HAIR LEAD CONTENT IN CAR RADITOR REPAIRERS AND PRINTING SHOP WORKERS IN KHON KAEN, THAILAND

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ABSTRACT
The descriptive study utilized hair lead analysis measure past lead exposure in car radiator repairers and printing shop workers. Hair samples and questionnaires were taken from 163 workers at 7 car radiator repair businesses and 21 printing shops in Khon Kaen, Northeast Thailand. Hair samples were analysed by inductively coupled plasma spectrometry (ICP). Lead (PbH) content of all radiator repairers (n=15) showed severe past exposure (>25 mg/kg). Observation of work practices in the repair shops revealed the source of contamination. The radiator repair industry is a high risk activity for lead exposure. In the printing shops (n=148) hair lead levels ranged from 0.6 to 307 mg/kg. There were 64 workers over normal limit for hair lead content (normal level is <5 mg/kg) with 47 workers having hair lead levels between 5 to 25 mg/kg, and 14 workers being in the severely exposed category, that is >25 mg/kg. These 14 workers had heterogeneous jobs within the printing shop. Explanations for the findings were researched by evaluating each worker according to their primary work task and whether they responded positively to confounding variables in the questionaire such as living on work premises, eating in the workplace and hygienic practices within the industry increase the likelihood of lead contamination.