Abstract

In human milk (HM), the content of bioactive compounds is modulated by physiological, environmental and nutritional factors, and in infant formulas (IFs) it is regulated by specific standards and depends on the type of formula.

In the presented work, the aim was to evaluate the factors determining the content of selected bioactive compounds in HM and compare to the composition of IFs. It was shown that sociodemographic factors, including age and place of residence of mothers, determined the caffeine intake choices of nursing mothers. The content of squalene, MCFA, DHA and AA, as well as selected minerals in HMs was dependent on lactation period, while additionally, squalene content depended on BMI and age of women. It was shown that IFs had a different fatty acid and mineral profile compared to HMs. Differences were noted between the composition of IFs depending on the type and nutritional purpose of the formula.

The composition of HMs undergoes physiological changes, depending on the lactation period and the individual needs of the infant. It should be noted that also modifiable factors, including diet, lifestyle and some anthropometric indices can affect changes in HM composition. Analysis of HM composition is a valuable knowledge resource in the process of developing and optimizing IFs formulas, ensuring the most accurate reproduction of the properties of breast milk.