

# ADEQUACY OF ANTIBIOTIC PRESCRIPTIONS IN A NURSING HOME

4CPS-040

J01 - Antibacterials for systemic use



Cantudo Cuenca MR<sup>1</sup>, Muñoz Cejudo BM<sup>1</sup>, Dani Ben Abdel-Lah L<sup>1</sup>, Mora Mora MA<sup>1</sup>, Martínez de la Plata JE<sup>2</sup>  
 Servicio de Farmacia. <sup>1</sup>Hospital San Agustín, Linares; <sup>2</sup>Hospital de Poniente, El Ejido

## Background and importance

The pervasive use of antibiotics has been identified as a major public health threat due to the emergence of antibiotic resistant bacteria. Antibiotics are among the most commonly prescribed drugs in nursing homes (NHs) and up to 75% of these are considered inappropriate

## Aim and objectives

To characterize antibiotic therapy in NHs and evaluate his adequacy

## Material and methods

Prospective study in a NHs (264 residents) → Residents with antibiotic prescriptions for suspected infections

July – September 2019

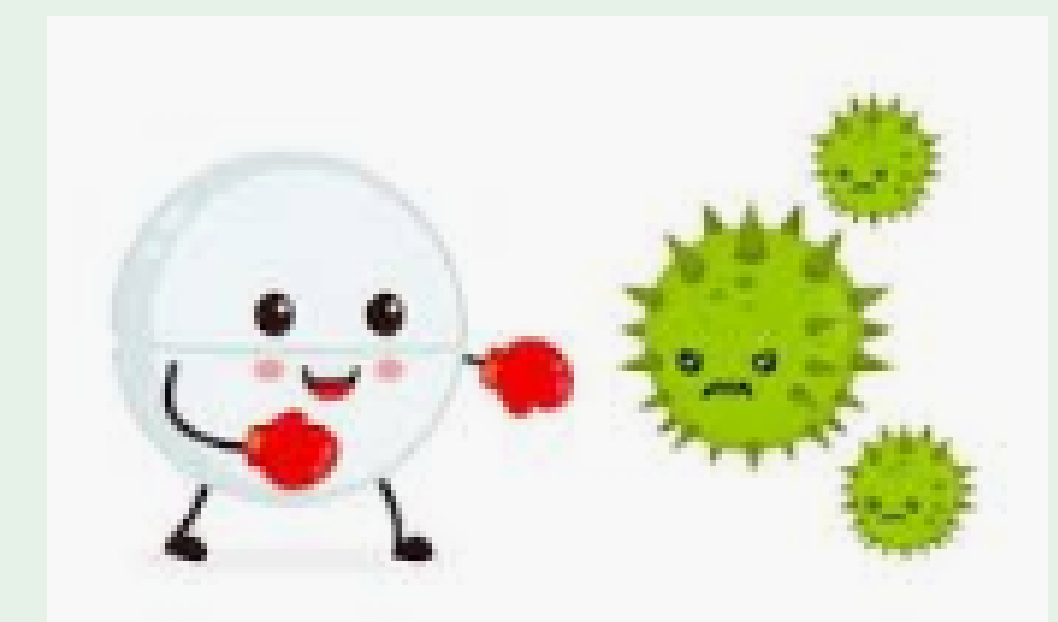
Medical and pharmacy records

Principal variable  
**Inadequate antibiotic therapy**

1. Conditions without antibiotic indication
2. Non-adherence to therapeutic guidelines
3. Incorrect dose, route of administration or duration
4. No microbiology sample collection when it needs
5. Microbiological evidence of infection not covered by the chosen antibiotics or no antibiotic de-escalation

Others variables

- Demographic and clinical characteristics
- Risk factors for infection
- Antibiotic prescribed
- Indication
- Microbiology data



