

Abstract

The intestinal microbiome is formed by trillions of microorganisms that accompany us throughout our lives. Commensal gut microorganisms, as a complex system, interfere with diet processing and subsequent spectrum of released metabolites, which are involved in communication with other systems of the human body. Recently, a link between intestinal microbiota dysbiosis and activation of the immune response has begun to emerge. This pathophysiological condition is associated with the loosening of the tight junctions of the gut epithelial barrier, which could together with prolonged immune inflammation lead to what is known as irritable bowel syndrome. This disease is not only related to symptoms associated with bowel discomfort, but also to effects on afferent nerve endings. This connection has been called as the gut-brain axis and became the link between the gut microbiota and psychiatric diseases. This work is summing up the actual knowledge on this topic and offers a comprehensive overview of the subject from both an immunological and a microbiological point of view.

Key words: gut-brain axis, depression, anxiety, antibiotics, antidepressants, probiotics, IBS