

The use of Oral Probiotics in the prevention of upper respiratory tract infections

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At the start of the 20th century (in 1908), Russian noble prize winner and father of modern immunology, E. Metchnikoff, a scientist at the Pasteur institute, observed that a surprising number of people in Bulgaria lived more than 100 years. Metchnikoff observed that Bulgarian peasants consumed large quantities of “yogurt”. He subsequently isolated bacteria from the yogurt and determined that they conferred the observed health-promoting benefits. The clinical evidence for application of the interfering ability of non-virulent bacteria to prevent or treat infections has been rather limited, although promising for certain purposes. Bacterial interference refers to the antagonism between bacterial species during the process of surface colonisation and acquisition of nutrients. Conventionally, probiotics, defined by the WHO as ‘live organisms which, when administered in adequate amounts confer a health benefit on the host’, have almost exclusively been bacteria of intestinal origin, and their application has largely been targeted at relieving maladies of the gastrointestinal tract. A number of relevant preliminary trials suggest that in the upper respiratory tract the rate of recurrence of streptococcal pharyngotonsillitis appears to decrease using selected bacteria with inhibitory ability against common pathogens of upper respiratory tract. Sore throat is one of the most common reasons for visits to family physicians or paediatrician. URTIs are very common and cause substantial illness and billions of dollars of economic loss every year. *Streptococcus pyogenes* is a major cause of acute pharyngeal infections, especially in children. Oral probiotic as *Streptococcus salivarius* K12 has been shown clearly to antagonize the growth of *Streptococcus pyogenes*,

the most important bacterial cause of pharyngeal infections in humans, by releasing two bacteriocins named salivaricin A2 and salivaricin B, reducing the incidence of streptococcal pharyngitis and/or tonsillitis. According to our reviews of the literature and our experience prophylactic administration of *Streptococcus salivarius* K12 to adults and/or children having a history of recurrent oral streptococcal pathology reduces the number of episodes of streptococcal pharyngeal infections and/or tonsillitis.

Speaker Biography

Alessandro Bucci is the Centre and Rhinology/Rhino-Allergology Centre - Otolaryngology Dept. ASUR Marche – AV2 – Senigallia – Italy. International faculty member of the XXXV Pan-American Congress of Otorhinolaryngology 2016, Cuba. Past Director of the 1st International Conference on Rhinology and Rhino-Allergology / 5th Bulgarian Italian Rhinology Meeting, 2016 Senigallia (Italy). Committee Member and Chairman of the International Specialists Conference on Ear, Nose and Throat Disorders, November 2016 Alicante (Spain). In the past: University Professor at the UNIVPM – Ancona – Italy. International faculty member of the VI Bulgarian Italian Meeting of Rhinology. Dr. Bucci attended medical school at Catholic University (UCSC) in Rome, and completed his residency in Otolaryngology-Head and Neck Surgery at UCSC - Gemelli Hospital in Rome. Reserve Medical Officer of the Italian Navy. Consultant in Otolaryngology from 2002. PhD (Rhinology and Rhino-Allergology) in 2006 at UCSC - Rome. Fellowship in Otolaryngology in Spain (University Hospital, Cadiz). Fellowship trained in Facial Plastic Surgery (AMC) and OSAS (Sint Lucas Andreas Hospital) in Amsterdam, The Netherlands, in Facial Plastic Surgery (Calixto Garcia University Hospital), La Habana, Cuba. Research focused on Rhinology/RhinoAllergology, Sleep Apnea/OSAS, and dysphagia/swallowing disorders. Teaching, management and audit experienced. His other main interest is in humanitarian and international outreach. He is Vice-president of the ONLUS association: “ANATRA.it” (National Association of Tracheotomised patients). Member of the ERS (European Rhinologic Society). Hobbies are sailing / windsurfing, world music, travel and diving (PADI).

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