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The balance between good and bad bacteria in the gastrointestinal tract helps ensure that your digestive system functions properly. – 123rf.com

Balance your gut microbiota

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By Dr ZAITUN YASSIN and Dr ROSELINE YAP

Gut microbiota comprises tiny little microorganisms that thrive in your gut and are an essential part of the digestive system.

A healthy balance of gut microbiota helps you maintain overall good health.

The major function of a normal gut microbiota is to help strengthen the physical barrier in your gut, e.g. the mucosal walls of your intestines.

Any potential pathogen will have to first battle these gutsy little guys before they can begin to assault the physical wall of your gut.

Gut microbiota helps to boost the immune functions of the gut wall, thus strengthening the physical barrier to potential infections.

They also compete with pathogens such as *E. coli* and *Salmonella* for space and food, thus ensuring that there is nothing left for these “bad guys” to feed on.

A balanced gut microbiota

The balance between good and bad bacteria helps ensure that your digestive system functions properly, and in the case of children, proper development of their digestive system.

Studies have shown that if the gut microbiota is imbalanced, it can affect the body's immune system and contribute to various infections. A normal gut microbiota can be disrupted by various environmental factors, including unhealthy lifestyle habits. For example, an unhealthy diet can throw the balance in gut microbiota into disarray.

Another example is the use of antibiotics on a frequent basis. This can cause the gut microbiota to be imbalanced because it will kill all bacteria, including the useful or friendly bacteria in the gut.

Normal gut microbiota aids in the digestion of nutrients and provide immunity towards infections.

There is also emerging evidence linking altered gut microbiota with the risk of non-communicable diseases such as colon cancer, diabetes mellitus, obesity and digestive disorders, namely inflammatory bowel disease, Crohn's disease and coeliac disease.

The gut microbiota thrives on diversity and there are several probiotic strains (friendly bacteria) that provide positive effects on your overall health.

The two most common variants include *Lactobacillus acidophilus* and *Lactobacillus casei*, both of which have been shown to be highly effective in maintaining good digestive health.

Hence, it is important to consume a probiotic-rich diet daily for a balanced gut microbiota.

In addition to the various health benefits discussed earlier, a normal gut microbiota can also synthesise short chain fatty acids (SCFAs) via fermentation of carbohydrates to produce energy, and also various vitamins such as vitamins K and B12.

‘Topping’ up the tank

So, how can you ensure that you get the best out of your gut microbiota? There are two simple steps:

- “Feed” your gut microbiota – Some dietary fibres are excellent food sources that promote the growth of good bacteria.

Examples of such foods that are rich in these specialised dietary fibre, also known as prebiotics, include asparagus, garlic, onions and leeks.



Some dietary fibres are excellent food sources that promote the growth of good bacteria, such as asparagus, garlic, onions and leeks. Photo: AFP

In addition, some packaged foods and beverages contain added prebiotics, for example, inulin and oligofructose (fructo-oligosaccharide) extracted from chicory root.

Check the food label to determine if a food contains prebiotics.

- “Replenish” your gut microbiota – This can be done by eating foods that are rich in probiotics, such as fermented dairy products (yoghurt and cultured milk drinks) and fermented soy products (tempeh, miso soup and natto).

Although both prebiotics and probiotics play a large role in a normal and balanced gut microbiota, the following daily habits are also important to ensure optimal gut health:



You can replenish your gut microbiota by eating foods that are rich in probiotics such as fermented dairy products (yoghurt and cultured milk drinks) and fermented soy products (tempeh, miso soup and natto).

- Get enough fluids – Drink six to eight glasses of water per day.
- Get enough dietary fibre – Eat sufficient quantities of fibre-rich foods in each meal.
- Limit intake of fat, sugar and salt.
- Manage stress – Excessive stress can affect the balance of gut microbiota.
- Be physically active – Exercise is an excellent way to relieve stress; aim for a minimum of 30 minutes of exercise daily.
- If you smoke, do quit for a healthy and normal gut microbiota.
- Get enough sleep – If you want to function at optimum levels, do get a minimum of seven to eight hours of sleep daily.

Another good habit you should cultivate is to go for a health screening annually.

This is important as early detection of potential problems could possibly save your life.

Don't be shy to talk to your doctor, especially if you suffer from persistent abdominal pain, sudden changes in bowel habits, blood in stool, unexplained weight loss or difficulty in swallowing.

The gut microbiota is a well-balanced and diverse ecosystem. In general, probiotics and prebiotics do play a vital role in assisting the normal function of your gut microbiota.

However, the key to maintaining a well-balanced gut microbiota is by adopting good lifestyle habits, which will greatly benefit you in the long run.

Dr Zaitun Yassin is the Nutrition Society of Malaysia (NSM) honorary treasurer and Dr Roseline Yap is an NSM council member. This article is contributed by Nutrition Month Malaysia (NMM) 2017, an annual community nutrition education initiative jointly organised by NSM, Malaysian Dietitians' Association and Malaysian Association for the Study of Obesity. To obtain more information on healthy eating and active lifestyle, visit NMM's Food-Fit-Fun Fair at Lower Ground, Centre Court Concourse, IOI City Mall, Putrajaya on April 19-23. Nutrition screening and counselling is available for free and lots other goodies are up for grabs. Visit www.nutritionmonthmalaysia.org.my or the NMM Facebook page for more information.

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