MINERAL CONTENT OF BRAZILIAN INFANT FORMULAS: AN INVESTIGATION

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Infant formula composition is designed to be roughly based on a human mother’s milk at approximately one to three months postpartum. Verification of elemental composition of the commercial formulas is important for confirm the nutritional properties and control the levels of potentially toxic elements. Mineral content of 10 different infant formulas (formula powders) marketed in Brazil was determined by inductively coupled plasma atomic emission spectrometry (ICP-AES). The contents (mg/100g) are in the following ranges: Calcium (Ca), 316.6 – 783.8; Zinc (Zn), 0.125 – 0.608; Magnesium (Mg), 35.0 – 62.9; Iron (Fe), 0.269 – 0.853; Sodium (Na), 112.1 – 282.7; Potassium (K), 396.2 – 976.6. All formula powders analyzed satisfied legal nutrient content regulations (codex alimentarius) for both type and quantity of Ca, Mg, Na and K. A big discrepancy was observed for Fe and Zn content. For all infant formulas analyzed the quantity of these two minerals are lower than the content regulations (67% and 73%, respectively, on average). Comparing the values obtained in this experiment with the values declared by the infant formulas producers, our results were, on average, 15% lower than the label values, except for Fe and Zn. For these minerals experimental results were 72% and 78% lower, on average. These results show that further investigations of the mineral composition of baby products are necessary by Brazilian government, which is legally responsible for the quality control of marketed products in Brazil.