

quetiapine (37.3%), oral olanzapine (20.2%), oral aripiprazole (15.7%) and oral risperidone (11.4%). Regarding the total prescriptions, the percentage of use of LAI was 6.66% (3.43% and 6.98% among FGA and SGA, respectively). The 95.31% total LAI prescriptions were SGA. The use of LAI at hospital was found to be lower than in other European countries (15% according to Arango C. et al 2019). However, the proportion of second generation LAI was higher than the European average (34%). The mean cost per patient was higher for SGA than for FGA (353.5€ vs 27.0€). Likewise, in comparison to conventional injectable antipsychotics, costs per patient were higher for LAI: 155.1€ vs 15.8€ for FGA and 2887.5€ vs 72€ for SGA, respectively.

**Conclusion and Relevance** In comparison with other European countries, a predominance of the use of second generation LAI has been detected. However, the use of LAI is lower. Cost-effectiveness studies regarding the use of SGA versus FGA and conventional versus LAI antipsychotics are needed in order to optimise the benefits to the patient and minimise the economic burden for the health system.

## REFERENCES

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### 4CPS-199 PHARMACO-ECONOMIC IMPACT OF DRUG INTOXICATIONS IN CHILDREN

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**Background and Importance** Drug Intoxications in children, by its social-economic implications, represent a major problem of Public Health. They constitute the main cause of emergency admissions and also one of the principal causes of death in children and adolescents.

**Aim and Objectives** The aim of this study is to evaluate the pharmaco-economic impact of drug intoxications registered in the paediatric emergency department.

**Material and Methods** This is a study spread over a period of 12 months from January 1, to December 31, 2021, in the paediatric emergency department. It is based on the analysis of costs to manage all drug intoxications recorded in children for one day of hospitalisation which include the cost of: drugs and antidotes administered, laboratory and radiological analysis, hospitalisation fees.

The reference of the identify costs is given by the billing department of our hospital.

**Results** During this period 69 cases of drug intoxications were admitted. According to ATCCS classification, the class N (Nervous System) was the most common class involved in drug intoxications (50%) followed by Musculo-Skeletal System (15%) then Genito-Urinary System and Sex Hormones (11%), Respiratory System (8%) and 16% for other classes. To manage these drug intoxications, a symptomatic treatment and antidotes administration is registered in 32.5% of cases (500 €), in 35.5% of cases laboratory and radiology analysis were done (1400 €). The distribution of the costs for one

day of hospitalisation related to each intervention and for all recorded drug intoxications is summarised in the table below:

	Drugs and antidotes administered per day	Laboratory analysis	Radiological examinations	Hospitalisation fees per day	Total costs per day
Costs	500 €	800 €	600 €	1100 €	3000 €

On average, intoxicated children stay in the hospital for at least 48 hours under medical supervision, the total cost of treatment for drug intoxication becomes 6000 € and it can increase depending on the severity of intoxication.

**Conclusion and Relevance** In our study we have included only the drug intoxications and we have found that their management represents a considerable pharmaco-economic impact also the research has allowed us to conclude that half of the drugs used by children belong to the class of the nervous system which constitutes a significant danger.

## REFERENCES AND/OR ACKNOWLEDGEMENTS

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### 4CPS-200 SUSTAINING A PHARMACEUTICAL DECISION SUPPORT SYSTEM BY DETERMINING THE CLINICAL RISK'S LEVEL OF DETECTED DRUG-RELATED PROBLEMS

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**Background and Importance** Pharmaceutical decision support system (PDSS) is a positive triangulation between patients' data, modelled situations standing for drug-related problems and a reasoning software sending alerts. So the pharmaceutical interventions better prevent adverse drug events and better reduce healthcare costs. But to be optimal the PDSS has also to link the modelled situations to a clinical well-defined risk. As consequences each pharmaceutical intervention's impact will be documented and the PDSS's interest in patients' safety sustained.

**Aim and Objectives** To present the results of an e-Delphi study during which health professional experts evaluate the clinical risk's level of 52 modelled situations standing for drug-related problems or adverse drug events.

**Material and Methods** Twenty experts across 4 francophone countries were involved because of their clinical skills. Based on their experience, physicians (5) or pharmacists (15) scored the likelihood of occurrence of clinical consequences and its severity for each of the 52 modelled patients' situations using a five-point Likert scale. These situations were chosen among a panel of 199 one, according to their high frequency in the health facilities. The degree of consensus between participants was defined as the proportion that gave a risk score in the same category as the median. Consensus was obtained if the score was 75% or more. Then the 2 median scores -occurrence and severity-

were combined to produce the risk level for each situation. Only 2 Delphi rounds were necessary.

