Point prevalence survey of antibiotic utilization in oncology patients

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Background & Objectives
Point Prevalence Surveys (PPS) are used internationally for identifying antibiotic prescribing practices and evaluating antibiotic stewardship programs. The objectives of this study are to develop a PPS tool to be used in Qatar, to determine prevalence of antibiotic consumption in the National Center for Cancer Care and Research (NCCCR) inpatient population, and to characterize antibiotic prescribing practices. The secondary goal is to identify targets for antibiotic stewardship programs to improve prescribing practices.

Methods
A chart audit tool was designed based on the available literature and piloted for face validity. All adult inpatients receiving active systemic antibiotic prescriptions at 8:00AM on each audit day were surveyed. Data were collected on 3 separate days over a two week period from 26 April through 3 May 2012 at NCCCR. Collected data obtained from electronic and paper-based charts included: diagnosis, type, dose and frequency of antibiotics, route of administration, and duration of therapy. Further information such as compliance to the available local guidelines and microbiology results were also assessed.

Results
The overall prevalence of antibiotic use during the audit was 43% (25/58). A total of 33 antibiotics were prescribed to the 25 patients receiving systemic antibiotic therapy. An indication for antibiotic prescribing was documented in 80% (20/25) of patient charts, however, only 20% (5/25) reported duration of antibiotic therapy. The most frequently used antibiotics were Penicillin/β-lactamase inhibitor combinations 40% (13/33), followed by carbapenems 15% (5/33). In 2 out of 6 febrile neutropenic patients, local febrile neutropenia guideline was accurately implemented. Sixty one percent (20/33) of prescriptions complied with local antibiotic restriction guideline. Pre-therapy cultures were performed for 96% (24/25) of patients and all antibiotic choices matched results of available sensitivity tests performed for these patients.

Conclusions
The findings of this study demonstrate frequent antibiotic consumption in the immunocompromised population highlighting the importance of development, implementation, and expansion of antibiotic stewardship programs at NCCCR.