

POINT PREVALENCE SURVEY OF ANTIBIOTIC USE AND RESISTANCE AT THE BIGGEST NATIONAL REFERRAL HOSPITAL IN KENYA: FINDINGS AND IMPLICATIONS

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Abstract

Background: A substantial amount of antibiotic use in hospitals may be inappropriate, leading to an increase in antibiotic resistance, adverse effects, mortality and increased costs. This can be reduced by documenting and understanding current utilisation patterns to instigate appropriate measures.

Objective: To assess antibiotic use patterns and prevalence of antibiotic resistance in the biggest national referral hospital in Kenya; subsequently identify opportunities for quality improvement.

Methodology: A point prevalence survey (PPS) was carried out with data abstracted principally from patient medical records supplemented by interviews from physicians, using the global PPS data collection tool and methodology. Patients were selected using universal sampling. Descriptive analysis was used to describe the pattern of antibiotic use. Differences in antibiotic use and

indications between the selected wards were compared using the Chi-square test or Fisher's exact

tests. **Results:** Among the patients surveyed (n=269), 67.7% (n=182) were on antibiotics. The most common classes of antibiotics prescribed were third generation cephalosporins (55%), imidazole derivatives, e.g. metronidazole (41.8%), and broad spectrum penicillins (41.8%). Most common

indication for antibiotic use was medical prophylaxis (29%). Dosing of antibiotics was seen as typically optimal when assessed against current recommendations. Among gram positive organisms,

Staphylococcus aureus isolates were resistant to cotrimoxazole (90%), amoxicillin (69%), co-

amoxycylav (67%) and cefaclor (67%). Among gram negative bacteria, *Escherichia coli* isolates were

resistant to piperacillin (90%). *Pseudomonas aeruginosa* isolates were resistant to imipenem (100%).

Conclusion: Whilst the dosing of antibiotics seemed adequate, there was high use of antibiotics, exacerbated by the high proportion being prescribed without reference to current guidelines. Antibiotic resistance also seems to be very high especially against the broadest spectrum antibiotics, which is a

real concern and imposes severe negative clinical implications. Programmes are currently being instigated to address these concerns.