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Intestinal microbiota and chronic psychiatric disorders

Alper Evrensel
Uskudar University, Turkey

Contrary to the general belief, a fetus is not sterile. Gut microbiota becomes colonized to the fetus in the intrauterine period. Microorganisms play a very significant role in the development of the immune system and the brain of the fetus. There is a bidirectional symbiotic relationship between gut microbiota and the body. This interaction is determinant on human health. Gut microbiota has fundamental effects on neuro-developmental processes such as blood-brain barrier formation, myelination and neurogenesis. There is a relationship between dysbiosis of microbiota and neuropsychological disorders, particularly depression. Colonization of pathogen bacteria in the gut and their metabolites (endotoxins) lead to immune response. Microorganisms affect the brain via the immune system, neuroendocrine system and nervus vagus. Nutrition, stress and medication lead to dysbiosis by changing the microbiota composition. It is also possible to purposefully manipulate the gut microbiota. Dysbiosis may be restored by changing gut bacteria composition with probiotics and Fecal Microbiota Transplantation (FMT). Probiotic bacteria have a potential to be used in depression treatment. FMT may be a sign of hope in treatment-resistant chronic psychiatric disorders in the future. The door to the mysterious world of gut-brain relationship seems to have just been opened.

Biography

Alper Evrensel is currently an assistant professor of psychiatry at the Uskudar University, Istanbul, Turkey. He has been working at the NP Istanbul Brain Hospital for 10 years. He has been working in the area of neuropsychiatry, neuropsychopharmacology and published over 50 papers in peer-reviewed journals, as well as 4 invited chapters in books. His research and clinical interests focus on gut-brain axis and fecal microbiota transplantation in neuropsychiatric disorders.

alperevrensel@gmail.com

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