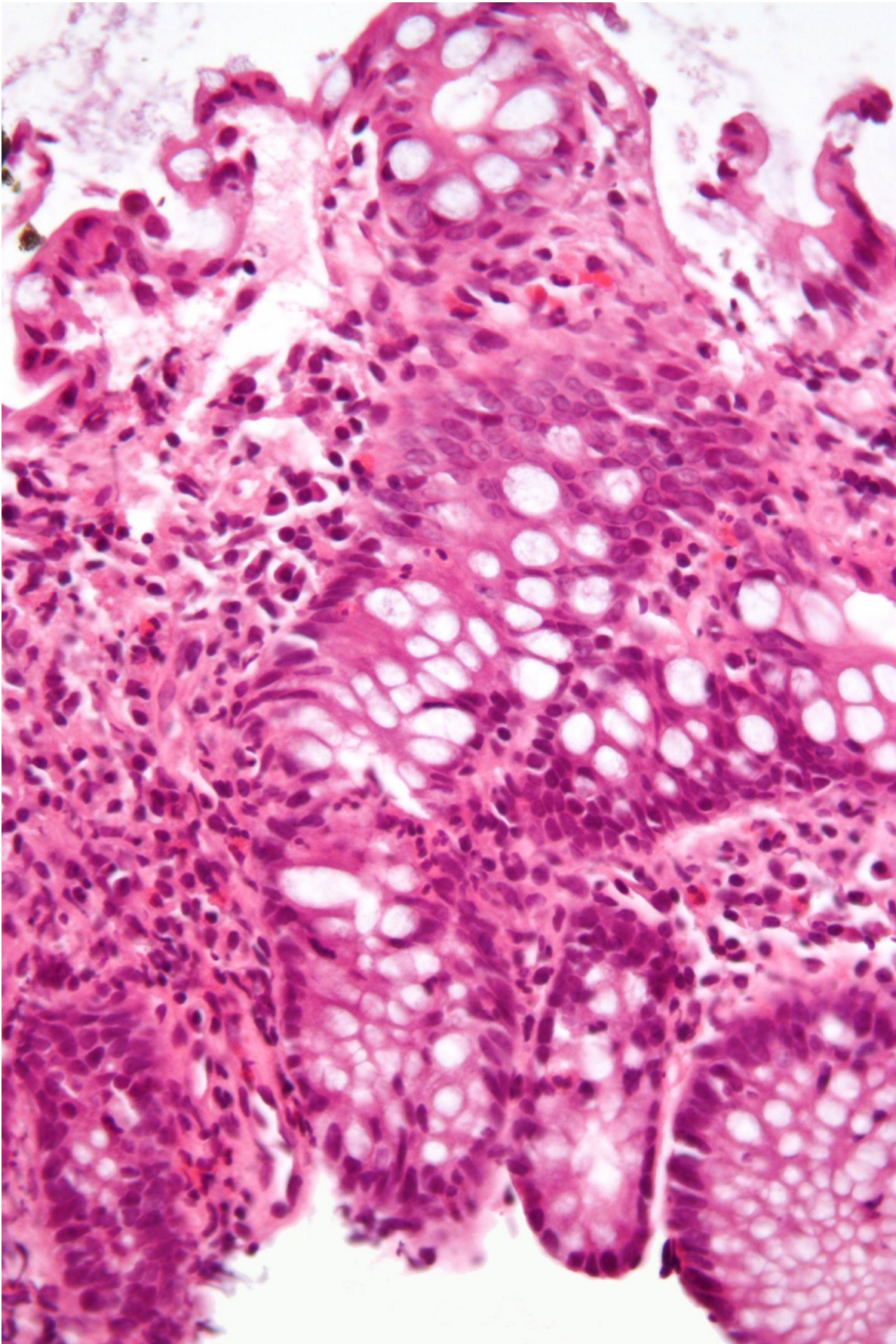


Mood interventions may reduce inflammation in Crohn's and colitis

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Micrograph showing inflammation of the large bowel in a case of inflammatory bowel disease. Colonic biopsy. Credit: Wikipedia/CC BY-SA 3.0

New King's College London research reveals that interventions that improve mood can reduce levels of inflammation in people with inflammatory bowel disease by 18%, compared to having no mood intervention.

Researchers at the Institute of Psychiatry, Psychology & Neuroscience at King's College London found that interventions designed to improve mood, including [psychological therapy](#), antidepressants, and exercise, were associated with significant reductions in inflammatory biomarker levels in individuals with [inflammatory bowel disease](#) (IBD). Interventions for mood may present an alternative treatment for IBD that is both effective and low-cost.

