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Psychobiotics: a novel class of psychotropic.

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Abstract

Here, we define a psychobiotic as a live organism that, when ingested in adequate amounts, produces a health benefit in patients suffering from psychiatric illness. **As a class of probiotic, these bacteria are capable of producing and delivering neuroactive substances such as gamma-aminobutyric acid and serotonin, which act on the brain-gut axis.** Preclinical evaluation in rodents suggests that certain psychobiotics possess antidepressant or anxiolytic activity. **Effects may be mediated via the vagus nerve, spinal cord, or neuroendocrine systems.** So far, psychobiotics have been most extensively studied in a liaison psychiatric setting in patients with irritable bowel syndrome, where **positive benefits have been reported for a number of organisms including Bifidobacterium infantis.** **Evidence is emerging of benefits in alleviating symptoms of depression and in chronic fatigue syndrome.** Such benefits may be related to the anti-inflammatory actions of certain psychobiotics and a capacity to reduce hypothalamic-pituitary-adrenal axis activity. Results from large scale placebo-controlled studies are awaited.