

Abstract

Estimation of Heavy Metals in Branded and Local Snacks in the Markets of Peshawar, Khyber Pakhtunkhwa, Pakistan

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Abstract

Background: Heavy metals in food is emerging public health problem. They are defined as elements that have high atomic weight as compared to water and a minimum density of 5 times greater than that of water. They are of concern because of their adverse effects on individual health.

Objective: To estimate the concentration of heavy metals (Lead, cadmium, Chromium and copper) in branded and non-branded (local) snacks in the markets of Peshawar, Khyber Pakhtunkhwa, Pakistan.

Methods: A total of 96 different samples of potato and corn snacks were selected from four towns of district Peshawar by convenient sampling technique. All samples were subjected to wet digestion using acid digestion technique and Lead, Cadmium, Chromium and copper were quantitatively detected, using Atomic Absorption spectrometer in the Public Health laboratory Khyber Medical College Peshawar.

Results: Mean concentration of Lead, cadmium, chromium and copper in potato based branded snacks were in the range of 0.085-0.423mg/kg, 0.003-0.046 mg/kg, 2.186-2.328 mg/kg and 0.008-0.108 mg/kg and concentration of heavy metals in corn based branded snacks were in range of 0.240-0.351 mg/kg, 0.007-0.012mg/kg, 2.254-2.179 mg/kg, 0.030-0.082 mg/kg, respectively. While mean concentration of Lead, cadmium, chromium and copper in non-branded (local) snacks were 0.057-0.324 mg/kg, 0.005-0.012 mg/kg, 2.137-2.247 mg/kg and 0.018-0.06 mg/kg, respectively.

Conclusions: Chromium were exceeding in majority samples of branded and local snacks.

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