Pharmacist role in the emergency department (ED) has expanded over the last decades. However, there is limited published literature related to the interventions carried out in these units.

Background and importance

To perform a descriptive analysis of pharmaceutical interventions (PI) in ED, their acceptance rate, the main prescribing errors (PE) detected and the main Anatomical Therapeutic Chemical (ATC) groups involved.

Materials and Methods

- Retrospective observational study performed in the ED of a secondary and a tertiary hospital that serve about 685,000 total inhabitants with an overall of 228,550 emergency attendances per year.
- PI and PE were documented from Monday to Friday over a 4-hour period between June-September 2022.
- Dosage and frequency adjustment, formulary and drug modification, medication initiation and discontinuation, and pharmacokinetic monitoring were the PI included.
- PE were divided into three groups: lack of efficacy, potential safety problem or necessary/unnecessary treatment.

Results

857 interventions were registered

- Most frequent prescribing errors (PE) (%)
  - Lack of efficacy: 38%
  - Potential safety problem: 30%
  - Necessary/unnecessary treatment: 32%

- ATC Groups (%)
  - A: Alimentary tract and metabolism 10%
  - B: Blood and blood forming organs 22%
  - C: Cardiovascular system 18%
  - D: Genitourinary system 22%
  - G: Hematopoietic and immune system 3%
  - H: Immune system 2%
  - J: Nervous system 1%
  - L: Respiratory system 22%
  - M: Skin and appendages 18%
  - N: Reproductive system 1%
  - R: Nervous system 10%
  - S: Respiratory system 1%
  - V: Blood and blood forming organs 1%

- Types of PE (%)
  - Duplicities: 4.9%
  - Adverse drug event: 1.5%
  - Contraindication: 3.3%
  - Drug Interactions: 10.9%
  - Suboptimal dose: 21.4%
  - Overdosage: 19.0%
  - Recontiliation discrepancies: 39.7%

Conclusion and relevance

- Dosage adjustments and drug therapy initiation were the most common documented interventions.
- More than half of PI were accepted.
- The most frequent PE were related to necessary/unnecessary treatment.
- The majority observed PE were reconciliation discrepancies.
- The main ATC groups involved were B, J and C.

The great number of interventions and the high rate of acceptance seems to show that ED pharmacist, as a member of a multidisciplinary patient care team, is able to decrease the number of medicine errors and to improve the quality and safety of medical care.