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## The burden of crude oil toxicity in the Niger delta region of Nigeria

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Oil spills in Nigeria are a common occurrence. Crude oil contaminated water may be used for domestic purposes. The contaminated air may be inhaled while the contaminated fishes and other food substances may be eaten by humans. Many individual polycyclic aromatic hydrocarbons (PAH) are genotoxic carcinogens. One of the parent PAH, pyrene, undergoes simple metabolism to 1-hydroxypyrene. 1-Hydroxypyrene and its glucuronide are excreted in urine. Biological monitoring of exposure to PAH is a valid method in predicting harm to humans. Researchers had reported that on exposure there is a tendency for the PAHs to bio accumulate in fishes and through the food web to humans and pose a risk of causing adverse health effects on humans. High values of urinary TAH (total abdominal hysterectomy) correlates strongly with adverse harmful effects in humans and carcinogenesis. Exposure to PAH from various environmental sources are considered primary risk factor for lung cancer. Associations between polycyclic aromatic hydrocarbons (PAHs) and colorectal cancer have been reported previously but few studies have characterized PAH exposure using biological measurements. Polycyclic Aromatic Hydrocarbon (PAH) and BTEX (benzene, toluene, ethylbenzene and xylene) content were consistently higher and was markedly greater in fishes obtained from rivers in areas of crude oil exploration and exploitative activities especially in the Niger Delta of Nigeria - Ogoni than in the fishes obtained from rivers in Choba and Bayelsa. High values of TPH (total petroleum hydrocarbons), PAH and BTEX in fishes may be used to monitor occupational exposure to petroleum crude. Researchers estimated values of TAH in their studies in fishes obtained from Lagos lagoon and other rivers around Lagos and stated that the fish PAHs from their study was between 71.670 and 264.610ng/g for the assessed biota. In conclusion, the burden of crude oil toxicity on the inhabitants of the Niger Delta of Nigeria is huge and the above parameters are useful tools to assess this burden.

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