these recommendations will help to avoid antibiotic-resistance and side effects in patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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No conflict of interest.

4CPS-069

IMPACT OF IMPLEMENTING A GLOBAL COLLABORATIVE PHYSICIAN-PHARMACIST STRATEGY ON PROPHYLACTIC ANTIBIOTIC PRACTICES IN A UNIVERSITY HOSPITAL CENTRE

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Background Among different approaches to prevent surgical site infections, antibiotic prophylaxis is substantially important. According to previous published papers, surgical antibiotic prophylaxis (SAP) practices could be optimised by the implementation of isolated strategies.

Purpose

- To identify risk factors associated with non-compliance towards prophylactic antibiotic guidelines.
- To test the impact of a combined intervention strategy on compliance towards prophylactic antibiotic guidelines.

Material and methods A quasi-experimental study with a pre-test–post-test evaluation was carried out on five types of intervention: hip prosthesis, coronary artery bypass grafting, colorectal surgery, transurethral resection of the prostate and endoscopic retrograde cholangiopancreatography. Compliance with guidelines was evaluated in 11 criteria within the pre-test and intervention groups.

- In order to identify risk factors associated with non-compliance, a retrospective observational transversal study was carried out in the pre-test group using a multivariate statistical analysis (Wald test). Odds ratios for the relationships between each independent variable and the outcome variable were then determined.
- We tested a combined intervention strategy that included: the pre-operative delivery of nominative kits containing the antibiotics with a recommendation paper adapted to patient factors; a pharmacist participating in antibiotic stewardship team for compilation of guidelines and their distribution for implementation; audits; feedback; educational seminar and outreach visits; and the development of an internal computer-based decision tool. For comparison between the two groups (pre-test and intervention groups), data were analysed using χ^2 and t tests for, respectively, categorical and continuous data.

Results The pre-test group (11 January 2016 – 22 April 2016) and the intervention group (9 January 2017 – 21 April 2017) included, respectively, 130 and 118 interventions.

- The multivariate statistical analysis showed, as in previous studies, that true penicillin allergy, certain types of surgery and some practitioners were associated with non-compliance within the pre-test group.

- Compared with the pre-test group, the compliance was significantly increased in the test group for all 11 criteria ($P<0.05$) and in terms of global compliance (42.4% vs 16.9%; $P<0.001$). This positive impact revealed a culture change, an interest and an awareness observed within the practitioner's teams.

Conclusion This study shows that optimisation of SAP practices is achievable within a proactive multidisciplinary approach.

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4CPS-070

DOES ANTIBIOTIC CONSUMPTION PREDICT THE INCIDENCE DENSITY OF HEALTHCARE-ASSOCIATED INFECTIONS?

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Background The decrease in healthcare associated infections (HAI) in intensive care units (ICUs), related to surgical-site infections (SSIs) and *Clostridium difficile* infections (CDIs), as well as antibiotic consumption, are the main goals in the hospital setting.

Purpose The aim of this study was to evaluate the antibiotic consumption, and to relate it with HAI incidence density (ID) and incidence rate (IR).

Material and methods The study was conducted from 2011 to 2016 in a tertiary hospital. Through regular hospital surveillance, we identified all patients with a new HAI. Data on the use of antibacterials for systemic use were expressed as defined daily dose per 100 bed days (DDD/100 BD).

Results The highest ID of HAIs was observed in patients in surgical ICUs (25.5–47.2/1000 patient days), while the IR of SSI was 3.7%. Moreover, the highest ID of CDI in medical patients was 6.2, while in surgical patients it was 4.3 per 10 000 patient days, while, at the same time, the antibiotic consumption was the lowest (31.2 DDD/100 BD). The most frequently used antibiotics, on average, were cephalosporins, aminoglycosides and carbapenems (16.0 ± 2.3 , 4.8 ± 0.7 , 4.3 ± 0.7 DDD/100 BD, respectively). The decrease in use of glycopeptides and fluoroquinolones was predictive of higher ID of medical CDIs ($p<0.05$).

Conclusion The most frequently used antibiotics were not associated with HAIs. However, the decrease in use of glycopeptides and fluoroquinolones was associated with higher ID of CDIs. Simply decreasing the consumption of antibiotics with high risk for HAIs may not be sufficient.

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- No conflict of interest.

4CPS-071

SHORTAGE OF DRUGS ERA: IMPACT OF PIPERACILIN/TAZOBACTAM SHORTAGE

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Background In Spain, in the past 6 months there has been a mean of 0.9 shortages per day. A piperacilin/tazobactam shortage was announced in April 2018 by the Spanish Agency of Medicine and Health Products (AEMPS). In May 2018 the AEMPS offered it as a foreign drug to Spanish hospitals but it ran out quickly. After that no alternative was available until July 2018, when the AEMPS offered it again as foreign drug. However, its defined daily dose (DDD) cost twice more than the national product alternative. At the end of June, the hospital ran out of stock until the end of September when the national product was restored.

On the other hand, since April 2014, an Antimicrobial Stewardship Programme (ASP) has been implemented in hospitalisation units (HU). One of this programme's purposes is to work on the rational use of carbapenems. In this hospital carbapenems DDDs/100 bed days of HU were, in 2016 and 2017, 6.89 and 6.93, respectively.

Purpose The aim of this study is to analyse carbapenems exposure during piperacilin/tazobactam shortage in a tertiary care hospital.

Material and methods Carbapenems exposure was measured by DDDs/100 bed days 3 months before (April, May and June) and 3 months during the shortage (July, August and September), and furthermore expense variation was calculated. Carbapenems consumption, at HU and intensive care unit (ICU), was calculated.

Results

Abstract 4CPS-071 Table 1

Carbapenems	DDD (g)	Cost DDD (€.)	DDDs/100 bed days HU before shortage	DDDs/100 bed days HU during shortage	DDDs/100 bed days ICU before shortage	DDDs/100 bed days ICU during shortage
Meropenem	2	12.5	2.96	7.48	7.72	16.87
Imipenem	2	12	1.77	2.18	0.75	1.69
Ertapenem	1	36	1.45	2.25	0	2.03
Total			6.18	11.9	8.47	20.59

During the shortage, carbapenems DDDs/100 bed days increased by 92% for HU and by 143% for ICU. This carbapenems DDDs/100 bed days rise cost an additional € 5300.

Conclusion These data show the huge impact of the piperacilin/tazobactam shortage in public health and economic resources.

The management of shortages should be a public health priority for European health authorities.

Also, this situation makes it difficult to get Antimicrobial Stewardship Programme purposes. Ecological impact must be evaluated after this excessive use of carbapenems.

REFERENCES AND/OR ACKNOWLEDGEMENTS

https://www.whooc.no/atc_ddd_index/

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ABSTRACT WITHDRAWN