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Poster Presentation

The Role of Antibiotic Consumption in Anxiety

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Abstract

Gut microbiota is formed by ten of trillions of microorganisms with at least 1000 different species of known bacteria. One - third of an individual gut microbiota is common to most people, while two - thirds are specific to him. Growing amount of evidence indicates that gut microbiota characteristics may play an important role in mental dysfunctions. Molecular mimicry between several key neuropeptides and gut microbiota proteins has been shown. Immunoglobulins reactive with these neuropeptides that are involved in behavior and emotion regulation have been identified in humans. And their affinity or levels were associated with neuropsychiatric conditions like anxiety. So, changes in gut microbiota may increase the risk of anxiety through neurologic, metabolic and immunologic pathways. On the other hand, antibiotics have found to alter the taxonomic, genomic, and functional capacity of the human gut microbiota, with effects that are rapid and sometimes persistent. The Center for Disease Dynamics, Economics and Policy (CDDEP), reported that Global antibiotic consumption grew by 30% between 2000 and 2010. This increasing consumption rate may increase the anxiety incidence especially among countries that antibiotics are widely available over the counter. In conclusion, although further studies are needed to make clear which molecular pathway increases the risk of anxiety in a person who has used antibiotics more than need, it seems that preventive actions like washing hands, preparing food hygienically, keeping vaccinations up to date and prescribing antibiotics when is necessary, may help to reduce anxiety incidence.

Keywords: Gut microbiota, Anxiety, Antibiotic consumption

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