REVIEW OF MEDICATION ERRORS IN A PAEDIATRIC HOSPITAL BASED ON AN INSTITUTIONAL REPORTING SYSTEM

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BACKGROUND

- Paediatric medication errors **are more frequent than** adult medication errors due to:
  - PK/PD difference between paediatric and adult population
  - Heterogeneity of paediatric population requiring dose adjustment based on patient's age, body weight and surface area
  - Off label or unlicensed use of drugs in paediatrics
  - Unsuitability of commercially available drugs to paediatric inpatients inducing drug errors
- **Medication errors review** could help us to improve **care quality and patient safety**

PURPOSE

1. Categorise medication errors occurred in paediatric and neonatology units
2. Identify their main causes
3. Establish improvement measures

MATERIALS AND METHODS

- Exhaustive extraction from the institutional reporting system
- Errors occurred between January 2017 and June 2018 in neonatology and paediatric units
- Analysis performed by two pharmacists and one member of quality and risk management department
- REMED tool*: Excel® spreadsheet developed by the French Society of Clinical Pharmacy (SFPC)

RESULTS

- 31 errors found: 24 in paediatrics and 7 in neonatology (Fig 1)
- Nurse is the profession who intercepts the most medication errors (Fig 2)
- Medication errors can occur in every stage of the medication process including in logistic part, but most of them occurred during administration (Table 1)
- 71% of errors were not prevented and reached the patient, but none were life-threatening (Table 1)
- 11 errors were considered as events that should not be occurred, also known as "never events"
- Drug commonly involved in errors were injectable antibiotics, drugs involved from class B are different types (parenteral nutrition, ion supplementation, heparin) (Fig 3)
- Main reasons that contribute to the errors are displayed in Table 2

	n	%
Initial stage of occurrence		
Prescribing	5	16.1
Dispensing	4	12.9
Administration	18	58.0
Therapeutic follow-up	2	6.5
Logistic	2	6.5
Execution degree		
Potential error	5	16.1
Error occurred before reaching the patient	4	12.9
Error identified after reaching the patient	22	71.0
Error gravity		
Minor	4	12.9
Significant	20	64.5
Major	7	22.6
Critical	0	0.0
Catastrophic	0	0.0

