Exposure of petrol station attendants and auto mechanics to premium motor spirit fumes in Calabar, Nigeria

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Abstract

A population-based-cross-sectional survey was carried out to investigate the potential risk of exposure to premium motor spirit (PMS) fumes in Calabar, Nigeria, among Automobile Mechanics (AM), Petrol Station Attendants (PSA) and the general population. Structured questionnaire was administered on the randomly chosen subjects to elicit information on their exposure to PMS. Duration of exposure was taken as the length of work in their various occupations. Venous blood was taken for methaemoglobin (MetHb) and packed cells volume (PCV). Mean MetHb value was higher in AM (7.3%) and PSA (5.8%) than in the subjects from the general population (2.7%). PCV was lower in PSA (30.8%), than AM (33.3%) and the subjects from the general population (40.8%). MetHb level was directly proportional, and PCV inversely related, to the duration of exposure. The study suggested increased exposure to petrol fumes among AM, PSA, and MetHb as a useful biomarker in determining the level of exposure to benzene in petrol vapour.
Fuel attendants and auto mechanics are exposed to gasoline either by direct contact or inhalation. The effect of this exposure in fuel attendants and auto mechanics is determined using haematological parameters. 35 fuel attendants and 35 auto mechanics were used as test group and compared with 30 apparently healthy individuals of same age range. Some haematological parameters were determined using standard manual methods. 


Keywords: Occupational exposure; premium motor spirit; petrol station attendants; haematological parameters; workers.