

Researchers are uncovering ADHD's links to these other health conditions

A growing body of evidence suggests that people with ADHD may be at risk for anxiety, disordered eating, migraines, long covid and other problems.

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By Cheyenne Buckingham

Attention-deficit/hyperactivity disorder, or [ADHD](#), is one of the [most common neurodevelopmental conditions](#) in the United States, affecting an estimated 15.5 million adults and roughly 7 million children.

A growing body of evidence suggests that people with ADHD may be at risk for other health conditions, including anxiety, disordered eating, autoimmune disease, migraines, long covid and chronic pelvic pain.

For example, in a study published this spring in [Scientific Reports](#), researchers looked at 958 adults with treatment-resistant chronic pain. They found that those with “extremely severe” pain — consistently rated 9 or 10 on a 10-point scale — were more likely to have ADHD symptoms than those with less severe pain. Overall, ADHD symptoms were about twice as common in the study group as in the general population.

What's not clear, however, is whether there is a direct biological link between ADHD and pain (or any other condition), or whether years of stress, overwhelm, poor sleep patterns, social difficulties, untreated ADHD symptoms and side effects of [ADHD medications](#) are the real culprits.

 Dive deeper

We spoke with experts and dug into the research to understand more about the complex connections.

ADHD and pain

As the new study and other research suggest, adults with ADHD are more likely to report chronic pain and may experience greater pain severity in conditions such as migraine, fibromyalgia and chronic low-back pain.

Karen Stewart, a clinical psychologist based in Huntsville, Alabama, who specializes in ADHD, said impulsivity and cognitive rigidity (difficulty adapting to new thoughts or behaviors), both of which are common ADHD traits, may help explain this connection.

“Our beliefs about our pain and our reactions can amplify or ameliorate our physical suffering,” Stewart said. For example, catastrophizing or quickly jumping to worst-case scenarios, which can be an aspect of impulsivity, and not being able to shake those thoughts, which can be part of cognitive rigidity, can ultimately increase your perception of pain, she said.

People with ADHD who are experiencing pain, in particular, can sometimes become consumed by fears that their symptoms will never improve, said Margo Pumar, a psychiatrist who specializes in ADHD and reproductive psychiatry in San Francisco. This can lead to a looping internal dialogue along the lines of: “I can’t have this keep happening. I can’t live this way. What if I always have to live this way?”

Imagining the worst-case scenario may also amplify nerve sensitivity, a phenomenon called central sensitization, which research suggests is more common in people with ADHD. This describes when your nervous system becomes hypersensitive to sensory signals, which can magnify your perception of discomfort and pain.

Neuroinflammation — which is when the tissues in the brain or spinal cord become inflamed and is one of the factors that play a role in ADHD — may additionally increase your risk of experiencing central sensitization. (ADHD is generally thought to be caused by a complex mix of genetic and environmental factors.)

Eugene Merzon, an ADHD researcher and Israeli Health Ministry-certified ADHD diagnostician, explained that neuroinflammation may disrupt how neurons in the brain communicate and function, resulting in ADHD’s signature symptoms, such as inattention and executive dysfunction.

What causes neuroinflammation is unclear, but in addition to potentially influencing brain development and increasing the risk of disorders such as ADHD, research has suggested that “ongoing inflammation may overstimulate the nervous system, making symptoms like pain, fatigue and memory problems worse over time,” said Valentin Dragoi, a professor of neuroscience at Houston Methodist Academic Institute.

ADHD and the immune system

ADHD also seems to co-occur with disorders of immune function, such as asthma, allergies, eczema, rheumatoid arthritis, Type 1 diabetes and hypothyroidism, said Jeffrey Newcorn, director of the division of ADHD and learning disorders within the department of psychiatry at Mount Sinai in New York.

In one of Merzon's studies, he and his team of researchers found that having a diagnosis of ADHD was associated with a higher risk of covid infection early in the pandemic, more severe illness and a greater likelihood of long covid, raising questions about how neuroinflammation affects the immune system.

Another study that he co-authored found that children diagnosed with ADHD had elevated inflammatory markers, including higher eosinophil (immune cells involved in allergic and inflammatory responses) counts, as early 1 year old.

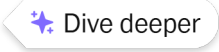
Researchers have also explored these connections in autoimmune conditions such as lupus. Neuropsychiatric lupus, an umbrella term describing the neurological and psychiatric symptoms that can occur in people with systemic lupus erythematosus (SLE), can lead to symptoms that mirror ADHD-related brain fog.

For years, many lupus patients were told these symptoms — such as difficulty concentrating, short-term memory loss, mixing up words and difficulty completing thoughts — were simply emotional reactions to chronic illness, said Meggan Mackay, a Lupus Research Alliance-funded researcher, rheumatologist and professor at the Feinstein Institutes for Medical Research. But growing evidence suggests neuroinflammation could be at the root of these symptoms.

Navigating ADHD and other conditions

People with ADHD may also have a more difficult time navigating complex health conditions, Newcorn said, which could result in worse symptoms or more severe outcomes.

That's because managing chronic illness — remembering medications, monitoring symptoms, attending appointments and maintaining consistent sleep schedules — requires high levels of executive function, or the collection of mental skills that help people plan, prioritize, manage time and follow through on tasks. Executive dysfunction is a classic manifestation of ADHD.

Research suggests that stimulant medications used to treat ADHD and multiple types of antidepressants also could help improve chronic pain and mood disorders that can occur alongside ADHD.  Dive deeper

Ultimately, the science surrounding ADHD and chronic illness is still evolving. “The human brain is infinitely complex and difficult to understand and study,” Dragoi said. But the thing that experts did stress is that we need to stop looking at ADHD as just a condition that affects the brain.

“It’s one body,” Pumar said. “There are no secrets. Your brain knows exactly what’s happening in all the parts of your body.”
