

ABSTRACT

In Zambia, essential hypertension is one of the commonest and prevalent non-communicable diseases. In the current medical literature it is not clear on the serum selenium levels among essential hypertensive adults in Zambia despite evidence in literature of its role in development of essential hypertension. The present study investigated serum selenium levels in essential hypertensive adults attending clinic 5 at the University Teaching Hospital Lusaka Zambia. We hypothesized that serum selenium levels were significantly lower in this population and was a risk factor for developing essential hypertension. An analytical crosssectional design was applied to a total of 245 participants. These were composed of 126 essential hypertensive patients and 119 healthy normotensive adults of both sexes. Only participants who met the inclusion criteria and agreed to take part in the study by signing consent forms were enrolled. Blood was collected for serum levels of Selenium, glucose, urea, creatinine and electrolytes. Student t-test was used to compare the mean serum selenium levels between hypertensive and normotensive participants as data was normally distributed. Lower levels of serum Selenium were observed in essential hypertensive adults (0.093 ± 0.048 mg/L) than in healthy normotensive adults (0.109 ± 0.047) and this was statistically significant ($p=0.0001$). Linear regression results showed no significant relationship off Selenium levels with age ($p=0.255$), BMI ($p=0.232$), systolic blood pressure ($p=0.195$) and diastolic blood pressure ($p=0.176$). The present study found that the mean serum selenium levels in hypertensive participants were significantly lower compared to normotensive participants. However, serum selenium levels were not significantly related to blood pressure hence serum selenium levels may not be a risk factor for development of essential hypertension in this population. Nevertheless, more studies in the same geographical area are needed to confirm this.