

## TRACE ELEMENTS, IMMUNE FUNCTIONS AND URINARY SCHISTOSOMIASIS IBADAN, NIGERIA

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### ABSTRACT

This study determined and correlated plasma concentrations of trace elements (Zn, Cu, Fe, Mg and Se), *leucocyte phagocytosis* and severity of urinary *schistosomiasis* (USS) in 51 children (5-15 yrs of age) with eggs of *Schistosoma haematobium* in their urine samples and 43 age/sex-matched controls using atomic absorption spectrophotometer, candidacidal assay, NBT dye reduction index and number of *S. haematobium* eggs per 10 ml urine respectively. There were no significant differences in ingestion and production of reactive oxygen by leucocytes from USS subjects compared with the controls while Zn and Se were slightly reduced in USS subjects compared with the control. There was also significant correlation between plasma Fe and severity of USS, and between Zn and Candidacidal assay. The following conclusions may be drawn from this study viz: (i) Plasma concentration of Fe and Zn may be used as indices of severity of USS and status of cell mediated immunity in USS subjects. (ii) In USS subjects, the balance raised trace elements (Cu and Fe) and reduced trace elements (Se and Zn) may be responsible for adequate cell mediated immune responses, thus reduced susceptibility to other infections.

**Keywords:** Trace, immunity, schistosomiasis, children.