

poor in relation to steady state and peak/trough concentrations (Clozapine (n=196) 41% samples were not troughs, and LMWH (n=193) 57% samples were not at peak levels).

A literature review has shown that there is small and sporadic research within this area. The research has shown some benefits of a pharmacist-led TDM service. Unfortunately, the studies within the literature are often limited by a small sample size and factors such as a specific population (i.e. oncology patients) or specific pharmacists (i.e. the infectious diseases pharmacist).

Purpose To review the TDM process within an outer metropolitan hospital.

Material and methods A retrospective audit was conducted on TDM undertaken between 1 January and 31 December 2016. Patients were identified using the electronic pathology database. Patients were excluded if under the age of 18, in an outpatient setting or the emergency department. Progress notes, medication charts and other relevant pathology were reviewed via the electronic pathology program and via the Electronic Clinical Record Management System. They were assessed for appropriateness of the timing of collection, compliance to recommended TDM guidelines, the appropriateness of action of the resulting pathology and the documented involvement of the pharmacist.

Results A total of 3095 tests were included in the study, covering 11 medications. Of these, 32.6% were collected at an inappropriate time, making interpretation difficult and at a pathology cost of \$23,084.86. On average, 50% of the doses administered to patients after TDM were appropriate based on results and the clinical scenario. There was documented pharmacist advice on the TDM result in only 8.6% of the time.

Conclusion TDM has a large impact on the therapy and outcome of patients. This audit showed that TDM is currently performed sub-optimally and with an unknown or ad hoc role of the pharmacist. These preliminary results show a review of the current TDM process is required and, with their drug and pharmacokinetic knowledge, a greater impact and role of the pharmacist is required.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Nil.

No conflict of interest.

4CPS-221 IMPACT OF HOSPITAL-CITY COMMUNICATION BASED ON THE MULTIPROFESSIONAL AND COLLABORATIVE DEVELOPMENT OF THE DISCHARGE LETTER ON THE CONTINUITY OF PATIENTS' MEDICATION MANAGEMENT-CITY STUDY

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Background Hospitalisation leads to changes in the patient's medication management. Currently, hospital-city communication, based mainly on the hospitalisation report, does not allow an efficient transmission of information to ensure early and optimal post-hospital care of patients. A discharge letter was imposed at the regulatory level to improve the continuity of patients' medication management after discharge from hospital. However, explanations for drug changes remain limited.

Purpose The objective of this study was to evaluate the impact of the collaborative multiprofessional implementation, integrating the clinical pharmacist, of the discharge letter explaining all drug regimen changes, and its transmission to the general practitioner by secure messaging, would improve continuity of care medication of the patient.

Material and methods A prospective randomised controlled cluster study was performed in two care units of the internal medicine department of a university hospital centre between September 2017 and February 2018. The impact of the discharge letter was evaluated based on the average number of drug changes performed in hospital and continued by general practitioners, in each group, 3 months after discharge. A sensitivity analysis was conducted on the justification of the non-continuation of drug changes by the general practitioners, based on international STOPP and START criteria. The number of re-hospitalisations was compared between the two groups and the satisfaction of general practitioners concerning this approach was evaluated by questionnaire.

Results A total of 189 patients were included in the analyses: 92 in the interventional group and 97 in the control group. The mean number of discontinued drug changes after discharge did not differ significantly between the two groups (1.5 ± 1.5 vs. 1.7 ± 1.6 , $p=0.35$). Sensitivity analysis showed similar results. A downward trend in rehospitalisations 3 months after hospitalisation was highlighted in the interventional group (22% vs. 31%, $p=0.15$). General practitioners were satisfied by this approach (91%, $n=111$).

Conclusion Transmission to the general practitioner of the discharge letter, explanation of all drug regimen changes and elaborated collaboratively and multiprofessionally, seems to be a promising tool. A large multicentre prospective study should be conducted to confirm these findings.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

4CPS-222 IMPACT OF THE ESTABLISHMENT OF ASSISTED ELECTRONIC PRESCRIPTION ON THE IMPROVEMENT OF THE UNIT-DOSE DRUG DISPENSATION SYSTEM

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Background The aim of the unit-dose drug dispensation system (UDDDS) allows us to dispense the medication required for the patient for the following 24 hours once the prescribed treatment has been validated by the pharmacist.

Purpose Evaluation of the impact on the effectiveness of UDDDS after the change from the preprinted prescription chart (PPC) to the assisted electronic prescription (AEP).

Material and methods This study was performed in a general hospital (330 beds), in which 10 units of hospitalisation were counted on UDDDS. The schedule of the delivery of the medication carts was established at 3 pm, after the daily doctor's visit. We have compared the functioning of UDDDS during the third term of 2017 and 2018, analysing in this way the dispensation with PCC and AEP respectively. We have measured as efficacy parameters the number of validated prescriptions before 3 pm and the percentage of the returns of

unused doses of medication. The data was collected by the Discover program and was analysed with GraphPad Prism.

Results The media of patients in UDDDS per month was 251.1 ± 19.09 and 245 ± 20.90 , with a total of 14 870 and 17 779 validated prescriptions in 2017 and 2018 respectively. The percentage of validated prescriptions before 3 pm was 71.79% in 2017 (PCC) in comparison with 86.95% in 2018 (AEP), supposing an increase of about 15.18%. The percentage of the returns of unused medication doses was 20.26 ± 0.83 in 2017 versus 20.21 ± 0.48 in 2018, not showing significant differences between the years of comparison.

