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'good Bacteria' May Be Used As Anti-disease Soldiers

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KENDRA MARR San Jose Mercury News

Researchers at the University of California-San Francisco are seeking volunteers for a study in which newborns will be fed live bacteria in hopes it will keep them asthma-free.

Sounds bizarre, but it's part of a growing field known as probiotics that some scientists think will play an increasingly important role in good health.

Probiotics go far beyond the time-honored practice of eating yogurt containing live bacteria to counter an upset stomach. Instead, scientists isolate particular bacterial strains and administer them to people for specific purposes.

Researchers think these "good bacteria" have the potential to prevent or treat a variety of illnesses, from colon cancer to gum disease to asthma. Along with the billions of bacteria naturally found inside our bodies, probiotics are believed to aid digestion and help us fight invading microorganisms.

"In the future we could see probiotics join the ranks of therapeutics and drugs that doctors prescribe," said Richard Walker, director of the division of bacterial, parasitic and allergenic products for the Food and Drug Administration. "That's exciting."

Walker said more probiotic products are being submitted to the FDA for medicinal uses.

"Is there something here, or is it health-food mumbo jumbo?" Walker said. "The consensus is there really is something here." Researchers have been using more rigorous standards to test probiotics and results have become more convincing, he said.

For decades, yogurt, milk, cheeses and drinks packed with useful bacteria have been popular in Japan and Europe. About 100 years ago, a Nobel Prize-winning scientist linked the long, healthy lives of Bulgarian peasants to eating fermented milk products with lactic acid-producing bacteria. Probiotic supplements are also popular alternative remedies for diarrhea.

Interest grew when researchers discovered our bodies already contain 10 times more microbes than human cells, with distinct bacterial communities living in our guts, ears, gums and other parts.

"We carry around a huge diversity of microbes," said Mary Ellen Sanders, a Colorado-based microbiologist who consults in the probiotic industry. "The press bacteria get is no good -- Strep A, flesh-eating bacteria. Plus there's anti-bacterial hand scrub and soap. We are told bacteria are something to avoid."

In fact, when these bacterial communities get out of balance, they are thought to be responsible for chronic conditions such as diabetes, Alzheimer's disease and rheumatoid arthritis.

Some studies even link microbes with obesity. The theory is that some people have gut microbes that help the body absorb more calories from food, helping pack on the pounds.

However, bacteria also keep us healthy. Some scientists even think sanitized living is making us sicker. This theory, called the hygiene hypothesis, holds that when immune systems aren't challenged and strengthened by grime and microbes early in life, people are more likely to develop autoimmune disorders, such as allergies and asthma.

Researchers at the University of California-San Francisco are testing that theory by introducing a probiotic supplement into the breast milk formula of newborns whose parents have asthma. Their hope is that stimulating the immune system will prevent the onset of the disease.

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