

isolated from children with lower respiratory tract disease. The impact of HBoV on childhood persistent wheezing has not been identified.

**OBJECTIVE:** Our aim was to study the impact of HBoV on childhood persistent wheezing.

**METHODS:** In this study, a total of 40 tracheal aspirates were obtained by bronchofibroscope from children with persistent wheezing who had been wheezing for at least >4 weeks. HBoV was detected by polymerase chain reaction. A rapid immunofluorescence method was used for diagnosis of respiratory syncytial virus, adenovirus, influenza A and B, and parainfluenza 1, 2, and 3.

**RESULTS:** In 40 children with persistent wheezing, 13 (32.5%) had DNA sequences that were HBoV-positive. Age of the patients with HBoV-positive infection ranged from 1 month to 2 years. The results of polymerase chain reaction products sequencing proved that these 13 samples were exactly identical to the sequence of HBoV published in GenBank (accession Nos. DQ988934 and DQ457413). Two children with HBoV infection were found to have coinfection with respiratory syncytial virus.

**CONCLUSIONS:** This study confirmed that HBoV is a common pathogen for children with lower respiratory infection and might particularly be attributed to persistent wheezing. However, more studies should be performed to study the mechanism of HBoV on chronic airway inflammation.

### **THE CHILDREN IN DISASTERS PROJECT: ADDRESSING THE SPECIAL NEEDS OF CHILDREN IN MAN-MADE AND NATURAL DISASTERS**

**Submitted by Karen Olness**

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**INTRODUCTION:** Natural and man-made disasters have increased dramatically over the past 15 years. Children are the most vulnerable population in disasters and suffer acute and long-term physical and psychological damage. In 2005, there were 17 million children displaced from their homes as a result of humanitarian emergencies.

**OBJECTIVE:** The Children in Disasters Project of the Rainbow Center for Global Child Health aims to reduce the traumatic acute and long-term effects of disasters for children by providing training to health professionals and relief workers, both in the United States and around the world, on how to recognize and respond to the special needs of children in disasters.

**RESULTS:** Since 1996 the project has provided intensive, interactive, 5-day training programs entitled "Management of Complex Humanitarian Emergencies: Focus on Children and Families." These were the first programs to emphasize

that children need special attention in disasters. This course has been replicated with colleagues in 9 countries and has trained 980 people to help care for disaster-affected children. Course evaluations have been excellent, and trainees have done well in disaster work.

**CONCLUSIONS:** Because of ongoing humanitarian emergencies, there is a need to continue training relief workers about the special needs of children.

### **PROBIOTICS REDUCE INCIDENCE AND DURATION OF RESPIRATORY TRACT INFECTION SYMPTOMS IN 3- TO 5-YEAR-OLD CHILDREN**

**Submitted by Arthur Ouweland**

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**INTRODUCTION:** Probiotics are live microorganisms that have a beneficial effect on the host.

**OBJECTIVE:** Our aim was to investigate whether consumption of probiotics would be able to reduce symptoms of respiratory tract infections during the winter season.

**METHODS:** Children aged 3 to 5 years were recruited and randomly assigned to 1 of 3 groups to receive placebo ( $n = 92$ ), *Lactobacillus acidophilus* NCFM (NCFM) ( $n = 77$ ), or a combination of *L acidophilus* NCFM and *Bifidobacterium lactis* Bi-07 (NCFM+Bi-07) ( $n = 79$ ). Probiotics were consumed daily at a dose of  $10^{10}$  colony-forming units for 6 months from November to April. The study was performed in Shanghai, China, and approved by the local authorities. **RESULTS:** The incidence of fever was reduced by 63% in the NCFM+Bi-07 group and by 48% in the NCFM group. Cough was reduced by 54% in the NCFM+Bi-07 group and by 42% in the NCFM group. Runny nose was reduced by 44% in the NCFM+Bi-07 group and by 9% in the NCFM group; the latter result was not significant. Antibiotic use was reduced by 80% in the NCFM+Bi-07 group and by 68% in the NCFM group. Children in the placebo group had, on average, 6.5 days with symptoms, those in the NCFM group had 4.5 days with symptoms, and those in the NCFM+Bi-07 group had 3.4 days with symptoms.

**CONCLUSIONS:** Daily consumption of NCFM and Bi-07 and of NCFM alone significantly reduced the incidence and duration of respiratory tract infection symptoms in children. The combination of the 2 probiotics tended to perform better than the NCFM alone.

### **PREVALENCE AND INCIDENCE OF A NEWLY DEFINED TYPE OF DIABETES IN CHILDREN, ADOLESCENTS, AND ADULTS IN THE LARGEST INTERNATIONAL SERIES TO DATE**

**Submitted by Annabelle S. Slingerland**

# PROBIOTICS REDUCE INCIDENCE AND DURATION OF RESPIRATORY TRACT INFECTION SYMPTOMS IN 3- TO 5-YEAR-OLD CHILDREN

Arthur Ouwehand, Greg Leyer and Didier Carcano

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