



Israel



The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS): First results of antimicrobial prescribing in Israeli hospitals

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INTRODUCTION AND PURPOSE

- Antibiotic resistance is a major problem in Israeli hospitals.
- Antibiotic resistance is associated with morbidity, mortality and increased costs.
- Various methods have been proposed to reduce resistance rates. These include infection control measures, antibiotic stewardship and implementing treatment guidelines.
- Little information is available regarding variation in antibiotic prescription in Israel.
- The aim of this study was to assess variation in antibiotic prescription in Israeli hospitals by using a uniform standardized method as part of the Global-PPS.

METHODS

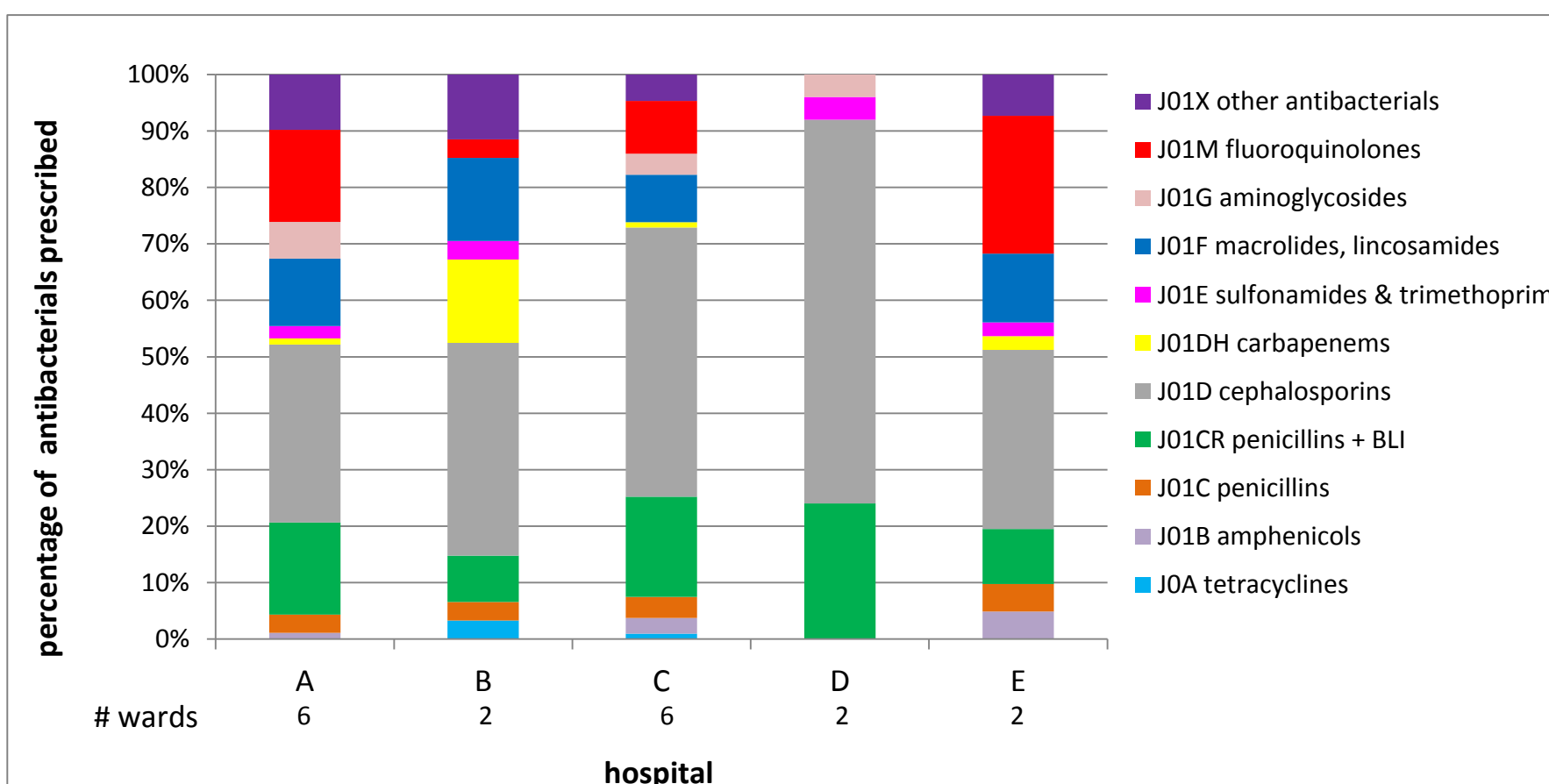
PPS was conducted on a single day in each participating ward in 5 of Israel's 28 general hospitals during March-July 2015. The survey included all inpatients receiving an antimicrobial on the day of PPS. Data collected included age, sex, weight, antimicrobial agents, doses, reasons and indications for treatment, microbiological data, compliance with hospital guidelines, documentation of reasons and documentation of a stop/review date. Denominators were the total number of inpatients. A web-based application was used for data entry, validation and reporting as designed by the University of Antwerp (www.global-pps.com).

RESULTS

- Forty-seven adult wards with 1373 patients were surveyed. Overall antimicrobial prevalence was 36% and ranged by ward from 0% to 79%.
- Among the 497 patients on antimicrobials, 67% were treated with a single agent, 27% with 2 agents, and 6% with 3 or more.
- The 3 most commonly used agents were ceftriaxone (15% of the 694 antimicrobials prescribed), ciprofloxacin (11%), and metronidazole (10%). Penicillins with beta-lactamase inhibitors (15% of the 694 antimicrobials prescribed) and third-generation cephalosporins (15%) were the most commonly used antimicrobial groups. The distribution of antibacterial groups prescribed differed between hospitals, most notably for carbapenems and fluoroquinolones (Figure).

- The 3 most common indications for antimicrobial use were pneumonia (21% of the 694 antimicrobials prescribed), intra-abdominal sepsis (13%), and skin and soft tissue infections, including surgical site infections (10%).
- Eighty-five percent of antimicrobials were prescribed for therapeutic use, 12% for prophylaxis and 2% for unknown/other reasons.
- Of the 593 drugs prescribed for therapeutic use, 67% were for community-acquired infections, 24% were for infections acquired in the treating hospital, and 9% were for infections acquired in the nursing homes or long-term care facilities from which patients had been transferred.
- Eighty percent of agents were chosen empirically and 20% were based on culture results.
- Sixty-eight percent of antimicrobials were given parenterally and 32% orally.
- Quality indicators:
 - Compliance with treatment guidelines could be assessed for 472 agents (68%); of these, 71% were prescribed according to the hospital's guidelines.
 - For 12% of antimicrobials, no reason for their use was documented in the chart.
 - Documentation of length of treatment (stop/review date) varied greatly between institutions (2%-81%).

Figure. Distribution of antibacterials (ATC group J01) prescribed, by hospital, adult internal medicine wards, Israel, 2015



CONCLUSION

- Prevalence of antimicrobial use in Israel is similar to that reported in the European point prevalence survey conducted in 2011-12.
- Compared to that survey, the proportion of drugs prescribed to treat hospital-acquired infections was significantly higher in Israel.
- Further study is warranted to assess whether interventions, such as specifying treatment duration to limit unnecessarily prolonged use of antimicrobials and implementing treatment guidelines, impact antibiotic resistance rates and outcomes of patients in Israeli hospitals.

Disclosures: "bioMérieux is the sole sponsor of the GLOBAL Point Prevalence Survey. The funder has no role in study design, data collection, data analysis, data interpretation, or writing the report. Data are strictly confidential and stored anonymously at the coordinating centre of the University of Antwerp."