A proposed checklist to interpret cross-national comparison studies of drug utilization

Authors:

Abstract

Background

Few publications exist reporting the validity of national drug consumption databases (NDCDB). Other aspects may influence the results of patterns of drug use (DU) across countries.

Objectives

To develop a checklist of factors affecting cross-country differences in DU and to test it within the framework of the PROTECT for antiepileptic drugs (AED) in Denmark (DK), Norway (NO) and Catalonia (CAT).

Methods

The following list of items serves to maximize the explanatory power of results in AED use in DK, NO, and CAT: 1) validity studies and data quality checks for each NDCDB; 2) tabulate AED use, preferably applying ATC/DDD methods; 3) quantify inter-country variation by a coefficient of variation; 4) drug data source; 5) population coverage; 6) healthcare setting definition; 7) drug information; 8) population characteristics;
9) prevalence of conditions treated by the drugs: selection of the main indication for use based on the DDD assignment; 10) clinical guidelines; 11) national health policy.

Results

Data was retrieved from the Danish Prescription Register (DanPR; population coverage rate 100%), the Norwegian Prescription Database (NorPD; 100%) and the DATAMART database (CatDB; 70%) for the outpatient sector. NDCDB internal checks, and sensitivity and specificity studies were available for DanPR and NorPD, but not for CatDB. None of them focus on AED. Information on dispensed, prescribed and reimbursed medicines is available for DK, NO and CAT, respectively. None database records indication for use. Variability in DDD/1000 inhabitants/day (DID) was seen mainly at ATC level 5 (e.g. in 2009, consumption of lamotrigine was 0.77 (CAT), 3.07 (NO) and 3.28 DID (DK)); Disparate population characteristics between DK/NO and CAT. Epilepsy prevalence is 3.6/1000 inhabitants in NO and 7.7/1000 in DK, no data for CAT. No differences found in clinical guidelines. Reimbursement and advertising policies were more restrictive in DK and NO.

Conclusions

This structured checklist provides an analytical approach to CNC studies of DU.

Even if information on indication for use was available, these factors may still account for DU differences across countries.
Acknowledgements

The research leading to these results was conducted as part of the PROTECT consortium (Pharmacoepidemiological Research on Outcomes of Therapeutics by a European ConsorTium, www.imi-protect.eu) which is a public-private partnership coordinated by the European Medicines Agency.

The PROTECT project has received support from the Innovative Medicine Initiative Joint Undertaking (www.imi.europa.eu) under Grant Agreement n° 115004, resources of which are composed of financial contribution from the European Union's Seventh Framework Programme (FP7/2007-2013) and EFPIA companies’ in kind contribution.

The views expressed are those of the authors only.