Conclusion Our results show a significant increase in the percentage of validation in the optimal schedule after the implementation of AEP despite the small increase in activity. Assuming that the remaining 12%–13% of the prescriptions correspond to changes in the treatment and hospital admissions during the afternoon and night, we consider we satisfied the purpose of the study. The parameter of the returns of unused medication doses, however, show the need for continuing the evaluation of the procedures in order to obtain a greater effectiveness.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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4CPS-223 ANTICOAGULANT THERAPY IN CHRONIC COMPLEX PATIENTS WITH ATRIAL FIBRILLATION

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Background Non-valvular atrial fibrillation (NVAf) is the most common cardiac arrhythmia in clinical practice. In Spain, the stipulated recommendations to select anticoagulants are: use of direct oral anticoagulants (DOAC) in the case of poor INR control, intolerance to vitamin-K antagonists or adverse events, impediment to INR controls or patients with a stroke disease.

Purpose Our aim was to analyse the treatment in chronic complex patients (PCC) with NVAf admitted to the internal medicine service (MI) and other items related to NVAf in these patients.

Material and methods Transversal study of PCC diagnosed with NVAf admitted to the MI, with two or more chronic diseases according to the Charlson index. The study period was 7 months during the rotation of two hospital pharmacists in the MI. Epidemiological, clinical and pharmacological data were analysed. Data was treated in a codified way to respect confidentiality.

Results Seventy-three PCC were evaluated. The median age was 83 years (66–95), 38 females (52.1%). Thirty-two patients (43.8%) had paroxysmal AF, 28 patients (38.3%) >1 year persistent AF, 12 patients (16.4%) >7 days persistent AF and one patient (1.3%) with origin uncertain AF. The most frequently associated risk factors were: hypertension (90.4%), dyslipidaemia (65.7%), diabetes mellitus (61.6%) and heart failure (60.2%).

Sixty-one patients (83.6%) were treated with oral anticoagulants; of whom 19 were also anti-aggregated. Of the 61 anticoagulated patients, 23 (37.7%) were treated with DOAC (10 apixaban, seven dabigatran, five rivaroxaban, one

edoxaban). The remaining 38 (62.3%) were treated with anti-vitamin K. On admission, 12 (31.6%) patients with anti-vitamin K treatments were in the therapeutic range, with a median INR of 2.4 (2.05–3), compared to 13 (34.2%) patients who were under-dosed and 13 (34.2%) supradosed with a median INR of 1.56 (1–1.9) and 3.4 (3.2–12) respectively. One-hundred per cent of the patients had a CHA₂DS₂-VASc >2 points. The reason for the non-anticoagulation of the 12 patients without treatment was the previous haemorrhages, with HAS-BLEED >3 points.

The main differences between the anticoagulated patients and those without, was the percentage of diabetes mellitus (70.5% vs 41.7%) and heart failure (65.6% vs 33.3%).

Conclusion Our data shows that most of the PCC diagnosed with NVAf were treated with anticoagulants. All patients had CHA₂DS₂-VASc score required for anticoagulant treatment. 37.7% of the patients were being treated with DOAC. Comorbidities observed are in line with other studies conducted in NVAf. The main causes of non-anticoagulation were previous haemorrhages.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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4CPS-224 EVALUATION OF SYSTEMIC ANTIBIOTICS AND ANTIFUNGAL USE IN AN INTENSIVE PAEDIATRIC CARE UNIT: A FIVE-YEAR STUDY IN A FRENCH UNIVERSITY HOSPITAL

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Background The overuse of antimicrobials and empirical prescriptions are associated with the higher prevalence of antibiotics' resistance, leading to the longer duration of illness and increased healthcare costs. To preserve their efficacy and prevent the risks of resistance emergence, surveillance of antibiotic consumption is essential. There are limited data published about antibiotics and antifungal consumption in terms of defined daily doses (DDD) in paediatrics.

Purpose To describe and analyse antibiotic and antifungal drug consumption, DDD/1000 bed-days in a paediatric intensive care unit (ICU) over a 5 year period.

Material and methods A retrospective and descriptive study was performed in a university paediatric hospital of 400 beds with 32 ICU beds. According to the French 'ATB-Raisin' national network methodology, systemic antibiotics and antifungal dispensation from 2013 to 2018 to the ICU were measured and analysed by a multidisciplinary approach. DDD/1000 bed-days and/or ratios were calculated for each antibiotic and antifungal, and overall.

Results A 0.9-fold decrease (–9%) in the overall number of antibiotics DDD/1000 bed-days from 2792 in 2013 to 2533 in 2018 was measured. The most important decreases were observed for three classes of antibiotics: penicillin M (ratio=0.05), imipenem (ratio=0.17) and imidazole (ratio=0.28). The most important antibiotics' consumption increases were observed for classes: first- and second-generation cephalosporins (ratio=2.26), levofloxacin (ratio=2.09) and amoxicillin-clavulanic (ratio=1.64). A 0.8-fold (–19%) decrease in the overall number of antifungals DDD/1000 bed-