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Food for Thought: How Your Plate Affects Your Brainpower and Mood

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Abstract

Energy extraction in humans is a multi-step process that starts in the digestive system, where complex digestion and absorption occur. This system covers several organs, and in the strong environment of the large intestine, microorganisms play a crucial role. The study of the gut brain axis, a dynamic and reciprocal communication network that connects the gastrointestinal tract with the central nervous system, is expanding rapidly. Innovative research highlights the significant influence of the gut microbiote on this axis. These microorganisms are key players in neurogenesis, affecting neurotransmitter systems and modulating neuroinflammatory pathways. This research specifically studies the gut-brain axis, focusing on the link between food choices and cognitive function, as well as emotional well-being. It shows that a child's diet, in particular his selection of breakfast, has a significant impact on cognitive abilities such as memory and concentration and is closely linked to social interactions. A diet rich in traditional foods such as salads and olive oil correlates with better cognitive function. On the other hand, the consumption of processed foods, including hot dogs and chocolate sandwiches, is linked to poor academic performance and adverse social behaviours. Cognitive abilities have been assessed using puzzles and card games, with findings indicating that a diet rich in processed foods can lead to reduced attention spans, increased hyperactivity and weakened social relationships. Quantitative electroencephalogram (QEEG) analyses support these observations, suggesting that traditional diets could support academic achievements. The study emphasizes the need for parental awareness and participation in preparing traditional nutrient-rich breakfasts, as a crucial component of children's cognitive and emotional development.

Keywords: gut brain axis, microbiote , QEEG , academic performance, emotional development