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Mexico

The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS): First results of antimicrobial prescribing in 5 Mexican Hospitals

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INTRODUCTION AND PURPOSE

Antimicrobial resistance is a great threat to public health [1]. Antimicrobial Stewardship Programs (ASPs) have been developed to help the control this resistance and information related to antimicrobial prescribing is critical for the implementation of ASPs [2]. A uniform and standardized method for surveillance of antimicrobial use in hospitals was used to assess the variation in antimicrobial prescribing in México.

METHODS

The PPS was conducted from June through August 2018 in 4 tertiary care and one secondary care hospital in Mexico. The survey included all inpatients receiving an antimicrobial (AM) the day of PPS. Data included details on the antimicrobial agents, reasons and indications for treatment as well as a set of quality indicators. A web-based application designed by the University of Antwerp, Belgium was used for data-entry, validation and reporting (www.global-pps.com).

RESULTS

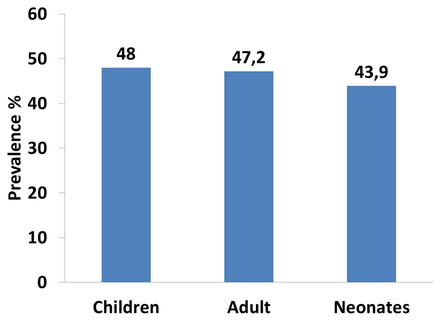

Figure 1. Overall antimicrobial prevalence by type of patients

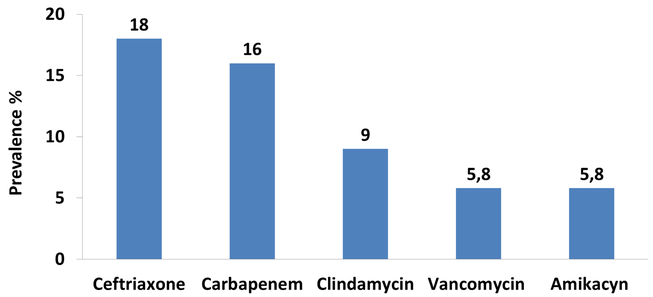

Figure 2. Top 5 most prescribed antibacterials for systemic use

Quality indicators for antibiotic use	Medical ward	Surgical ward	ICU	Total clinical CHARTS
Reasons for antimicrobial indication	89%	81%	83.8%	86%
Guidelines compliance	68%	41%	59%	71%
Stop/review date present	24%	41%	28.3%	29.2%

Table 1. Antibiotic quality indicators by activity (medical, surgical, ICU) for patient admitted on adults wards receiving antibacterials for systematic use

Figure 3. Duration of surgical prophylaxis in adults and children

The PPS included 1948 patients: 1664 patients were admitted in adult wards, 218 in pediatric wards and 66 in neonatal wards. Overall AM prescribing was 47.2%: highest in children (48%), followed by adults (47.2%) and neonates (43.9%) **(Figure 1**). In adult wards, the prevalence of AM use ranged from 48.7% in medical wards to 51.6% in ICU. 78.8% of the patients received an antimicrobial agent for empiric treatment; in community-acquired infections (CAI), 20.6% of antibiotic treatments were targeted, while in hospital-acquired infections (HAI) 49% were targeted. The top 5 antibiotics (ATC code J01) prescribed were ceftriaxone (18%) mainly prescribed for community-acquired pneumonia and intra-abdominal infections, carbapenems (16%) mainly prescribed for hospital-acquired pneumonia, clindamycin 9% mainly for intra-abdominal infections and surgical prophylaxis, vancomycin 5.8% for nosocomial pneumonia, amikacin 5.8%, metronidazole, mainly in combination with ceftriaxone for surgical prophylaxis and intra-abdominal infections (**Figure 2**).

The reason for AM prescribing was documented in 86% of total clinical charts: 89% in medical wards, 81% in surgical wards and 83.8% in ICU (**Table 1**). A stop review date was written in the notes in 29.2% of all antibiotic prescriptions and guidelines were missing in 29%. Compliance with guidelines was lowest in intensive care units (59%).

Prolonged prophylaxis(> 24 hours) was very common with 86.6% (**Figure 3**). Out of all patients receiving therapeutic treatment (CAI and HAI: 58.4%), 11.0% of them received an antibiotic prescribed against a Multi-Drug Resistant microorganism (MDR), which is more as compared to Europe in 2017 (8.3%; unpublished data). The presence of an Extended-Spectrum Beta-Lactamase (ESBL) in *Enterobacteriaceae* was the most common MDR organism (4.3% of patients receiving therapeutic treatment; Europe: 2.1%) .

CONCLUSION

A uniform and standardized method for surveillance of antimicrobial use in Mexican hospitals is very important to assess the variation in antimicrobial prescribing. This first prevalence survey in Mexico shows the necessity to implement an ASP in every hospital to improve antibiotic prescribing in order to reduce carbapenem use, to enhance compliance to guidelines and post-prescription review. The Global-PPS will be expanded in more Mexican hospitals in 2019.

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 anonymous at the coordinating centre of the University of Antwerp.”

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