

informedhealthonline.org

INDEPENDENT, OBJECTIVE AND EVIDENCE-BASED

Diarrhea: Can probiotics help?



Probiotics - including lactic acid bacteria in particular - can make diarrhea stop about one day earlier. In rare cases they can lead to serious infections in people who have very weak immune systems.

Probiotics - including lactic acid bacteria in particular - can make diarrhea stop about one day earlier. In rare cases they can lead to serious infections in people who have very weak immune systems.

Diarrhea is often caused by an infection. In industrialized countries, life-threatening cases of diarrhea have become uncommon. For mild diarrhea, simply drinking plenty of fluids so you do not dehydrate and waiting for it to run its course is often enough. However, small children and older people can quickly become so dehydrated that it becomes dangerous and special treatment is needed.

For mild diarrhea, some experts advise people to eat foods that have special microorganisms like bacteria or yeast in them. These are believed to reach the bowel and help the body fight the germs that cause diarrhea. Microorganisms like this are often called "probiotics". The best known examples are particular lactic acid bacteria in yoghurts and other dairy products.

To find out whether or not probiotics really can help with diarrhea, researchers from the Cochrane Collaboration, an international network of researchers, systematically analyzed trials. The topic has been well studied: They found 63 trials, involving just over 8,000 people. The probiotics that were tested in the trials were taken in various forms, such as yoghurts, milk, special baby formula, powder or capsules. Most of the people were children who had had diarrhea for less than two weeks. The most commonly tested probiotics were lactobacillus casei, saccharomyces boulardii and enterococcus bacteria.

Current research results

Probiotics proved to be a useful additional option for people with diarrhea. In the trials where the length of diarrhea episodes was recorded, probiotics shortened the illness by one day on average. In some of the other trials, the researchers had counted how many of the people had no more diarrhea after a few days:

- They found that 63 out of 100 people who took probiotics no longer had diarrhea after three days (63%).
- Only 41 out of 100 people who did not take probiotics were free of diarrhea after three days (41%).

A different group of researchers tested whether probiotics help in children who have persistent diarrhea (diarrhea that lasts longer than two weeks). There is not as much research on probiotics in the treatment of persistent diarrhea: overall, the researchers only found 4 trials involving less than 500 children. But the results so far suggest that probiotics can also shorten the length of diarrhea episodes by a few days in children who have had diarrhea for longer than two weeks.

There were hardly any reports of adverse effects in these trials. The probiotic products were generally well tolerated. But in rare cases, in people who had very weak immune systems or particular serious illnesses, the probiotics led to infections. These included things like infections of the heart muscle or blood poisoning (septicemia).

An important question remains: products that are labeled 'probiotic' are available in various forms, including yoghurts, capsules and powders. And there are many different probiotic products out there. It is not clear whether they are all equally effective.

You can read more about diarrhea here (URL: <http://www.gesundheitsinformation.de/diarrhoea.254.56.en.html>) .

Author: German Institute for Quality and Efficiency in Health Care (IQWiG)

Glossary

bacteria

Bacteria are micro-organisms that, unlike viruses, can exist on their own. Viruses, on the other hand, can only exist inside a living cell. Most bacteria are not harmful to people, and some are actually beneficial. Bowel bacteria support bowel health. However if they get into the urinary system, they can cause an infection there. Doctors prescribe antibiotics for illnesses where bacteria need to be stopped or killed off. Immunisation is also possible against some bacterial infections, such as diphtheria, tetanus or whooping cough.

Cochrane Collaboration

The Cochrane Collaboration is an international network of thousands of researchers and others. They work together in teams called Cochrane Review Groups to answer questions about health care by doing systematic reviews of evidence. To achieve this, the members of the Collaboration have developed systems and methods for systematically finding and analysing the results of trials of health care interventions. The goal of the Cochrane Collaboration is to help patients, health care practitioners and others make more informed decisions about health care. You can read more about the Cochrane Collaboration at their website.

infection

In medicine, we speak of an infection when a person has caught a germ (an infectious agent). This germ can be a bacterium, a virus, a fungus or a worm. The germ multiplies and then either spreads throughout the body or only attacks one particular organ. As long as there are no signs of a disease, this is called an asymptomatic infection. When the body shows a reaction to the germ in the form of symptoms, this is called a symptomatic infection (an infectious disease). The period between the moment the germs enter the body and the moment the first symptoms of the disease appear, is called the incubation period. It may last a few hours or days, or even many years. An infection does not necessarily have to lead to the onset of a disease.

immune system

The immune system is the body's defense system and its task is to protect the body against germs or degenerated cells (like cancer cells). The immune system is very complex and has not been understood in every detail yet.

There are two components: the cellular immune defense (for example "scavenger cells" and "killer cells") and the complement system ("antibodies", for example).

Sources

IQWiG health information is based on research in the international literature. We identify the most scientifically reliable knowledge currently available, particularly so-called “systematic reviews”. These summarize and analyze the results of scientific research on the benefits and harms of treatments and other health care interventions. You can read more about systematic reviews and why these can provide the most trustworthy evidence about the state of knowledge here (URL: <http://www.informedhealthonline.org/index.61.en.html>) . The authors of the major systematic reviews on which our information is based are always approached to help us ensure the medical and scientific accuracy of our products.

Allen SJ, Martinez EG, Gregorio GV, Dans LF. Probiotics for treating acute infectious diarrhoea. *Cochrane Database of Systematic Reviews*: Version 2010, Issue 11. CD003048 [PubMed summary (URL: <http://www.ncbi.nlm.nih.gov/pubmed/21069673>)]

Bernaola Aponte G, Bada Mancilla CA, Carreazo Pariasca NY, Rojas Galarza RA. Probiotics for treating persistent diarrhoea in children. *Cochrane Database of Systematic Reviews*: Version 2010, Issue 11. CD007401 [PubMed summary (URL: <http://www.ncbi.nlm.nih.gov/pubmed/21069693>)]

The German Institute for Quality and Efficiency in Health Care (IQWiG)

The German Institute for Quality and Efficiency in Health Care (IQWiG) was established by legislation to provide evaluations of the effectiveness, quality and efficiency of healthcare services. This includes the assessment of medicines as well as the publication of health information for consumers and patients.

Evidence basis of our health information

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at **www.informedhealthonline.org**

Disclaimer

This information was prepared and published by the German Institute for Quality and Efficiency in Health Care (IQWiG). It is based on the evidence and other scientific literature available at the time of publication. The information is intended for the use of patients in Germany. It is not intended to for use to diagnose illnesses and the information is not intended to substitute for medical advice.