

# CLINICAL PHARMACIST INTERVENTIONS IN ANTIMICROBIAL THERAPY STEWARDSHIP: Prevention of medication errors enhanced by access to the patient's electronic health record

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## BACKGROUND

The control of pharmacotherapy aims to prevent medication errors which can cause prolonged hospitalization, higher treatment costs and possible death. Clinical pharmacist has to ensure the correct and rational use of antimicrobial drugs by monitoring the prescription. Access to the patient's electronic health record (EHR) allows the pharmacist to make better clinical decisions, which contributes to greater patient safety, reduction of medication errors and side effects.



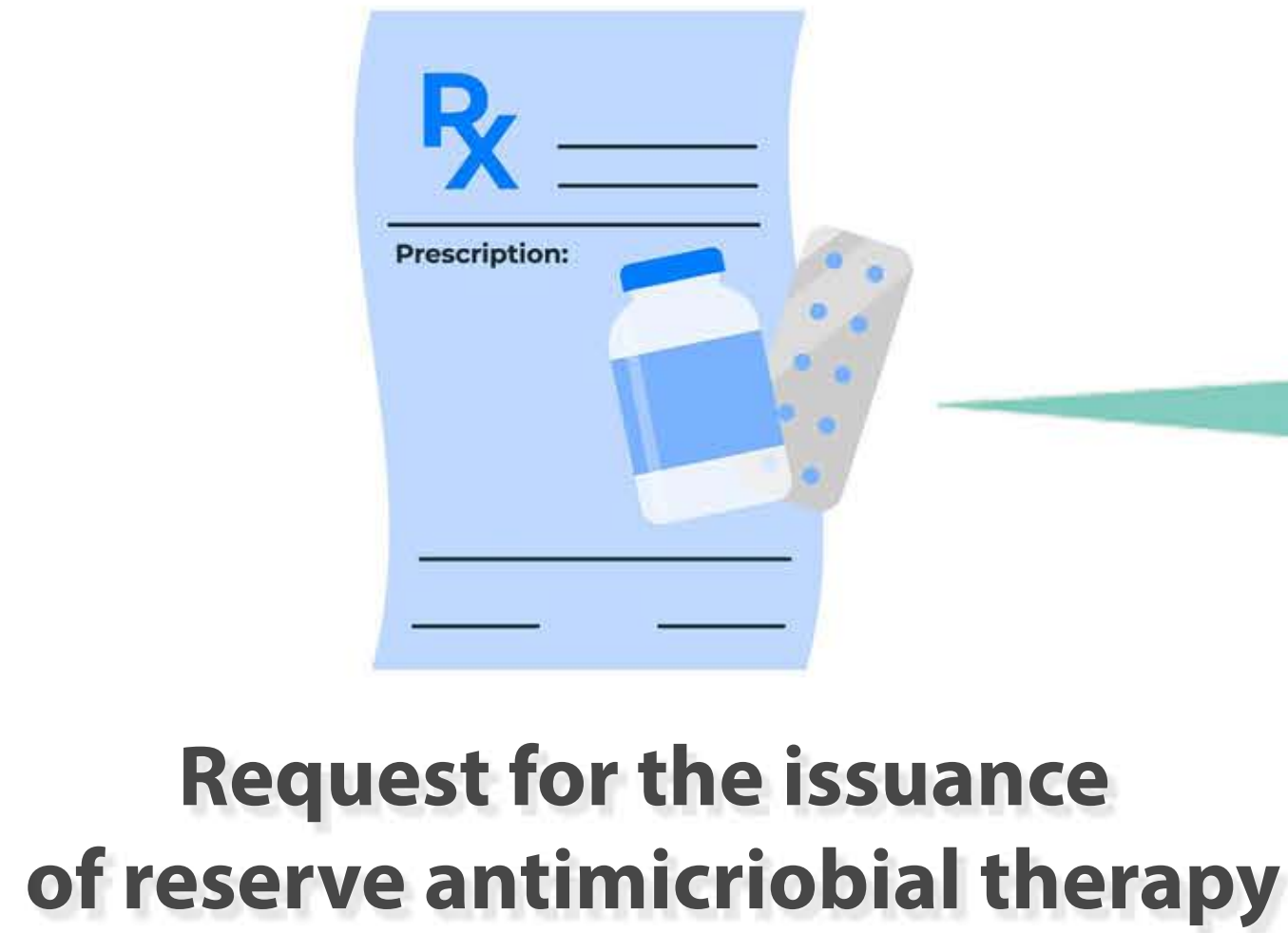
## AIM AND OBJECTIVES

The aim of the study was to analyze the prevention of medication errors by interventions of clinical pharmacists in hospitalized patients on antimicrobial therapy. Pharmaceutical interventions were evaluated before and after the possibility of accessing the EHR.

