

#### 4CPS-073 FOLLOW-UP OF RECOMMENDATIONS ON DOSE ADJUSTMENT OF CEFTOLOZANE/TAZOBACTAM IN RENAL FAILURE

<sup>1</sup>M Rodríguez-Reyes\*, <sup>1</sup>E López-Suñé, <sup>1</sup>E Calvo-Cidoncha, <sup>1</sup>M Tuset-Creus, <sup>1</sup>C Codina-Jané, <sup>2</sup>A Soriano-Viladomiu. <sup>1</sup>Hospital Clínic, Pharmacy Department, Barcelona, Spain; <sup>2</sup>Hospital Clínic, Infectious Diseases Department, Barcelona, Spain

10.1136/ejhp-harm-2019-eahpconf.222

**Background** Ceftolozane/tazobactam is a novel antibiotic commonly used in infections by gram-negative bacteria resistant to conventional antibiotics. Drug-dosing errors are common in patients with renal impairment and can cause adverse effects or poor outcomes.

**Purpose** To determine the adequacy of ceftolozane/tazobactam dose adjustment according to renal function in hospitalised patients.

**Material and methods** Retrospective observational study in a third-level hospital involving patients treated with ceftolozane/tazobactam from January to August 2018. Variables collected: sex, age, creatinine clearance (CrCl), medical/critical care unit, type of infection, microorganisms isolated, type of therapy (empiric or targeted), posology, treatment duration, effectiveness of treatment (microbiological and/or clinical cure) and dosage adequacy. Underdosing was defined as any dose lower than the Summary of Product Characteristics recommended dose (based on CrCl) and overdosing was the opposite. For pneumonia (off-label), a double dose was considered according to the Stanford Health Care Antimicrobial Dosing Reference Guide.

**Results** Forty-six patients were included: 65.2% were male, mean age was 65.4±16.2 years and mean CrCl was 61.8±30.6 mL/min. At the beginning of treatment, 41.3% had CrCl <60 mL/min. Sixteen patients (34.8%) were admitted to the intensive care unit. Main infection sites were: respiratory (43.5%), urinary (30.4%) and intra-abdominal (15.2%). Therapy was basically targeted (73.9%) and the most common isolated pathogen was multidrug-resistant *Pseudomonas aeruginosa* (90.9%). Average treatment duration was 8.4 days.

Evaluation at first day of therapy showed that 29 patients (63.0%) received an inappropriate dosage, 18 (39.1%) were underdosed and 11 (23.9%) were overdosed. During treatment, 16 patients experienced a change in CrCl but dose was not adjusted accordingly in the majority of cases (n=10, 62.5%).

Patients with empiric treatment had a favourable evolution. Among patients with targeted therapy and respiratory, urinary or intra-abdominal infection (n=30) treatment was effective in

23 (76.7%). Ceftolozane/tazobactam was de-escalated in two (6.7%), changed by another antibiotic because of inefficacy in two (6.7%) and discontinued because of poor prognosis in three (10.0%).

**Conclusion** A considerable proportion of patients treated with ceftolozane/tazobactam were inappropriately dosed. Furthermore, dosage was not adapted to the changes in renal function throughout the treatment. These data highlight the importance of an adequate review of medication.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

#### 4CPS-074 ROLE OF THE PHARMACIST IN THE EVALUATION OF THE PRESCRIPTIVE APPROPRIATENESS IN ANTIBIOTIC THERAPY AS A 'SINGLE DOSE'

<sup>1</sup>P Sorice\*, <sup>1</sup>L Armillei, <sup>1</sup>G Di Florio, <sup>1</sup>F Gasbarri, <sup>2</sup>S Rossetti, <sup>1</sup>S Corridoni, <sup>1</sup>A Costantini. <sup>1</sup>Hospital Santo Spirito Pescara, Hospital Pharmacy, Pescara, Italy; <sup>2</sup>Hospital Santo Spirito Pescara, Hospital Pharmacy – Trainee, Pescara, Italy

10.1136/ejhp-harm-2019-eahpconf.223

**Background** The importance of prescriptive appropriateness in antibiotic treatment derives from the need to combine the effectiveness of care with available resources, making them accessible to all.

