

Appropriate antibiotic prescribing among final-year medical students in Europe

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Introduction

Training in appropriate antibiotic prescribing during the undergraduate medical curriculum is important to promote the rational use of antimicrobials. However, final-year medical students report a lack of preparedness to prescribe antibiotics (Dyar et al. 2018). To date, the antibiotic prescribing skills of European medical students remains unknown

Aim

To evaluate the antibiotic prescribing skills of final-year medical students across Europe and the education they received during medical training

Methods

Design

Cross-sectional study among final-year medical students and education coordinators from 17 European medical schools

Participants

Each teacher selected a random sample of ± 50 final-year medical students. Additionally, teachers were asked to complete an online questionnaire

Materials

A. Online skill assessment)

Prescribing skills: 2 infectious diseases cases (acute bronchitis and community acquired pneumonia)

B. Online questionnaire

11 items about the teaching and assessment of antibiotic prescribing

Scoring

The main researcher scored the therapy appropriateness based on the local guidelines and the potential harm (not immediately harmful, potentially harmful, potentially lethal) using information from Micromedex©

Results

856 final-year students participated from 17 European universities (96% response rate, mean number of students per school 50). Main results are shown in table 1 and figure 1

Conclusion

- Final-year medical students in Europe lack prescribing skills for two common infectious diseases, possible because of inadequate antibiotic education

Community acquired pneumonia		
Number of therapies	n	856
Total number of prescriptions	n	807
Therapies according to guidelines	% (range)	13.4 (0-60)
Appropriateness overall	% (range)	31.2 (3-67)
- Inappropriate, per category		
- Incorrect drug choice	% (range)	10.1 (0-23)
- Incorrect dosage	% (range)	15.5 (0-37)
- Incorrect duration	% (range)	8.9 (0-37)
- Incorrect dose interval	% (range)	17.2 (0-42)
- Incorrect administration route	% (range)	5.8 (0-25)
- Incorrect drug prescription	% (range)	21.8 (3-36)
Inappropriate, per severity		
- Not immediately harmful	% (range)	34.5 (8-80)
- Potentially harmful	% (range)	65.2 (20-91)
- Potentially lethal	% (range)	0.4 (0-1)
Acute bronchitis		
Number of therapies	n	827
Number of prescriptions	n	207
Appropriateness overall	% (range)	75.0 (44-100)
Inappropriate, per category		
- Incorrect drug choice	% (range)	25.0 (0-42)
- Incorrect dosage	% (range)	22.7 (0-67)
- Incorrect duration	% (range)	5.3 (0-44)
- Incorrect dose interval	% (range)	11.1 (0-33)
- Incorrect administration route	% (range)	1.9 (0-10)
- Incorrect drug prescription	% (range)	13.0 (0-100)
Inappropriate, per severity		
- Not immediately harmful	% (range)	98.1 (0-100)
- Potentially harmful	% (range)	1.9 (0-10)

Table 1 Antibiotic prescribing skills among 856 final-year medical students from 17 European universities

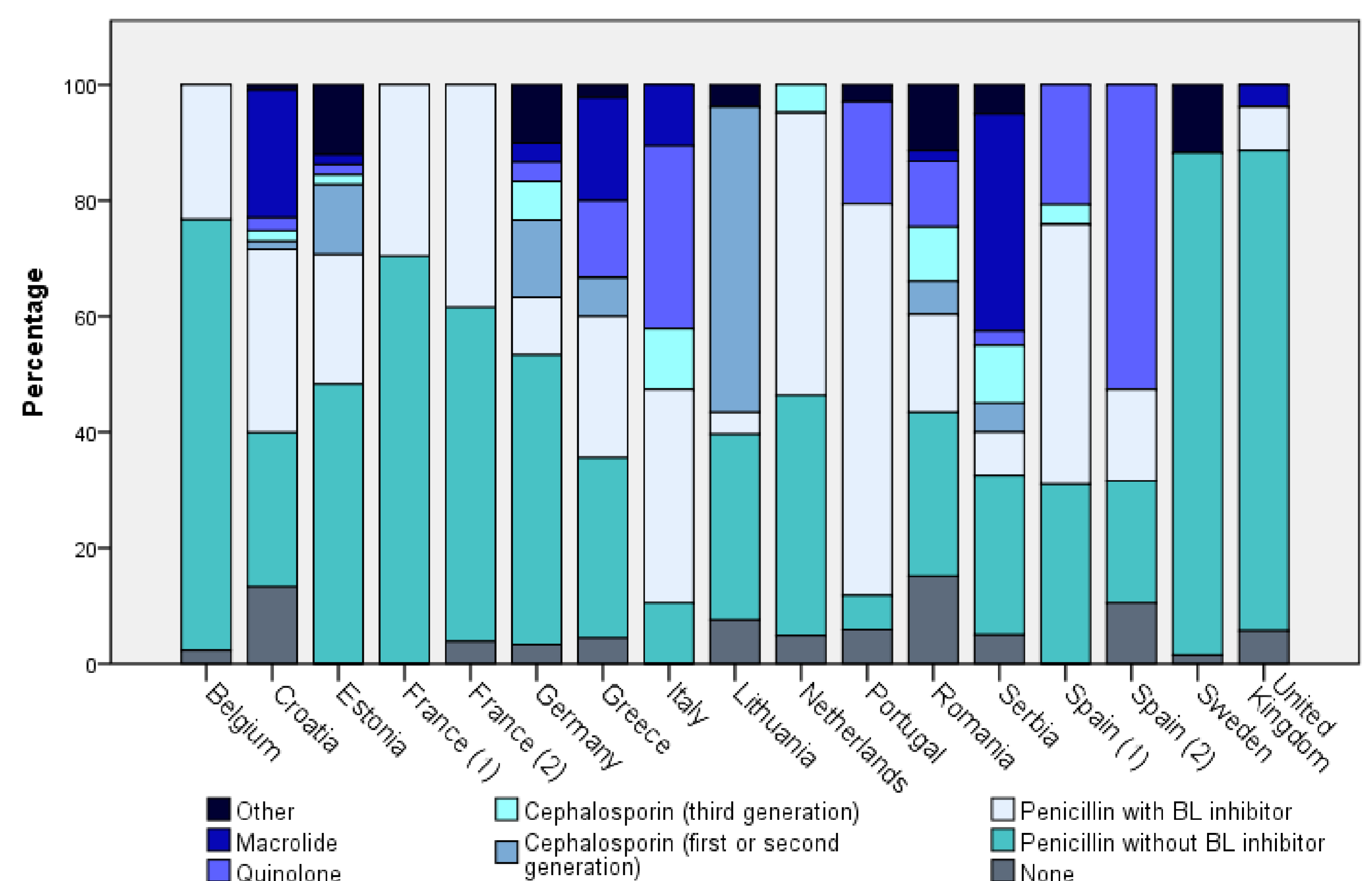


Figure 1 Groups of antibiotic agents prescribed for community acquired pneumonia by final-year medical students in Europe