

S01-12 Mercury in hair as a biomarker of exposure in a coastal Venezuelan population

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To assess mercury exposure and potential risk, total mercury (THg-H) and methylmercury (MeHg-H) in hair were studied in 160 adults.. The study group consisted of 60 individuals living in the north central coast of Venezuela. A section of the area was known to be contaminated with mercury from a chlor-alkali plant installed near one of the tributary rivers of the Caribbean Sea. The study group was selected from 4 inclusion criteria points. The control group was composed of 100 individuals selected from Carabobo State with no known exposure to Hg. A questionnaire was designed to collect demographic, health information, work activities and fishing consumption habits. Hair samples were analyzed for THg. Samples with THg-H > 5 ug/g were also analyzed for MeHg. The mean THg-H was 1.88 ± 1.50 and 0.99 ± 0.87 ug/g for the study and control groups, respectively. The study group was statistically higher than control individuals, however, no statistical differences of THg-H were found between each of the 4 categories of both groups. Mean MeHg-H value was 3.67 ± 1.25 ug/g. Associations were made between Hg-H and several variables. **No significant relationship was noted between Hg-H levels and clinical symptoms.** R analyses and t-tests were used to determine associations between questionnaire variables and THg-H. The main predictors of THg-H levels in the study group were fish consumption and frequency. As both groups presented relatively low values for THg-H and MeHg-H, the results of this study indicate that Hg exposure did not exceed safe levels. However, a more in-depth exposure assessment should be conducted to more accurately assess this exposure, specifically in terms of Hg content in water and fish sampling.

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