Is it true that … mental health is affected by inflammation?

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Inflammation is the immune system's response to injury or infection. If you cut yourself and the area becomes red and swollen, that's inflammation: immune cells are rushing to fight germs and repair tissue.



But inflammation can also occur in the body during illnesses, and a low level of inflammation can arise from obesity or ageing. "A marker of that inflammation tends to be elevated cytokines in people's blood," says Prof Daniel M Davis, head of life sciences at Imperial College London and author of Immune Health: A Myth-Busting Guide. "They're the molecules immune cells use to communicate with each other."

There are more than 100 types of cytokines in your body, and some affect the brain. "If you have a fever, it's not just physical, you're also mentally affected," says Davis. "Some cytokines influence how you feel."

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Studies of patients with rheumatoid arthritis have found that cytokineblocking antiinflammatory drugs can also improve mood. Scans suggest this may be because blocking cytokines changes activity in the brain.

A study of nearly 5,000 children found that those with higher than average levels of the cytokine IL-6 in their blood at the age of nine, with no sign of depression, were more likely to suffer depression at 18. Another study, this time of adults, found a correlation between the development of an immune related disease and a previous diagnosis of psychiatric disorders, including depression and anxiety.

Scientists don't yet know enough to use this knowledge to treat conditions such as depression or anxiety. "Several lines of evidence point to an overlap of immune and mental health, but we haven't disentangled this enough to know who could benefit, and exactly what part of the immune system we could safely target to improve people's mental health," says Davis.

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