

## Abstract

### DIETARY, SOCIO-ECONOMIC AND DEMOGRAPHIC FACTORS INFLUENCING SERUM ZINC LEVELS OF PREGNANT WOMEN AT NAIVASHA LEVEL 4 HOSPITAL NAKURU COUNTY, KENYA

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**Background:** Zinc Deficiency (ZD) has been witnessed by several studies and associated to diverse pregnancy complications.

Despite availability of data to demonstrate widespread micronutrient deficiency in pregnancy, minimal studies have examined serum zinc status among pregnant women in Kenya. Hence the present study was undertaken.

**Objectives:** To determine serum zinc levels of pregnant women and to establish dietary, socio-economic and demographic factors associated with serum zinc levels of pregnant women in Naivasha.

**Methodology and study design:** A cross sectional study design was conducted on 172 pregnant women applying systematic random sampling method to obtain the sample size. Serum zinc levels were analyzed by atomic absorption spectrophotometer. A structured questionnaire was used to obtain socio and demographic factors amongst the women. Dietary intake was assessed using 24-hr dietary recall and FFQ method. Statistical analysis was done using logistic regression and linear regression.

**Results:** Mean serum zinc level was 66 µg/dl (+ 14 SD) ranging between 39 to 123 µg/dl. About 66.9% of the subjects were Zinc deficient. 75.0% of the participants were in low socio-economic class. Dietary zinc intake was not associated with ZD, but women consuming Vitamin C below RDA had 2.62-fold risk (95% CI: 0.55 – 12.37) of becoming ZD. Parity was significantly associated with ZD (AOR=3.65; 95% CI: 1.27 – 10.49; p=0.016). A p value of < 0.05 statistical significant at 95% confidence level was used.

**Conclusions:** ZD is of public health concern in the area. The high prevalence of ZD (66.9%) found was possibly due to high consumption of cereals, carbohydrates and legumes, which are high in zinc inhibitors.

**Recommendations:** The problem may be addressed through a combination of short, medium and long term strategies. This includes nutrition education, household based phytate reduction food processing techniques, economic empowerment and livelihood promotion.

**Keywords:** Zinc deficiency, Serum zinc concentration