Table 1: Principal characteristics of errors

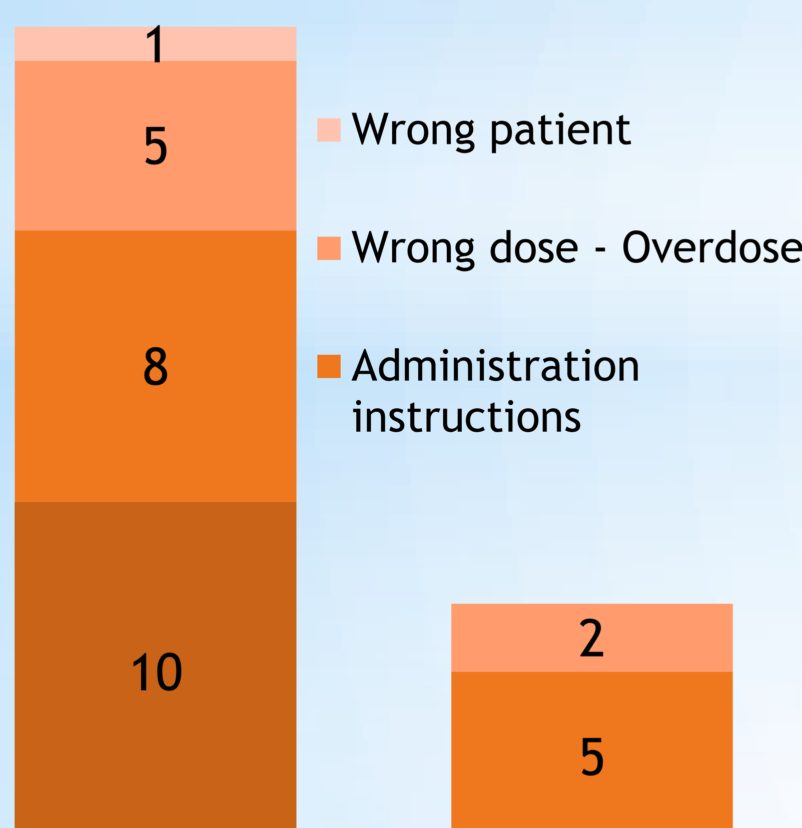


Fig 1: Type of errors per unit

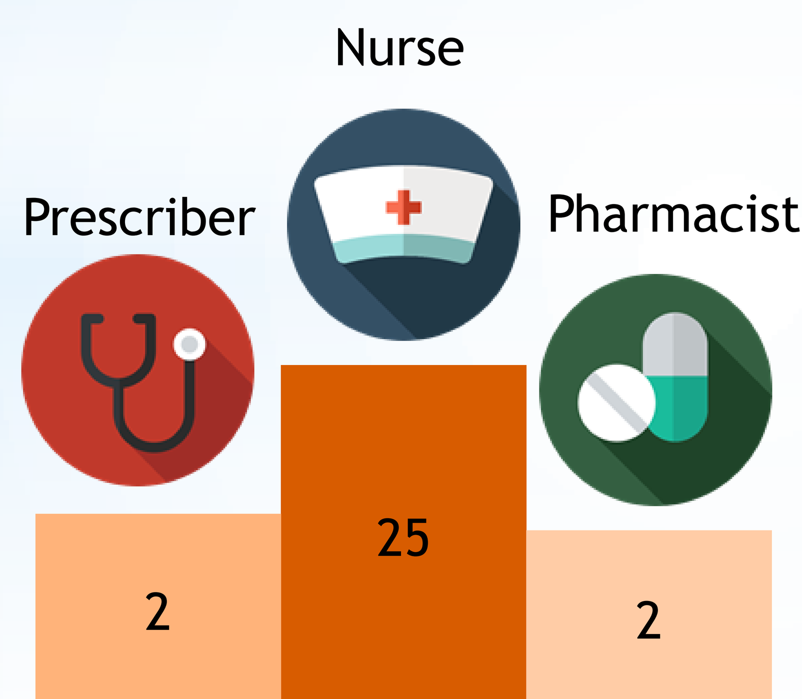
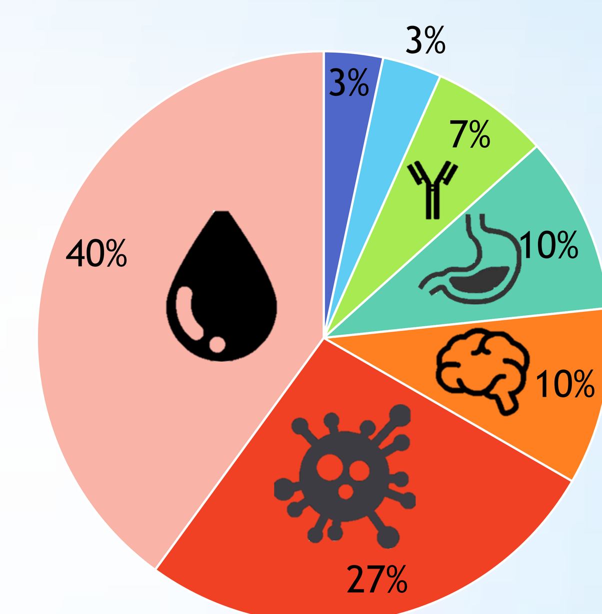


Fig 2: Profession who intercepted the error



- H Systemic hormonal preparations, excluding sex hormones and insulins
- V Various
- L Antineoplasic and immunomodulating agents
- A Alimentary tract and metabolism
- N Nervous system
- J Antiinfectives for systemic use
- B Blood and blood forming organs

Fig 3: Therapeutic class of drugs involved

Reasons and factors	n
Misreading of the protocol	12
Discordance between prescription and administration	11
Lack of control before administration	8
Underestimation of risk factors	7
Error of computer manipulation	7
Lack of attention, distraction	6
Good practice disrespected	6
Denial of the medication error risk	6
Prescription incomplete	5
Prescription difficult to interprete	5

Table 2: Main reasons and factors contributing to the errors

CONCLUSION

- Medication errors are often discussed in experience feedback committees but are analysed individually
- Our global analysis by using a standardised method has highlighted recurrent causes of errors
- Improvement measures have been established and prioritised in order to design a multi-year program to reduce the occurrence of medication errors
- Our first interventions will focus on training and simulation education to the healthcare team

REFERENCES

* Review medication-related errors and associated medical devices (REMED) – French Society of Clinical Pharmacy