

Probiotics in Sickness and in Health: The Prospective Armamentarium

Abdo Jurjus^{1*}, Lara Youssef², Maria Francis¹, Andrea Mladenovic³, Alice Geroges Geagea⁴, Katja Cehovin⁵, Hana Saleh¹ and Rima Farhat¹

¹Faculty of Medicine American University of Beirut, Lebanon

²Notre Dame University, Lebanon

³University of Belgrade, Serbia

⁴University of Palermo, Italy

⁵University of Ljubljana, Slovenia

Most medications and supplements including probiotics have both desired clinical outcomes and undesired side effects which play a role when considering them as a modality for treatment. This review is an update about the present advantages and disadvantages associated with use of probiotics in health and in disease.

Advantages of probiotics run across multiple organ systems and a wide age spectrum. They promote cardiovascular health, accelerate recovery from diarrhea, decrease risk of necrotizing enterocolitis, limit inflammation in IBD, and promote wound healing. Additionally, probiotics serve in combating chronic diseases for patients with type 2 diabetes and HIV+ patients. Moreover, probiotics play a significant role in the treatment and/or prevention of cancers, especially those of the colon and bladder.

On the other hand, probiotics pose serious threats to immunocompromised and genetically predisposed individuals. Using probiotics can lead to bacteremia with lactobacillus in children and infants. In other individuals, probiotics can cause opportunistic infections increase platelet aggregation and trigger antibiotic resistance among others.

In conclusion, in vitro and in vivo data from our laboratory support the selective use of probiotics. Actually, there is a huge number of organisms inhabit human gut and therefore expected is the complex nature of the interactions of those organisms within each other and with the host cells, which stresses on the necessity of extra care in the use of probiotics as therapy.

Keywords: probiotics, bacteremia, cancer, lactobacillus, opportunistic infections, microbiota