

Abstracts

NMA/AGSM/2022/BCS/010 - Serum Levels of Selenium and Manganese in the Elderly in Owerri Metropolis

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Abstract

Background: The elderly is the age that is associated with a decline in activities of daily living, intellectual activities, and socioeconomic responsibilities. Despite the crucial contribution of the elderly to socioeconomic development insufficient attention is devoted to research on their health even when this stage of life is associated with many chronic diseases which are in part attributed to free radical damage. The aim of this work was to measure serum levels of the antioxidant trace elements selenium and manganese in the elderly in the Owerri metropolis, compare them by gender, determine their reference values and correlate serum levels with age, blood pressure, and body mass index (BMI).

Methodology: Fasting blood samples of 201 apparently healthy participants aged 60 – 102 years were collected, processed, and estimated for serum selenium and manganese using atomic absorption spectrophotometry. Body weight, height blood pressure was measured.

Results: The mean values (\pm standard deviation) for serum selenium and manganese were 18.5 ± 0.9 $\mu\text{mol/L}$ and 11.7 ± 0.99 $\mu\text{mol/L}$ respectively. There were no significant gender differences ($p > 0.05$). The reference values for the trace elements were $16.7 - 20.3$ $\mu\text{mol/L}$ and $10.7 - 13.7$ $\mu\text{mol/L}$ respectively. Selenium and manganese showed a negative correlation with BMI, blood pressure, and age.

Conclusion: Serum levels of selenium and manganese do not vary with gender but correlate negatively with age and blood pressure and BMI. The reference values for the elements were suggested.

Keywords: Elderly; Selenium; Manganese; Reference Values.

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