Abstract

The Human Milk Bank undergo human milk to pasteurization, followed by storage in a freezer at -18°C for up to six months to thus keep available the stocks of this product in maternal and infant hospitals. The objective of this study was to evaluate the effects of processing on the lipid fraction of human milk. A sample of human milk was obtained from a donor and was subdivided into ten sub-samples that were subjected to the following treatments: LC = raw milk; T0 = milk after pasteurization; T30 = milk after pasteurization and freezing for 30 days; T60 = milk after pasteurization and freeze for 60 days, and so on every 30 days until T240 = milk after pasteurization and freezing for 240 days, with 3 repetitions for each treatment. Lipids were extracted, methylated and fatty acid profiles determined by gas chromatography. The fatty acids were characterized by nuclear magnetic resonance and functional groups were identified by infrared spectroscopy. There were variations in the concentration of fatty acids. For unsaturated fatty acids there was an increasing trend in their concentrations. The IR and NMR analyze characterized and identified functional groups presents in fatty acids. (Nutr Hosp. 2015; 31: 1386-1393) DOI: 10.3305/nh.2015.31.3.8120

Keywords