

Depression symptoms that steadily increase in later life predict higher dementia risk, study shows

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Depression symptoms that steadily increase in older adults are more strongly linked to dementia than any other types of depression, and may indicate the early stages of the disease, according to the first ever long-term study to examine the link between dementia and the course of depression, published in *The Lancet Psychiatry* journal.

Symptoms of depression are common in people with [dementia](#), but previous studies have often looked at single episodes of depression, failing to take into account how depression develops over time. The course of depression varies greatly between individuals - some might experience [depressive symptoms](#) only transiently, followed by full remission, others might have remitting and relapsing depression, and some might be chronically depressed. Different courses of depression may reflect different underlying causes, and might be linked to different risks of dementia.

The study included 3325 adults aged 55 and over, who all had symptoms of depression but no symptoms of dementia at the start of the study. The data was gathered from the Rotterdam Study, a population-based cohort study of various diseases in the Netherlands which allowed the authors to track depressive symptoms over 11 years and the risk of dementia for a subsequent 10 years.

Using the Center for Epidemiology Depression Scale (CES-D) and the

Hospital Anxiety and Depression Scale-Depression (HADS-D), the authors identified five different trajectories of depressive symptoms - low [depression symptoms](#) (2441 participants); initially high symptoms that decreased (369); low starting scores that increased then remitted (170); initially low symptoms that increased (255); and constantly high symptoms (90).

Of the 3325 participants, 434 developed dementia, including 348 cases of Alzheimer's disease. Among the group with low symptoms of depression, 10% (226/2174) developed dementia. The researchers used this as the benchmark against which to compare other trajectories of depression - the study did not compare the risk of dementia following depression with the risk of dementia for adults in the general population (without depression).

Only the group whose symptoms of depression increased over time was at an increased risk of dementia- 22% of people (55/255) in this group developed dementia (table 2). This risk was particularly pronounced after the first 3 years (table 5). Individuals with remitting symptoms of depression were not at an increased risk of dementia compared to individuals with low depressive symptoms. The authors say that this suggests that having severe symptoms of depression at one point in time does not necessarily have any lasting influence on the risk of dementia.

The authors say their findings support the hypothesis that increasing symptoms of depression in older age could potentially represent an early stage of dementia. They also say that the findings support previous suggestions that dementia and some forms of depression may be symptoms of a common cause. They say that at the molecular levels, the biological mechanisms of depression and neurodegenerative diseases overlap considerably including the loss of ability to create new neurons, increased cell death and immune system dysregulation.

According to Dr M Arfan Ikram, Department of Epidemiology, Erasmus University Medical Center, Rotterdam, Netherlands, "Depressive symptoms that gradually increase over time appear to better predict dementia later in life than other trajectories of depressive symptoms such as high and remitting, in this study. There are a number of potential explanations, including that depression and dementia may both be symptoms of a common underlying cause, or that increasing depressive symptoms are on the starting end of a dementia continuum in older adults. More research is needed to examine this association, and to investigate the potential to use ongoing assessments of depressive symptoms to identify [older adults](#) at increased risk of dementia."

Writing in a linked Comment, Dr Simone Reppermund from the Department of Developmental Disability and Centre for Healthy Brain Ageing at the University of New South Wales, Sydney, Australia, says: "In conclusion, several factors can contribute to the development of both depression and dementia. The questions are if, and how, the presence of depression modifies the risk for dementia. The study by Mirza and colleagues provides an answer to the first question: depression, especially steadily increasing depressive symptoms, seems to increase the risk for dementia. However, the question of how the presence of depressive symptoms modifies the risk of dementia still remains. More studies of depression trajectories over a long period, with inclusion of biological measures, are necessary to understand the link between [depression](#) and dementia, in particular the underlying mechanisms. A focus on lifestyle factors such as physical activity and social networks, and biological risk factors such as vascular disease, neuroinflammation, high concentrations of stress hormones, and neuropathological changes, might bring new treatment and prevention strategies a step closer."

Provided by Lancet

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