



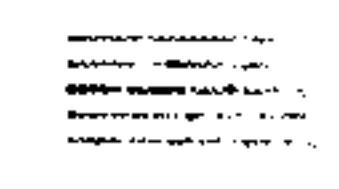
1st FCUB ERA Workshop

Food Safety and Health Effects of Food

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FCUB ERA



1st FCUB ERA Workshop

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- 1. Clustering food research activities in the region of WB and EU neighboring countries**
- 2. Health effects of food**
- 3. Biochemistry and Molecular Biology of Food Allergens**
- 4. Probiotics and prebiotics**
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Oral 4.1. Effect of Prebiotic Infant Formula on The Infant's Gut Microbial Composition and Anthropometric Factors: Clinical Study

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Human breast milk is the best dietary choice for a newborn baby, and as it is considered as a gold standard, all the manufacturers of infant formula (substitutes for the breast milk) aim to produce these products with composition very similar to that of human breast milk. Current trends in the composition of infant milk formula include products supplemented with non digestible oligosaccharides and inulin to obtain a bifidogenic effect comparable to that of breast milk. The aim of a bifidogenic effect on the infant's intestinal flora is to counteract the current rise of allergic diseases and to enhance protection of the infant against gastrointestinal infections. The aim of this study was to investigate the influence of an infant formula containing added inulin and fructooligosaccharides (FOS) on the gut microflora, as well as on the growth development and development of infants, compared with infants who were exclusively breastfed.

The 28-day study enrolled 21 healthy, term born infants of both sexes, divided into two groups: formula fed group and control- breast milk fed group. Fecal samples were obtained before (day 0), and during formula administration (14 and 28 day) and level of infant's gut colonization was investigated. The anthropometric factors (weight, height) were measured every day during this study period. There were no significant differences in the fecal numbers of lactobacilli, total aerobes, anaerobes or yeasts and fungi between these groups. In contrast, the bifidobacteria number in the stools increased significantly during the study in the infants receiving the supplemented formula. The body weight and length of the infants in both study groups increased at similar rates during the study period and were within the normal framework for the postnatal period. All infants exhibited normal growth during the study.

This clinical study showed that the infant formula containing additional prebiotics (inulin and FOS) and mature breast milk have similar gut microflora and bifidogenic effect, also prebiotic supplemented infant formula favorably influences the growth and development of infants in a manner similar to that of mature breast milk.

Keywords: inulin, fructooligosaccharides, infant formula, anthropometric factor, bifidobacteria