**Results** After the first round a consensus was reached for 8 situations. Experts agreed on the level of risk associated with 48 out of 52 modelled situations. A high or extreme consensus risk level is determined for 45 modelled situations. These situations represent a variety of drug-related problems. Overdosing was the most frequent situation [12 (22%)]. Cardiovascular, Psychiatric and Endocrinological drug classes are the most common involved in respectively [25 (45%)], [7 (13%)] and [5 (9%)] situations.

**Conclusion and Relevance** The symbolic artificial intelligence to detect drug-related problems in patients' medications will be much more shared if pharmaceutical algorithms including the clinical risk are defined through consensus.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

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#### 4CPS-201 PHARMACEUTICAL CARE TO OPTIMISE TREATMENT FOR ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN A PRISON

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**Background and Importance** Lung disease prevalence in the prison population is higher than in the general population of the same age. Pharmaceutical care detects and reduces drug-related problems by helping in therapy optimisation and improving treatment adherence.

**Aim and Objectives** 1/ To improve the bronchodilator treatment of patients with asthma or chronic obstructive pulmonary disease (COPD) in prison.

2/ To identify patients with low adherence in order to check the patient's inhalation technique and ensure proper administration.

**Material and Methods** Observational, descriptive and retrospective study of patients with asthma and/or COPD diagnosis in August 2022. Demographic data (age, sex), clinical data (body mass index, smoking habit, presence of exacerbations) and type of treatment were collected. Adherence was calculated through dispensing records (packages collected/packages prescribed) between August 2021 and August 2022. Adherent patient was defined if they had 100-80% of dispensations, non-adherent if they had <80%, and poorly controlled due to bronchodilator treatment abuse if they had >100%.

**Results** 46 (6.7%) patients under bronchodilator treatment were identified out of 686 prisoners. 10 patients were excluded because they were not chronic treatment. The 36 selected patients had a mean age of 40 ± 9 years and 8.3% were women. 28 patients had asthma diagnosis, 6 COPD diagnosis and 2 had mixed pattern. 33 patients were smokers and 24 were overweight or obese.

Bronchodilator treatment could be optimised in 16/36 (44.4%) of patients: 10 patients with asthma (5 without inhaled short-acting bronchodilator (SABA) and 5 used inhaled corticosteroids), and 6 patients with COPD (3 used SABA as maintenance treatment and 3 used inhaled corticosteroids

without exacerbations over the last year). 28/36 patients required pharmaceutical care to improve patient's inhalation technique (23 non-adherent and 5 treatment overuse).

**Conclusion and Relevance** Pharmacists play a key role to optimise complex therapies. This study shows us that almost half of bronchodilator treatments in prison can be optimised, and more than three quarters of the population have poor adherence. A specific pharmaceutical care programme in prison should be carried out to identify drug-related problems.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

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#### 4CPS-202 THE USEFULNESS OF A PHARMACY RESIDENT STAGE IN THE CRITICAL CARE UNIT

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**Background and Importance** The presence of pharmacists as members of the multi-professional critical care team is increasingly accepted and welcome. However, the impact of this presence is not always easy to measure since the offered service portfolio varies widely from hospital to hospital.

**Aim and Objectives** This study measures the intervention impact of the rotation of a pharmacy resident in the critical care unit of a hospital after assessing the unit's complexity level.

**Material and Methods** Critical care complexity was measured as the mean Medication Regimen Complexity-ICU (MRC-ICU) throughout the study period and compared to previous studies.<sup>1</sup>

Pharmacist interventions in the critical care unit over 7 weeks were prospectively recorded.

There were three types of interventions: clinical (affecting the pharmacotherapy of an admitted patient), informative (regarding general information of medicines), and logistical (regarding the critical unit organisation and medicines distribution).

Interventions were also classified by the addressee (medical, nursery staff, or both) and by intensity (low, medium, or high), measured as previously described.<sup>2</sup>

Acceptance of the interventions was also recorded.

Interventions regarding parenteral nutrition and therapeutic drug monitoring were excluded from this study since they were already standard care in our hospital.

**Results** The mean MRC-ICU score was 10.46 (standard deviation 5.4).

Among the 108 interventions recorded, for 83 patients, 75 (70%) were clinical, 22 (20%) informative and 11 (10%) logistical. In 85 cases (79%), the addressee of the intervention was the medical staff, 18 (17%) the nurses, and 5 (4%) both. Regarding the intensity, 11/108 (10%) were classified as low, 37/108 (35%) medium and 58 (55%) as high. The acceptance of interventions was high: 106/108 (98%).

**Conclusion and Relevance** Critical care complexity in this study was above average compared to previous studies.<sup>1</sup>

A clinical pharmacist, even a trainee pharmacy resident, can improve critical healthcare and clinical decision-making by the critical care team.