

EV0354

ePoster Viewing

Changes in the intestinal flora

**"The therapeutic effect of probiotic bacteria on bacterial gastroenteritis in children's microbiota"**

N. Mandras<sup>1</sup>, J. Roana<sup>1</sup>, S. Fornasero<sup>1</sup>, D. Scalas<sup>1</sup>, F. Savino<sup>2</sup>, G. Amisano<sup>1</sup>, A.M. Cuffini<sup>1</sup>, V. Tullio<sup>1</sup>

<sup>1</sup>*Department of Public Health and Pediatrics - University of Turin, Turin, Italy*

<sup>2</sup>*Regina Margherita Children Hospital - Città della Salute e della Scienza della città di Torino, Turin, Italy*

**Objectives.** The gut bacterial colonization is defined immediately after birth, through direct contact with maternal microbiota. Gut microbiota provides protection against infection, ensures tolerance to foods, and contributes to nutrient digestion and energy harvest. Bacterial gastroenteritis and the use of antibiotic therapy may be characterized by an altered composition of gut microbiota, suggesting that microbial dysbiosis associated with early antibiotic exposure in neonates may be a predisposing factor to inflammatory bowel disease (IBD), including other disease conditions, such as wheezing and asthma. Probiotics have been extensively studied over the past several years in the prevention and, to a larger extent, in the treatment of diarrheal diseases, especially in pediatric populations; therefore probiotic administration during the neonatal period can improve gut function by enhancing the intestinal immune status and maintaining microbial balance during gastrointestinal disturbances. The aim of the study was to assess the composition of the microbiota of infants, after treatment with antibiotics and probiotics. **Methods.** Forty-nine children, aged 0-12 months, were enrolled at Regina Margherita Children Hospital, Turin. Children were divided into 3 groups: 15 healthy children (1st group), 17 with bacterial gastroenteritis and antibiotic therapy (2nd group), and 17 with bacterial gastroenteritis and antibiotic therapy plus probiotics (3rd group). Stool samples were collected and immediately diluted and cultured on selective media to detect total bacteria, Enterobacteriaceae, enterococci, lactobacilli and bifidobacteria. **Results.** The microbiota in children treated with antibiotics was characterized by a decrease in lactobacilli and bifidobacteria compared to healthy subjects. Conversely, children with bacterial gastroenteritis showed higher levels of bifidobacteria, and lactobacilli but lower of enterococci after treatment with probiotics, similar to healthy children. **Conclusion.** These no significant differences in microbiota composition between healthy children and those treated with probiotics suggest that probiotic administration in early infancy appear to be a useful adjunct to antibiotic therapy in treating gastrointestinal disease in children. Our findings enhanced our understanding of the effects of probiotics on gut health in pediatric subjects.