

# Pharmacist-detected inappropriate medicines and recommendations made regarding a change of medicines in emergency ward

E. Celikkayalar\*, E. Suvikas-Peltonen\*, J. Lohikoski\*, E. Vaula\*\*, J. Palmgren\*

\* Satakunta Central Hospital, Pharmacy Services, Pori, Finland

\*\* Satakunta Central Hospital, Emergency Department, Pori, Finland

## Background

Emergency departments have serious medication safety concerns. Inappropriate medications are common. Physicians and nurses may not have enough time to review medication charts regularly.

## Purpose

- To evaluate the inappropriate medications in emergency ward based on pharmacist's medication chart review.
- To review the physicians' acceptance rate of pharmacist's recommendations regarding a change on medication regimen in emergency ward.

## Materials and Methods

Medication charts of all emergency ward patients were reviewed by a pharmacist prospectively for five months from April to August 2011. Pharmacist made oral or written recommendations to physicians regarding a change of medication.

Recommendations were made on:

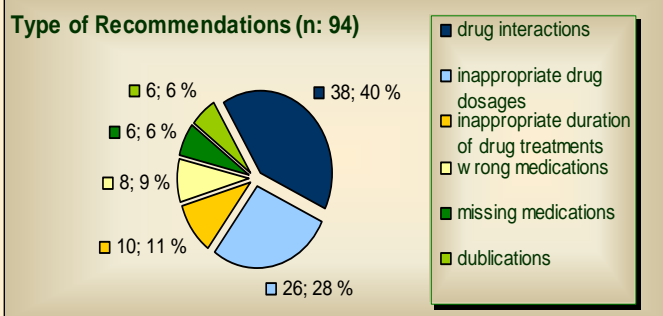
- drug interactions
- inappropriate drug dosages
- inappropriate duration of drug treatments
- wrong medications
- missing medications
- duplications

## Results

**855** admissions were reviewed. The most common inappropriate medications detected by pharmacist were **NSAID's, SSRI's, benzodiazepines** and **warfarin**.

**94** recommendations regarding 67 admissions were made for: 38 drug interactions (40,4%), 26 inappropriate drug dosages (27,7%), 10 inappropriate duration of drug treatments (10,6%), 8 wrong medications (8,5%), 6 missing medications (6,4%) and 6 duplications (6,4%).

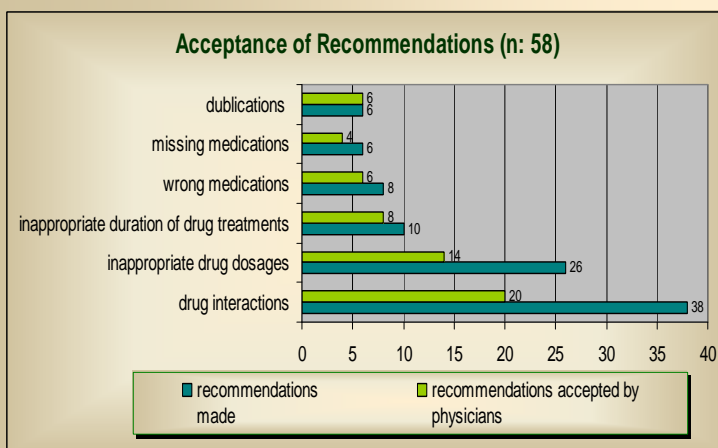
Type of Recommendations (n: 94)



## II

The total physicians' acceptance rate for all pharmacist's recommendations were 62% (**n:58**). Recommendations regarding 20 of 38 (52,6%) drug interactions, 14 of 26 (54%) inappropriate drug dosages, 8 of 10 (80%) inappropriate duration of drug treatments, 6 of 8 (75%) wrong medications, 4 of 6 (66,7%) missing medications and all 6 duplications were accepted by physicians.

Acceptance of Recommendations (n: 58)



## Conclusions

- Pharmacist was able to detect important inappropriate medications by reviewing medication charts of emergency ward patients.
- Many pharmacist's recommendations leading to a change in medication regimen were accepted by the physicians.
- Pharmacists can provide significant contributions to patient safety in emergency wards.