## MATERIAL AND METHODS



An observational retrospective study Conducted between April 2023. and March 2024. Descriptive analysis - expressed as number and %



**01 Without access to the EHR**  
prescription control performed by establishing contact with the prescriber  
- difficult detection of the prescriber's medication error

**02 With access to the EHR:**  
easier detection of the prescriber's medication error  
- increase in detected medication errors in relation to the number of processed prescriptions



DATA ON THE MONTHLY NUMBER OF INTERVENTIONS

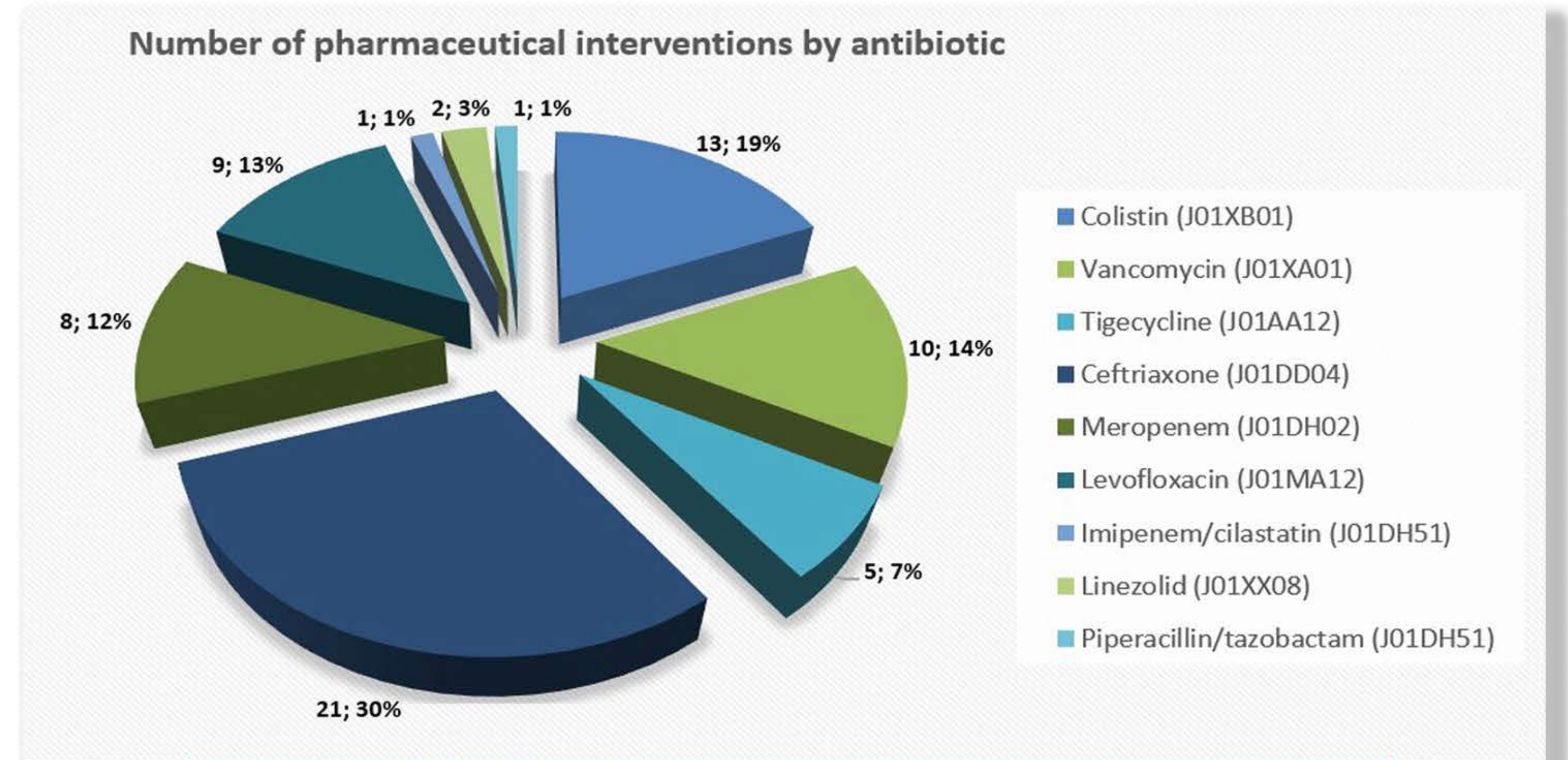
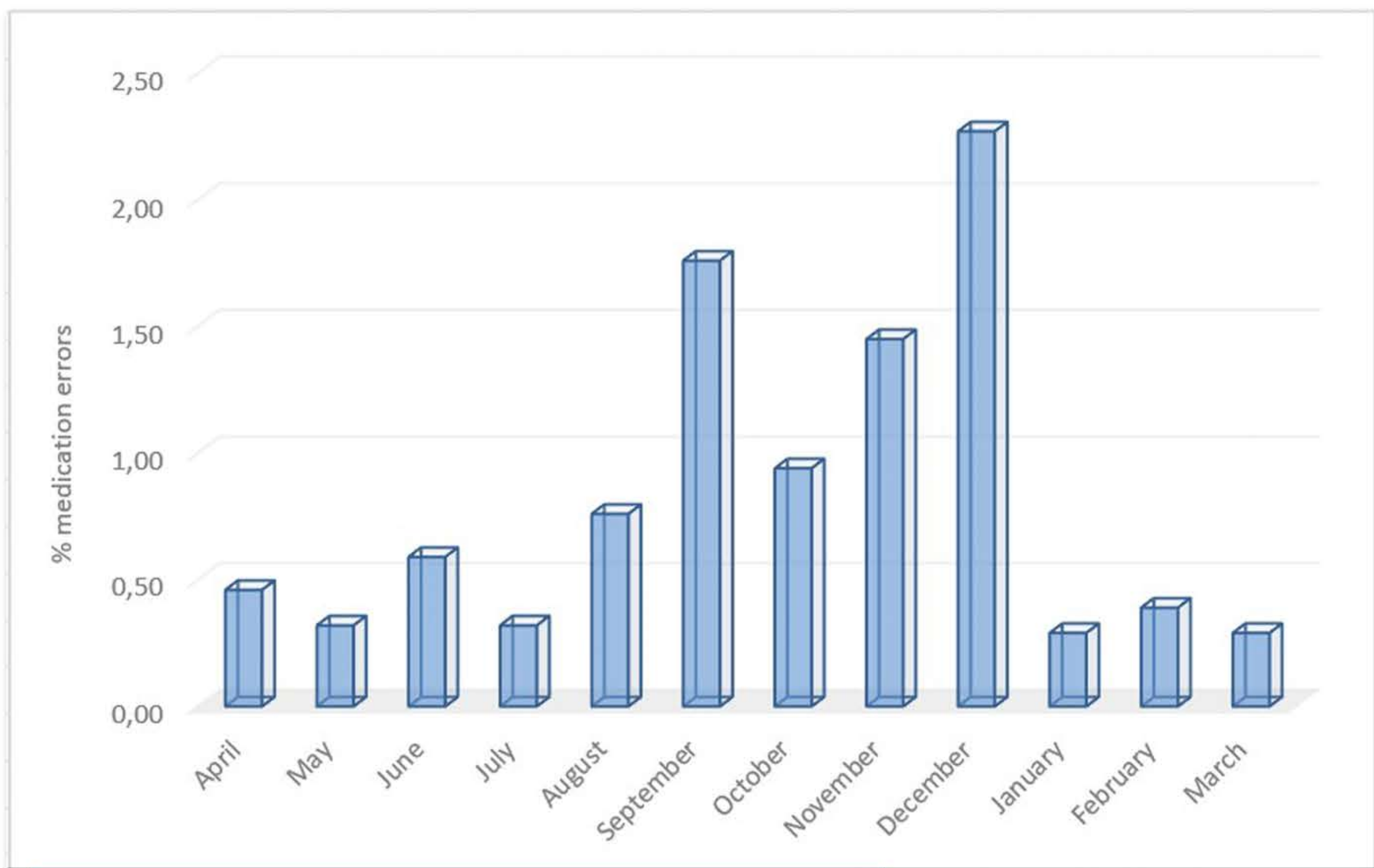
FREQUENCY OF INTERVENTIONS FOR EACH ANTIBIOTIC

TYPE OF MEDICATION ERROR:

