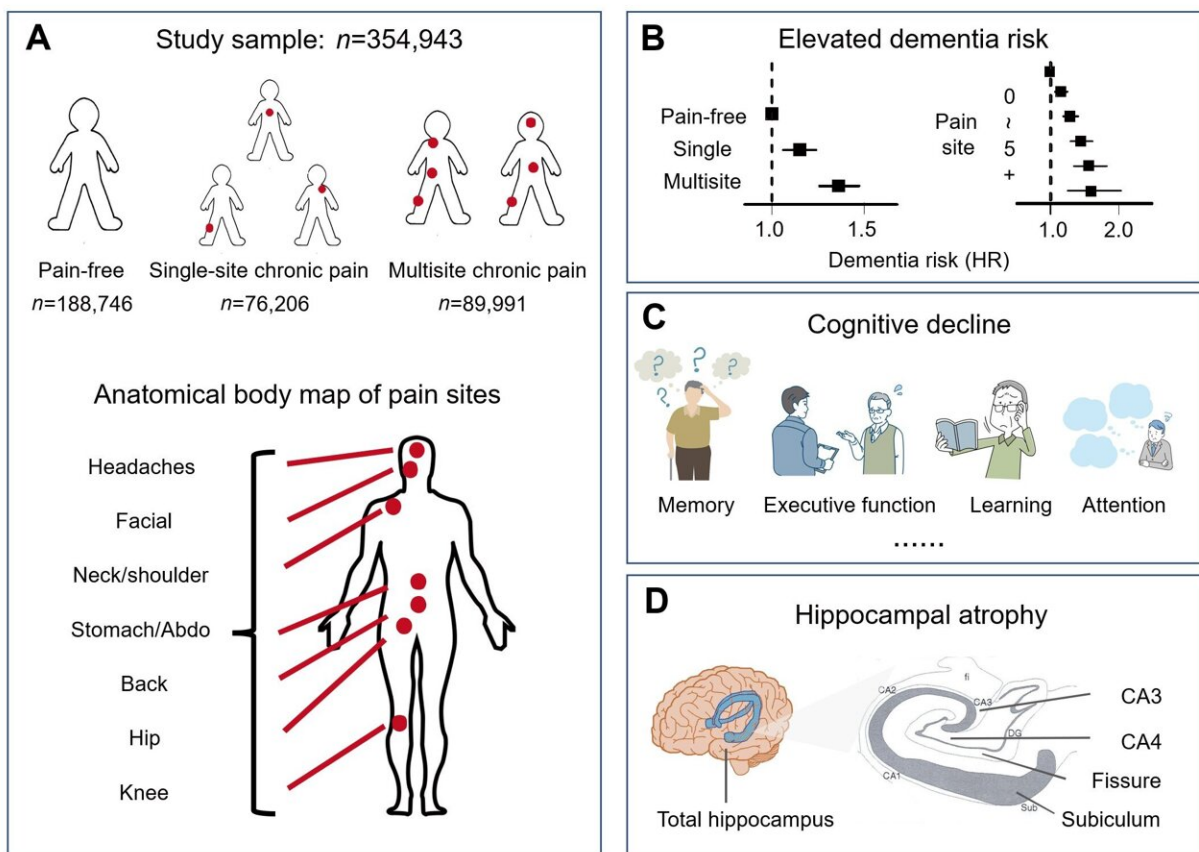


More pain, more burdens: Researchers find link between chronic pain and dementia

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Elevated dementia risk, cognitive decline and hippocampal atrophy in multisite chronic pain



Elevated dementia risk, cognitive decline, and hippocampal atrophy in multisite chronic pain. Credit: Tu Yiheng

A research team led by Dr. Tu Yiheng from the Institute of Psychology

of the Chinese Academy of Sciences has found that people with chronic pain in multiple parts of the body had a higher risk of dementia and experienced broader and faster cognitive decline, including memory, executive function, learning, and attention.

The study was published online in *Proceedings of the National Academy of Sciences* on Feb. 20.

Multisite [chronic pain](#), where [pain](#) is experienced in multiple anatomical locations, affects almost half of chronic pain patients and has been found to place a greater burden on patients' overall health. However, it has not been clear whether people with multisite chronic pain suffered from aggravated neurocognitive abnormalities.

In this study, after analyzing the records of 354,943 people in the UK Biobank cohort, the researchers found that the risk of neurocognitive abnormality increased with each additional pain site and was mediated by atrophy in the hippocampus, the part of the brain responsible for memory.

Since hippocampal volume decreases with age, the researchers equated the magnitude of the effect of hippocampal atrophy in patients with multisite chronic pain to the effect of aging in healthy people with an average age of 60.

"Multisite chronic pain may lead to up to eight years of accelerated hippocampal aging, an effect that may underlie a series of cognitive burdens," said Dr. Tu, corresponding author of the study.

The study provides a quantitative understanding of the impact of chronic pain on cognitive function and the risk of dementia, laying an important foundation for future research into the relationship between chronic pain and [cognitive impairment](#).

It also highlights the excessive burden of multisite chronic pain on patients' cognition and the brain, and the need to address the overlapping nature of pain conditions in both basic research and [clinical studies](#).

More information: Wenhui Zhao et al, Elevated dementia risk, cognitive decline, and hippocampal atrophy in multisite chronic pain, *Proceedings of the National Academy of Sciences* (2023). [DOI: 10.1073/pnas.2215192120](#)

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