

Management and outcomes of inpatient referrals to state sector specialist nephrology services over a 12-month period

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Abstract

Introduction: Capacitation of resource-constrained state nephrology services requires a holistic view of the work of these units. While registry and other data has provided insight into the management of outpatients with chronic kidney disease, characterization of the management and outcomes of inpatient referrals is lacking. We therefore analysed these parameters amongst inpatients referred at our institution over a 12-month period.

Methods: Anonymized data was extracted from clinical records of 963 patients comprising 1179 inpatient referrals over the period 1/2/2023 – 28/2/2024. Duration of hospitalization, prescription of dialysis, and patient mortality outcomes were described; factors affecting these outcomes were analysed using stepwise regression modelling.

Results: Inpatients were followed for a median of 9 days (interquartile range 5 – 16 days), contributing a total of 14522 inpatient visits. Prescription of acute dialysis increased follow-up duration (β 0.18 \pm 0.08, p = 0.017); dialysis unit patients admitted by Nephrology had shortened hospitalization (β -0.14 \pm 0.05, p = 0.005). Thirty-five percent of admissions received dialysis, with acute dialysis provided to 24% of referrals. AKI (OR 2.11, 95% CI 1.20 – 3.72, p < 0.001) increased and older age (OR 0.98, 95% CI 0.97 – 0.99, p = 0.005) reduced probability of acute dialytic support. Acute dialysis was more commonly prescribed for AKI due to sepsis / infection (21.1%), CKD G5 in preparation for KRT access (16.8%), and dialysis access failures (15.4%). The crude inpatient mortality rate was 17.2%; kidney failure increased (OR 3.28, 95% CI 0.84 – 12.73, p < 0.001) and AKI (OR 0.27, 95% CI 0.11 – 0.66, p < 0.001) and acute dialysis (OR 0.23, 95% CI 0.15 – 0.36, p < 0.001) reduced mortality risk.

Conclusion: Renal dysfunction prolongs hospital admission and increases mortality risk. A substantial proportion of inpatient referrals require dialytic support. Adequate capacitation of nephrology services is required to improve patient outcomes.