

## ABSTRACT

**Background:** Reduced renal function in chronic kidney disease (CKD) necessitates appropriate dose alterations to avoid drug accumulation. **Objectives:** The main objective of the study was to determine the prevalence of inappropriate antibiotic dosing in patients with CKD in the largest referral hospital in eastern Africa. Variables associated with inappropriate dosing were identified. **Methods:** The design was a retrospective review of patients' records. The study population was adult patients, with CKD admitted between January, 2006 and December, 2010. Data was abstracted from patient files. Logistic regression was used to determine variables associated with appropriate antibiotic dosing. **Results:** Ceftriaxone and amoxicillin-clavulanic acid were the most frequently prescribed antibiotics. Dose adjustment was required for 379 (59.9%) antibiotic prescriptions. Of these, 105 doses (27.7% [95% CI: 23.2 – 32.2%]) were appropriate and 274 (72.3% [95% CI 67.8 – 76.8%]) were inappropriate. The resultant dosing errors were: 271 (98.9%) and 3 (1.1%) cases of over and under dosing respectively. Key explanatory variables for appropriate dosing were: stage of renal disease (adjusted odds ratio (OR) 0.159 [95% CI: 0.082, 0.309]); administration; (adjusted OR 1.724 [95% CI:1.185, 2.508]); and treatment with amoxicillin-clavulanic acid (adjusted OR 0.101 [95% CI 0.024, 0.420]). **Conclusion:** Antibiotic doses in patients with CKD were often inappropriate. **Keywords:** Antibiotic, dose adjustment, chronic kidney disease