

# Medication errors in Egyptian critically ill patients with renal insufficiency: an assessment of the need for optimization clinical pharmacy service

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## Abstract

The limited evidence of the critical role of clinical pharmacists in Egyptian teaching hospitals led to the fact that critical care pharmacists' responsibilities are still focused on dispensing and drug distribution. Objective: Assess the important role of clinical pharmacy service activities in an Egyptian intensive care unit (ICU) by describing the impact of medication errors on clinical outcome of critically ill-patients with renal insufficiency. Methods: An observational retrospective cohort study was carried out over a five months period on patients admitted to ICU with estimated creatinine clearance (CrCl) less than 50 ml/min on admission and known to have chronic kidney disease (CKD). Patient records, physician orders, pharmacy and nursing notes of 69 patients were collected and reviewed by a clinical pharmacist. Medication errors were assessed. Main outcome measure was Length of ICU stay and mortality. Results: One hundred and seventeen MEs were identified; prescribing errors (58.9%), wrong administration technique (17.9%), drug-preparation errors (11.9%) and monitoring errors (11.1%). Errors in renal dose adjustment were the most frequent prescribing errors (66.7%). The length of ICU stay was positively correlated with number of medication errors per prescription ( $r=0.392$ ,  $p=0.001$ ) and mortality was associated with significantly higher number of medication errors ( $p=0.01$ ). Only 29% of errors observed were documented in pharmacy records and 93% of documented pharmacy interventions were accepted by the physicians. Conclusion: Decreasing morbidity and mortality in critically ill Egyptian patients with renal insufficiency may be achieved through optimizing clinical pharmacy services with prescription intervention activities.

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