Point Prevalence Survey of Antibiotic Use at Four Hospitals in Rural Kenya

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Background: Antibiotics help treat and manage infections in patients. Antibiotic use varies from one medical practitioner to another, infections, patients, wards, countries and regions. Understanding antibiotic use patterns inform strategies to curb antimicrobial resistance. Objective: The study's overall aim was to describe antibiotic use patterns in four rural hospitals in Kenya. Methodology: The study was a point prevalence survey of antibiotic use among patients admitted to four district public hospitals in Kirinyaga county, Kenya. The study utilized the World Health Organization methodology. The study included all inpatient departments in the four hospitals and excluded patients who had already been discharged and were awaiting transportation. Data were abstracted from files of patients who consented using a pretested tool in Open Data Kit collect. The data was exported to MS Excel for cleaning and analyzed descriptively using Stata 14. Results: A total of 341 patients were approached for consent, of which 332 patients gave consent to be part of the study. The prevalence of antibiotic use in the four hospitals was 44.0% (95%CI, 38.6-49.5%). All antibiotics were prescribed empirically. Penicillins were the most prescribed antibiotic class at 29.1%, followed by cephalosporins at 23.0%. Ceftriaxone and metronidazole were the highest prescribed at 22.0% and 19.8%, respectively. Antibiotics were prescribed for community-acquired infections at 58.2%, followed by surgical prophylaxis at 26.0%. Most patients (52.5%) received two antibiotics, predominantly benzylpenicillin and gentamicin, at 40.3%. The majority, 63.0%, of all antibiotics were administered parenterally. Conclusion: There was a relatively high prevalence of antibiotic use, all prescribed empirically. Community-acquired infections were the most common indication for antibiotics. There was extensive use World Health Organization's "watch" category of antibiotics without microbiological tests. There is a need for laboratory support to guide antibiotic use.