ABSTRACT

Title of Abstract : The Carcinogenic and non-carcinogenic risks of Pb exposure in drinking Water Sources in Samarinda City
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Background : The risk of Pb contamination in urban drinking water sources can stem from raw water contamination, suboptimal water treatment systems, and limited water source distribution.

Objective : This study aims to predict cancer and non-cancer risks from the impacts of consuming Pb-contaminated drinking water sources.

Research Methods/ Implementation Methods : This study used an environmental health analysis method with a quantitative approach. In addition to measuring Pb in household-based drinking water sources, the lead was analyzed using an Atomic Absorbed Spectrometer (AAS).

Results : The results of Pb measurements in household of community in Loabakung Samarinda City with a concentration level between 0.001-0.045 mg/L. The analysis results showed a non-carcinogenic and carcinogenic risk level of 67% (78) of respondents at non-carcinogenic risk and 84.5% (98) at carcinogenic risk

Conclusion/Lesson Learned : Reducing the source of Pb pollutants in the raw water for water processing in the city of Samarinda is very necessary. And replacing distribution pipes that still have lead in household flows is a necessity in holistic environmental risk management

Keyword : Lead Concentration; Drinking Water Resources; Environmental Health Assessment