

Section 9—Healthy Intestinal Bacteria (Microbiome) and Immunity

From mouth to anus, the digestive tract in an adult human is 9 meters long, with a total area of 300-400 square meters. Over a lifetime, 60 tons of food passes through it. Nature has placed a robust immune system in the intestines to protect against the ingested germs and toxins. For thousands of years, both Western and Eastern healing traditions have proposed that the root of most diseases lies in the large intestines (colon) where the waste residue of the food collects:

Hippocrates (Father of Allopathic medicine in 350-400 BC)-The death sits in the bowels, and indigestion is the root of all disease.

Louis Kuhne (Naturopath late 19th century)- The excess food intake, eating wrong food produces intestinal toxicity and disease.

Metchnikoff (Allopathic medicine early 20th century, a Nobel prize winner)-The death begins in the colon. He believed that predominately vegetarian plant-based food, fermented milk products, support healthy bacteria in the intestine, and cure many diseases. Metchnikoff coined the term dysbiosis for unhealthy colon bacteria that cause disease.

What is Microbiome? What does it do for Health and Immunity?

The collection of bacteria in the intestines is called Microbiome. It carries both helpful and harmful bacteria. Dysbiosis is a condition in which harmful bacteria take the upper hand and cause disease. Microbiome weighs about 1.5 kg and holds almost 30 trillion bacteria. Helpful intestinal bacteria perform several essential functions :

- ***Strengthen the Immune system***- Breakdown the toxic food compounds and destroy harmful bacteria that enter the digestive tract. Sixty percent of the body's immune system lies in the intestines.
- ***Synthesize B Vitamins and Vitamin K*** –Fermented foods such as curd rice, pickles, and beverages fermented with crushed mustard seeds increase Vitamin B12 levels.
- Produce unique short-chain fatty acids (SCFA) from the complex starches and fiber in the food. The SCFA protects the colon from harmful bacteria and diseases like cancer.

What can cause Dysbiosis

- a) ***infection of the digestive tract by germs*** - Bacteria, viruses, parasites, and fungus
- b) ***Low fiber, sugar-rich foods***—Unnatural factory-made fast foods, junk foods, and animal foods such as meat and dairy that carry no fiber at all
- c) **Use of antibiotics**

Diet and Healthy Microbiome

The diet plays the most vital role in the quality of bacteria in Microbiome. The foods that support a healthy microbiome in the colon include:

- ***Diet rich in fiber***—All plant-based foods such as vegetables, fruits (not juices), Beans, lentils, and whole grains is rich in fiber. The whole grains, such as millets, carry 15 times more fiber than refined wheat flour, and white rice.
- ***Probiotic foods that carry healthy living bacteria***—An excellent example of these foods is homemade curds and its products. The store-bought curds and yogurt preparation get pasteurized that destroys healthy living bacteria.
- Note that commercial Probiotic tablets and capsules vary widely in their efficacy. An ideal way to get a right probiotic is to eat homemade curd that has not turned too sour.
- ***Prebiotic foods and spices***—Plant foods that are rich in fiber and fermented foods work as prebiotics to support the growth of helpful bacteria. Amongst spices, pounded mustard seeds are an excellent prebiotic source.