

# ANALYSIS OF PHARMACIST INTERVENTIONS' ACCEPTANCE RATE IN A TERTIARY HOSPITAL

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## BACKGROUND AND OBJECTIVE

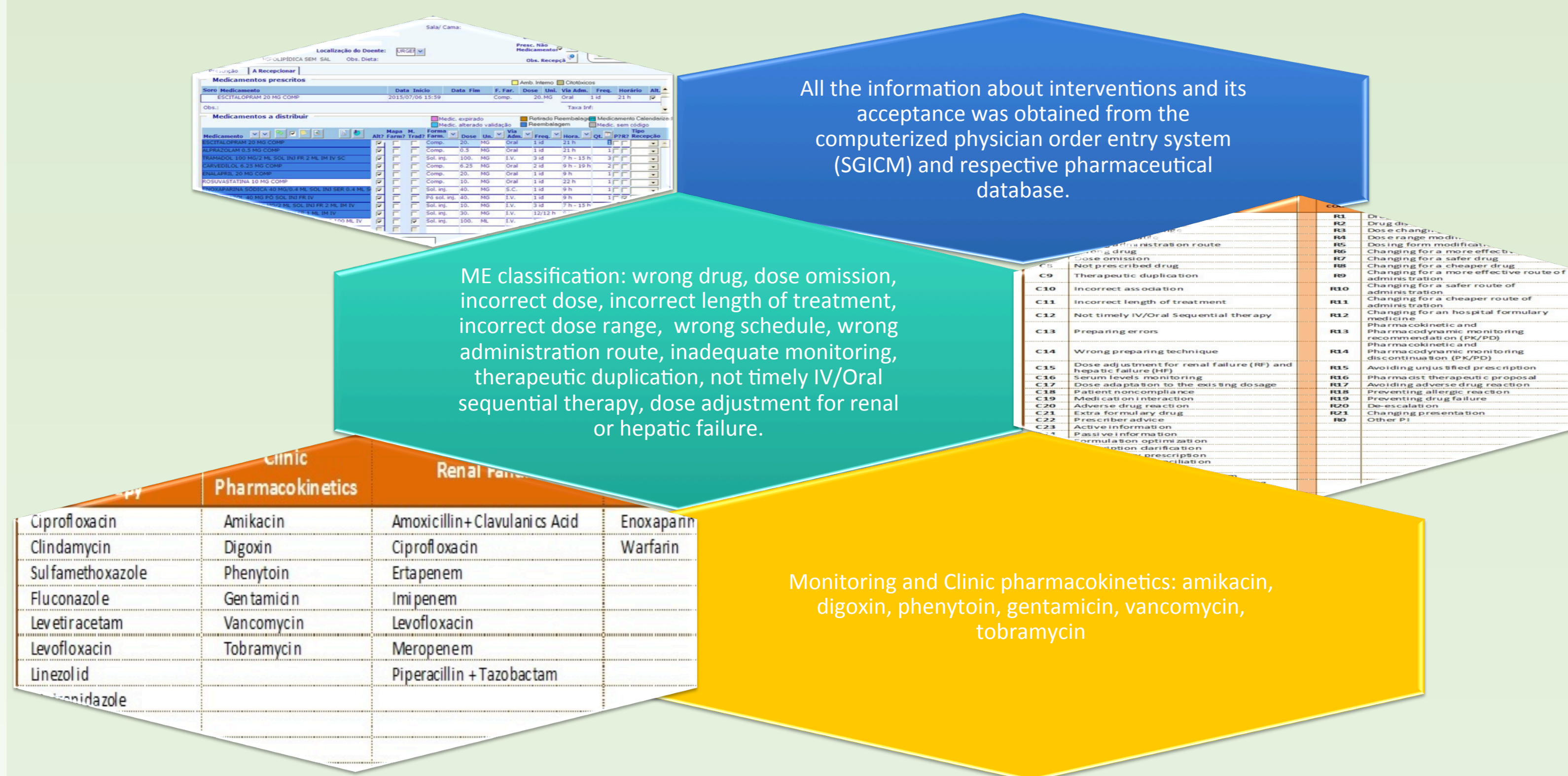
Pharmacist Interventions (PI) are of an outstanding importance to prevent drug prescription errors and improve patient safety. Pharmacist review of drug prescriptions prevents drug related problems (DRP), as medication errors (ME) and adverse drug reactions (ADR) and improves patient outcomes, add quality and safety to the drug treatment process. [1]

The acceptance rate of PI can indicate the pharmacist expertise and the pharmacist integration level within the clinical services. Moreover PI can be faced as an indicator of Pharmaceutical Care quality. Accordingly, it is required to measure the acceptance rate of PI by physicians and predict the reasons behind the identified differences in order to understand which actions are needed to improve pharmacist activities in the hospital scope.

