Although lead (Pb) has been extensively studied in environmental samples such as air, soils, dustfalls and water in Nairobi City, the relation between its levels on one hand and sources and mitigating factors on the other, remains unclear. This study examined this relation with a view to identifying the main risk factors for high blood lead (BPb) levels and the main dietary factors for low BPb levels. Two hundred and twenty three (223) pregnant women living in Nairobi City had their BPb levels determined by Atomic Absorption Spectroscopy. Each participating woman filled a questionnaire to provide information on the factors hypothesised to increase or reduce BPb levels.

The blood lead levels determined ranged from non-detectable to 295.0 g/dl with a mean of 28.4 g/dl. These levels were higher than those reported in literature for pregnant mothers, which range from 3.10 - 31.0 pg/dl with a mean of 10.2 g/dl. The environmental risk factors for elevated BPb levels identified were the use of glazed ceramics, living or working within 50 metres of a busy road, exposure to paint and exposure to cigarette smoke. The protective factors for low BPb levels include consumption of milk and the supplementation of minerals by consumption of consumable clay and rocks. Avoiding use of glazed ceramics and use of leaded petrol on one hand and consuming diets rich in calcium on the other, would be expected to result in substantial lowering of blood lead levels.