

HIGHER BLOOD LEAD LEVELS IN RURAL THAN URBAN PREGNANT WOMEN IN EASTERN NIGERIA

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Abstract : Lead is an environmental toxin that is capable of causing numerous acute and chronic illnesses. Pregnant women with elevated blood lead levels transfer lead to the fetus since blood borne lead crosses the placenta. Through a consideration of the joint associations of maternal blood lead levels BLL, demographics, obstetrics variables and plasma enzymes levels, this study has attempted to provide data required for crafting effective public health information with respect to prenatal lead exposure in Eastern Nigeria. This work has examined the maternal blood lead level and evaluated the differences across socio-demographic subgroups/obstetrics variables and plasma enzymes levels. About 90 pregnant women attending Federal Medical Center (FMC), Owerri, Imo State, Nigeria participated in this study after informed consent. Blood lead levels of these metals were investigated using Atomic Absorption Spectrophotometer. Data was analysed using one-way ANOVA and Student's t test using SPSS version 15. A two-sided p-value of less than 0.05 was considered to be statistically significant. The mean BLL of subjects in rural and suburban settlements (13.5 ± 1.6 and 12.8 ± 1.35 $\mu\text{g/dl}$ respectively) were higher than those in urban settlements (7.7 ± 1.0 $\mu\text{g/dl}$). Lead was detected in 86.7% women in this study. The BLL ranged from 2 – 44.8 $\mu\text{g/dl}$ and 78.9% had BLL greater than 10 $\mu\text{g/dl}$. The mean BLL of the participants was 9 ± 9 $\mu\text{g/dl}$. We report here higher blood lead levels in rural than urban pregnant women in Eastern Nigeria. Given the high BLL of mothers in this study, pregnant women living in Niger Delta may be suffering from subclinical lead poisoning. This suggests that the Nigerian infants nursed by the mothers with high body burden of lead may be at risk of neurologic damage, impaired growth and development.