The main purpose of our study was the evaluation of the acceptance rate of these interventions by analysing the records of pharmacist activities.

## STUDY DESIGN

Prospective study of the acceptance rate of two distinct specialized Pharmacist Interventions: Medication errors (ME) PI and Clinic Pharmacokinetics (CPK) PI at an university hospital between March 1 and December 31, 2013.



During the study 4 872 PI were recorded in 2 362 patients with an average age of 67.6±17.0 years old: 18-64 – 39%; 65-74 – 21%; 75-84 – 27%; ≥ 85 – 13%).

Regarding the ME PI, 1.918 PI were performed with an acceptance rate of 60.7%. Of these, 49.9% didn't present any justification for the unacceptability, 29.3% were not clinically justified, 19.9% were due to transfer or discharge, and less than 1% was due patient death. Regarding clinical services, 56.2% of ME PIs were performed in medical services and 43.8% in surgical services and the medical services presented an upper acceptance rate when compared with surgical services.

Regarding the CPK PI, which included serum levels monitoring of vancomycin, aminoglycosides and digoxin, the acceptance rate was 99%.

## RESULTS

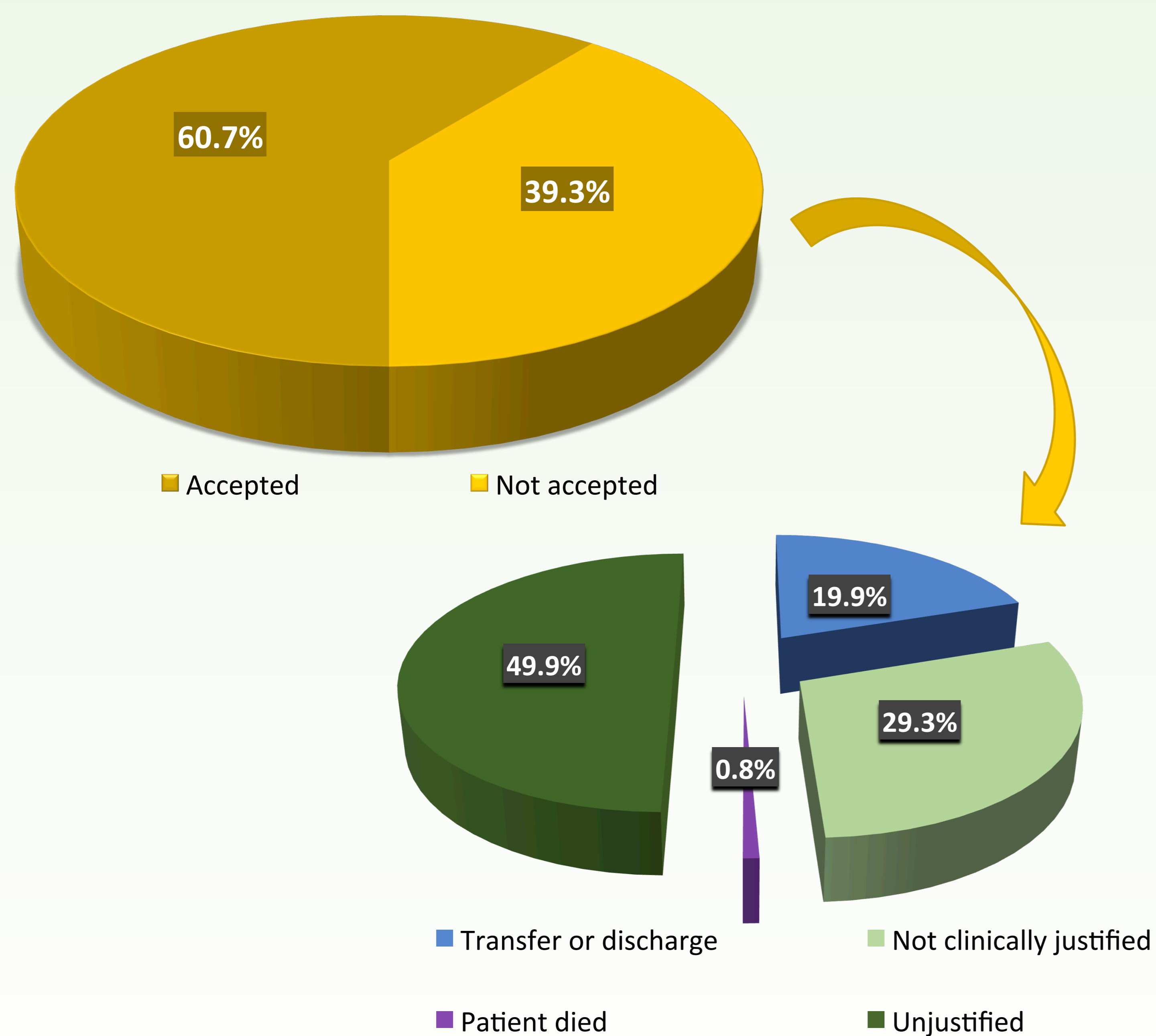


Figure 1 – Acceptance rate of ME PI and main reasons of unacceptability.

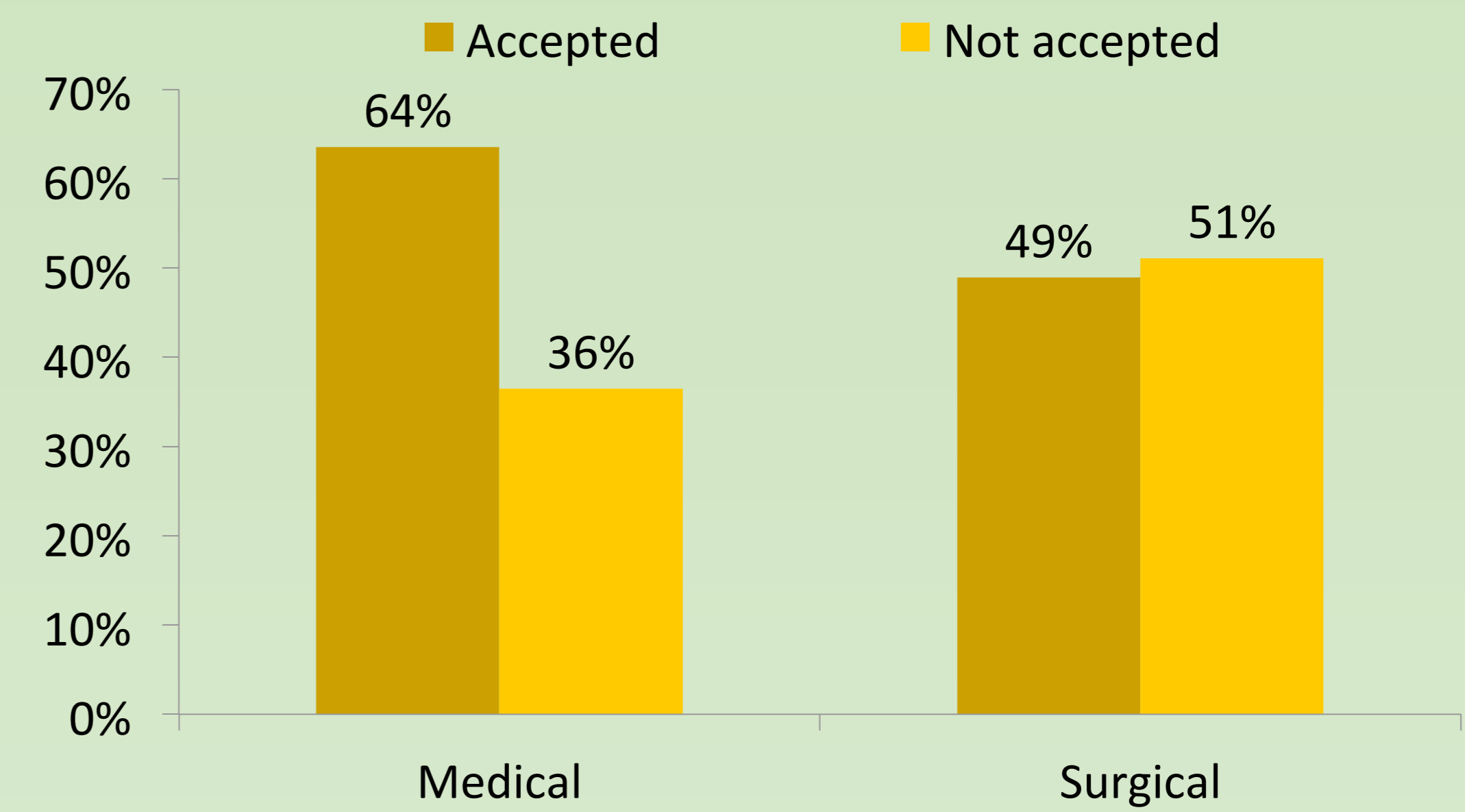


Figure 2 – Acceptance rate of ME PIs in clinical units (Medical and Surgical).

