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Psychobiotics

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It is well understood that diet acts as a key modulator of intestinal health and gut microbiota. The composition of the human gut microbiome is found to affect the physiology and psychological health of the host. Therefore, to enhance the microbiome function and promote human health, probiotics are being recommended. They are bacteria and yeasts that help in keeping our digestive system healthy. A group of probiotics that have an effect on behaviours and functions related to our central nervous system is called psychobiotics. They are mediated by the gut-brain axis (GBA) through neural, immune, humoral, and metabolic pathways which not only help to improve gastrointestinal function, but also play a major role as an antidepressant and anxiolytic. Psychobiotics are a novel approach to focus on different areas in neuroscience as the microbiome can produce and metabolise a wide range of essential neurotransmitters and neuroactive substances like serotonin, melatonin, gamma-aminobutyric acid (GABA), acetylcholine and histamine. In the past few years, some strains of probiotics were reported to inhibit inflammation and decrease cortisol levels, thereby lowering the symptoms of anxiety and depression. Psychobiotics are found to be very effective in treating neural disorders like Parkinson’s disease (PD), Alzheimer’s disease (AD), autism spectrum disorder (ASD) and so on. In addition, it can also enhance memory, learning and cognitive function. Consumption of certain fermented foods like yogurt, sauerkraut, fermented soybeans, kimchi, pickles, idly and buttermilk will not only help in digestion problems but also positively influence our mental health. This can be supplemented with appropriate exercise to enhance mood, vagal activity and cognition. Therefore, the potentially broad applications of psychobiotics have helped the researchers understand its extensive scope and may help in developing novel treatment approaches for neural disorders.

Keywords: Gut microbiota, Probiotics, Psychobiotics, Gut-brain axis, Fermented foods, Neural disorders

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