

## BACKGROUND

Several studies have demonstrated the positive impact of clinical pharmacy services in the hospital setting. Interventions by clinical pharmacists have shown to reduce the frequency of drug related problems.

Pharmacist intervention (PI) is defined as a professional activity performed by pharmacists, directed towards improving the quality use of medicines and resulting in a recommendation for a change in the patient's medication therapy.

## PURPOSE

This study was conducted in order to characterize all PIs recorded in the electronic medical record and quantify its acceptance by the medical team.

## METHODS

An observational, retrospective study was carried out in a 350 bed central hospital, between January and June 2013. All the PIs registered in the electronic medical record, during the study period, were eligible for inclusion; verbal PIs and those related to clinical pharmacokinetics were excluded from this study. Medical acceptance was defined as prescription alteration 48h after PI.

## RESULTS

One thousand four hundred and forty nine PIs were performed during the study period in 3 major therapeutic classes: antibacterial, CNS, cardiovascular and blood formation and coagulation (Fig. 1). The most frequent drugs were acetaminophen, enoxaparin and amoxicillin/ clavulanate (Fig. 2).

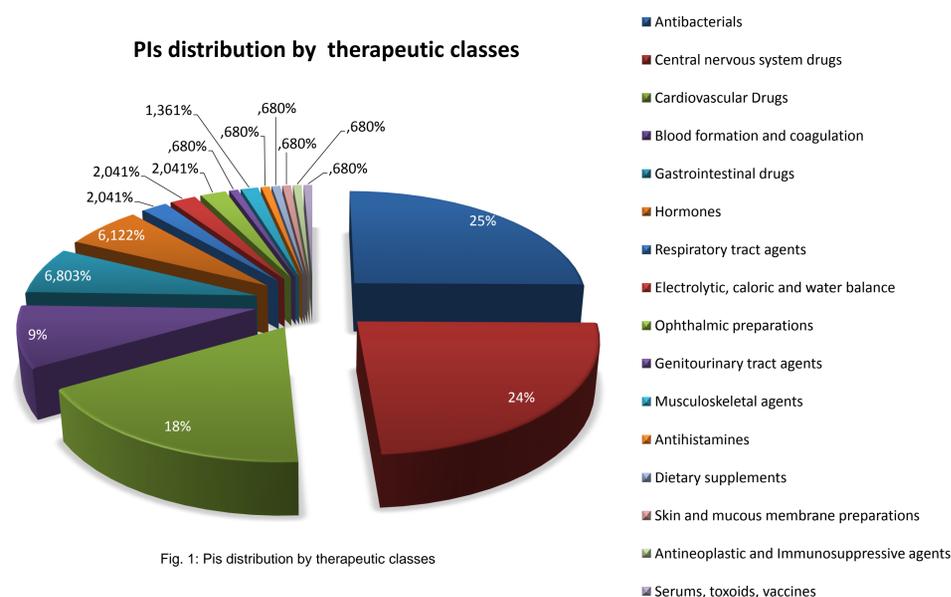


Fig. 1: PIs distribution by therapeutic classes

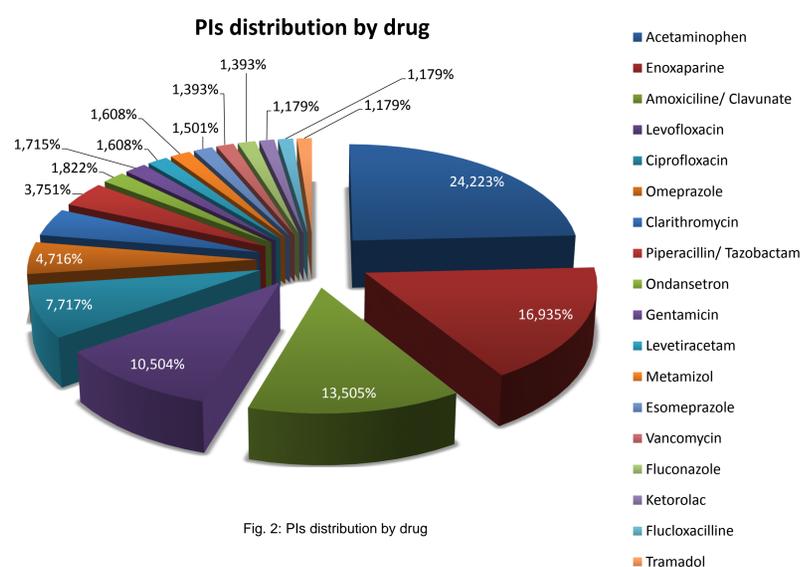


Fig. 2: PIs distribution by drug

There were 17 different PIs, the more frequent were dose adjustment for renal impairment and change of administration route (Fig. 3). Characterization on acceptance by the physician was only possible to achieve in 69% of IPs; 48% of those, were accepted. Among those, 89% represented therapeutic reconciliation, 75% duplication and 67% dose adjustment to drug presentation. Dose adjustment in obese patients (23%) and pediatric patients (33%) represented the less accepted PIs (Fig. 4).

