

# The effect of a multispecies synbiotic mixture on the duration of diarrhea and length of hospital stay in children with acute diarrhea in Turkey: Single blinded randomized study

Ener Cagri Dinleyici · Nazan Dalgic · Sirin Guven ·  
Metehan Ozen · Ates Kara · Vefik Arica  
Ozge Metin-Timur · Mesut Sancar · Zafer Kurugol ·  
Gonul Tanir · Didem Ozturk · Selime Aydogdu ·  
Murat Tutanc · Makbule Eren · Yvan Vandenplas

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**Abstract** Probiotics have been successfully used for the treatment of acute diarrhea in children and this effect depends on the strains and dose. The aim of this study was to assess the effect of a synbiotic mixture on the duration of diarrhea and the length of hospital stay in children with acute watery diarrhea. This is a prospective randomized, multicenter single blinded clinical trial in hospitalized children with acute watery diarrhea. All children were treated with conventional hydration therapy with or without a daily dose of a synbiotic ( $2.5 \times 10^9$  CFU live bacteria including *Lactobacillus acidophilus*, *Lactobacillus rhamnosus*,

*Bifidobacterium bifidum*, *Bifidobacterium longum*, *Enterococcus faecium*, and 625 mg fructooligosaccharide) for 5 days. The primary endpoint was duration of diarrhea and duration of hospitalization was the secondary endpoint. Among 209 eligible children, 113 received the synbiotic mixture and 96 served as a control. The duration of diarrhea was significantly shorter (~36 h) in children receiving the synbiotic group than the controls ( $77.9 \pm 30.5$  vs.  $114.6 \pm 37.4$  h,  $p < 0.0001$ ). The duration of hospitalization was shorter in children receiving the synbiotic group ( $4.94 \pm 1.7$  vs.  $5.77 \pm 1.97$  days,  $p = 0.002$ ). The effect of synbiotic

E. C. Dinleyici (✉)  
Department of Pediatrics, Pediatric Intensive Care and Infectious Disease Unit, Faculty of Medicine, Eskisehir Osmangazi University, Eskisehir TR26480, Turkey  
e-mail: timboothtr@yahoo.com

N. Dalgic · D. Ozturk  
Division of Pediatric Infectious Diseases,  
Sisli Etfal Training and Research Hospital, Istanbul, Turkey

S. Guven · S. Aydogdu  
Department of Pediatrics,  
Umraniye Education & Research Hospital, Istanbul, Turkey

M. Ozen  
Pediatric Infectious Disease Unit, Faculty of Medicine,  
Suleyman Demirel University, Isparta, Turkey

A. Kara  
Pediatric Infectious Disease Unit, Faculty of Medicine,  
Hacettepe University, Ankara, Turkey

V. Arica · M. Tutanc  
Department of Pediatrics, Faculty of Medicine,  
Mustafa Kemal University, Hatay, Turkey

O. Metin-Timur · G. Tanir  
Pediatric Infectious Disease Unit, Dr. Sami Ulus Research and Training Hospital of Women's and Children's Health and Diseases, Ankara, Turkey

M. Sancar  
Clinical Pharmacy Department, Faculty of Pharmacy,  
Marmara University, Istanbul, Turkey

Z. Kurugol  
Department of Pediatrics, Faculty of Medicine, Ege University,  
Izmir, Turkey

M. Eren  
Department of Pediatric Gastroenterology and Hepatology, Faculty of Medicine, Eskisehir Osmangazi University, Eskisehir, Turkey

Y. Vandenplas  
Department of Pediatrics, UZ Brussel, Vrije Universiteit Brussel,  
Brussels, Belgium