DETERMINATION OF HEAVY METALS (CADMIUM, CHROMIUM, COPPER, LEAD AND NICKEL) IN SLIMMING TEAS BY USING ATOMIC ABSORPTION SPECTROSCOPY

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ABSTRACT

DETERMINATION OF HEAVY METALS (CADMIUM, CHROMIUM, COPPER, LEAD AND NICKEL) IN SLIMMING TEAS BY USING ATOMIC ABSORPTION SPECTROSCOPY

Slimming tea is one of the many popular Asia herbal products. The presence of heavy metals in the slimming tea has received special attention because they are directly related to health. Six slimming teas from different brands and countries which were two slimming tea products from local, two from Indonesia and another two from China were used in this project. All samples were treated using acid digestion method and concentration of Cd, Cr, Cu, Pb and Ni were determined by using Atomic Absorption Spectroscopy. The result of analysis showed that the content of Cr in all slimming tea samples ranged between 4.900 and 31.350 mg/kg which the lowest content found in sample (X), a product from Malaysia and highest content of Cr was found in sample (3) which was product from China respectively. The levels of Cd in the slimming tea samples were between 2.500 and 3.850 mg/kg which the lowest level of Cd was found in sample (X) which product from Malaysia and highest from sample (Z) which is China product. The Cd value in all samples was higher than maximum permitted proportion of metal contaminants in specified food Malaysia, 1985 (regulation 38) which is 1.0 mg/kg. Analysis of Cu content in slimming tea samples indicated that the mean value of copper ranged between 2.150 and 18.600 mg/kg. The lowest value of Cu was found in sample (2) and the highest in sample (Y) and both of samples were from Indonesia. Ni in the slimming tea sample was in the range of 1.100 to 11.850 mg/kg. The lowest Ni content was found in sample (2) which product from Indonesia and highest in sample (Z) which is China product. For the Pb analysis, the absorbance measurements for all samples were too low which means that the Pb concentrations were non detectable