ABSTRACT

Epilepsy is one of the most common serious disorders of the brain, affecting about 50 million people worldwide and about 100 million people will have one epileptic seizure at sometimes in their lives. Eighty percent of the burden of epilepsy is in the developing world, where in some areas 80 – 90% of people with epilepsy receive no treatment at all. Epileptic seizures generally arise from structural brain damage, genetic defects, metabolic abnormalities and electrolytes imbalance.

This cross-sectional study addressed the role of serum magnesium in patients with idiopathic and symptomatic seizures carried out at University of Maiduguri Teaching Hospital and Federal Neuro-Psychiatry Hospital Maiduguri, both located in Northeastern Nigeria. Serum magnesium level was measured using atomic absorption spectrometry among 40 cases of idiopathic epileptic seizures, 20 cases of symptomatic epileptic seizures and 30 healthy controls.

Mean serum magnesium level among the idiopathic and symptomatic seizure cases (0.79mmol/L±0.18) was significantly lower than the level among the controls (0.90mmol/L±0.17), p<0.01; similarly the magnesium level among the idiopathic seizure cases (0.74mmol/L±0.17) was significantly lower than the level in the symptomatic seizure cases (0.9mmol/L± 0.16), p<0.01. There was no correlation between the level of serum magnesium and severity of seizure attacks.

It is concluded that there was lower level of serum magnesium among patients with idiopathic seizures than among symptomatic cases and controls. But there was no significant correlation between serum magnesium level and seizure frequency.