

MO-19

Blood lead level and related factors in ADHD patients in Loghman-Hakim Hospital in 2016- 2017.

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Objective: To investigate blood lead level (BLL) in children with attention deficit/ hyperactivity disorder (ADHD) and some related factors mainly opium exposure.

Methods: In this cross-sectional descriptive study children & adolescents aged < 18 years in Child Neurology Clinic of Loghman -Hakim Hospital with ADHD criteria according to DMS-V in Tehran-Iran were studied. BLLs were checked for all participants using 0.5 milliliter heparinized venous blood sample by Lead Care II. Demographic characteristics and some related factors such as old housing, parents' job, pica, opium exposure and some other factors were asked and analyzed.

Results: 51 children and adolescents <18 years, 25.5% female and 74.5% male with mean ages of 71.4 ± 30.3 months entered the study. Mean BLL was $34.6 + 63.2 \mu\text{g/dl}$. Mean BLL was $57.6 \mu\text{g/dl}$ in boys and $60.6 \mu\text{g/dl}$ in girls, ($P=0.973$). Also, the difference in mean BLLs were not significant in terms of living place, sex, age, pica and parent's job. Totally, 43 patients (84.3%) of the study samples had $\text{BLL} \geq 5 \mu\text{g/dl}$. The highest blood lead level in our patient was $20.1 \mu\text{g/dl}$. Eighteen (32.7%) of our patients have positive history for opium exposure in their family that BLL in this group was $84.5 \mu\text{g/dl}$ in comparison $95.6 \mu\text{g/dl}$ in cases with no opium exposure, that there were not statistically significant ($P=0.148$).

Conclusions: Based on the results of our study, clinicians are encouraged to take accurate attention to possible lead exposure and to rule out environmental hazards when evaluating for ADHD, particularly in young children.