## Results

62 residents

|   |             |
|---|-------------|
| Sex: - Women  | 69.4 %      |
| Age (years) [mean (SD)]                             | 81.7 (10.7) |
| Antibiotic allergy                                  | 6.5 %       |
| Charlson Comorbidity Index age-adjusted [mean (SD)] | 5.8 (1.9)   |
| Residents with risk factors for infection:          | 95.2 %      |
| - Functional dependency                             | 62.9 %      |
| - Previous antibiotic therapy                       | 59.7 %      |
| - Cognitive impairment                              | 53.2 %      |

|  |                                  |          |
|--|----------------------------------|----------|
| Infections:  | - Urinary tract infection        | 48.4 %   |
|  | - Skin and soft tissue infection | 22.6 %   |
|  | - Respiratory tract infection    | 21 %     |
| Sample collection                                    |                                  | 41.9 %   |
| (- Before initiating antibiotics)                    |                                  | (76.9 %) |
| - Uroculture   |                                  | 65.4 %   |
| - Exudate culture                                    |                                  | 11.5 %   |
| - Others   |                                  | 23.1 %   |
| Positive cultures                                    |                                  | 80.8 %   |
| (- Monomicrobial infection)                          |                                  | (71.4 %) |
| - Gram-negative                                      |                                  | 85.7 %   |
| - <i>Staphylococcus aureus</i> methicillin-resistant |                                  | 14.3 %   |

|                                       |                          |           |
|---------------------------------------|--------------------------|-----------|
| Prescribed antibiotics:               | - Amoxicillin/clavulanic | 24.2 %    |
|                                       | - Quinolones             | 19.4 %    |
|                                       | - Fosfomicin-trometamol  | 19.4 %    |
|                                       | - Cephalosporins         | 11.2 %    |
|                                       | - Fosfomicin-calcium     | 9.7 %     |
|                                       | - Cloxacillin            | 9.7 %     |
|                                       | - Others                 | 6.4 %     |
| Treatment duration (days) [mean (SD)] |                          | 5.6 (3.5) |
| Type of treatment:                    | - Empirical              | 75.8 %    |
|                                       | - Targeted               | 21 %      |
|                                       | - Prophylactic           | 3.2 %     |
| Combination therapy                   |                          | 1.6 %     |
| Intravenous route                     |                          | 4.8 %     |

### Inadequate antibiotic therapy (51.6 %)

|  |        |
|--|--------|
| Conditions without antibiotic indication   | 9.3 %  |
| Non-adherence to therapeutic guidelines  | 56.3 % |
| Incorrect dose, route of administration or duration  | 12.5 % |
| No microbiology sample collection when it needs  | 3.2 %  |
| Microbiological evidence of infection not covered by the chosen antibiotics or no antibiotic de-escalation | 18.7 % |

## Conclusion and relevance

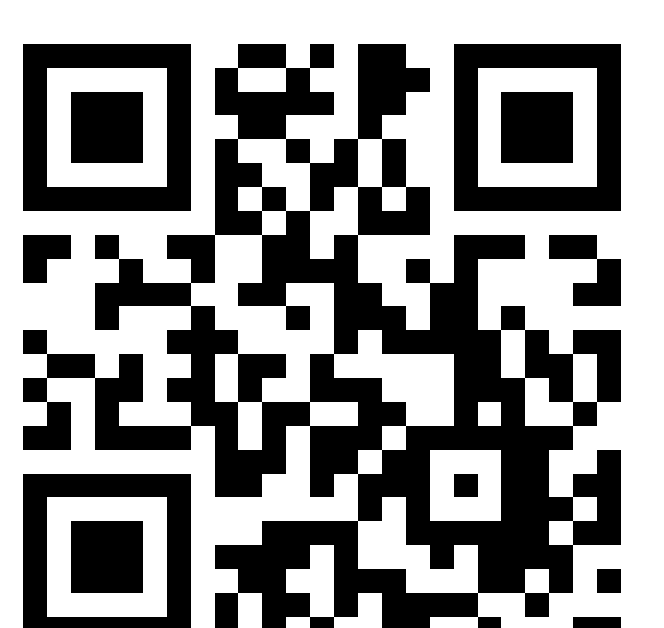
Broad spectrum antibiotics are often prescribed. There is a high number of inadequate antibiotic prescriptions. Pharmacy teams are well placed to support prudent selection of antibiotic therapy in NHs



@RosaCantudo



rosa\_cantudo@hotmail.com



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