

Predictive Accuracy of FOUR Score Vs. Glasgow Coma Scale in ICU Neurological Patients

A Comparative Study in the South West Bank Hospitals

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Introduction: Neurological assessments are vital in managing critically ill patients, with tools like the Glasgow Coma Scale (GCS) and Full Outline of Unresponsiveness (FOUR) score aiding decision-making and predicting outcomes. This study compared the predictive accuracy of the GCS and FOUR scores for mortality in ICU patients with neurological disorders across eight hospitals in the South West Bank with a total of 76 ICU beds. **Methods:** A prospective cross-sectional study included 243 ICU patients. GCS and FOUR scores were recorded at admission, 48 hours, and discharge. Predictive accuracy for mortality was assessed using ROC curves and AUC values, alongside sensitivity and specificity evaluations. **Results:** The FOUR score outperformed the GCS, especially in intubated or sedated patients, with an AUC of 0.821 (95% CI: 0.766–0.876) versus 0.729 (95% CI: 0.666–0.739). The FOUR score achieved 100% sensitivity and specificity at admission and after 48 hours, while the GCS showed moderate sensitivity (74.6%) and specificity (50.0%). Both scales demonstrated high sensitivity at discharge, with the FOUR score maintaining superior accuracy. **Discussion:** The FOUR score offers enhanced neurological assessment, particularly in resource-limited settings, outperforming the GCS in intubated or sedated patients. Its adoption in ICUs could improve patient outcomes by enabling more precise and timely evaluations. **Key words:** *full outline of unresponsiveness (FOUR) score, glasgow coma scale (GCS), ICU patient outcomes, neurological assessment, predictive accuracy*

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of Helsinki. Consent forms detailed voluntary enrollment, risks/benefits, and confidentiality. Data were anonymized, stored on encrypted devices, and published anonymously.

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