Analysis of the changes in antibiotic use in the community in Belgium between 2004 and 2012: Comparison between DDDs and prescriptions, position of the fluoroquinolones, and impact of public campaigns

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Abstract (abridged)

Background: Belgium, a country with high antibiotic consumption, ran since 2000 yearly public campaigns aiming at reducing antibiotic use in the community. National reimbursement data, however, showed an increase (13.9%) of Defined Daily Doses (DDD) in the 2000-2014 period. Our aim was to cross these data with data concerning the actual number of prescriptions.

Methods: Data sources: Database of one of the major Belgian health social organization Mutualités socialistes (Solidaris), channeling drug reimbursement from the National Social Security to about 40% of the Belgian population.

Results: The number of prescriptions per reimbursed patient remained stable between 2004 and 2014, with a large predominance of beta-lactams (-40%) while fluoroquinolones represented only -5.5% of all DDDs.

Conclusions: Public campaigns undertaken in Belgium are not associated with a decrease in antibiotic use.

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Messages and Conclusion

- Contrary to a previous report covering the 2002-2009 period [4], the present study fails to demonstrate an association between the performance of yearly public antibiotic campaigns in Belgium and the number of antibiotic prescriptions in the community over the 2004-2012 period and in the population analysed.
- Fluoroquinolones, often considered as major players in antibiotic resistance, represent only a modest proportion of all antibiotics prescribed and of Social Security costs in the population analysed.
- Whatever the metric used (DDDs or number prescriptions), Belgium remains a high antibiotic consuming country, especially if compared to the Netherlands, calling for a better design and an improved targeting of the public actions aiming at reducing antibiotic overconsumption in the community.

Acknowledgements / Conflicts of Interest

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References


Methods

We searched the 2004-2012 database of one major Belgian health social organization (Mutualités socialistes [Solidaris]; channeling drug reimbursement to ∼ 40% of the Belgian population), with access to both DDDs and number of prescriptions for antibiotics for systemic use (ATC group J01); separate analysis of beta-lactams (J01C) and fluoroquinolones (J01MA) in the community. Data were cross-checked with the profile of the prescriber (active/inactive; large/small practices) and for patients’ main common comorbidities (diabetes and COPD [drug consumption]). Only aggregated data were used to respect prescriber’s and patient’s anonymity. DDDs data were also compared with national DDDs data (publicly available on http://tinyurl.com/hwu74sf[1] in French) and in ref [3].