



Lead toxicity in children, a field approach in a pediatric clinic

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Objective: Lead poisoning in children is usually unrecognized because most of the symptoms are non specific and missed. Lead can impact on children's growth and development. This study describes the effects of lead poisoning in children.

Methods: 100 children who were seen in a general pediatric clinic in Loghman Hakim Hospital, Tehran, Iran were entered prospectively into a cross sectional study. Age, weight, height, reason for referral, parent's job and education, history of lead toxicity in the family, family opium abuse history, living in an industrial area, age of residence, water pipe type, pica habit, playing in dusty areas, toy types, using calcium and iron supplements as well as types of cooking pots were documented for each individual. Hemoglobin and mean corpuscular volume (MCV) were documented for those who had available lab data. Blood lead level were measured using lead Care II with ability to check blood lead from 3.3 to 65 µg/dL. For the description of quantitative variables with normal and non-normal distribution, mean (±SD) and median [IQR] were used, respectively. For qualitative variables, percent of frequency was mentioned. After rejecting null hypothesis in distribution of blood lead levels among all variables, logistic model was performed to determine independent variables predicting blood lead levels more than 5 or 10µg/dL in these patients.

Results: The parents had mainly low socioeconomic status with 56% of fathers who were workers and 91% of mothers who were housewives. The mean [IQR] age of children was 60 months [19, 96] with minimum age of 4 days and maximum 12 years. There was a significant univariate correlation between residential area of the patients (industrial vs. non-industrial growth curve (>3%, 3-14%, 15-50%, 50-84%, 85-97% and >97%)) in both blood lead cut-off levels of 5 and 10 µg/dL. Regression analysis showed that height growth curve (Odds ratio of 0.083 (95% CI, 0.009, 0.776 and 0.481 (95% CI, 0.248, 0.935, p<0.001) and pipe type (Odds ratio of 30287 (1.942, 472253222,