

Gut Health and Its Significance

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"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." stated by WHO. Mental health is more than just the absence of mental disorders or disabilities. Gut means Gastrointestinal system and includes your stomach, intestine and colon. It digests and absorbs nutrients from food and excretes waste. A healthy gut means that there are more good bacteria than harmful bacteria and that harmful bacteria don't overtake the good. Bacteria in your gut helps to break down certain complex carbohydrates and dietary fibers that you can't break down on your own. They produce short-chain fatty acids an important nutrient as byproducts. They also provide the enzymes necessary to synthesize certain vitamins, including B1, B9, B12 and K.

Gut microbiome and its importance

The term "gut microbiome" refers to the microorganisms living in your intestines. Each person has about 200 different species trusted source of bacteria, viruses, and fungi in their digestive tract. Our gut health is often related to our overall health. Good composition of gut microbes includes

1. Bacteria – (60%): The four dominant bacteria phyla include firmicutes, bacteroidetes, actinobacteria and proteobacteria. The dominant genera are- bacteroides, clostridium, faecalibacterium, eubacterium, ruminococcus, peptococcus, bifidobacterium and peptostreptococcus.
2. Fungi- Dominant genera are Candida, saccharomyces, aspergillus, penicillium, rhodotorula, trametes, pleospora, sclerotinia, bullere and galactomyces
 1. Archaea
 2. Viruses
 3. Protists

Some microorganisms are harmful to our health, but many are incredibly beneficial and even necessary for a healthy body. Having a large variety of bacteria in the gut may help reduce the risk of conditions like diabetes, inflammatory bowel disease (IBD), psoriatic arthritis.

Foods that affect gut microbes

High-intensity sweeteners are commonly used as sugar alternatives, being many times sweeter than sugar with minimal calories. Despite being "generally recognised as safe" by regulatory agencies, some animal studies have shown that these sugar substitutes may have negative effects on the gut microbiota. Sucralose, aspartame, and saccharin have been shown to disrupt the balance and diversity of gut microbiota.

Food additives, such as emulsifiers, which are ubiquitous in processed foods, have also been shown to affect the gut microbiota in animals

Eating a Western diet high in processed and sugary foods. A diet high in processed foods and added sugars can decrease the number of "good" bacteria and diversity in your gut. Eating too much sugar may lead to increased inflammation throughout the body. Inflammation can be the precursor to several diseases, including cancer.

Signs of an unhealthy gut

Many parts of modern life can affect your gut microbiome, including:

- high stress levels
- too little sleep
- taking antibiotics
- Consuming highly processed foods

This in turn may affect other aspects of your health, such as:

- immune function
- hormone levels
- weight
- development of diseases

Common symptoms and signs of reduced gut health:

1. Upset stomach: Stomach disturbances can all be signs of an unhealthy gut. They include, gas, bloating, constipation, diarrhoea and heartburn. A balanced gut will have less difficulty processing food and eliminating waste, likely leading to fewer symptoms.

2. Unintentional weight changes: Gaining or losing weight without changing your diet or exercise habits

may be a sign of an unhealthy gut. An imbalanced gut can impair your body's ability to absorb nutrients, regulate blood sugar, and store fat. Weight loss may be caused by malabsorption because of small intestinal bacterial overgrowth (SIBO). On the other hand, weight gain may be caused by insulin resistance or increased inflammation.

4. Sleep disturbances or constant fatigue

Imbalance in gut bacteria may be linked to fragmented sleep and short sleep duration, which may lead to chronic fatigue.

5. Skin irritation

Skin conditions like psoriasis may be related to the types of bacteria present in the gut. Lower concentrations of beneficial bacteria may impact the body's immune system and your skin health.

6. Autoimmune conditions

Many studies have found connections between the gut and the immune system. An unhealthy gut may increase systemic inflammation and alter the proper functioning of the immune system. This may lead to autoimmune diseases, where the body attacks itself mistaking its cells and organs for harmful invaders.

7. Food intolerances

Food intolerances are the result of difficulty digesting certain foods. This is different than a food allergy, which is caused by an immune system reaction to certain foods. Lactose intolerance, may be caused by poor quality of bacteria in the gut. This can lead to trouble digesting the trigger foods and symptoms like bloating, gas, diarrhoea, abdominal pain and nausea

Ways to improve our gut health

It is possible to improve and reset our gut health through healthy lifestyle and minor diet changes.

1. Lower your stress levels

Chronic high levels of stress are hard on our whole body, including our gut. This is because our body releases certain hormones when it experiences stress. High levels of these hormones affect our body and may compromise gut health. To reduce the stress level adopt following points in your life

- meditating
- walking
- getting a massage
- spending time with friends or family
- diffusing essential oils

- limiting alcohol intake
- laughing
- practicing yoga
- spending time with a pet

2. Get enough sleep

Not getting enough or sufficient quality of sleep may have serious impacts on your gut health, which can in turn contribute to more sleep issues.

3. Eat slowly

Chewing your food thoroughly and eating your meals more slowly may lower your chances of developing obesity and diabetes while also helping you make better food choices. This may help you reduce digestive discomfort and maintain a healthy gut.

4. Stay hydrated

Drinking plenty of water may be linked to increased diversity of bacteria in the gut, though the source of the water also matters. It was found that people who drank more water had less of a type of bacteria that can cause gastrointestinal infections. Staying hydrated benefits your health overall and can help prevent constipation. It may also be a simple way to promote a healthy gut.

5. Take a prebiotic or probiotic

Adding a prebiotic or probiotic supplement to your diet may help improve your gut health. Prebiotics provide "food" meant to promote the growth of beneficial bacteria in the gut, while probiotics are live good bacteria.

6. Check for food intolerances

You may have a food intolerance if you have symptoms such as:

- bloating
- abdominal pain
- diarrhea
- gas
- nausea
- fatigue
- acid reflux

You can try eliminating common trigger foods to see if your symptoms improve. If you're able to identify and avoid a food or foods that are contributing to your symptoms, you may see a positive change in your digestive health.

7. Change your diet

Breastfed at least for 6 months: Children who Breastfed at least for six months tends to have more beneficial bacteria than bottle-fed children

Eat variety of foods: This helps to get good microbiome. Legumes, beans and fruits that contain lots of fiber and promotes growth of bifidobacteria.

Consume fermented foods like yogurt, idli, dosa saukrat which contain healthy bacteria mainly lactobacilli which reduce pathogens

Reducing the number of processed foods, sugary, and high fat foods that you eat may lead to better gut health.

Eat prebiotic foods- Banana, oats apples which stimulates growth of healthy bacteria

Eat foods rich in polyphenols: Present in vegetables, fruits, coffee, tea, dark chocolates, olive oil and red wine.
