

ANALYSIS OF HEAVY METALS IN HAWKED CHARCOAL ROASTED BEEF (SUYA) WITHIN PORT HARCOURT METROPOLIS

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ABSTRACT

Analysis of raw and roasted beef (suya), sold and consumed in Iwofe, Trans Amadi and Port Harcourt city were screened for the presence of iron, lead, cadmium, chromium and nickel. They were determined after digesting with aqua regia and analyzed using atomic absorption spectrophotometer. Various concentrations of these metals obtained were subjected to statistical analysis using SPSS statistical software. Appreciable mean amounts of Fe (19.35mg/kg) and (15.91mg/kg) in the roasted and raw meat samples respectively were recorded in Iwofe. Port Harcourt City recorded the highest value for Ni (5.54mg/kg) in the roasted beef sample. Lead, cadmium, and chromium were all assayed for and appreciable amounts were found to be present in the roasted and raw beef samples respectively. FAO/WHO (2001) permissive level for Fe (48mg/kg) and USDA (2006) permissive levels for Cr and Cd (1.0mg/kg and 0.5mg/kg) were higher than those in the samples. However, Pb and Ni far exceeded the permissive levels of FAO/WHO (2001) permissive level of 0.2mg/kg respectively. The nature of the food chain and certain environmental activities can impact negatively on the nutritional content of foods. This therefore places consumers at potential health risk.

Keywords: Heavy metals, pollution, roasted beef, DNA, toxicity.