- dose
- dosing interval
- excluded drug
- dose and interval
- other

## RESULTS

**8.559 requests for antimicrobial therapy**  
**Total of 73 pharmaceutical interventions**



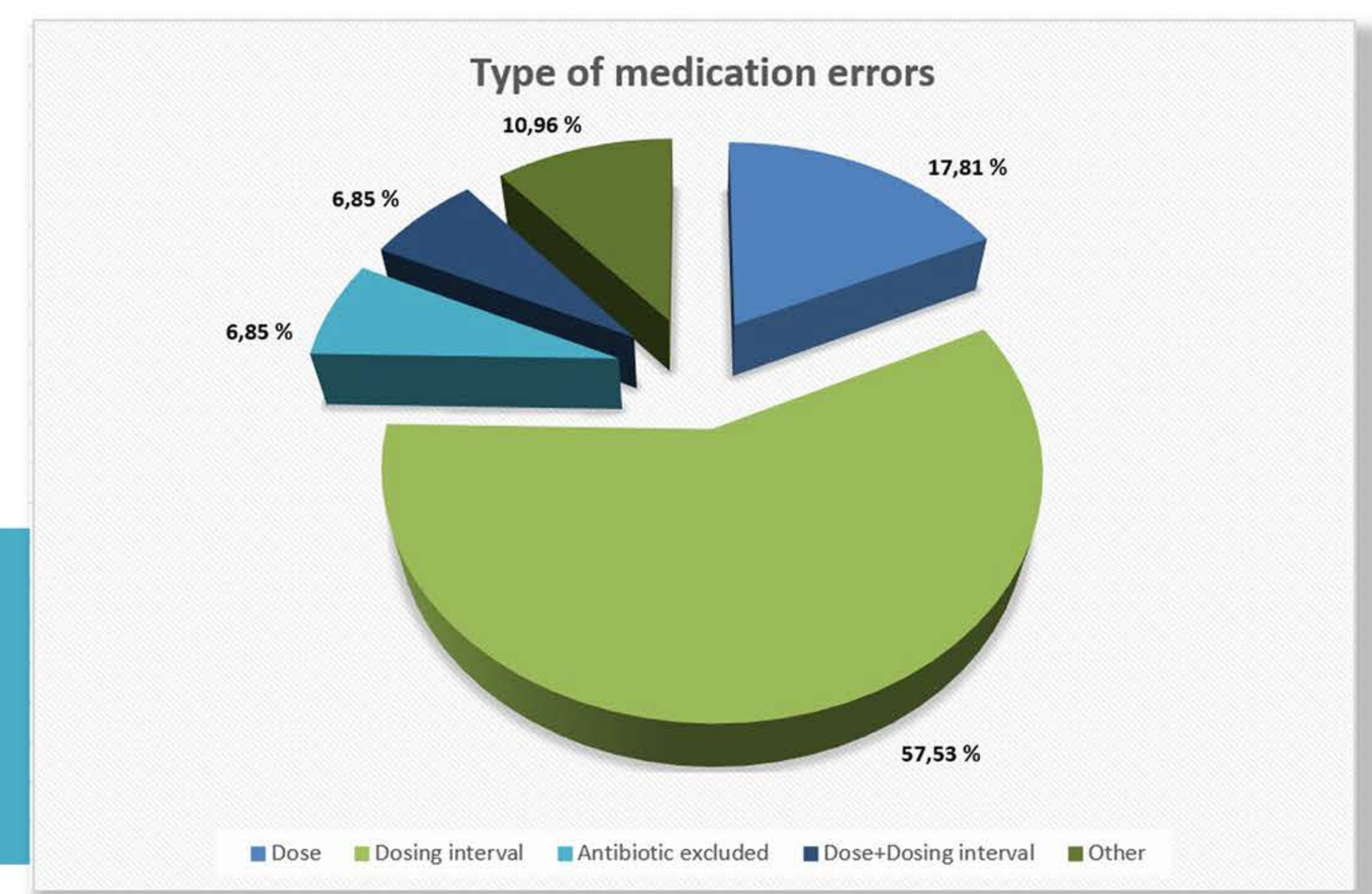
The largest number of interventions in terms of dose and interval was for ceftriaxone - n=21; 30,0%

Pharmaceutical interventions **WITHOUT** access to the EHR:  
- 11 in period april - july 2023.

Pharmaceutical interventions **WITH** access to the EHR:  
- 55 from august until december 2023.  
- 7 from january until march 2024.

**TOTAL NUMBER OF ACCEPTED INTERVENTIONS - 93,15%**

Most common interventions:  
- inadequate dosing interval - n=42; 57,53%  
- unadjusted dosing - n=13; 17,8%  
- ABX excluded from therapy - 5 patients



## CONCLUSION

Access to the EHR improves results through the interventions of clinical pharmacists, contributes to the reduction of medication errors and facilitates the management of antimicrobial drugs with the aim of optimizing therapy and reducing healthcare costs.

### References:

Uda A, et al. Sustained improvements in antimicrobial therapy and clinical outcomes following a pharmacist-led antimicrobial stewardship intervention: uncontrolled before-after study. *Journal of Clinical Medicine* 2022; 11.3:566



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