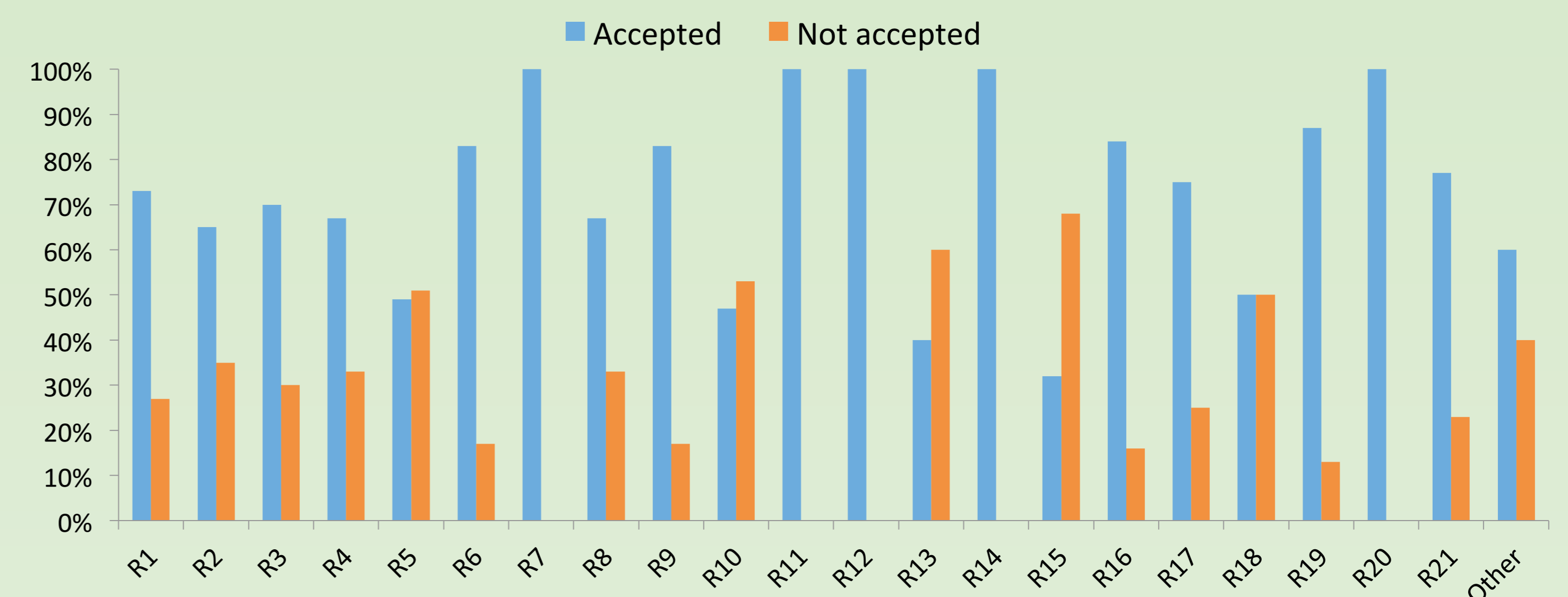


Figure 3 – Acceptance rate of ME PIs in each ME PI.

Legend: R1 – Drug introduction; R2 – Drug discontinuation; R3 – Dose changing; R4 – Dose range modification; R5 – Dosing form modification; R6 – Changing for a more effective drug; R9 – Changing for a more effective route of administration; R10 – Changing for a safer route of administration; R13 – PK/PD monitoring recommendation; R15 – Avoiding unjustified prescription; R16 – Pharmacist therapeutic proposal; R19 – Preventing drug failure; R21 – Changing presentation.