An inappropriate prescription may cause errors that can have important consequences in both patient's health and healthcare costs. With the prescription of antibiotics, it is also important to reduce the phenomenon of resistance.

Currently, the strategies adopted to reduce errors in therapy are:

- Computerised systems for prescribing and administering therapy.
- Preparation and distribution of unit dose drugs.
- Control and validation of therapy by the clinical pharmacist.

Our hospital has been managing the unit dose system since 2005. Currently, there are 18 units under unique dose with a total of 400 beds.

**Purpose** The aim of this study was to evaluate the pharmacist's contribution to risk management to increase the appropriateness of antibiotic prescriptions and reduce costs.

All the therapies that have been modified following a pharmacist's report and, therefore, the degree of acceptance of notifications by the medical staff were examined.

**Material and methods** The analysis was carried out by extrapolating, from the prescription software, the medical prescriptions of the antibiotics during June to December 2016 and June to December 2017. We found the following discrepancies:

- Posology (dosage, administration frequency, route of administration, duration of therapy).
- Therapeutic indication.
- Pharmacological interactions.
- Instructions on how to dilute.
- Intolerances/allergies.

**Results** From June to December 2016, 279 inappropriate therapies were reported by the pharmacist. Of these, 19% (53) were modified by the doctor.

In the period June to December 2017, 430 reports were introduced, of which 26.51% (114) were modified by the doctor.

The result of the analysis confirms an increase in appropriateness of 7.51%.

In the two periods compared, there was an increase in reports that also produced an economic saving of € 33,619.12.

**Conclusion** The analysis shows that the role of the pharmacist is fundamental, both to ensure the effectiveness and efficiency of the therapies and to limit the costs of pharmaceuticals and health in general.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

[https://www.researchgate.net/publication/273647155\\_DD-007\\_Is\\_the\\_Unit\\_Dose\\_Process\\_a\\_tool\\_for\\_patient\\_safety\\_and\\_for\\_implementing\\_27Lean\\_Thinking\\_27\\_in\\_the\\_drug\\_supply\\_chain](https://www.researchgate.net/publication/273647155_DD-007_Is_the_Unit_Dose_Process_a_tool_for_patient_safety_and_for_implementing_27Lean_Thinking_27_in_the_drug_supply_chain)

No conflict of interest.

#### 4CPS-075 CREATION OF AN INNOVATIVE AND ATTRACTIVE TRAINING PROGRAMME FOR PRESCRIBERS TO PROMOTE THE CORRECT USE OF FLUOROQUINOLONES

<sup>1</sup>F Theron\*, <sup>1</sup>S Carret, <sup>2</sup>S Ley, <sup>3</sup>JY Chastenet, <sup>1</sup>S Ousseini, <sup>1</sup>J Niel. <sup>1</sup>Centre Hospitalier D'Ussel, Pharmacie, Ussel, France; <sup>2</sup>Centre Hospitalier D'Ussel, Service Maladies Infectieuses, Ussel, France; <sup>3</sup>Centre Hospitalier D'Ussel, Qualite et Gestion Des Risques, Ussel, France

10.1136/ejhpharm-2019-eahpconf.224

**Background** Confronted with the increase in consumption of fluoroquinolones in our hospital during the past 2 years, an evaluation of professional practices of the prescription of fluoroquinolones was done.

**Purpose** Development of an innovative and attractive training programme for prescribers to promote the correct use of fluoroquinolones.

**Material and methods** The training was organised in two parts: a 1 h30 group session and an e-learning over 3 months, available on the intranet of the hospital (one survey per month). The programme was accredited as a Continuing Professional Development programme by the organisation concerned. Prior to this training, a first audit was carried out in 2014 (47 prescriptions) and another was conducted in 2017 (48 prescriptions). Five criteria were analysed: the indication of the prescription, the choice of the fluoroquinolone molecule, the dosage, duration of treatment and the use of intravenous drug.

