

Lithium Levels and Renal Function in Inpatients Monitored in the Mental Health Department at King Faisal Specialist Hospital – RC

Eltoum Etdal Abdelrahman

University of Khartoum Faculty of Medicine Nursing College, Khartoum, Sudan

***Corresponding Author:** Eltoum Etdal Abdelrahman, University of Khartoum Faculty of Medicine Nursing College, Khartoum, Sudan.

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Introduction

Lithium is considered the gold standard in the treatment of bipolar disorder. Once initiated, careful monitoring is essential to maintain therapeutic levels due to lithium's narrow therapeutic index and potential toxicity. Improper levels can adversely affect various organs, particularly the thyroid and kidneys.

Objectives

To evaluate lithium levels and assess their impact on renal function in patients monitored at the Mental Health Department of King Faisal Specialist Hospital – RC.

Methods

A retrospective cross-sectional clinical and observational study was conducted.

Results

The study included 29 patients (16 females and 13 males) diagnosed with bipolar disorder. Additionally, some patients were diagnosed with major depressive disorder, with ages ranging from 26 to 80 years. Lithium

dosages varied from 300 mg lithium carbonate to 900 mg in extended-release formulations, with treatment durations averaging approximately one year.

Conclusions

King Faisal Specialist Hospital – RC, a tertiary care centre, provides comprehensive mental health services and support for hospital-wide referrals. Our department emphasizes zero-harm principles by implementing strict lithium monitoring protocols to prevent lithium toxicity and drug-related adverse effects.

Monitoring parameters include:

BUN (normal range: 4.2–7.2 mmol/L; critical: >29.9 mmol/L)

Creatinine (normal range: 64–115 µmol/L; critical: >499 µmol/L)

GFR: >60 mL/min/1.73 m²

Therapeutic lithium levels (Q3/12): 0.6–1.2 mEq/L



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