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BIPOLAR DISORDERS Factsheet

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What is the gut microbiota?

The gut microbiota involves a dynamic community of microorganisms that inhabits the human body, and changes in response to intrinsic and extrinsic factors. This community includes bacteria, archaea, microbial eukaryotes, fungi, and viruses, and so it is critical in maintaining healthy physiology. Disruption to it has been shown to have a pivotal role across a range of medical conditions including inflammatory bowel disease, metabolic diseases, cancer, and chronic pulmonary diseases.

Studies are now investigating how the gut microbiota can influence the brain. The mechanisms by which intestinal microorganisms could be linked to emotional and cognitive functions of the brain are not fully understood, but they are thought to include the vagus nerve, gut hormone signaling, the immune system, tryptophan metabolism, and microbial metabolites such as short-chain fatty acids.

What is the evidence for changes in gut microbiota in people with bipolar disorder?

High quality evidence finds increased proxy biomarkers of gut dysbiosis (antibodies against bacterial endotoxins and sCD14) in people with bipolar disorders relative to controls. Lower quality evidence finds zonula may also be increased in bipolar disorder. There was reduced gut biodiversity in medicated vs. non-medicated patients.

Moderate to low quality evidence suggests the family Ruminococcaceae, genus *Faecalibacterium*, and species *Faecalibacterium prausnitzii* may be reduced in bipolar disorder, while genera *Bacteroides* or *Bacteroides-Prevotella* group species may be elevated.

For more information see the technical table



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NeuRA (Neuroscience Research Australia) is one of the largest independent medical and clinical research institutes in Australia and an international leader in neurological research.

Diseases of the brain and nervous system pose the greatest health, economic and social burden of any disease group because they are chronic, debilitating and have no known cures.

Medical research is the cornerstone of efforts to advance the health and wellbeing of families and the community. Our dedicated scientists are focussed on transforming their research into significant and practical benefits for all patients.

While we hope you find this information useful, it is always important to discuss any questions about bipolar disorder or its treatment with your doctor or other health care provider.

HOW YOUR SUPPORT HELPS

We are able to make significant advances due to the generosity of countless people. Your donation allows us to continue to work towards transforming lives. For information on how you can support our research, phone **1300 888 019** or make a secure donation at neura.edu.au.

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