Gastroenterol Clin North Am. 2017 Mar;46(1):77-89. doi: 10.1016/j.gtc.2016.09.007. Epub 2017 Jan 4.

The Microbiome-Gut-Brain Axis in Health and Disease.

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Abstract

Gut microbes are capable of producing most neurotransmitters found in the human brain. Evidence is accumulating to support the view that gut microbes influence central neurochemistry and behavior. Irritable bowel syndrome is regarded as the prototypic disorder of the brain-gut-microbiota axis that can be responsive to probiotic therapy. Translational studies indicate that certain bacteria may have an impact on stress responses and cognitive functioning. Manipulating the gut microbiota with psychobiotics, prebiotics, or even antibiotics offers a novel approach to altering brain function and treating gut-brain axis disorders, such as depression and autism.

KEYWORDS: GABA; Microbiota; Psychobiotics; Serotonin; Short-chain fatty acids; Vagus nerve

PMID: 28164854 DOI: 10.1016/j.gtc.2016.09.007