

4CPS - 117

APPROPRIATENESS OF ANTIBIOTIC PRESCRIPTIONS IN A LONG-TERM CARE FACILITY

Background

Antimicrobials are the most frequently prescribed drugs in LTCF. Antibiotic prescriptions may be unnecessary, even when necessary, the antibiotics prescribed are often excessively broad spectrum or longer duration

Objectives

To evaluate appropriateness of antibiotic prescriptions in a LTCF and analyse possible factors related with inappropriateness

Material and methods

Prospective study: July 2019 – December 2020 (18 months)

Included: antibiotic prescriptions for suspected lower respiratory infection (LRTI), skin and soft-tissue infection (SSTI) or urinary tract infection (UTI)

Excluded: confirmed positive COVID-19 infections without suspected bacterial/fungal co-infection and prophylactic antibiotic prescriptions

Variables

1. Demographic and clinical characteristics
2. Related to infection and antibiotic prescription
3. Microbiology data
4. Setting of prescription initiation

264-bed
LTCF

Appropriateness

Unnecessary
Inappropriate
Suboptimal

Statistical analysis (SPSS 21.0): Student's T or Mann-Whitney U tests
Associations of variables with inappropriate antibiotic prescribing were estimated using logistic regression

Results

489 antibiotic prescriptions → 416 included

194 (46.6%) inadequacy

Age: 83,2 ± 9,6 years, 43,6% women

Type of therapy	Empirical: 83.2 % Targeted: 16.8 %
Type of infection	UTI: 43.3 % LRTI: 34.6 % SSTI: 22.1 %
Treatment duration	5 (IQR: 1 - 7) days > 7 days: 9.4%
Antibiotics prescribed	Fosfomicin-tromethamine: 25 % Cephalosporins: 18.8 % Amoxicillin-clavulanic acid: 15.9 % Fluoroquinolones: 13 %
Sample collecton	29.6 % of cultures Urocultures: 74 % Exudate cultures: 16.3% Esputum culture: 4.1% Positive result: 82.9 % Gram-negative bacilli: 87.3 %
Location antibiotic initiated	LTCF: 84.1 % Emergency department: 12.7 % Hospital o primary care: 3.2 %

Unnecessary	16.9 %
Use of antimicrobials for non-infectious syndromes or non-bacterial infections	1.3 %
Days of therapy beyond the indicated duration of therapy without any clinical reason for a lengthened course	13.4 %
Use of redundant antimicrobial therapy and/or continuation of empiric broadspectrum therapy when cultures have revealed the infecting pathogen	2.2 %
Inappropriate	70.6 %
Use of antimicrobials in the setting of established infection to which the pathogen is resistant	7.4 %
Use of antimicrobials not recommended in treatment guidelines	63.2 %
Suboptimal	12.5 %
Drug choice	3.9 %
Drug route	0.4 %
Drug dose	8.2 %

Multivariable analysis showed that empirical therapy, **some classes of antibiotics** (cephalosporins, fluoroquinolones, fosfomicin calcium, macrolides) and **prescription initiation in the emergency department** were independent predictors of antimicrobial inappropriateness

Conclusions and relevance

Almost half of antimicrobials prescriptions are inappropriate. Antibiotics initiated in the ED constitutes a small but not unimportant percent of all prescriptions. Antimicrobial stewardship programmes should include interventions in this setting because of the high inappropriate use.