



Probiotics in the Prevention and Management of Human Diseases

A Scientific Perspective

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Chapter 18 - Role of probiotics in the prevention and treatment of oral diseases

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Abstract

The World Health Organization has defined probiotics as “Live microorganisms, which, when administered in adequate amount, confers a health benefit to the host.” It becomes famous among consumers worldwide as natural modality to prevent gastrointestinal diseases. Initially, probiotics have been used for the prevention and treatment of gastrointestinal diseases. But recently the role of probiotics has been assessed against naturally established microbiome imbalance in the human body, such as in the urogenital tract, respiratory tract, skin, and oral cavity. In oral cavity, probiotics can effectively prevent and treat certain infectious diseases such as gingivitis, periodontitis, and oral malodor (halitosis). According to clinical observations, it can

also reduce the progression of dental caries and growth of culprit pathogens. Studies indicate the regular use of probiotics minimizes the risk of periodontal diseases by hindering the growth of harmful bacteria and enriching beneficial microbes in the oral cavity. The capacity of competing for the adhesion and colonization on oral surfaces, producing bactericidal compounds, and buffering salivary pH, are the possible mechanisms that make probiotics potential alternative agents, or adjunct to the existing treatment approach, for oral diseases.

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About the book

Description

Probiotics in The Prevention and Management of Human Diseases: A Scientific Perspective addresses the use of probiotics and their mechanistic aspects in diverse human diseases. In particular, the mechanistic aspects of how these probiotics are involved in mitigating disease symptoms (novel approaches and immune-mechanisms induced by Probiotics), clinical trials of certain probiotics, and animal model studies will be presented through this book. In addition, the book covers the role of probiotics in prevention and management aspects of crucial human diseases, including multidrug resistant infections, hospital acquired infections, allergic conditions, autoimmune diseases, metabolic disorders, gastrointestinal diseases, neurological disorders, and cancers.

Finally, the book addresses the use of probiotics as vaccine adjuvants and as a solution for nutritional health problems and describes the challenges of using probiotics in management of human disease conditions as well as their biosafety concerns. Intended for nutrition researchers, microbiologists, physiologists, and researchers in related disciplines as well as students studying these topics require a resource that addresses the specific role of probiotics in the prevention and management of human disease.

Key Features

- Contains information on the use of probiotics in significant human diseases, including antibiotic resistant microbial infections
- Presents novel applications of probiotics, including their use in vaccine adjuvants and concept of pharmabiotics
- Includes case studies and human clinical trials for probiotics in diverse disease conditions and explores the role of probiotics in mitigation of the symptoms of disease

Details

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