



The Use of Probiotics in Managing Gastrointestinal Symptoms

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International Foundation for Gastrointestinal Disorders (www.iffgd.org)

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Probiotics are defined as live microorganisms, which when administered in adequate amounts, confer a health benefit on the host.

There is a growing interest in finding out if probiotics can be used to help relieve symptoms of functional gastrointestinal (GI) and motility disorders. The variety of products, and claims for their usefulness, is increasing.

Probiotics, for example, are either the same as or similar to microorganisms found naturally in the human body and (in adequate amounts) may be beneficial to health. Also referred to as “good bacteria” or “helpful bacteria,” probiotics are available to consumers in oral products such as dietary supplements and yogurts, as well as other products.

About Probiotics

The concept behind probiotics was introduced in the early 20th century, when it was proposed that ingesting microorganisms could have substantial health benefits for humans. Scientists continued to investigate the concept, and the term probiotics – meaning “for life” – eventually came into use.

Picturing the human body as a “host” for bacteria and other microorganisms is helpful in understanding probiotics. The body, especially the lower GI tract (the gut), contains a complex and diverse community of bacteria. In the body of a healthy adult, cells of microorganisms are estimated to outnumber human cells by a factor of ten to one. Although we tend to think of bacteria as harmful “germs,” many bacteria actually help the body function properly.

Various mechanisms may account for the effects of probiotics on human health. Possible mechanisms include reducing harmful organisms in the intestine, producing antimicrobial compounds (substances that destroy or suppress the growth of microorganisms), and stimulating the body’s immune response.

Probiotics commonly used in the United States include *Lactobacillus* and *Bifidobacterium*. There are many specific types of bacteria within each of these two broad groups, and health benefits associated with one type may not hold true for others.

Although the U.S. Food and Drug Administration (FDA) has *not* approved any health claims for probiotics, they are used for a variety of GI conditions such as infectious diarrhea,

diarrhea associated with using antibiotics, irritable bowel syndrome (IBS), and inflammatory bowel disease (e.g., ulcerative colitis and Crohn’s disease). However, the rapid growth in marketing and consumer interest and use has outpaced scientific research on the safety and efficacy of probiotics for specific health applications.

What the Science Says

The potential of probiotics to benefit human health in many different ways has stimulated great interest and activity among researchers. For example, the U.S. National Center for Complementary and Alternative Medicine (NCCAM) is part of the National Institutes of Health (NIH) Probiotic and Prebiotic Working Group, a trans-NIH effort to identify gaps and challenges in prebiotic/probiotic research. Trans-NIH collaborations are a way that different areas of NIH work together to maximize resources in order to advance medical research. (Prebiotics are food ingredients that can selectively promote the growth of “good” intestinal bacteria.)

Probiotic research is moving forward on two fronts: basic science (laboratory studies) and clinical trials to evaluate the safety and efficacy of probiotics for various medical conditions. Many early clinical trials of probiotics have had methodological limitations, and definitive clinical evidence to support using specific probiotic strains for specific health purposes is generally lacking. Nevertheless, there is preliminary evidence for several uses of probiotics, and more studies are under way.

Safety and Side Effects

It appears that most people do not experience side effects from probiotics or have only mild GI side effects, such as gas. But there have been some case reports of serious adverse effects, and research on safety is ongoing. However, the data on safety, particularly long-term safety, are limited, and the risk of serious side effects may be greater in people who have underlying health conditions.

Concerns have also been raised about the quality of probiotic products. Some products have been found to contain smaller numbers of live microorganisms than expected. In addition, some products have been found to contain bacterial strains other than those listed as ingredients.

If You Are Considering Probiotics

- Before using probiotics, learn as much as you can by talking to your provider and researching reliable sources of information.
- Anyone with a serious underlying health problem should be monitored closely for potential negative side effects while taking probiotics.

Ten leading European gastroenterologists conducted a review of the evidence for the use of specific probiotics in managing certain lower GI problems. Their findings were published in 2013 in the peer-reviewed journal, *Alimentary Pharmacology and Therapeutics* (Higgs, et al.).

The systematic review of randomized, placebo-controlled clinical studies on probiotics in adults looked mostly at studies of IBS patients. The authors sought to determine the level of available evidence to support the use of specific probiotics in adults. The findings are not applicable to children because the bacteria found in their gut differ from adults.

Among the conclusions, the authors found moderate evidence to support a role for specific probiotics in managing overall symptoms in patients with IBS with diarrhea; improving bowel movements and bloating or distension in patients with IBS; and improving some aspects of health-related quality of life.

The authors note that these findings are specific to individual strains or formulations of probiotics and cannot be applied from one probiotic to another. Moreover, specific probiotics will have different effects in different people; and a probiotic may show some benefit for one indication but not for another. Your age and health status when taking a probiotic will affect its potential benefit. They also note, when trying a probiotic for a chronic GI problem, the importance of taking the product:

- In adequate doses
- On a regular basis
- For a reasonable period (of at least a month unless it cannot be tolerated)

Different formulations and doses are available in capsules, packets/sachets, yogurts, and fermented milks or fruit drinks. While research is supporting positive evidence for a role of probiotics in managing lower GI problems, clear guidance for specific uses remains to be found. Further studies are needed to establish high levels of evidence for the role of probiotics in treating functional GI disorders as

- Probiotic products may contain different types of probiotic bacteria and have different effects on the human body. The effects also may vary from person to person.
 - Do not replace scientifically proven treatments with unproven products and practices. Do not use a complementary health product, such as probiotics, as a reason to postpone seeing your healthcare provider about any health problem.
- If you are pregnant or nursing a child, or if you are considering giving a child a dietary supplement, such as probiotics, it is especially important to consult your (or your child's) healthcare provider.
- Tell all your healthcare providers about any

Probiotics must be tested in humans and shown to have health benefits. Here are some tips to help you find a credible probiotic product, from the International Scientific Association for Probiotics and Prebiotics (www.isapp.net)

Clinically proven: Do your homework – Make certain that product claims of health benefits are based on sound research done on the particular probiotic. The product should contain the specific strain(s) of bacteria at the same level as used in published research. The studies should be performed in humans and published in peer-reviewed, reputable journals. Check product websites to see study results. Your pharmacist or healthcare provider should be able to help you sort through the scientific language.

Claims: What do they mean? – Most probiotics are sold as dietary supplements or ingredients in foods, and cannot legally declare that they can cure, treat, or prevent disease. Claims which relate the product to health are allowable. Any claim made on a product, no matter how general, is supposed to be truthful and substantiated – but not all manufacturers have this clinical substantiation.

Get your doctor's OK – Consult a physician before administering probiotics to newborns or infants, or to people with compromised immune systems or other major underlying illnesses. Read “Warnings” and “Other Information” on the product package and be aware of any expected symptoms or side effects. Probiotic foods should be safe for the generally healthy population to consume.

More information – The product you choose should offer resources to find more information, including a website or consumer hotline.

Remember, some products labeled “probiotic” do not have clinically validated strains or levels in the product. Although the scientific definition of probiotic stipulates that products be clinically evaluated, not all manufacturers abide by that.

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complementary health approaches you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

About IFFGD

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