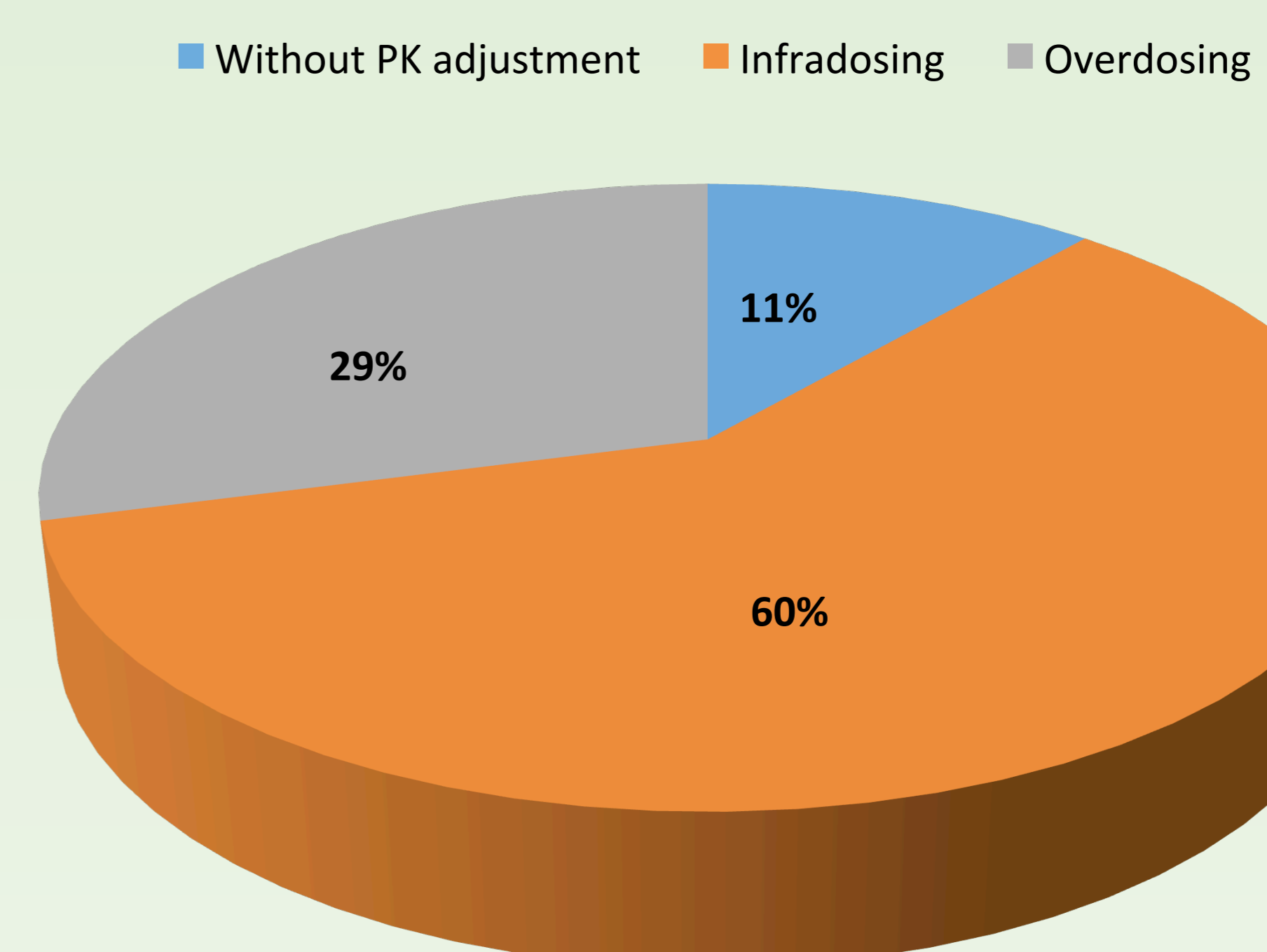


Figure 4 – Percentage of CPK PIs with 99% of acceptability.

## DISCUSSION

The analysis of acceptance rate of PIs reflects the level of accordance between pharmacists and prescribers and can foresee that the level of integration and expertise of pharmacists concerning a specific clinical activity can influence the acceptance of PI by prescribers, predicting that acceptance rate can be used as a quality indicator of Pharmaceutical Care.

The results showed that the acceptance rate of pharmacist interventions related to serum levels' monitoring was superior then the acceptance rate of pharmacist interventions on medication errors during prescriptions' validation (99% to 60.7% of acceptability). Acceptance rate of ME PIs (60%) is acceptable however it revealed inferior to the range published in literature. [4, 5, 6]

Regarding clinical units, Medical unit presented a higher rate of acceptability. Although Surgical unit showed a lower percentage of accepted PIs, the difference is not significant. Almost all types of ME PIs presented a positive rate of acceptability.

## CONCLUSIONS

The analysis of acceptance rate of PIs provided information on the main clinical areas and medicines and the most frequent types of ME that required special attention, contributing to the implementation of preventive measures regarding clinical pharmacist activities in order to improve patient safety and the efficiency of healthcare provision.

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