Determination of the taste threshold of copper in water

Zacarías, Isabel

Yáñez, Carmen G.

Araya, Magdalena

Oraka, Chinwe

Olivares, Manuel

Uauy, Ricardo

Copper effects on human health represent a relevant issue in modern nutrition. One of the difficulties in assessing the early, acute effects of copper ingested via drinking water is that the taste of copper may influence the response and the capacity to taste copper in different waters is unknown. The purpose of the study was to determine the taste threshold of copper in different types of water, using soluble and insoluble salts (copper sulfate and copper chloride). Copper-containing solutions (range 1.0-8.0 mg/l Cu) were prepared in tap water, distilled deionized water and uncarbonated mineral water. Sixty-one healthy volunteers (17-50 years of age), with no previous training for sensory evaluation, participated in the study. A modified triangle test was used to define the taste threshold value. The threshold was defined as the lowest copper concentration detected by 50% of the subjects assessed. To evaluate the olfactory input in the threshold value obtained, 15 of 61 subjects under