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THE digestive system has a significant role in maintaining a healthy body. The gut includes the mouth, oesophagus, stomach, small and large intestines as well as rectum and anus.

The gut's primary function is to digest food, converting them to energy and nutrients, which are then utilised by the body.

It also plays a major role in the immune system of the body.

Good gut health is therefore central to good overall health of the body. The key to the promotion and maintenance of good gut health lies in the gut microbiota.

Understanding the gut microbiota, why it is crucial for good health and how to keep it in balance becomes crucial in preventing gut-related problems like diarrhoea, constipation and irritable bowel syndrome.

What is the gut microbiota?

The gut microbiota is a diverse community of microorganisms in the human digestive tract, mostly in the large intestine. It plays a vital role in ensuring that the digestive system functions efficiently.

The entire population of microorganisms living in your digestive system makes up the gut microbiota, comprising both "good" and "bad" bacteria. It is estimated that there is a population of 100 trillion microorganisms in your gut, including about 1,000 different types or species of bacteria.

The gut microbiota in a person can weigh up to one to two kg. In fact, it is estimated that in each person, the human cells are outnumbered by the gut microbiota by a ratio of 1:10.

Why is a balanced gut microbiota crucial for health?

A balanced gut microbiota is composed of around 85% beneficial bacteria and 15% harmful bacteria.

A healthy balance of the gut microbiota is important to ensure proper gut movement and digestive function. A good gut microbiota also breaks down food components that are indigestible by the body, like dietary fibre, as well as potentially toxic food compounds.

Pathogenic compounds are also blocked from entering the body when your gut microbiota is balanced.

A well-balanced gut microbiota can also synthesise certain vitamins such as vitamin B12 and K, as well as help to strengthen the immune system and maintain overall health.

What happens if the gut microbiota is imbalanced?

An imbalance of gut microbiota, also known as dysbiosis, occurs when the "good" bacteria composition is insufficient to inhibit the "bad" bacteria from damaging the digestive system in your body.

Dysbiosis can cause constipation, diarrhoea or "loose" stools, excessive bloating or burping, and changes in bowel habit.

Imbalance in gut microbiota also leads to tummy discomfort or pain, excessive fatigue, and even lack of concentration.

Note that these are non-specific symptoms that may be caused by conditions other than dysbiosis. Consult your doctor if you need clarification.

What determines the composition and balance of gut microbiota?

The composition and balance of gut microbiota in your digestive system are influenced by many factors.

Babies born by vaginal delivery have better gut microbiota develop-

A balanced gut microbiota for a healthy body

The human gut microbiota has been the subject of extensive research in recent years and our knowledge of their potential functional capacity is rapidly growing.



Understanding the gut microbiota, why it is crucial for good health and how to keep it in balance becomes crucial in preventing gut-related problems like diarrhoea, constipation and irritable bowel syndrome. — 123rf.com

ment, as they are exposed to maternal vaginal bacteria at birth, which provide the initial seeding of gut microbiota.

The gut microbiota of full-term infants is also more diverse and balanced than preterm infants. Moreover, breast-fed newborns have a more stable and uniform population of bacteria when compared to formula-fed babies.

Mother's milk also helps the initial seeding of gut microbiota, as it is rich in prebiotics and contains more than 600 species of bacteria.

Apart from that, dietary intake can also regulate the composition and balance of gut microbiota. For example, high-fat or high-sugar diets are known to cause gut dysbiosis, while a balanced and varied diet that is rich in fibre can promote a healthy gut microbiota.

Other factors can also affect gut microbiota. Evidence has revealed that regular physical exercise improves diversity and increase the quantity of "good" bacteria in gut microbiota.

The intake of certain medications, especially broad-spectrum antibiotics, can upset the balance of gut microbiota. Researchers have reported that smoking and stress have a negative impact on the overall function of the gut.

How can you improve gut health?

There are many ways to maintain the balance of gut microbiota and improve gut health.

The best approach is by practising a balanced, moderate and varied diet, based on the Malaysian Food Pyramid.

Also, consume more foods rich in fibre, such as legumes, whole grains, vegetables and fruits, as fibre helps food to move through the digestive tract smoothly.

Include more probiotic- and prebiotic-rich foods in your diet for a healthy gut and a balanced gut microbiota. Reduce the intake of fried and fatty foods as these foods

are harder to digest. Drink plenty of plain water to aid in food digestion.

Being physically active can help to ensure that the gut is functioning optimally, while getting enough rest is important to keep the mind and body fit.

What are probiotics and how can they help improve gut health?

Probiotics are living microorganisms that are good for your health, especially the digestive system. Most of these are bacteria, also known as "friendly" bacteria.

When consumed in adequate amounts regularly, probiotics are able to help maintain a healthy gut microbiota, which in turn brings about several health benefits.

Probiotics are available in various food products and also as a dietary supplement. Commonly available probiotics in the market are specific strains belonging to the families of Lactobacillus and Bifidobacterium.

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Breast-fed newborns have a more stable and uniform population of bacteria when compared to formula-fed babies. — AFP



Evidence has revealed that regular physical exercise improves diversity and increase the quantity of 'good' bacteria in gut microbiota. — AFP