Teasing Out How Anxiety Might Be Linked To Dementia In Older Patients

By Rachel Zimmerman

I worry a lot about anxiety. And for good reason. Anxiety disorders are among the most common mental health woes, and they disproportionately afflict women. And increasingly, anxiety is becoming associated with all sorts of negative longer-term consequences, from greater disability among older patients and impaired cognition to higher health care costs.

A recent study of Swedish twins adds to this growing body of research: In analyzing 28 years of data from the Swedish Adoption Twin Study of Aging, researchers from the University of Southern California report that “anxiety symptoms were associated with increased risk of dementia.”

Specifically, the researchers found a “48% increased risk of becoming demented for those who had experienced high anxiety at any time compared with those who had not.”

And when the researchers compared twins, they found that among the pairs in which one twin developed dementia and the other did not: “31.6% of the time, the twin with lower anxiety was the twin who became demented, whereas, 68.4% of the time, the twin with higher anxiety was the twin who became demented. Relatively speaking then, it was about twice as risky to be the twin with the higher anxiety,” said Margaret Gatz, professor of psychology, gerontology and preventive medicine at USC and one of the study authors.

The analysis, published in the journal Alzheimer’s & Dementia, included 1,082 participants who completed questionnaires and in-person tests and underwent screening for dementia beginning in 1984 and throughout the study.

I asked the study’s first author, Andrew J. Petkus, Ph.D., in the psychology department at USC, about the findings. Here, lightly edited, is his email response:

What’s the most surprising finding in this analysis?

Anxiety was found to be associated with higher risk of dementia independent of depression. Although anxiety is the most common mental health problem in later life, it has been given comparatively less research attention than depression. Depression has been well established as a prospective risk factor for dementia. Anxiety and depression typically occur together and most of the work examining depression and dementia does not account for anxiety. Most studies that have found depression to be a risk factor for cognitive decline did not control for anxiety and therefore it is possible that they may be really picking up on anxiety instead of depression.

In addition, our twin analyses — examining cases where one twin developed dementia while the other one doesn’t — higher anxiety was still a significant predictor of dementia. In these analyses the twin who reported more anxiety was almost twice as likely to develop dementia. The twin analyses also suggest that one reason anxiety may be a risk factor in dementia is genetic factors in common to anxiety and dementia.

What’s the potential mechanism here, linking anxiety with dementia?

Genetic factors that were common to both anxiety and dementia...partially explain this association. It is important to note that genetic factors were not the only mechanism linking anxiety with dementia. The physiological response to
anxiety such as chronic activation of the hypothalamic-pituitary-adrenal (HPA) axis may play a role. When under stress, this HPA axis gets activated resulting in the release of cortisol which activates our bodily resources to attend to whatever stressor we are facing. Chronic high cortisol levels may disrupt part of our brains that are responsible for memory such as the hippocampus and frontal cortex.

What should older patients with a history of anxiety know or do based on this research?

One recommendation for older adults with anxiety is to talk to your doctor. There are a number of treatments that have been shown to be helpful for older adults suffering from anxiety including medications, talk therapy and progressive muscle relaxation.

Other lifestyle factors have been shown to be helpful such as mindfulness meditation and exercise, and good diet can help reduce anxiety as well potentially slow cognitive decline.

What do we still need to learn in this area?

There is a lot that we still need to learn. One important question is finding out what are the specific genetic factors in common to anxiety and dementia. Discovering what these specific genetic factors are can potentially tell us a lot about the physiology of anxiety and cognitive decline. We also need to better understand the long-term effects of treating anxiety and cognitive decline. Finding out if... successfully treating anxiety earlier in life reduces risk for cognitive decline later in life would help efforts for the prevention of cognitive decline and dementia.

I asked Dr. Brent P. Forester, chief of the Division of Geriatric Psychiatry at McLean Hospital, in Belmont, for his thoughts on the study. In an interview, he characterized the analysis as important and also novel because it suggests that anxiety might be an independent risk factor for dementia.

“There have been numerous studies over the past couple of decades that have identified depression as a risk factor for developing Alzheimer’s dementia later in life. Although the link between depression and dementia is now more widely appreciated, up until now relatively little work has attempted to separate out the independent contribution of anxiety to dementia risk.”

He added: “Although anxiety and depression often occur together, sometimes the depression symptoms overshadow the anxiety and yet now we know when left untreated anxiety can be damaging not only in the near-term with regards to current symptoms but also possibly impacting long-term consequences such as dementia risk.”

Forester said another potentially important finding involves the role of genetics in these disorders: The researchers propose that future studies could further assess the impact of specific genetic factors linking anxiety and Alzheimer’s disease.

Of course, there are a number of caveats to the study. First, the researchers report an association only between anxiety and dementia. Also, in the study, researchers only measured anxiety symptoms at baseline when participants entered into the study; there was no formal diagnostic assessment so it’s unknown if the participants actually had a true anxiety disorder.

Another possible confounding factor, according to Forester, is that when older people are anxious, they are often prescribed anxiety-reducing medications, some which have been linked to Alzheimer’s disease. He’s talking specifically about a class of drugs known as benzodiazepines, which include popular and habit-forming drugs like lorazepam, aka Ativan.

“No this study, we don’t know which participants might have been prescribed benzodiazepines,” he said, adding that these types of medications have been found to adversely impact mood symptoms and balance in older adults as well as contribute to cognitive decline.