Antimicrobial use and prevalence of hospital infections
Experience with repeated Prevalence studies in Latvia 2003-2005

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Objectives and Methods

- Measure antibiotic consumption and prevalence of nosocomial infections
- 3 consecutive prevalence studies
- All treated patients in each ward were surveyed during one day
- Study sample – patients on antibiotics in study day
- Performed by trained infectious diseases specialist or hospital epidemiologist
Information about

- Ward and patient
- Used antibiotics
  - Dosage, route of administration
- Indications:
  - Infection:
    - CI or NI
  - Prophylaxis
    - Surgical or therapeutically
- No indication
## Situation

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>7</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Patients</td>
<td>3150</td>
<td>3774</td>
<td>4883</td>
</tr>
<tr>
<td>Included patients (with AB)</td>
<td>846</td>
<td>989</td>
<td>1385</td>
</tr>
<tr>
<td>Prevalence of AB use 7 hospitals</td>
<td>26,9</td>
<td>26,2</td>
<td>28,6</td>
</tr>
<tr>
<td>Prevalence of infections</td>
<td>17,3</td>
<td>18,9</td>
<td>21,8</td>
</tr>
<tr>
<td>Nosocomial</td>
<td>3,9</td>
<td>3,9</td>
<td>3,1</td>
</tr>
<tr>
<td>Community acquired</td>
<td>13,4</td>
<td>15,0</td>
<td>18,7</td>
</tr>
</tbody>
</table>
Use of different antibiotic groups (2003-2005)

Prescriptions / 100 patients

- 1st-generation cephalosporins
- Aminoglycosides
- Fluoroquinolones
- Penicillins - combinations
- Others

2003

- Broad spectrum penicillins
- Metronidazol
- 3rd-generation cephalosporins
- Macrolides
Trends of antibiotic use in 6 hospitals
Route of administration
Route of administration in hospitals, 2005
AB used for treated of LRTI in 10 hospitals

Others
Amoxicillin
Amox/Clav
Erithromycin
Ciprofloxacin
Gentamycin
Cefazolin
Ceftriaxone
Ampicillin
Conclusions

- Intervences like prevalence study give us possibility to compare hospitals and it outlines variations and possible problem areas.
- Concerned about infection data quality. Too low rate of NI.
- Antibiotic consumption in Latvia is uncontrolled and chaotic.
Conclusions

- Practices in hospitals are different
- Proportion of hospitalised patients who receive antibiotics vary from 10-49%
- Different antibiotics for infections (LRTI, UTI)
- Variations in the route of administration
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- Uga Dumpis
https://www.abresistance.lv

- Web page on antibiotic consumption and antimicrobial resistance in Latvia
- Web based data entrance for prevalence study
Thank you!