

Worldwide Study Finds High Rates of Depression and Anxiety in People with Chronic Pain

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A novel analysis of more than 375 published studies concluded that the association between chronic pain and rates of depression and anxiety is staggering. The study, led by investigators at Johns Hopkins Medicine found that 40% of adults with chronic pain experienced “clinically significant depression and anxiety.” Among those most at risk, the analysis showed, were women, younger adults and people with fibromyalgia.

For decades, research has provided evidence of clear links between pain and mood, but the new study's leaders say the co-occurrence levels they identified pose a significant public health concern that should require routine screening in clinical settings, better access to specialty care and development of innovative therapies.

Historically, studies show that people with chronic pain and both depression and anxiety lack consistent access to specialized pain clinics focused on acute pain, and are routinely excluded from clinical trials for pain management.

Chronic pain, described as pain that persists for greater than three months, can be a debilitating condition. According to the [Centers for Disease Control and Prevention](#), an estimated 20.9% of U.S. adults (51.6 million people) experienced chronic pain in 2021. Patients who have chronic pain exhibit symptoms of depression and anxiety. In fact, studies show that 20–40% of adults with chronic pain have co-occurring depression and anxiety.

"Right now, we have effective psychological treatments for depression and anxiety, and effective psychological treatments for chronic pain, but these treatments are often siloed. In fact, many studies exclude people who with chronic pain who have depression or anxiety from clinical trials. We need integrated treatments that address chronic pain and mental health together," says [Rachel Aaron, Ph.D.](#), first author of the study and assistant professor of physical medicine and rehabilitation at the Johns Hopkins University School of Medicine.

For the new study, researchers analyzed data published in 376 studies with a focus on estimating the prevalence of depression and anxiety in people with chronic pain around the world. Their findings, which compared rates of depression and anxiety in people with and without chronic pain, were based on clinical symptoms in medical records; criteria for anxiety and depression found in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5); and consideration and adjustment of factors such as geographic location, clinical versus community settings for data gathering, age, gender and pain duration.

The findings, published Mar. 7 in [JAMA Network Open](#), indicate that adult patients with chronic pain were more likely to have clinical symptoms of depression and anxiety and that elevated depression and anxiety may be unique to chronic pain, rather than being attributed solely to having a medical condition.

"People who have chronic pain are more likely than those who don't to have depression and anxiety. This is a significant public health problem that should

be addressed with routine screening of depression and anxiety in clinical settings and the development of novel treatments that target their comorbidity," says Dr. Aaron. At the same time, this is also a story of resilience. Most people with chronic pain do not have depression or anxiety. These results challenge the ableist narrative that chronic pain is inherently depressing and remind us that people with chronic pain can and do lead psychologically healthy, fulfilling, lives."

The researchers used data from studies conducted between 2013–2023 that included 347,468 adult patients with chronic pain from 50 countries. The average age of the patients was 52. A total of seven depression and anxiety disorder symptoms were studied in the patients.

Of the seven depression and anxiety disorder symptoms, researchers discovered that the highest rates shown in patients with chronic pain were from clinical symptoms of depression and clinical symptoms of anxiety at 39% and 40% respectively. The rates of DSM 5 diagnoses were lower, including major depressive disorder (37%), persistent depressive disorder (6%), general anxiety disorder (17%), panic disorder (8%), and social anxiety disorder (2%).

These results showed that though, these findings could not directly speak to the temporal relationships between chronic pain and depression and anxiety, adult patients with chronic pain were more likely to have clinical symptoms of depression and anxiety. More specifically, the findings provide evidence that psychological distress and adverse life experiences increase risk for chronic nociplastic pain, a type of chronic pain that is caused by changes in how the body processes pain signals in the brain and spinal cord.

With limited screening for depression and anxiety in clinical settings where chronic pain is treated, it has become increasingly important to develop innovative treatments targeting patients with both chronic pain and co-occurring depression and anxiety in an effort to promote positive outcomes.

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Other researchers who contributed to the study are Nicolette Carnahan, Lauren Vitalicia, Claire McCaulley, and Stephen Wegener from Johns Hopkins, Scott Ravyts from the Department of Psychology, University of North Carolina at Charlotte, and Kavya Bhattiprolu from the Department of Psychology, University of Delaware, Alexandria Rogers from New York University Langone Health, Joanne Dudeney and Nicole Harte from the School of Psychological Science, Macquarie University.