Determination of Iron in Fortified Whole Milk

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Nowadays, consumers are searching more and more for healthier food and seeking for good diet and health attitudes. Milk is highly nutritious, contains high calcium content and is an excellent product for children because it helps the maintenance and growth of bones and teeth. However, milk is a product with low iron content, which requires the addition of this inorganic element for the purpose of enriching its nutritional value. The present work aimed to determine the iron content of fortified whole milk commercialized in Londrina city, in order to verify if the products are in agreement with the nutritional label of the product, and legislation requirements. Samples were analyzed in visible spectrophotometry using the method of standard addition. All samples (A, B, C, D) showed an iron content well below the specified on their own label, 0.941, 0.505, 0.628 and 0.746 mg of iron/200mL, respectively, whereas the amount of iron specified in labels ranged around 3.4 to 4.2 mg/200mL. The real iron content of samples corresponded to 6.72%, 3.61%, 4.49% and 5.33% of the recommended daily intake (RDI), which is 14mg of iron. Despite fortified milk is not the only source of iron in food, the false content on products may lead to health problems, once people would believe they are taking specific amounts of iron when, indeed, they aren’t. Moreover, it is not in accordance to legislation. Therefore, it is necessary for industries to check whether the processing is being done properly to avoid gaps on the product.