

Topic: Lead in children

Title: Risk factors for elevated blood lead levels among children aged 6-36 months living in Greece.

Conclusion: Lead exposure remains a threat for optimal health especially for toddlers and children of socio-economically disadvantaged families living in Greece.

Authors: Kapitsinou A, Soldatou A, Tsitsika A, Kossiva L, Tsentidis C, Nisianakis P, Theocharis S, Garoufi A.

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Abstract: Background: Childhood lead poisoning remains a critical environmental health concern because even low blood lead levels (BLLs) can result in permanent adverse health effects. Social factors and living conditions have been correlated with BLLs. There is no recent survey about the prevalence of elevated BLLs among children in Greece. The purpose of this study was to assess BLLs among children aged 6-36 months born and living in Greece and to evaluate their association with demographic, socio-economic and housing conditions. Methods: In a cross-sectional hospital-based study including 814 randomly selected children aged 6-36 months, BLLs and hematological parameters were evaluated. A questionnaire investigating demographic and socio-economic conditions was completed in all children. Statistical analysis was performed using STATA for Windows v.8.5, and $P < 0.05$ was considered statistically significant. Results: The mean BLLs of the population were 2.78 (SD = 2.34) $\mu\text{g}/\text{dL}$, and the median was 2.02 $\mu\text{g}/\text{dL}$; 11.7% had BLLs above 5 $\mu\text{g}/\text{dL}$, while 15 children (1.8%) exceeded 10 $\mu\text{g}/\text{dL}$. Being a toddler, being Roma or Asian, living in an industrial/low-income neighborhood or in an old house, using traditional herbs and/or spices and having a mother with a manual occupation were independent risk factors for elevated BLLs. Conclusion: Lead exposure remains a threat for optimal health especially for toddlers and children of socio-economically disadvantaged families living in Greece. A nationwide survey to assess lead exposure in children is necessary to guide prevention governmental policies.

Keywords: lead, child