

FOOD SCIENCES

Comparison of Fatty Acid Composition of Infant Formulas with Breast Milk

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Abstract. The objective of the present study was to compare fatty acid composition of fourteen powdered infant formulas with breast milk. The powdered formulas were purchased from local markets. Breast milk was collected from ten healthy lactating mothers who had been breast-feeding for 3-4 months. Seven formulas were starting formulas, six formulas were follow-up formulas and one formula was special formula (low lactose). Fatty acid composition of breast milk and formulas was determined by gas-liquid chromatography. The level of palmitic acid ranged from 9.75-38.23% in infant formulas as compared to 21.10% in breast milk. The concentration of linoleic acid (C18:2, n-6) in eight formulas and in breast milk was comparable with that stated by the American Academy of Pediatrics, Committee on Nutrition. Three formulas and breast milk comply with the European Society for Pediatric Gastroenterology and Nutrition (ESPGAN) recommendations regarding linoleic:linolenic ratio. Breast milk lipid contains long-chain polyunsaturated fatty acids (LCPUFA), whereas LCPUFA was not found in infant formulas. However, more efforts should be made to produce infant formulas balanced in their fatty acids and resembling breast milk in its LCPUFA.