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Theme: Medicine utilisation research in Africa influencing patient care and policy

Title: APPROPRIATENESS OF ANTIBIOTIC PRESCRIBING AND COMPLIANCE TO GUIDELINES AT A REFERRAL HOSPITAL IN KENYA: A POINT PREVALENCE SURVEY

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Background: A large proportion of antibiotics globally are prescribed, dispensed or administered irrationally. This is partly due to lack of local guidelines or non-adherence to available antibiotic use guidelines. The irrational use of antibiotics results in wastage of scarce health care resources, increases the risk of adverse drug reactions and increases the potential of development of resistance. This leads to poor health outcomes.

Objectives: The aim of the study was to establish whether there was rational or irrational prescribing and adherence to guidelines in one of the referral hospitals in Kenya at a specific point in time.

Methods: A point prevalence survey was conducted at a referral hospital in Kenya in April 2017. Stratified proportionate random sampling technique was used to select eligible patients who were on systemic antibiotics. Data was abstracted from the patient medical records into a predesigned patient form. Associations between predictor variables such as socio-demographic factors and outcome variables such as rational prescribing and guideline compliance were determined using Chi square. Stepwise backward binary logistic regression was done to determine the independent predictors of rational antibiotic prescribing and guideline compliance. Statistical significance was set at 95% confidence level and values with $p \leq 0.05$ were considered statistically significant. Approval to conduct the study was obtained from the Kenyatta National Hospital/University of Nairobi Research and Ethics Committee.

Results: A total of 179 patients were recruited into the study. There was rational prescribing in 33.9% ($n=121$) of all the 357 antibiotic encounters. The neonatal medical ward had the highest prevalence of rational prescribing (80%, $n=12$) while the critical care unit had the highest prevalence of irrational prescribing (100%, $n=4$). The most powerful predictor variables of rational antibiotic prescribing were the department (AOR=0.778, 95% CI=0.640–0.945, $p=0.011$), a diagnosis of a neonatal infection (AOR=5.992, 95% CI=1.985–18.094, $p=0.001$), a diagnosis of skin, soft tissue, bone and joint infection (AOR=6.221, 95% CI=2.053–18.847, $p=0.001$) and a diagnosis of no defined site such as sepsis (AOR=5.540, 95% CI=1.486–20.648, $p=0.011$). There was guideline compliance in 45.8% ($n=82$) of the study population. The most powerful predictors of guideline compliance were a diagnosis of a respiratory infection (AOR=7.141, 95% CI=2.950–17.287, $p<0.001$), a diagnosis of a neonatal infection (AOR=10.603, 95% CI=1.671–67.280, $p=0.012$) and a diagnosis of a skin, soft tissue, one and joint infections (AOR=5.606, 95% CI=1.730–18.162, $p=0.004$).

Conclusions: Rational prescribing was documented in only a third of all antibiotics prescribed. There was poor compliance to guidelines. Local guidelines were not available for a significant proportion of conditions. International guidelines were used in such scenarios.

