Bacteria to Promote Your Health

What are probiotics

Probiotics are bacteria consumed for health benefits. “Biotic” meaning life and “pro” meaning promoting or for, these bacteria “promote life” or are “for life.” It may seem strange to consume bacteria in the hope of promoting health, but that is exactly what is done with probiotics. Most people use them for conditions ailing them in the digestive region, but the positive effects of these bacteria can span into all parts of the body. The purpose of this article is to explain how both the local and systemic effects are proposed to take place. It will also touch on some of the conditions they can be used for.

The Theory

It is estimated that there are over 100 trillion microorganisms (microflora) that normally inhabit our digestive tract, among these are 500 different species. These microflora help keep pathogens in check, aid in digestion, nutrient absorption, and immune function. With all these functions, it is not hard to imagine how they can have effects outside the digestive tract. However, the most notable research has been done on the effects of probiotics on disorders of the digestive tract, ranging from Ulcerative Colitis and Crohn’s Disease to antibiotic induced diarrhea and IBS. Not all strains of probiotics are good for all conditions, which is important if we want the best outcomes for what we are treating.

Two examples of strains specific outcomes showed up in two articles in “Digestive Health”. The first article found that E. Coli—a harmless form of the well known harmful intestinal bacterium Escheria coli- had similar effects as medications for Ulcerative Colitis. Similarly, Lactobacillus acidophilus and Bifidobacteria infantis improved the symptoms and quality of life in patients with IBS. In the cases sited above, the probiotic bacteria interact directly with the cells of the digestive tract and surrounding immune system to create a healthy environment in the digestive tract. As we will see below, the direct healing effects of the probiotics on the digestive cells leads to the far reaching effects in other parts of the body.

When we eat food the process of digestion breaks the food down into small enough molecules so it can be absorbed into the blood stream. Under normal circumstances this absorption takes place through the walls of the digestive cells. On occasion, things not fully digested can be absorbed through the gaps between the digestive cells. When this occurs the immune system is alerted. The immune system on alert is also known as inflammation. The inflammation can be mild and transient or severe and chronic. In either case, the chemical messengers of inflammation can be observed locally and throughout the entire body. Within the digestive tract, the problems created from inflammation are an increase the space between digestive cells, making it easier for larger undigested things to be absorbed. As a result more inflammation ensues. Stopping this viscous cycle is where probiotics come in both locally and throughout the entire body.

Probiotics help decrease inflammation and calm the immune system by healing the gaps between the digestive cells, and interacting with the immune cells directly. When the immune system is on alert it sends out chemical messengers to recruit the appropriate immune cells to the area. In the process, these chemical messengers are sent throughout the entire body. This creates an immune system that is up-regulated and more prone to allergies, and inflammation in all parts of the body. Furthermore, when the immune system reacts to undigested food, the immune cells create antibodies to the undigested food. If these antibodies have a similar structure to your body's own proteins, these proteins will be destroyed by the immune system. You will experience this as an auto-immune disease. Some examples of auto-immune disease include**;** Rheumatoid Arthritis, Fibromyalgia, Systemic Lupus, Multiple Sclerosis, Ankylosing Spondylitis, Hashimotos thyroiditis, Polymyagia Rheumatica, and Scleroderma. With probiotics the gaps between the digestive cells are closed more tightly and the foods that we consume are digested more completely. This translates into less active immune system. The other thing the probiotics do is send messages to the immune cells. Exactly how this communication takes place is not fully understood, but researchers do know that this communication is important in how the immune system responds to the food we eat.

It should be noted that while the process of auto-immune disease has been uncovered in great complexity, revealing the reasons for its onset are still a mystery. Leading theories include the above as part of their explanation. Other theories include toxic environmental exposures, genetic predispositions, and/or some combination there of. For this author, it is important to give a higher value to therapies that are less likely to harm and are in some way treating the cause of disease. In this way, people with auto-immune disease should look at the digestive tract as the foundation of their treatment plan.