

Serum Magnesium level and severity of Schizophrenia, Depression, Obsessive Compulsive Disorder: A cross Sectional and Hospital Based Study in a Tertiary Care Hospital in Eastern India: Reg No: 11

Riyal Das
Institute of Psychiatry

CORRESPONDING AUTHOR

Dr Riyal Das, Institute of Psychiatry

Email: riyald19@gmail.com

CITATION

Das R. Serum Magnesium level and severity of Schizophrenia, Depression, Obsessive Compulsive Disorder: A cross Sectional and Hospital Based Study in a Tertiary Care Hospital in Eastern India: Reg No: 11. Journal of the Epidemiology Foundation of India. 2025;3(2Suppl):94.

DOI: <https://doi.org/10.56450/JEFI.2025.v3i2Suppl.096>

ARTICLE CYCLE

Received: 10/11/2025; Accepted: 20/12/2026; Published: 31/12/2025

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ABSTRACT

Magnesium is a vital macronutrient that plays an essential role in brain function, particularly in intracellular transmission, neuronal myelination, synapse formation, and neurotransmission. It is crucial for maintaining neuronal health and supporting higher cortical functions of the central nervous system (CNS). Several studies have reported that reduced serum magnesium levels are associated with psychiatric disorders such as schizophrenia, depression, obsessive-compulsive disorder (OCD), and other major psychiatric conditions. The aim of this study is to evaluate serum magnesium levels in patients with major psychiatric disorders in order to determine its potential role as a contributing factor in disease association, treatment outcomes, and remission of major psychiatric disorders. Methodology: A cross-sectional study was conducted on patients diagnosed with schizophrenia, depression, and obsessive-compulsive disorder (OCD), attending both outpatient and inpatient departments of the Institute of Psychiatry (IOP) over a period of three months. A total of ninety subjects were included in the study, comprising sixty cases and thirty matched controls. Serum magnesium levels were estimated from blood samples collected from all participants, and the analysis was carried out at the Biochemistry Laboratory of the Institute of Psychiatry-COE, Kolkata. Discussion: A significant decrease in serum magnesium levels was observed in patients with psychiatric disorders as compared to healthy controls. It was also found that the serum magnesium levels were also associated with the severity or progression of psychiatric illnesses. Conclusion: Serum magnesium levels were found to be significantly lower in patients with schizophrenia, depression, and obsessive-compulsive disorder compared to healthy controls, and these reductions correlated with illness severity. Magnesium may therefore serve as a potential biomarker and an adjunctive therapeutic target in psychiatric disorders.

KEYWORDS

Serum; Schizophrenia; Depression