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Title: Role of probiotics in attenuation of acute respiratory tract infections in preschool and primary school children

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Body: Background. Probiotics have been shown to reduce incidence, duration and symptom scores of acute respiratory tract infections (ARTI). Objective. To study a potential of probiotics in prevention of ARTI in children. Materials and Methods. 96 otherwise healthy children aged 3-12 years closely contacted to a household with ARTI were randomized to receive 1 g of a powder containing 5 billion CFU of *L. acidophilus* DDS-1, *B. lactis* and 50 mg fructooligosaccharide (DDS Junior, UAS Laboratories) (group I, n=48) or rice maltodextrine powder (group II, n=48) once daily for 30 days. During one-month follow-up, we recorded incidence, duration, and clinical course of ARTI using Canadian acute respiratory illness and flu scale (CARIFS). Results. At baseline groups I and II were comparable on age, number of social contacts, history of attending daycare/school, and history of previous ARTI. 85% (n=41) of children in the group I and 90% (n=43) in the group II developed ARTI (p=0.368). In sick children at group I 50% clinical recovery from baseline value of CARIFS occurred on day 6.2(1.9), while in the group II on day 7.2(2.1) (p=0.025). For the group I return to normal health was observed on day 8.5(3.3) vs 10.7(3.9) in the group II (p=0.007). In the group I nasal decongestants, throat preparations, and antipyretics were used for a shorter course than in the group II (2.3(1.2) vs 3.2(1.7) p=0.007; 1.9(1.1) vs 2.5(1.6) p=0.046; 2.7(1.2) vs 3.5(1.5) p=0.009, respectively). Conclusions. At tendency toward prophylactic potential in limitation of household spread, probiotics have a clear attenuating effect on the clinical course of ARTI in young children and shorten use of flu/cold drugs.