

Older Veterans with cognitive difficulties could mistakenly be diagnosed with Alzheimer's when PTSD is root cause

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A new study has investigated how measures of thinking, memory, and Alzheimer's disease risk group together in Veterans aged 65 and older without dementia. Results of the study showed multiple patterns of cognitive strengths and weaknesses and Alzheimer's disease risk and may

imply that older Veterans with certain cognitive difficulties could mistakenly receive a diagnosis of possible Alzheimer's disease, when other factors such as PTSD may really be the root cause of the cognitive difficulties.

The findings are [published](#) in the *Journal of Alzheimer's Disease*.

"PTSD seems to keep emerging as a key contributor to subtle cognitive difficulties, indicating that Alzheimer's disease may not always be the cause of these difficulties in older Veterans," said Dr. Kelsey R. Thomas, Ph.D. and lead researcher of the study. "This study helped to further establish a connection between PTSD and cognitive difficulties in older Veterans, giving us greater understanding of next steps to pursue to better understand this connection."

Results of the study also imply that certain screenings for Alzheimer's disease that focus on memory difficulties may in fact miss older Veterans at high risk for Alzheimer's disease (determined via PET scans showing high amyloid levels), while more comprehensive tests would detect cognitive difficulties in attention and executive functioning.

"It's common to diagnose someone with cognitive impairment or dementia based on a cognitive screener or dementia rating scale. However, we may be missing other critical information that could impact treatment recommendations. This highlights the need for a thorough evaluation of older Veterans.

"A full clinical interview, more detailed cognitive measures, and, if warranted, biomarker testing for Alzheimer's disease will better serve Veterans by understanding possible modifiable factors like PTSD, sleep, and pain to guide treatment recommendations and to understand if Alzheimer's disease is a likely contributor," Dr. Thomas said.

In the study, three groups of older Veterans were identified based on their subjective report of cognitive decline, measures of cognitive functioning (memory, language, executive functioning) and amyloid burden measured using a PET scan. Amyloid PET scans measure amyloid in the brain, which is linked to Alzheimer's disease.

Groups were classified at baseline using these measurements and then the change in the groups on measures of global cognition and everyday functioning over one year was studied.

Three groups (Baseline)

- Group one's baseline data indicated an average-to-above average cognition level and low Alzheimer's disease risk.
- Group two's baseline data showed difficulties with memory and language but had an average risk of Alzheimer's disease. Group two had the highest rates of PTSD (54%), pain, and sleep difficulties.
- Group three's baseline data showed the lowest attention/[executive functioning](#). These [cognitive difficulties](#) were related to quickly processing information and performing a cognitive switching task (shifting attention and inhibiting information). This group had the highest risk for Alzheimer's disease but had only low average memory function.

After one year

- Group one showed little to no change in both everyday functioning and global cognition.
- Group two showed a slight decrease in everyday functioning and, while their global cognition improved slightly, they still maintained the lowest level of global cognition.

- Group three showed the fastest rates of decline in both everyday functioning and global cognition.

These results have implications for re-evaluating how we assess and consider treatment options for older Veterans, specifically providing more personalized options.

"Because group three did not show primary memory difficulties initially, they may not be considered for Alzheimer's disease medication, even though they showed high amyloid levels (high risk for Alzheimer's disease)," Dr. Thomas said.

"If given only a cognitive screening measure, Group two might be assumed to have Alzheimer's disease given their low memory scores and may not be appropriately worked up for PTSD, sleep difficulties, or pain. In fact, these Veterans may not have Alzheimer's disease and instead PTSD and other factors may be the cause of their cognitive weaknesses," Dr. Thomas said. "Good news is, these issues are potentially treatable."

Her commitment to this research comes from a devotion to serving those who served.

"I care about giving Veterans a high quality of life as they age. It's important that we help Veterans find a treatment that works best for them. With this research we hope to emphasize the need for individually tailored care for older Veterans," she said.

More information: Kelsey R. Thomas et al, Cognition and Amyloid- β in Older Veterans: Characterization and Longitudinal Outcomes of Data-Derived Phenotypes, *Journal of Alzheimer's Disease* (2024). [DOI:](#)

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