

P1782 A standardized global antimicrobial surveillance system for hospitalized neonates and children is feasible and stable

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Background: There is limited evidence on the use of antimicrobials in neonates and children worldwide. This must be addressed to inform the implementation and monitoring of effective stewardship activities. The GARPEC (Global Antimicrobial Resistance, Prescribing, and Efficacy in Neonates and Children) project developed standardized surveillance methods to monitor antimicrobial use in hospitalized children and neonates, ultimately aiming to improve prescribing quality globally.

Materials/methods: A one-day cross-sectional point prevalence survey (PPS) was carried out through the GARPEC network. One pilot PPS of antimicrobial prescribing was conducted in February-March 2015. Four PPSs were carried out: 1st PPS in February-March 2016, 2nd PPS in May-June 2016, 3rd PPS in September-October 2016, and 4th PPS from December 2016 to February 2017. The surveys were conducted in 116 hospitals in 26 countries covering 6 WHO geo-regions: Africa (Nigeria, South Africa, Gambia), Americas (Argentina, Brazil, Chile, Mexico, USA), Europe (Germany, Spain, Finland, Greece, Italy, Israel, Poland, Slovenia, Turkey, UK), South-East Asia (Thailand, India), Eastern Mediterranean (Pakistan), and Western Pacific (Australia, China, Japan, Singapore, Taiwan). Data collected included demographics, antimicrobial agents prescribed, dose, frequency, mode of administration, and reasons for treatment. A standardised online data collection tool was developed using the REDCap[®] server. The surveys included children and neonates receiving antimicrobials on the day of PPS.

Results: A total of 26,353 patients were surveyed, of whom 84.8% (n=22,353) were children and 15.2% (n=4,000) were neonates. Antimicrobial prescribing patterns varied across countries and between children and neonates. Overall, the most commonly prescribed antimicrobials for children were ceftriaxone (8.1%; 2,153/26,588), sulfamethoxazole and trimethoprim (8.0%; 2,139/26,588), and vancomycin (6.4% 1,708/26,588). Among neonates, gentamicin (17.0%; 887/5,223), ampicillin (16.8%; 875/5,223 s), and meropenem (5.9%; 306/5,223) were the most frequently prescribed antimicrobials. Lower respiratory tract infection (22.0%) was the most common condition in children, and sepsis (39.0%) in neonates.

Conclusions: The GARPEC project demonstrates the feasibility of conducting antibiotic surveillance in hospitalized children and neonates across countries. Our results show that antibiotic use remain stable during the surveys. The success of this project should be built upon to establish a long-term sustainable global surveillance network for neonatal and paediatric hospital antimicrobial use.