

# **DIETARY EXPOSURE TO REPRODUCTIVE TOXICANT TRACE ELEMENTS (LEAD, MOLYBDENUM AND NICKEL). THE CASE STUDY OF ARMENIA.**

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Mining activities in Armenia can lead to the accumulation of trace elements in crops, negatively impacting human health with possible developmental and reproductive issues. Previous research on risk characterizations of trace metals in the diet of Armenian adults identified potential concerns and revealed that certain contaminants in food, including Mo, Ni, and Pb, can specifically lead to health problems [1, 2].

The study aim was to assess dietary exposure to developmental toxicants (Mo, Ni, Pb) among Armenian women of reproductive age (18-49 years). The study focused on commonly consumed foods with a daily intake of more than 1g in Armenia, in order to determine the occurrence of Mo, Ni, and Pb. Food consumption data was obtained through a national survey using the 24-hour recall method. Based on the health-based guidance values (HBGVs), the estimated daily intakes (EDI) and potential health risks were assessed for both average and high (95th percentile) consumers.

The study found that none of the EDI values for the developmental toxicants through individual food consumption exceeded the HBGVs. However, when considering the aggregate consumption of all food products, the EDI for Pb exceeded the HBGV of 0.5 µg/kg b.w./day, indicating possible concerns for the neurodevelopmental effects. Notably, Pb intake through certain individual food items such as curd cheese, beef and veal, pelmeni and khinkali (meat dumpling), black coffee, and tap water, as well as the aggregate consumption of all the studied foods, resulted in a Margin of Exposure lower than 10 compared to HBGV.

This study is the first to evaluate dietary exposure to developmental toxicants among reproductive-aged women and highlights the need for further investigation into the sources of Pb pollution in Armenian food.

## **References**

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