

Estimation of excess lifetime cancer risk due to heavy metals: A case study of Dana steel limited dumpsite, Kastina, Nigeria

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ABSTRACT/RESUME

Abstract: This study was carried out to assess the excess lifetime cancer risk of the exposure of children and adults population living in the vicinity of Dana steel limited dumpsite, Katsina state Nigeria to heavy metal contamination through ingestion, inhalation and dermal pathways. Soil samples were analyzed for Chromium (Cr), Arsenic (As) and Lead (Pb) by atomic absorption spectrophotometry. The total cancer risk values due to ingestion and inhalation pathways in both adults and children were found to be above the requirement and were majorly contributed by Chromium (Cr). The excess lifetime cancer risk was found to have mean value of $9.66E-03$ (9660 out of 1 million) and $4.85E-05$ (49 out of 1 million) for adults and children respectively. These carcinogenic risk values were higher than acceptable value of $1.00E-06$ (1 out of 1 million) for all population ages indicating significant risk to the populace.