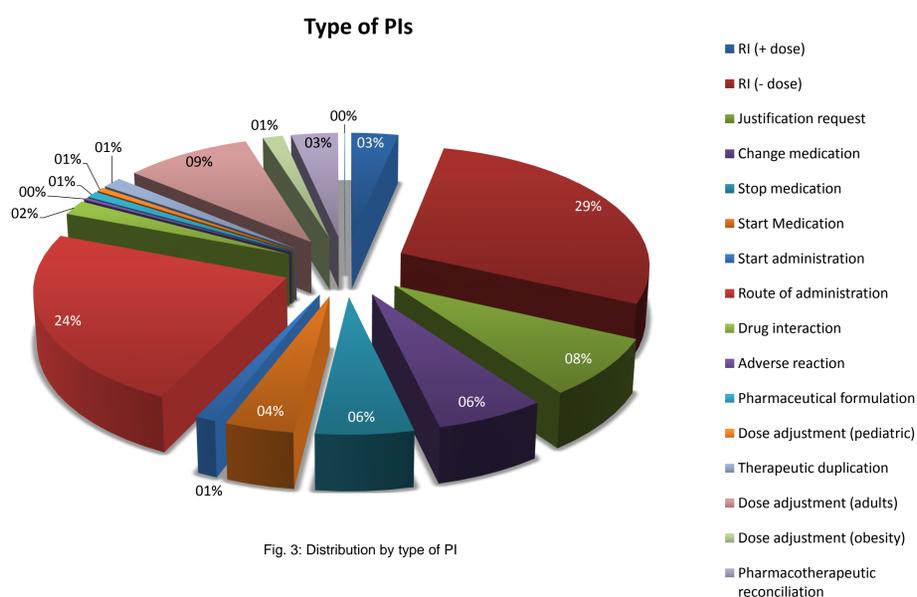


Fig. 3: Distribution by type of PI

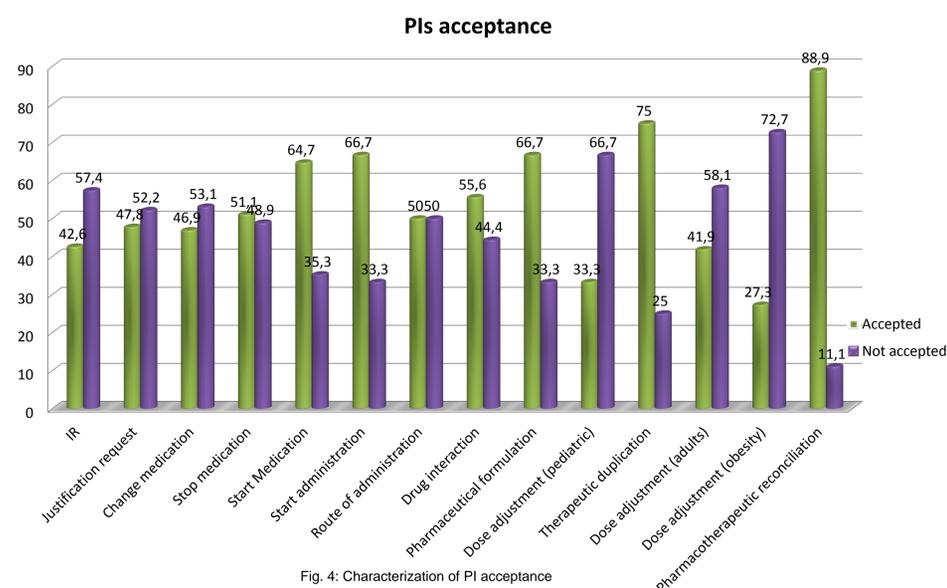


Fig. 4: Characterization of PI acceptance

## CONCLUSION

Although 1249 PIs have been studied, not all were registered in the computer system (all PIs made at intensive care units and the other verbal PIs). The percentage of acceptance in our study is lower than literature reports; however, we were not able to evaluate the acceptance of 32% of all PIs due to hospital discharge within 48h, patient transfer to ICU and suspension of the aiming drug. Our results, in particular those referring to dose-dependent problems, confirm the need for pharmacotherapy follow-up. It would be interesting to extend this experience to a larger number of drugs and make this approach in a continuous, organized and systematic manner. This service allows the clinical pharmacist to work in a multidisciplinary team, helping physicians and providing valuable service to the patients, and to promote rational use of medicines.

### References:

1. Bedouch P *et al*, Computerized physician order entry system combined with on-ward pharmacist: analysis of pharmacists' interventions. *J Eval Clin Pract*. 2012;18(4):911-8.
2. Gaillard K. *et al*, Evaluation of pharmaceutical interventions at Sainte-Anne military hospital as part of a unit dose drug daily distribution system. *J Pharm Clin* 2006;25(1):39-47.