

Probiotics and Their Health Benefits

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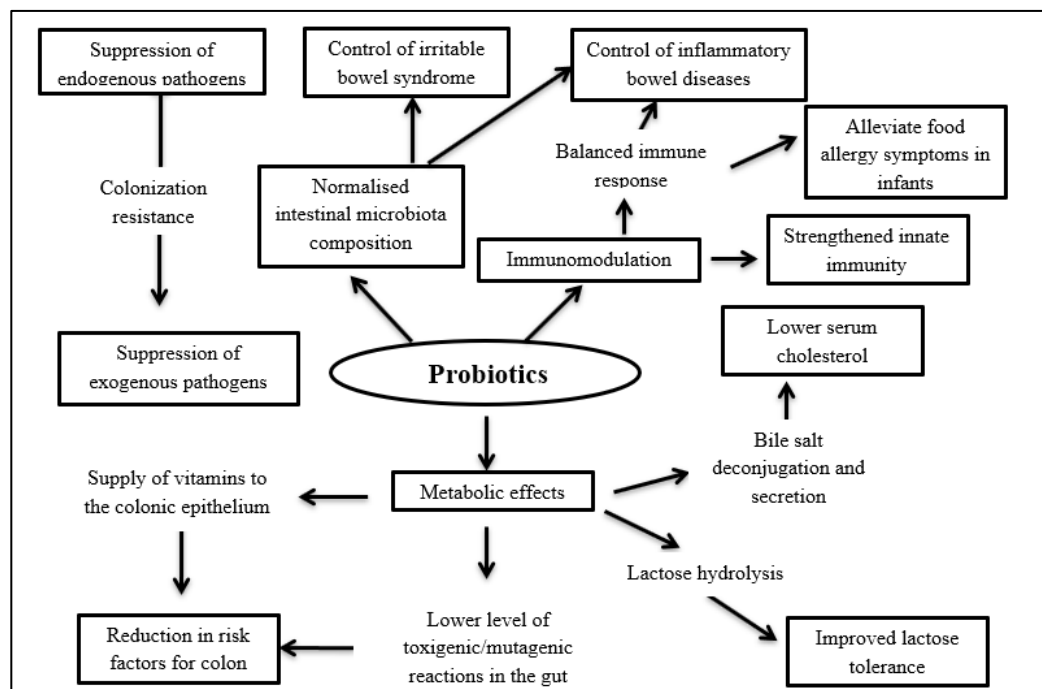
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Humans are intrinsically born with the common inhabitants to preserve the great health, but the changes within the food habits enormously influenced the normal differences of the intestinal organisms. However, the present world is more sensible around the well-being and has information on the food items that they take. “Probiotics” have dragged the consideration to re-establish intestine microbial homeostasis. Therefore, the improvement of probiotic food formulations is a

adequate amounts, confer a health benefit on the host”. According to WHO/Food and Agriculture Organization (2010) probiotics are an oral



key investigative region of the functional food market. The probiotics concept was presented by Elie Metchnikoff in the 20th century, and the market for probiotic foods right now developing at the rate of 7%. The world market of probiotics is valued at USD 49.4 billion in 2018 and is estimated to reach USD 69.3 within the year 2023.

What are probiotics?

Probiotics are microorganisms that are shown to exercise, health-promoting effects on humans and animals, which literally meaning ‘for life’. They are considered as feed supplements with live microbes, which deliver many health benefits on the host by enhancing the balance of intestinal microbiota. The term probiotics is defined by Fuller as “live microorganisms that, when administered in

supplement or a food product that contains a sufficient number of viable microorganisms to alter the micro flora of the host and has the potential for beneficial health effects on host, which when it is administered in adequate amounts.

Microorganisms used as probiotics

Different microbial species have been used as probiotics. It includes yeast, bacteria or molds. Bifidobacteria and Lactobacillus are the most common genera of microbes that are widely used as probiotics. List of strains (live microorganisms) that can be used as probiotic under FSSAI is given below in the Table 1.

Characteristics of good probiotics

- It should be able to induce some beneficial effect in host animal.

- It should be able to survive the passage through the digestive system and in intestine.
- It should be non-toxic and non-pathogenic
- It should have excess viability
- It should be able to attach to the intestine and colonize
- It should be acid tolerant and bile salt tolerant
- It must have anti-inflammatory, anti-carcinogenic, and anti-mutagenic activity, immunostimulatory effect, cholesterol lowering effects, can enhance bowel motility
- It should have antimicrobial activity against pathogenic organisms

Health benefits of probiotics

Probiotics have been used for the prevention and treatment of various medical conditions and to support general wellness. Active digestion ability, antagonistic action against pathogens, regulation of gut-beneficial microflora, enhanced colon integrity, down-regulated allergic response and immunomodulation are the health benefits for probiotic bacteria. Hence, one can include probiotics in their diet to overcome several diseases.

Table 1: Microorganisms used as probiotics

Lactobacillus species	Bifidobacterium Species	Yeast
<i>Lactobacillus acidophilus</i>	<i>Bifidobacterium bifidum</i>	<i>Saccharomyces boulardii</i>
<i>Lactobacillus plantarum</i>	<i>Bifidobacterium lactis</i>	<i>Saccharomyces cerevisiae</i>
<i>Lactobacillus reuteri</i>	<i>Bifidobacterium breve</i>	<i>Streptococcus thermophilus</i>
<i>Lactobacillus rhamnosus</i>	<i>Bifidobacterium longum</i>	<i>Bacillus coagulans</i>
<i>Lactobacillus salivarius</i>	<i>Bifidobacterium animalis</i>	
<i>Lactobacillus casei</i>	<i>Bifidobacterium infantis</i>	
<i>Lactobasillus brevis</i>		
<i>Lactobacillus johnsonii</i>		
<i>Lactobacillus bulgaricus</i>		
<i>Lactobacillus fermentum</i>		
<i>Lactobacillus caucasicus</i>		
<i>Lactobacillus helveticus</i>		
<i>Lactobacillus lactis</i>		
<i>Lactobacillus amylovorus</i>		
<i>Lactobacillus gallinarum</i>		
<i>Lactobacillus delbrueckii</i>		
<i>Lactobacillus paracasei</i>		
<i>Lactobacillus gasseri</i>		