The research indicates that interventions for mood can present an alternative treatment for IBD that is both effective and low-cost.

IBD, comprising Crohn's disease and [ulcerative colitis](#), is a chronic autoimmune condition affecting more than 500,000 people in the U.K. that causes [inflammation](#) of the digestive tract. This results in abdominal pain, diarrhea, fatigue, incontinence, and other debilitating symptoms. Alongside the physical symptoms, IBD can have major implications on [mental health](#) and well-being.

Inflammatory biomarkers can be found in the body to indicate areas and types of inflammation. Researchers analyzed existing studies on levels of the biomarkers C-Reactive Protein and fecal calprotectin which are

specific indicators of IBD, as well as a combined measure of other inflammatory biomarkers.

The [systematic review](#) and meta-analysis published in *eBiomedicine* is the first to investigate the relationship between interventions aiming to treat mood and levels of inflammatory biomarkers in IBD. The findings suggest that interventions for mood present a strategy to improve mental health and reduce inflammation in IBD.

Natasha Seaton, first author of the study and Ph.D. student at King's IoPPN, said, "IBD is a distressing condition and current medication that reduces inflammation is expensive and can have side effects. Our study showed that interventions that treat mental health reduce levels of inflammation in the body. This indicates that mood interventions could be a valuable tool in our approach to help those with IBD."

The researchers conducted a search of more than 15,000 articles, looking for all [randomized controlled trials](#) in adults with IBD that measured levels of inflammatory biomarkers and tested a mood intervention (for example, interventions to reduce depression, anxiety, stress and distress, or improve emotional well-being).

They reviewed and analyzed data from 28 randomized controlled trials involving more than 1,700 participants to establish whether interventions targeting mood outcomes impact inflammation levels in IBD.

Researchers found that psychological therapies, including Cognitive Behavioral Therapy (CBT), Acceptance and Commitment Therapy, and Mindfulness Based Stress Reduction, had the best outcomes on inflammation in IBD, compared with antidepressants and exercise interventions.

Interventions which had a larger positive effect on mood had a greater

effect on reducing inflammatory biomarkers. These findings suggest that the mechanism underlying the effect of psychological and social interventions on inflammation in IBD could be improved mood.

Individual analyses on IBD-specific inflammatory markers revealed a small reduction in C-Reactive Protein and fecal calprotectin following mood [intervention](#). This suggests that treatments which improve mood have beneficial effects on generic inflammation as well as disease-specific biomarkers.

Professor Valeria Mondelli, co-lead of the Psychosis and Mood Disorders Theme at the NIHR Maudsley BRC and Clinical Professor of Psychoneuroimmunology at King's IoPPN, said, "Our study suggests that improvements in mood can influence physical diseases through modulation of the immune system.

"We know stress-related feelings can increase inflammation and the findings suggest that by improving mood we can reduce this type of inflammation. This adds to the growing body of research demonstrating the role of inflammation in mental health and suggests that interventions working to improve mood could also have direct physical effects on levels of inflammation. However, more research is needed to understand exact mechanisms in IBD."

Many IBD medications have negative side effects, and they are often very costly. For example, the anti-inflammatory medication infliximab costs about £12,584 per year. The study suggests that interventions that aim to improve mood, particularly psychological therapies costing approximately £480–£800 in the U.K. (an eight-week course of face-to-face CBT) could reduce inflammation in IBD and potentially provide an alternative treatment or one that works alongside medication to reduce costs and increase effectiveness.

Professor Rona Moss-Morris, Digital Therapies theme lead at NIHR Maudsley BRC, Professor Psychology as Applied to Medicine at King's IoPPN, and senior author of the study, said, "Interventions for [mood](#) show considerable promise for the management of IBD in improving mental health, inflammation, and disease outcomes. Integrated mental health support alongside pharmacological treatments may offer a more holistic approach to IBD care, potentially leading to reduced disease and health care costs.

"Currently, medications taken to reduce inflammation are often very costly compared to psychological therapies in the U.K. Given this, including psychological interventions, such as cost-effective digital interventions, within IBD management might reduce the need for anti-inflammatory medication, resulting in an overall cost benefit."

More information: Natasha Seaton, Do interventions for mood improve inflammatory biomarkers in Inflammatory Bowel Disease?: A Systematic Review and Meta-Analysis, *eBioMedicine* (2024). [DOI: 10.1016/j.ebiom.2023.104910](https://doi.org/10.1016/j.ebiom.2023.104910)

Provided by King's College London

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