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## **LETTER TO THE EDITOR**

**Title:** Psychological co-morbidity and IBD activity: Cause or effect?

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Dear Editor:

We read the recently published article by Mikocka-Walus et al. with interest. [1] The authors described a temporal relationship between the presence of anxiety and depression, and the onset of clinical disease activity, in a large cohort of inflammatory bowel disease (IBD) patients with prospectively collected data.

Previous studies have only examined this issue using a cross-sectional design, meaning that causality cannot be established, [2] so the findings are therefore novel and important, and provide support for the existence of brain-gut interactions, which may affect the natural history of IBD. Interestingly, others have also shown an association between active disease and the onset of psychological co-morbidity in longitudinal follow-up, suggesting the direction of these interactions may be from gut to brain, as well as brain to gut. [3]

The existence of an effect of brain on gut has been described in patients with functional gastrointestinal disorders, [4] but there are fewer data from patients with IBD. Previous studies have demonstrated that, in murine models of quiescent colitis, the induction of depression can reactivate inflammation of the colonic mucosa, [5] that this can be attenuated by the administration of antidepressant drugs, and that this is mediated via interference with the inhibition of pro-inflammatory macrophage activity by the vagus nerve. [6]

Taken together, these studies suggest that psychological co-morbidity has an important role in IBD. However, whether the association is due to genuine disease activity, or increased likelihood of symptom reporting in patients with impaired mood, remains uncertain. [2, 7] Whatever the reason for this association, it has important implications for future management strategies in IBD. It suggests that a paradigm shift away from therapies focused solely on reducing the inflammatory burden is needed in a subset of patients. These

data therefore support the need for more rigorous controlled trials of psychological therapies and antidepressants, and the development of an integrated model of care, for this hitherto neglected group of patients.

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