FATTY ACID PROFILES AND THEIR NUTRITIONAL VALUES IN HUMAN MILK AND INFANT FORMULA

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Abstract

Human milk and infant formula are very important in human nutrition. Lipids play a critical role in infant nutrition. Fatty acids (FA), which are the major component of milk lipids, have different effects on human health. The aim of this study was to determine and compare fatty acid composition between human milk and infant formula prepared according to the manufacturer's protocol just before the extraction of FA.

We investigated 23 samples of human milk who were residing in Tirana city more than five years and gave birth here from April 2017 to May 2018 and applied to follow up in any time after the first month period, and 2 samples of infant formula mostly used in the Albanian market Samples were analyzed by gas chromatography.

Our results showed that saturated FA were predominant in all types of milk. Monounsaturated oleic acid was higher in human milk (34%) than in infant formula (30%). Polyunsaturated FA content of infant formula was (11%) and human milk (16%). Long chain polyunsaturated fatty acids, which are important in infant development and maintenance of overall human health, were detected only in human milk. A number of advances have been made in infant formula lipid content and composition so that formula can better simulate or mimic the nutritional functions of human milk.

These results suggest that human milk is the most desirable food in infants nutrition, but low content of FA indicates that supplementation of lactating women with FA is highly recommendable.

***Key words**: Human milk, Milk fat, Infant formula, Essential fatty acid, Nutrition.*