Review on the Health Risk of Polycyclic Aromatic Hydrocarbon (PAH) Exposure Among Street Food Vendors

ABSTRACT

Street food vendors have been constantly facing various kinds of livelihood risks and hazards due to the working environment and practices at the vending business. Among others are particulate matters (PM) from vehicle exhaust that produce a complex mixture of pollutants, principally comprised of polycyclic aromatic hydrocarbon (PAH). This systemic review aimed to explore the PAH exposure and the associated health impacts among street food vendors. PubMed, Science Direct, and Google scholar were the platforms used to access published articles, journals, manuscripts, reports, and theses. The keywords included were "PAH", "vehicle emission", 'environmental pollution", "street food vendors", "1-OHP", "cooking oil fumes", "street business" and "health hazards". A total of 10 articles were selected that included studies emphasizing PAH exposure and overall health impact towards various population of the study. The results show that PAHs are highly carcinogenic and are also considered teratogenic and mutagenic. Vehicle emission can be classified as one of the essential contributors of PAH among street food vendors. In addition, incomplete combustion of organic materials such as coal and wood as well as generation of cooking oil fumes (COF) put the street food vendors at increased risk. Exposure to PAH can result in the increment of oxidative stress level which can further cause development degenerative and non-degenerative diseases, including cardiovascular and pulmonary diseases, diabetes, and Alzheimer's disease. Hence, it is crucial that the extent of PAHs exposure is assessed, so that preventive measures can be implemented.