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Editor, Janis Merrell
GoodLife@LifePathMA.org
(413) 773-5555 x2255

THE GOOD LIFE

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Nutrition Notes: Dietary Approaches to Support the Gut Microbiome

By Bi-sek Hsiao
PhD, MS, RD, LDN

Did you know that trillions of microorganisms live in our bodies? These microbial communities, which include bacteria, viruses, and fungi, are collectively known as "microbiota," and in combination with their genes and environment where they live, make up our "microbiome." The gut microbiome, made up of 100 trillion microorganisms living in the gastrointestinal tract including 1,000 to 35,000 species of bacteria, is a unique gateway to our health. An unhealthy gut microbiome is related to many human diseases, including diabetes, metabolic syndrome, obesity, cancer, cardiovascular disease, inflammatory bowel disease, depression, asthma, allergies, and autoimmune diseases. The good news is that the major factors influencing the gut microbiome are adjustable, including diet, sleep, stress, exercise, medications, and environmental exposures. Diet alone contributes to 50% of the variation in gut microbiomes across individuals.

Healthy gut microbiomes tend to have a large variety and number of beneficial microbes to perform important functions including: digesting and absorbing nutrients from food, regulating the breakdown and storage of body fat, strengthening the protective mucous lining of the gut, synthesizing vitamins such as K and B vitamins, regulating inflammatory responses, triggering or suppressing hormones, protecting against pathogens, and training and developing the immune system.

Of note is the ability of microbes in the colon to ferment fiber, creating short-chained fatty acids as byproducts. Short-chain fatty acids create an acidic environment in the gut which prevents many pathogens from surviving. They also act as an energy source for intestinal cells, strengthening the mucous lining. A strong mucous lining creates an important barrier that prevents harmful pathogens and molecules from escaping the digestive tract into the bloodstream, thereby protecting the body from inflammatory and autoimmune responses.

Dietary considerations

Increase the quantity and variety of plant foods in your diet

Plant foods nourish beneficial microbes. A good goal would be to increase the variety of plant foods in your diet to 30 different plant foods weekly, to allow for the growth of different types of beneficial microbes. Here are some tips:

- **Focus on Fiber**

Fiber from whole plant foods feed beneficial microbes. To increase fiber intake, consider adding more plant-based protein sources to your diet like beans, whole grains, nuts, and seeds. Beans can be easily added to soups, chilis, salads, or made into burgers, hummus, and dips. Add foods slowly and in small amounts if they cause digestive discomfort.

- **Include Prebiotics**

Prebiotics are foods with components like inulin, nondigestible carbohydrates, and beta-glucans, which are known to feed beneficial microbes and protect the gut lining. Examples of prebiotics include: onions, garlic, leeks, asparagus, Jerusalem artichokes, dandelion greens, chicory root, burdock root, barley, oats, mushrooms, and seaweeds.

- **Highlight Phytochemicals**

Phytochemicals are colorful compounds found in plants that inhibit the growth of pathogenic bacteria, and stimulate the growth of beneficial bacteria. They are well-known for their cancer-fighting properties. Flavonoids, anthocyanins, tannins, and carotenoids are names of a few types. While all plant foods contain phytochemicals, some of the better-studied sources include berries, red grapes, pomegranates, tomatoes, carrots, cabbage, leafy greens, broccoli, walnuts, green tea, herbs, and cacao.

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Explore probiotic-rich foods

Foods such as yogurt, kefir, naturally fermented and unpasteurized pickles, sauerkraut, kimchi, miso, tempeh, and natto have beneficial lactic acid bacteria in the food which get transferred to your body when eaten. Most cultures around the world have traditions of making and eating probiotic-rich foods, so there are a wide range of options to explore.

Include omega-3 fatty acids

People who eat more omega-3 fatty acids tend to have greater gut microbial diversity. Great sources of omega-3 fatty acids include walnuts, flax, chia, hemp seeds, and fatty fish like mackerel, salmon, and herring.

Choose foods grown using organic practices whenever possible

The way food is grown or raised influences our microbiome. Chemical agricultural inputs like pesticides, herbicides, and chemical fertilizers, as well as antibiotics and hormones fed to animals, inevitably end up in foods and have the potential to disrupt gut microbiomes.

Consider a probiotic supplement

Studies have shown that probiotic supplements might return balance to a disrupted gut microbiome, though the strength of the research is debatable. If you are inclined to try a probiotic supplement, look for a broad spectrum type with multiple strains to support their synergistic effects. Bifidobacteria and Lactobacillus are common families of probiotics that have been found to support some people with inflammatory bowel disease and those who have been exposed to frequent antibiotic use.

Limit certain foods

The typical western diet tends to be high in ultra-processed foods like candy and chips, high in animal fat and protein and refined flour, low in plant foods, and includes a low diversity of foods. This dietary pattern is linked to an unhealthy gut microbiome, weaker gut linings, and inflammation. Limiting foods that are high in refined sugar and refined flour, and limiting red and processed meats, can slow the feeding of harmful microbes.

Shifts in the gut microbiome through diet occur within hours of dietary changes, but long-term stability requires the maintenance of dietary changes. There is no "one size fits all" dietary approach that works for everyone. Working with a dietitian or health provider can help customize your dietary approach based on individual health conditions and lifestyle contexts. Keep in mind that diet is not the only factor influencing our gut microbiome. Lifestyle habits such as exercising regularly, spending time outdoors, managing stress, and getting enough sleep can also support the gut microbiome. Taking a holistic view of the various factors can bring more clarity to what steps can be taken to improve your gut microbiome.