Microbiome

A microbiota is an “ecological community of commensal, symbiotic and pathogenic microorganisms” found in and on all multicellular organisms studied to date from plants to animals. A microbiota includes bacteria, archaea, protists, fungi, and viruses. The microbiota has been found to be crucial for the immunologic, hormonal, and metabolic homeostasis of their host. The synonymous term microbiome describes either the collective genomes of the microorganisms that reside in an environmental niche or the microorganisms themselves.

The microbiome and host emerged during evolution as a synergistic unit from epigenetics and genomic characteristics, sometimes collectively referred to as a holobiont.

The beneficial microorganisms are involved in human health and well-being.

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Oral microbiota

Gut microbiota

see Gut microbiota

The microbiome-Gut Microbiota-brain axis (MGBA) is the biochemical signal of the digestive tract and central nervous system. MGBA disorders have been increasingly involved in the pathological process of neurological diseases. This study aimed to investigate the research hot spots of MGBA from 2004 to 2020. MATERIAL AND METHODS Using bibliometric analysis from the Web of Science Core Collection (WOSCC) database, 3993 documents on the MGBA were retrieved and visual analysis was conducted. RESULTS The MGBA has received attention worldwide and will continue to be a research hot spot. Emerging research organizations and scholars of the MGBA and the research of John F. Cryan and colleagues from Ireland in the MGBA have been recognized by many scholars. However, the research of Chinese scholars and organizations appeared to have less impact due to a lack of research innovation and collaboration with other countries/regions. Keyword analysis showed that neuroinflammation was a hot spot and that eminent scholars had begun to work in the field of MGBA. CONCLUSIONS This work provided an overall view of the literature on the MGBA worldwide, and the analysis provided a comprehensive overview of MGBA research. It further revealed the interaction between the gut microbiota (eg, Akkermansia, Parabacteroides) and the specific regulatory network of the gut microbiota and metabolites, neuroinflammation, and neural networks, which can facilitate the development of effective treatment strategies using microbiota for targeting neuroinflammation and conducting large-scale clinical trials of neurological diseases [1)]

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Wang H, Long T, You J, Li P, Xu Q. Bibliometric Visualization Analysis of Microbiome-Gut-Brain Axis from 2004 to 2020. Med Sci Monit. 2022 May 15;28:e936037. doi: 10.12659/MSM.936037. PMID: 35568968.