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Opinion Article

Probiotics Role in Children's Respiratory Tract Infections

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DESCRIPTION

Respiratory Tract Infections (RTIs) represent one of the main health problems in children. Probiotics are viable bacteria that settle the intestine and affect the host intestinal microbial balance. Accruing evidence suggests that probiotic consumption may decrease the incidence of or modify RTIs. Randomized Controlled Trials (RCTs) to investigate the effect of probiotic consumption on RTIs in children. Symptoms of an RTI include: cough, sneezing, stuffy or runny nose, muscle aches, headaches, sore throat, breathlessness, tight chest or wheezing, feeling generally unwell, high temperature.

The micro biota of the gastrointestinal tract has thoughtful influence at multiple levels, even on the development and maintenance of lung inflammation and immunity. Gastrointestinal-respiratory interactions are likely to harvest important insights into the pathogenesis of different pulmonary diseases, and improve our knowledge in the prophylactic role of probiotics in children affected by recurrent upper respiratory tract infections. RTIs remain one of the leading causes of global morbidity and mortality among children at dissimilar ages. Unsuitable and wide use of antibiotics may lead to the development of bacterial resistance and disturb the normal balance of human microbiota, enabling the pathogen colonization and reducing availability of vaccines for viruses. Economic impact of RTIs is also important among countries. Therefore, RTIs in children are still a significant global challenge for public health.

Probiotics are defined by the World Health Organization as live microorganismsthat, when managed in adequate amounts, confer a health benefit on the host. The most commonly used probiotics are Lactobacillus and *Bifidobacterium* species, surveyed by the genera *Streptococcus*, *Enterococcus, Bacillus, Propionibacterium,* and *Escherichia coli.* In addition, some yeast species are used as probiotics, for example, Saccharomyces cerevisiae and Saccharomyces boulardii are regularly used to treat gastrointestinal disorders. A well-characterized probiotic should be distinct clearly by the genus, species, and strain designation, as well as designate the microbiological culture circumstances. Probiotic products may be expressed as capsules, powders, tablets, which are regulated as a dietary supplement, and a food ingredient

CONCLUSION

A better understanding of the effects of different probiotic strains and a deeper insight into their mechanisms of action are needed for the validation of specific strains carrying a potential to modify the frequency and severity of RTIs in infants and children. Micro-organism or administration regimen might exert beneficial effects as a prevention tool of RTIs both in healthy children and in those with recurrent RTIs. Most beneficial probiotic strain, the dose and timing of supplementation still need to be determined and further study of gastrointestinal-respiratory interactions will harvest important insights into the pathogenesis of pulmonary diseases, including cystic fibrosis, respiratory disease of the newborn, and asthma, and advance knowledge in the prophylactic role of probiotics in children affected by recurrent upper respiratory tract infections.

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