Environmental Engineering and Management Journal

January 2023, Vol. 22, No. 1, 167-176
http://www.eemj.icpm.tuiasi.ro/; http://www.eemj.eu
http://doi.org/10.30638/eemj.2023.015

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HEALTH RISK ASSESSMENT OF HEAVY METALS IN VARIOUS BRANDS OF SAUSAGES AND SALAMI IN LOCAL MARKETS OF LAHORE, PAKISTAN

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Abstract

Heavy metal concentration with the increase in industrialization is posing a serious threat to humans due to their toxicity and ability to accumulate in the human body. Specifically, in Pakistan, there is a lack of data related to the heavy metal contamination in sausages and salami for human consumption. So, the current study was conducted to determine the concentration of heavy metals in meat products and associated human health risk assessments. All the samples were analyzed with an atomic absorption spectrophotometer. Samples were taken from supermarkets and local markets in the city of Lahore, Pakistan. The highest concentration of Cr, 0.364 ± 0.004 ppm, was detected in some samples of sausages and salami, 1.7837 ± 0.0203 ppm. Pb and Mn were not detected in any of the analyzed samples. The concentration of Cu was within the permissible limit of FAO/WHO. The highest concentration of Cd was detected in some samples of sausages. The *EDI* for all analyzed heavy metals was below the recommended values, except for Cr. Similarly, *THQ* calculated for Pb, Cd, Cr, Cu, Mn, and Ni was below 1 except for Cr and Cd. While the HI for all analyzed heavy metals was greater than unity, indicating adverse effects. Therefore, it is recommended to curtail anthropogenic activities that cause the contamination of meat products with heavy metals and the formation of national policy to reduce the health risk.

Key words: atomic absorption spectrometer, heavy metals, health risk assessment, meat products, political intervention

Received: August, 2021; Revised final: March, 2022; Accepted: April, 2022; Published in final edited form: January, 2023

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