

# THE PHARMACOTHERAPY OF ACUTE INFECTION DIARRHEA (LITERATURE REVIEW)

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Diarrhea disease is the second leading cause of death in children under five years old, and is responsible for killing 1.5 million children every year. In the develop countries, diarrhea diseases cause an estimated 167 000 hospitalizations and 300 deaths each year among children younger than 5 years of age , who are malnourished or have impaired immunity are most at risk of life-threatening diarrhea. Diarrhea can last several days, and can leave the body without the water and salts that are necessary for survival. Most people who die from severe dehydration and fluid loss.

Diarrhea is defined as the passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual). Frequent passing of formed stools is not diarrhea, nor is the passing of loose, “pasty” stools by breastfed babies. Diarrhea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person-to-person as a result of poor hygiene. Pharmacotherapy is largely symptomatic and involves fluid and electrolyte replacement, and maintenance of nutrition

During an episode of gastroenteritis, there is a decrease of protective commensal microflora, followed by an overgrowth of urease-producing pathogenic bacteria. A biotherapeutic agent or probiotic is a live microbial food supplement which beneficially affects the host by improving the intestinal microbial balance. The theoretical concept of probiotics or biotherapy was first described by the Russian scientist Metchnikov, who was awarded the Nobel Prize for medicine in 1908.

Probiotic agents offer a large number of therapeutic benefits in the prevention or treatment of several gastrointestinal disorders, including the management of acute infectious diarrhea and antibiotic-associated diarrhea. Some studies using *Lactobacillus ramosus* GG have produced promising data, although other studies provide contradictory results. *Saccharomyces boulardii* is a non-bacterial biotherapeutic agent, and is the only biotherapeutic agent with systematic convincing data from double-blind studies. Results show significant efficacy in the prevention and treatment of acute diarrhea. The WHO, NICE, ESPGHAN, and other clinical guidelines considers *Saccharomyces boulardii* don't only treatment of acute diarrhea, but to be a possible treatment antibiotic-associated diarrhea or recurrent *Clostridium difficile* colitis.