GENERAL

GUT FEELING : READ HOW THE GUT MICROBIOME IS INTERLINKED TO OVERALL HEALTH

Irene Sara Binu*

* *Correspondence: Irene Sara Binu*

Received: 10 January 2025 **Published:** 27 April 2025 **Volume 12, Issue 2** (Apr–Jun 2025)
Article no.: e95 **Open access** · free to read

Microbes are one of the major constituents of the human body and reside in a symbiotic relationship in various habitats. The ecosystem of the gut microbiome comprises bacteria, viruses, fungi, and parasites. An infant is introduced to these microorganisms during delivery or breastfeeding. And their presence is influenced by host genetics, surrounding environment, dietary habits, etc. The immune system relies on the microbes to regulate potential harm and maintain an ecosystem for a healthy gut. Recent research suggests that commensal bacteria in the gut are contributing to the pathogenesis of several diseases.

Development of gut microbiome:

The development of the microbiome is primarily influenced by the mode of delivery. The gut microbiota of vaginally delivered infants are said to resemble the mother?s vaginal commensals, whereas C-section infants were found to have skin commensals. These microbes are tolerated by the immune system of the neonate due to a lack of a fully capacitated immunity. The interaction between the host cells and immune regulators determines the composition of the overall gut microbiome.

Dysbiosis (alterations in the microbiome) is a product of exposure to multiple factors. And this is said to be the biggest trigger for inflammation. Eventually disrupting the barrier and potentiating the development of autoimmune disorders, metabolic disorders, chronic inflammatory diseases, and cancer

Autoimmune disorders and gut microbiome:

Recent studies reveal that, 3 majors factors namely translocation of microbes, molecular mimicry and altered bacterial metabolite production causes multiplication of the immune response which leads to development autoimmune disorders. Common disorders are Rheumatoid Arthritis, Inflammatory Bowel Disease (IBD), Multiple Sclerosis, Type 1 Diabetes Mellitus, Systemic Lupus Erythematosus.

Effect on systemic illness:

Studies have shown the link between myocardial infarction and gut microbiome in test rats. And thus, summaries that patients with CVD fosters inflammation in the gut by producing pro-inflammatory molecules.

It appears that gut dysbiosis, leads to emergence of insulin resistance, dysfunction of bile acid metabolism and other inflammatory responses. But on the flip side, patients with Type 2 DM on Metformin can be benefited with gut dysbiosis, as it promotes the catabolism of amino acids and thereby increase glucose metabolism.

Hear from experts, 5 superfoods to include in your diet:

1. Whole grain foods: 25g fibre a day encourages an optimal function of the digestive cells.
2. Lean proteins: Patients with IBS and other autoimmune disorders are offend triggered by fat or carb-rich foods. It is advised to include lean meat - fish (eg.) salmon
3. Avocado: rich in nutrients and fibre, it fuels digestion.

4. Green leafy vegetables: They promote the growth of gut microbes along with additional benefits from fibre and vitamins(C, K, A).
5. Fruits: Bananas, berries, and citrus fruits and low in fructose and hence prevent bloating.

Enrich your gut microbiome with these simple habits:

. Drink at least 6-7L of water per day.

. Avoid consumption of ultra-processed foods.

. Supplement your diet with Prebiotics and Probiotics:

Prebiotics are high-fibre foods containing fermented ingredients, to improve the microflora. (eg.) whole grain foods, greens, garlic, bananas and soya beans.

Probiotics are supplements containing live microorganisms to maintain the microflora. (eg.) yogurt

. Move your body : include exercise, yoga, walking ,etc.

Competing interests

The authors declare that they have no competing interests.

How to cite this article (Vancouver)
Binu IS. GUT FEELING : READ HOW THE GUT MICROBIOME IS INTERLINKED TO OVERALL HEALTH. CHEARS Chronical. 2025;12(2):e95. Available from: https://chears.in/journal/volume-12/issue-2/gut-feeling-read-how-the-gut-microbiome-is-interlinked-to-overall-health-95
Published in CHEARS Chronical.
https://chears.in/journal/volume-12/issue-2/gut-feeling-read-how-the-gut-microbiome-is-interlinked-to-overall-health-95