

Mercury and health-related problems in gold extractors, Gilgit-Baltistan, Pakistan

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This study was conducted to investigate mercury (Hg) exposure and health-related problems in the local people who are extracting gold by the Hg amalgamation method from the stream sediments in the Gilgit-Baltistan Province. Urine and blood samples of occupational and non-occupational persons were analyzed for total Hg, while blood's fractions, including red blood cells and plasma, were analyzed for total Hg and its inorganic and organic species. The concentrations of Hg in urine and blood samples were significantly ($P < 0.01$) higher in occupational persons as compared to non-occupational and exceeded the permissible limits set by World Health Organization (WHO) and United State Environmental Protection Agency (US-EPA). Furthermore, the data indicated that numerous health problems were present in occupational persons involved in extraction of gold in the Gilgit-Baltistan province.