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Antimicrobials: Antibiotic usage

Antimicrobial use in Georgia: 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 Georgia, a NIS with a population of 4.329.200 (<http://hdrstats.undp.org>).

Methods

Valid 2011 outpatient antimicrobial use data of Georgia 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 Ministry of Health, covering 70% of the population.

Results

Total outpatient antibacterial use was 21.0 DID. The top 5 antibacterial subgroups (ATC level 3) were: penicillins, ATC group J01C (14.2 DID, 67.6% of all antibacterials); quinolones, ATC group J01M (2.2 DID, 10.5%); other beta-lactam antibacterials, ATC group J01D (1.8 DID, 8.8%); macrolides, lincosamides and streptogramins, ATC group J01F (1.7 DID, 8.0%) and tetracyclines, ATC group J01A (0.5 DID, 2.3%). The top 5 antibacterials (ATC level 5) were: amoxicillin and enzyme inhibitor (co-amoxiclav, 9.0 DID, 42.9%); amoxicillin (2.5 DID, 11.9%); ampicillin (1.9 DID, 9.0%); ceftriaxone, a third-generation cephalosporin (1.5 DID, 7.1%); and azithromycin, a long-acting macrolide (1.2 DID, 5.9%). Outpatient parenteral antibacterial use was 3.4 DID (16.1% of total antibacterial use) and included mainly ceftriaxone, ampicillin (0.8 DID, 3.4%), and ampicillin and enzyme inhibitor (0.4 DID, 1.7%). Georgia mainly imported antibiotics manufactured in the United Kingdom (8.2 DID, 39.0% of all antibacterial use; among which 7.8 DID of co-amoxiclav) followed by Slovenia (2.3 DID, 11.0%), France (1.6 DID, 7.7%) and Ukraine (1.6 DID, 7.4%). Total antimycotic and antifungal use was low (0.20 DID) and represented mainly fluconazole (0.10 DID, 52.3%), terbinafine (0.07 DID, 33.4%) and ketoconazole (0.03 DID, 13.6%).

Conclusion

We present for the first time a standardised and validated data set of systemic antimicrobial outpatient use in Georgia. High broad spectrum antibacterial use was observed with remarkable use of co-amoxiclav and injectable ceftriaxone. The lack of regulatory requirement of compliance of registered medicines with requirement of good manufacturing practice for some of the imported countries is a concern because it may lead to reduction of the effectiveness of antimicrobials. These data facilitate auditing of antimicrobial use and evaluation of the implementation of guidelines and public health policies to promote its judicious use.