The effect of probiotics on gene expression involved in depression

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Depression is a cognitive disease caused by chronic stress and activates the genes involved in the pathogenesis and signaling of gastrointestinal diseases, systematically increasing or decreasing their expression. Probiotics are live microorganisms that have beneficial effects on the digestive and the nervous system, by affecting the molecules, genes and metabolites derived from them on the brain-gut-microbiota axis. The aim of this study is to review the clinical evidence about the effects of probiotics in the treatment of symptoms of neurological diseases. The articles related to this subject were collected from databases such as NCBI, new studies and reviews articles which determine the effects of probiotics on the treatment of digestive and neurological diseases. There is a lot of evidence about the therapeutic effects of probiotics in irritable bowel syndrome, Helicobacter pylori infection, and prevention of cancer. Others studies show the beneficial effects of probiotics in the treatment of depression; however, because of the low number of samples, the limitation in use of different strains of bacteria and the limited laboratory, it is difficult to make a definitive view about these results. To determine the effective dose of probiotics in the treatment of diseases, clinical study is necessary. Probiotics can be used as effective therapeutic goals in the treatment of depression and reducing the anxiety symptoms such as insomnia.

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