Assessment of Selected Fatty Acids in Human Breast Milk Using GC-FID

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PURPOSE: Using the dried milk spot (DMS) method, it is possible to reveal the nutritional balance and imbalance of human breast milk and react to the needs of the new-born. We wanted to find out, if it could be possible to analyze fatty acids using the DMS method and if this method could be used in medical practice. PROCEDURE: I prepared the samples from DMS sampling cards for the analysis. The process was complicated and was conducted in numerous steps. I was adding internal chemicals and derivatizing agents, to the sample. I incubated and carried out centrifugation of the sample etc. After the prepared samples were analyzed in the gas-chromatograph, I evaluated and processed the obtained data. RESULTS: I have found out that the results of analysis of samples collected via the DMS method are consistent with published results of the analysis of samples collected via a verified method. CONCLUSIONS: Even though only 17 samples were analyzed, the conclusion can be made that FA in human breast milk can be reliably analyzed using this method. All this is important because DMS method is non-invasive, only a small amount of a sample is needed for the analysis, also the sampling cards can be stored and transported easily.

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