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Poster Session I

Antibiotic consumption data

Antimicrobial use in Bosnia and Herzegovina: 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). We aimed to collect valid, representative, comparable total national wholesales data on systemic antimicrobial use in Bosnia and Herzegovina, a SEE country with a population of 3.839.737 (estimated by <http://www.bhas.ba/>).

**Methods**

Valid 2009-2011 total antimicrobial use data of Bosnia and Herzegovina were analysed according to the WHO Anatomical Therapeutic Chemical (ATC)/Defined Daily Doses (DDD) methodology and expressed in DDD/1000 inhabitants/day (DID). Wholesales data on antibacterials (ATC group J01), antimycotics (J02) and antifungals (D01BA) were provided by the Medicinal Agency, covering 100% of the population.

**Results**

Total (outpatients and hospital care) antibacterial use was 18.5 DID in 2009, 18.1 DID in 2010 and 18.4 DID in 2011. The top 5 antibacterial subgroups (ATC level 3) in 2011 were: penicillins, ATC group J01C (9.2 DID, 50.0% of all antibacterials); other beta-lactam antibacterials, ATC group J01D (2.3 DID, 12.4%); quinolones, ATC group J01M (2.1 DID, 11.3%); sulfonamides and trimethoprim, ATC group J01E (1.6 DID, 8.9%) and macrolides, lincosamides, streptogramins, ATC group J01F (1.6 DID, 8.4%). The top 5 antibacterials (ATC level 5) in 2011 were: amoxicillin (5.1 DID, 27.5%); amoxicillin and enzyme inhibitor (co-amoxiclav, 2.7 DID, 14.7%); ciprofloxacin (1.8 DID, 10.0%); sulfomethoxazole and trimethoprim (1.6 DID, 8.9%) and doxycycline 1.3 DID, 7.0%). Other beta-lactam antibacterials represented mainly the first-generation cephalosporin cephalexin (1.0 DID, 5.6%) and the second-generation cephalosporin cefuroxime (0.7 DID, 3.9%). Azithromycin use increased from 0.4 DID (2.0%) in 2009 to 0.6 DID (3.3%) in 2011. Ciprofloxacin use increased from 0.8 DID (4.5%) in 2009 to 1.8 DID (10.0%) in 2011. Use of nitrofurantoin was not reported. Total antimycotic and antifungal use was very low from 2009 to 2011 ( $\pm 0.08$  DID). The top 3 in 2011 were: fluconazole (0.06 DID, 71.5% of all antimycotics and antifungals), ketoconazole (0.01 DID, 15.7%) and terbinafine (0.01 DID, 12.0%).

**Conclusions**

We present for the first time a standardised and validated data set of systemic antimicrobial use in Bosnia and Herzegovina. Data suggests good antibiotic prescribing practise (amoxicillin) but also offers opportunities for quality improvement (appropriate use of co-amoxiclav and azithromycin). Sustainable surveillance data will facilitate auditing of antimicrobial use and evaluation of the implementation of guidelines and public health policies to promote its judicious use.