INITIATION OF A CLINICAL PHARMACIST LED, PROSPECTIVE AUDIT ON ANTIBiotic PRESCRIBING

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Background and importance
A pharmacist led, prospective audit on antibiotic prescribing was introduced on 3 hospital wards, as an element of the local, institutional antibiotic stewardship program (ASP).

Aim and objectives
Our aims were to document and evaluate each antibiotic prescription and therapy based on the antimicrobial stewardship program recommendations and to give feedback to prescribers on their compliance to ASP guidelines.

Results I.: Demographic features
69 patients were involved in our study, 45 men and 24 women (mean age was 57.7 years ± 16.4 years and 71.3 years ± 12.5 years).

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<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
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<tbody>
<tr>
<td>No. of patients</td>
<td>45</td>
<td>24</td>
<td>69</td>
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<tr>
<td>Mean age (years)</td>
<td>57.7</td>
<td>71.3</td>
<td>62.4</td>
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<tr>
<td>SD (years)</td>
<td>±16.4</td>
<td>±12.5</td>
<td>±16.4</td>
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Results II.: Baseline data on AB therapies
Overall, 84 antibiotic therapies (50 empirical and 34 targeted) were evaluated. 21 different antimicrobial agents were prescribed, the most frequent were cefuroxime (21 cases) and amoxicillin-clavulanic acid (15 cases).

Materials and methods
A paper-based audit form was prepared. Patient data, documentation of allergies, indication of the therapy and circumstances of microbiological testing were recorded. The pilot phase was started in September 2018, and ended in November 2018.

Detailed information on antibiotic therapy and the 48-72-hour revision and its outcome were also documented. Pharmacist interventions and their acceptance were collated. Microsoft Excel and R-Commander were used for data management and analysis.

Results III.: Therapy appropriateness
Based on clinical pharmacist and infectologist follow-up decisions, 44 cases (52%) of all antibiotic therapies were inappropriate. Initial antibiotic therapies weren’t optimal in 29 cases (35%), mainly due to the unnecessarily wide spectrum of the chosen drug (65% of initial inappropriate therapies). Therapeutic decisions at the revision point were inappropriate in 32 cases (38%).

Results IV.: Clinical pharmacist interventions
Pharmacist interventions were offered in 50 cases, most frequently de-escalation (16 cases). The interventions were actioned in 60% of the cases. Higher rates of interventions were accepted when modification of the dose was advised (87%) and lower acceptance when de-escalation was suggested (31%).

Conclusion and relevance
The audit gives the pharmacist an opportunity to give continuous feedback to prescribers in order to improve their compliance with the ASP guidelines. The relatively high rate of inappropriate antibiotic prescriptions shows a need for improvement in this area. Longer term, an improved synergy between clinical pharmacists and prescribers may result in an increased acceptance rate of pharmacist interventions.

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