Introduction: Micronutrient deficiencies and childhood undernutrition constitute major health concerns in Nigeria; under-five children are mostly affected with adverse consequences leading to increased morbidity and mortality.

Objective: This study assessed the micronutrients and anthropometric status of children aged 12-59 months in Ogun state, Nigeria.

Method: In this cross-sectional study, anthropometric data and blood samples were collected from the 300 randomly selected respondents. Socio-demographic information was obtained using Interviewer-administered questionnaire. Anthropometric indices haemoglobin, serum concentrations of ferritin, iron, zinc, copper and C-reactive protein (CRP) and malaria parasites (Plasmodium falciparum) were measured using standard procedures. Data were analysed using descriptive and inferential statistics.

Result: The prevalence of wasting, stunting and underweight were 4.6%, 18.3% and 4.0% respectively. The prevalence of anaemia was 62%; deficiencies of iron, zinc, and copper were 60.0%, 40.0%, and 38.0% respectively. All the children had elevated serum ferritin and CRP values indicative of inflammation and 36.0% tested positive for malaria parasite. Pearson Product Moment Correlation showed that stunting (r= 0.173) and underweight (r= 0.158) had positive correlation (p< 0.05) with mothers occupation, while stunting (r= 0.259) also had a positive correlation (p< 0.01) with family income. Underweight was significantly related (p< 0.05) with serum ferritin (r= 0.282). Haemoglobin, (r= 0.373, p< 0.01) and serum ferritin (r= 0.351, p< 0.05) were significantly correlated with mothers occupation.

Conclusion: This study found levels of stunting, high prevalence of micronutrient deficiencies, and inflammation among the children. The present study established relationship between family socio-economic status and the children’s micronutrient and anthropometric status.