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Poster Session I
Antibiotic consumption data

QUINOLONE USE IN EASTERN EUROPE: FIRST RESULTS OF THE WHO/EUROPE-ESAC PROJECT

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Objectives

There is no reliable data on antimicrobial use in non-European-Union (EU) south-eastern European countries (SEE) and newly independent states (NIS). We aimed to collect valid, representative, comparable total national wholesales data on systemic antimicrobial use in these non-EU countries of the World Health Organization (WHO) European Region. In this abstract we report on quinolone use.

Methods

Valid 2011 total (outpatients and hospital care) data on quinolone (ATC group J01M) use of 5 SEE (Bosnia and Herzegovina, Montenegro, Serbia, Turkey – plus Kosovo°) and 7 NIS (Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Republic of Moldova, Tajikistan) were analysed according to the WHO Anatomical Therapeutic Chemical (ATC)/Defined Daily Doses (DDD) methodology and expressed in DDD/1000 inhabitants/day (DID). Quinolone substances were classified according to three generations based on their chemical structure and antimicrobial activity (Adriaenssens N et al, *J Antimicrob Chemother* 2011;66 Suppl 6:vi47-vi56). Quarterly data was analysed for Armenia, Azerbaijan, Belarus, Turkey and Kosovo° allowing studying seasonal variation.

Results

Total quinolone use varied from 0.7 DID (4% of total antibiotic use) for Azerbaijan to 4.4 DID (11%) for Montenegro. Highest use of first-generation quinolones (mainly pipemidic acid) was reported for Montenegro (1.5 DID, 4%) and Serbia (1.2 DID, 5%) followed by Georgia (0.8 DID, 4% mainly norfloxacin); and lowest use was noted for Turkey (0.01 DID, 0.02%). Highest use of second-generation quinolones (mainly ciprofloxacin) was reported for Tajikistan, Turkey, Kyrgyzstan, Montenegro and Kosovo (from 3.4 DID to 2.6 DID, 7-12%); and lowest use was noted for Azerbaijan (0.7 DID, 4%). Highest use of third-generation quinolones was observed for Turkey (0.5 DID, 1%, mainly moxifloxacin); minor use was reported for all other countries. Seasonal variation of quinolones showed an (up to ten-fold) increased use of levofloxacin during the winter season in Turkey, Armenia and Azerbaijan. A seven-fold increased use of moxifloxacin was reported during the winter season in Turkey. No increase during winter season was observed for the other quinolones.

Conclusion

We present for the first time a standardised and validated data set of systemic quinolone use in eastern Europe. Ciprofloxacin was the most commonly used quinolone in most countries. Old drugs, such as pipemidic acid, are still used at considerable amounts in Serbia and Montenegro. Seasonal variation of respiratory quinolones (levofloxacin and moxifloxacin) may indicate inappropriate use for respiratory tract infections during the winter season. These data will facilitate auditing of antimicrobial use and evaluation of the implementation of guidelines and public health policies to promote its judicious use.

°Kosovo (inaccordance with UN Security Council resolution 1244(1999))