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# Concentrations of polycyclic aromatic hydrocarbons in some popular smoked fish consumed in Nigeria

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Polycyclic Aromatic Hydrocarbons or Poly-nuclear Aromatic Hydrocarbons (PAHs) are ubiquitous environmental contaminants of both marine and terrestrial environments formed during the incomplete combustion of carbonaceous materials. Lipophilicity, semi-volatility as well as persistency are the characteristic properties of these contaminants. PAHs are known to accumulate in fatty tissues of fish as a result of their uptake. They are also known to possess chemical stability as part of their affinity to lipids in living tissues. Fishes are therefore good indicators of pollution in coastal waters, hence their extensive use for environmental monitoring. The concentrations of polycyclic aromatic hydrocarbons was determined in 9 popular smoked fish species *Clariasgari epinus, Paranchana obscura, Heterotis niloticus, Sardinella sp., Scrombus scrombus, Psudotholitus niloticus, Ethmolosa fimbrata* in the Nigerian market with a view to providing information on the health risk associated with consumption of these products. The concentrations of PAHs were measured by gas chromatography equipped with flame ionization detection (GC-FID) after dichloromethane/hexane extraction and clean-up. The Σ16 PAHs concentration of these species were in the range of 52.4 µg kg-1 to 1225.9 µg kg-1 while the concentration of the eight carcinogenic PAHs (PAH8) were in the range of not detected to 530.8 µg kg-1. The estimated daily intake based on any of the indicators for occurrence of PAHs in food (BaP, PAH2, PAH4, PAH8) ranged from nd-184 ng kg-1 bw day-1. The computed margin of exposure (MOE) values were less than 10,000 *for Clariasgari epinus, Gymnarchus niloticus* **and** *Ethmolosa fimbriata indicating* serious concern for the consumers' health.

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