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EVALUATION OF MERCURY LEVELS IN HAIR OF CHILDREN RESIDENTS IN GARIMPO AREA ON THE CITY OF CHAPADA DE NATIVIDADE – TOCANTINS

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The objective of the work is to evaluate the mercury exposure of children living in the artisanal gold mining are and in a control area, without mining. A cross-sectional study was conducted with children living in the municipalities of Chapada de Natividade and Porto Nacional, in the State of Tocantins, where hair samples were collected for laboratorial analysis of mercury concentrations, comparing between municipalities, gender, monthly fish consumption, profession of parents and the presence of amalgam in dental restorations. The participating children were selected from informations registered in the cadaster of the service of basic health assistance of Brazil (SUS). The age range chosen was of children from 5 to 6 years, with the aim of not including older children, which might be already submitted to work in the artisanal gold mining activities. The hair samples were analyzed by the methods of neutron activation analysis and also by means of the DMA (Direct Mercury Analyzer) equipment, in the last case being a partnership with CETESB. There was no evidence of mercury-related diseases in the studied children. The mean concentration of mercury in children in Chapada de Natividade was significantly higher than in Porto Nacional. Children exposed to artisanal gold mining areas have higher concentrations of mercury than children living in non- artisanal gold mining areas. There was no significant relationship between mercury concentrations and gender, monthly fish consumption, parental profession and amalgam presence in dental restorations.