**Results** Sixty-five per cent of the doctors attended the group session and seven physicians participated in all e-learning. All of participants found this training useful. An increase in the percentage of global conformity of prescriptions was observed in 2017 (18%) compared with 2014 (15%) indicated an improvement in practices. In addition, the audit in 2017 (77 days) was longer than 2014 (43 days) for the same number of prescriptions, showing a decrease of 43% in the use of fluoroquinolones.

**Conclusion** This initiative, conducted by a chemist, a physician specialised in infectious diseases and a quality expert, has led to the development of training for prescribers, combining traditional and digital tools. It responds to one of the strategic objectives of the global plan of action developed by the World Health Organisation which is 'to optimise the use of antimicrobial agents in human health'. Valorisation in a 'Continuing Professional Development Programme' is a real argument

which attracts more participants and allows sustainability of this project.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

Rughoo L, Lacombe K, *et al.* showed an improvement in fluoroquinolones prescriptions after intervention. <https://www.ncbi.nlm.nih.gov/pubmed/?term=Relevance+of+Fluoroquinolone+Use+in+a+French+Teaching+Hospital> <https://www.ncbi.nlm.nih.gov/pubmed/?term=Optimizing+Fluoroquinolone+Utilization+in+a+Public+Hospital+%3A+A+Prospective+Study+of+Educational+Intervention>

Furthermore, the warning issued by the European Medicines Agency of potentially permanent side effects of quinolone and fluoroquinolone antibiotics may continue to influence the restriction in prescriptions. For us, it is an argument to pursue this training programme.

<https://www.ema.europa.eu/en/medicines/human/referrals/quinolone-fluoroquinolone-containing-medicinal-products#key-facts-section>

No conflict of interest.

#### 4CPS-076 ENCOURAGING THE RESPONSIBLE USE OF ANTIBIOTICS: AWARENESS AND UNDERSTANDING AMONG A UNIVERSITY STUDENT POPULATION OF A COMMUNITY PHARMACY PUBLIC HEALTH CAMPAIGN IN SCOTLAND

<sup>1</sup>A Tonna\*, <sup>1</sup>A Weidmann, <sup>1</sup>I Donat, <sup>2</sup>J Sneddon, <sup>3</sup>A Cockburn, <sup>1</sup>D Stewart. <sup>1</sup>Robert Gordon University, School of Pharmacy and Life Sciences, Aberdeen, UK; <sup>2</sup>NHS Healthcare Improvement Scotland, Scottish Antimicrobial Prescribing Group, Glasgow, UK; <sup>3</sup>NHS Lothian Antimicrobial Management Team, Regional Infectious Diseases Unit-Western General Hospital, Edinburgh, UK

10.1136/ejhpharm-2019-eahpconf.225

**Background** Antimicrobial resistance (AMR) is a significant threat to patient safety globally. European Antibiotic Awareness Day (EAAD) is an annual public health initiative, to raise awareness on how to use antibiotics in a responsible way and NHS Scotland has annually supported EAAD with various resources targeting the public.

**Purpose** To explore the awareness and understanding of this national campaign among a university student population.

**Material and methods** A questionnaire was developed comprising: demographics; exposure to media campaign; awareness, knowledge and understanding of campaign; and student recommendations on how the campaign may be enhanced. Question types were a combination of closed, 5-point Likert scales and open response items. Following a review for face and content validity, piloting and ethics approvals, the final version was distributed electronically to all students on all courses registered in a Scottish university. SPSS version 21 facilitated analysis. 15 228 email contacts were sent.

**Results** One-thousand three-hundred and fifty-eight responses were received (9% response). One-thousand one-hundred and forty-three (84%) were resident in Scotland. Seventy-three per cent were undergraduates, 63% female. Responses were received from all nine university schools, 52 (4.5%), predominantly healthcare students, had heard of EAAD, 31 (2.7%) were familiar with posters advertising the safe use of antibiotics and awareness was mainly through posters in pharmacies. The majority who thought that antibiotics should always be prescribed when having a cold were studying a non-healthcare-related course (5.4%, n=72). Eight-hundred and eighty-