ABSTRACT

Titien Dwi Ariyanti. In Vitro Bioavailability Calcium (Ca) and Iron (Fe) in Commercial Maternal Milk Products. Under the guidance of Rimbawan

Milk is one of animal foodstuffs that commonly consumed by human, because of its complete and highly nutritious substance, including calcium and iron. Mineral deficiencies, such as calcium and iron, remain a major problem in many developing countries including Indonesia especially for pregnant women. Commercial maternal milk product is a source of calcium and iron that is potential to be consumed. Some commercial maternal milk products in market offer high calcium and iron product. This study used four commercial maternal milk products as samples. The samples were selected based on the content of calcium, iron, dietary fiber and prebiotic (FOS and GOS) that are listed on the nutrition fact. Investigation of in vitro bioavailability for calcium and iron was the major objective of this study because the high calcium and iron content in food does not always describe whether the absorbed calcium and iron was also high. The moisture, ashes, protein, calcium, iron, phosphorus, dietary fiber, zinc, available total calcium and available total iron contents among the milk products used in this study were significantly different (p<0.05). However, there is no significant relationship between type of product with bioavailability of calcium and bioavailability of iron (p>0.05). Furthermore there is no significant relationship between nutrients contents (fiber, phosphorus, zinc, FOS and GOS) and the bioavailability calcium and bioavailability iron on the samples. According to this study category of bioavailability of calcium and iron in commercial maternal milk products was high.

Keyword: bioavailability, calcium, iron, milk, pregnant