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EXPOSURE ASSESSMENT TO HEAVY METALS IN GENERAL POPULATION IN AN AREA AT HIGH ENVIRONMENTAL RISK THROUGH BIOLOGICAL MONITORING

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10.1136/oemed-2011-100382.310

Objectives In areas at high environmental risk, a major issue is the correct assessment of the exposure of general population to industrial pollutants. The **objectives** were: to evaluate the exposure to heavy metals emitted from industrial area of Taranto; to correlate biological monitoring data with environmental data, in order to clarify the impact of industrial pollution in terms of internal dose.

Methods A cross sectional study has been designed to measure levels of urinary arsenic, lead, cadmium, chromium, manganese in 300 subjects resident in Taranto and in a rural area. Adult subjects have been selected by a random stratified sampling. Each subject in the study has been asked to sign the informed consent form and has been administered a structured standardised questionnaire to collect personal data in order to control for potential confounders.

Results Preliminary results based on 141 subjects (67 men and 74 women) from the polluted area, show mean concentrations of lead (10.80 ± 8.52 microg/l) and chromium (0.45 ± 0.64 microg/l) exceeding threshold of Italian Society of Reference Values.

Conclusions Results from biological monitoring may enhance to address the issue of preventing harmful effects of environmental factors.