

Probiotics

The notion of probiotics has recently developed and most pharmacists have not been trained in these new food supplements.

From birth, our gastrointestinal tract is colonized by many microorganisms that constitute the digestive microbiota. This complex and diversified ecosystem, unique to each individual, contributes to the proper functioning of the intestine through the many activities it carries out. However, the balance of the microbiota is sensitive and its rupture occurs in the pathophysiology of various intestinal disorders, hence the idea of positively modulating a microbiota unbalanced by the administration of probiotics.

The term “probiotic” means “for life” and refers to living microorganisms that, when ingested in appropriate amounts, produce a benefit to the health of the host that goes beyond basic nutritional functions.

Probiotics are often lactic acid bacteria (lactobacilli and bifidobacteria) or yeasts introduced into the diet in the form of fermented milk products or food supplements.

These microorganisms strengthen the intestinal and vaginal flora. Their presence makes it possible to fight against the proliferation of pathogenic bacteria.

Several clinical studies have already demonstrated the efficacy of certain probiotics in the treatment of systemic and infectious diseases such as acute diarrhea and Crohn's disease.

Other studies have suggested a potential application for the treatment of urogenital infections, colon cancer, atopic dermatitis and allergic diseases including food allergy such as lactose intolerance.

History

The definition of probiotics has evolved over time according to researchers, scientific knowledge and technological advances.

In the 20th century the Nobel Prize winner, Elie Metchnikoff, observed that a surprising number of people in Bulgaria lived for more than 100 years. This longevity could not be explained by the advances in modern medicine, because Bulgaria, one of the poorest countries in Europe at that time, did not benefit from such advances. Dr. Metchnikoff found that Bulgarians consume large quantities of yogurt, he associated the increase in longevity observed with the consumption of living microorganisms from fermented dairy products. Although Metchnikoff saw germs as rather harmful to human health, he considered it beneficial to replace bacteria in the gastrointestinal tract with yogurt, including the Bulgarian bacillus. He then explained the better beneficial effect of this bacteria by the absence of alcohol production (harmful to longevity), compared to bacteria present in other fermented milk such as kefir or kumys. In addition, he assumed that the lactic acid produced, as well as other unidentified factors, would act synergistically to inhibit the growth of putrefaction bacteria in the colon.

At the same time, in 1906, the French pediatrician Henry Tissier observed that the stools of children with diarrhea contained a small number of bifidobacteria compared to the stools of healthy children. He then suggested that these bacteria be administered to diarrheal patients to help them restore a healthy intestinal microbiota.

Metchnikoff and Tissier are therefore the first to put forward the idea of administering exogenous microorganisms to compensate for a possible dysfunction in our intestinal ecosystem. The concept of "probiotics" was born.

Nevertheless, it was not until 1954 that the term probiotics was introduced into the literature by Ferdinand Vergin in a paper entitled "Anti-und Probiotika". This term derived from the Greek "pro bios", which literally means "for life" as opposed to the harmful effects of antibiotics

In 1965, Lilly and Stilwell, in the journal Science, defined probiotics as substances produced by microorganisms capable of stimulating the growth of other microorganisms.

In 1989, Fuller highlighted the microbial nature of probiotics by redefining the term as a "living microbial nutritional supplement that has a positive effect on the host animal by improving its intestinal balance".

In 1992, Havenaar and Huis in't Velt further refined the term to "a viable culture composed of one or a mixture of bacteria that, when applied to animals or humans, has a beneficial effect on the host by improving the properties of native flora. ».

In 1998, Guarner and Schaafsma specified that probiotics are "living microorganisms, which, when consumed in adequate amounts, have a beneficial effect on the health of the host".

In 2002, the World Health Organization (WHO) and the Food and Agriculture Organization of the United Nations (FAO) formalized the definition of probiotics to avoid any drift.

Probiotics are therefore defined as "living organisms that, when ingested in sufficient quantities, have a beneficial effect on the health of the host".

History, therefore, underlines that the current definition could still evolve, as there are still many fields of research to better understand and understand the action of probiotics.

Regulation

The conditions and marketing authorization of probiotics are defined according to their drug or food application. Most probiotics are functional foods or are used as food supplements. These “healthy foods” are at the border between the drug and the traditional food and are governed by food legislation.

Probiotic foods

The global market of probiotic foods has been growing rapidly since the early 2000s, particularly in Europe. This dynamic is supported in particular by the link between food and health benefits.

Probiotics used as food supplements, as well as functional foods, are considered as food and are governed by the relevant legislation. They are different from dietary foods that are intended for a particular food and require a specific formulation or manufacturing process to differentiate them from the common food, and from medicinal products.