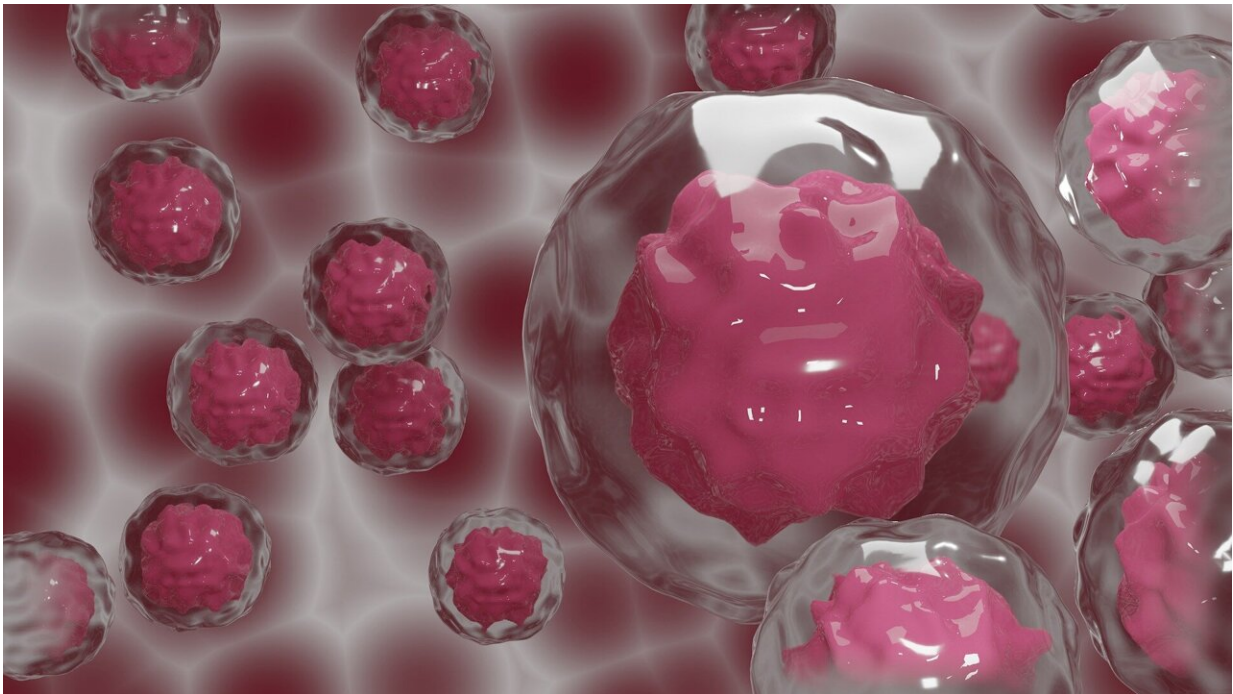


Depression linked to immune response in some people

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A link between depression and changes in counts of several types of immune cells in the blood has been revealed by researchers at the University of Bristol's MRC Integrative Epidemiology Unit. These findings, published in *Molecular Psychiatry*, suggest that changes to different components of our immune system—both the innate and adaptive immune response—could play a role in causing depression.

Although many isolated studies have been conducted previously in this area of research, this is the first large-scale investigation to review and statistically combine data from all studies that have reported immune cell counts, as measured by [flow cytometry](#) (a state-of-the-art method for counting [immune cells](#)), in adults with and without a diagnosis of [depression](#). By combining these studies and increasing the total number of people involved, more definitive conclusions can be drawn.

The researchers systematically searched two databases and pooled data from 27 published [scientific articles](#) that compared counts of 19 different immune cell types in adults with and without a depression diagnosis. Each study was quality checked and only high-quality studies were included.

Their analyses of 2,277 individuals revealed that counts of eight different types of immune cells, e.g., B cells and T cells, were increased in depression as compared to counts seen in the healthy comparison group without depression.

Éimear Foley, a Ph.D. student and the study's lead author at Bristol's MRC Integrative Epidemiology Unit, said, "The question now is whether these changes in immune cells are a cause or consequence of depression and we hope to examine this in future studies. It is also important to note that we are not suggesting that anyone with increases in these immune cell types will develop a [depressive disorder](#). Rather we are highlighting the differences that may exist between patients with depression and healthy individuals, that were included in our sample, in their counts of particular immune cell types.

"Current treatments for depression do not work for all patients and immunotherapy could be useful for a subgroup of patients. Our aim is to use these findings to better guide our selection of patients for future immunotherapy trials for depression with the hope of working towards

more effective, personalized care in mental health."

More information: Éimear M. Foley et al, Peripheral blood cellular immunophenotype in depression: a systematic review and meta-analysis, *Molecular Psychiatry* (2022). [DOI: 10.1038/s41380-022-01919-7](https://doi.org/10.1038/s41380-022-01919-7)

Provided by University of Bristol

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