PS-104 - Initiative for enhancing medication safety in surgical inpatients

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Introduction

Medication reconciliation is a basic principle of good medicines management. It helps to obtain reliable and accurate information about the patient's medication for health care providers, as the patient moves between health care settings (e.g. admitted to hospital).

Our aim is to increase the safety of the drug supply system at the Surgery Department of Szeged, Hungary. Therefore an intensive pharmacist involvement was initiated at the critical points of drug management during the hospital stay of patients.

Recording of medical anamnesis

Who is the recorder of the medical anamnesis: a medical student, a resident, a nurse, a pharmacist or a phisician? Patient's poor knowledge on medicines taken is also a common problem.

Cooperation with patients, physicians, nurses

The continuous presence of the pharmacist ensures appropriate environment for cooperating with the patients, physicians, nurses.

Recording and dispensing the prescribed medicine

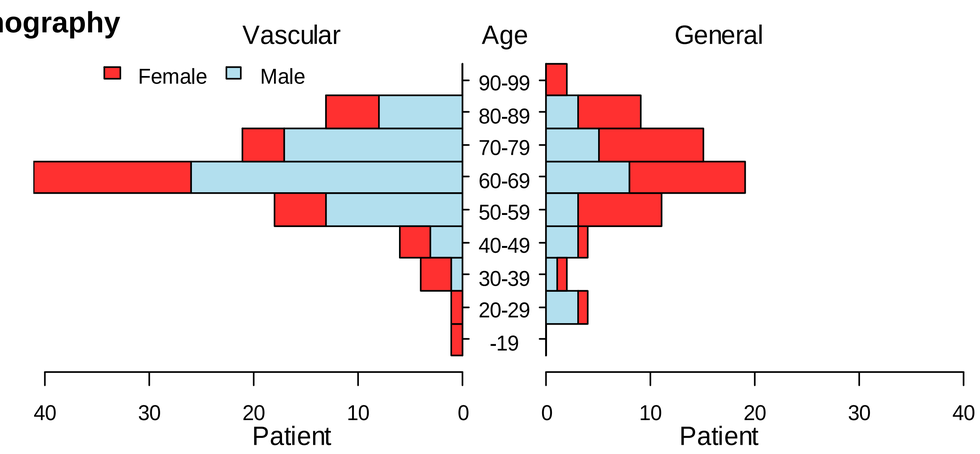
During the copy of the patient chart (even electronic or hand-written form), several mistakes and errors can occur.

The pharmacist performs electronic patient medication chart duplication every day in the ward. The electronic recording system enables uptodate patient-level informations on medication and quick retrospective retrieval of data.

Objectives:
To quantify the frequency of drug-related problems (DRP) and assess consequent interventions in hospitalized patients.

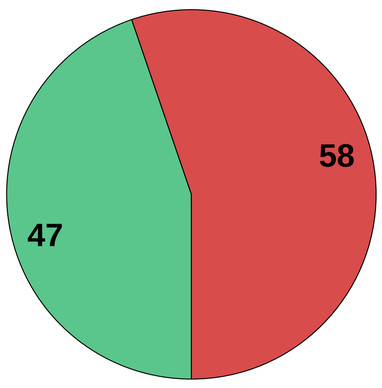
Methods:
The study took place at the vascular- and general surgery ward over a 6-weeks period in 2014. Recorded medications on patient charts were reviewed by a pharmacy resident in order to identify DRPs. DRPs of chronic medications and those newly prescribed during hospital-stay were assessed. Interventions were also recorded. The number of chronic medications (i.e. including polypharmacy status: taking 6 ≤ medicines) in relation to DRPs were analysed. Descriptive statistics, Chi square test and classification tree were used.

Results I.: Demography

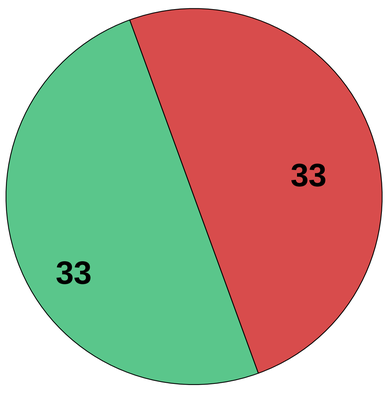


Results II.: Drug related problems

Medication of 171 patients were assessed. Overall 123 DRPs were identified from 91 patients.



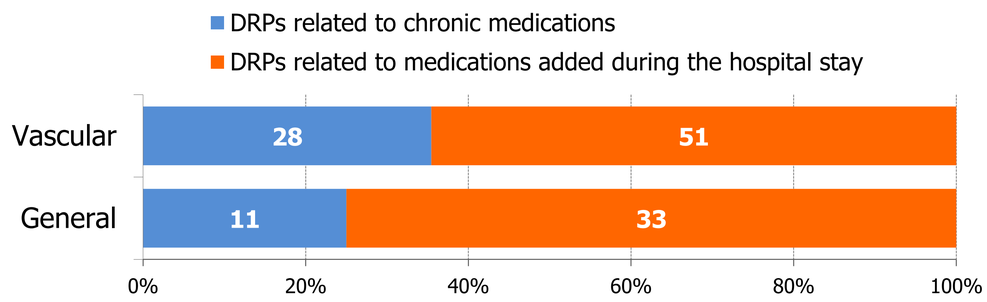
Vascular surgery (∑=105 patients)
DRP: ∑=58 patients (red area)



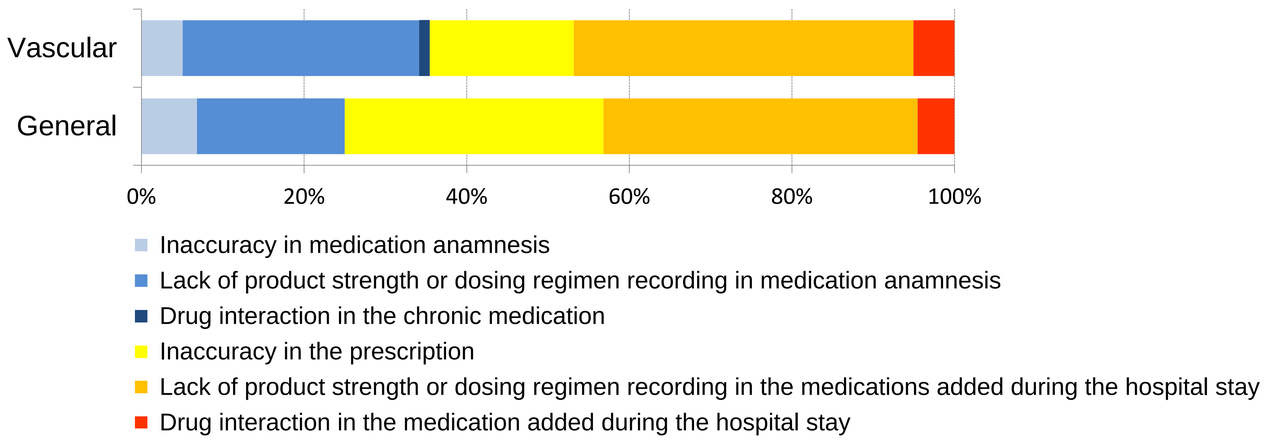
General surgery (∑=66 patients)
DRP: ∑=33 patients (red area)

DRP classification

DRPs were split in two main groups: majority (68%, 84 cases) of DRPs were related to newly prescribed medicines while the rest (32%, 39 cases) were related to chronic medications.



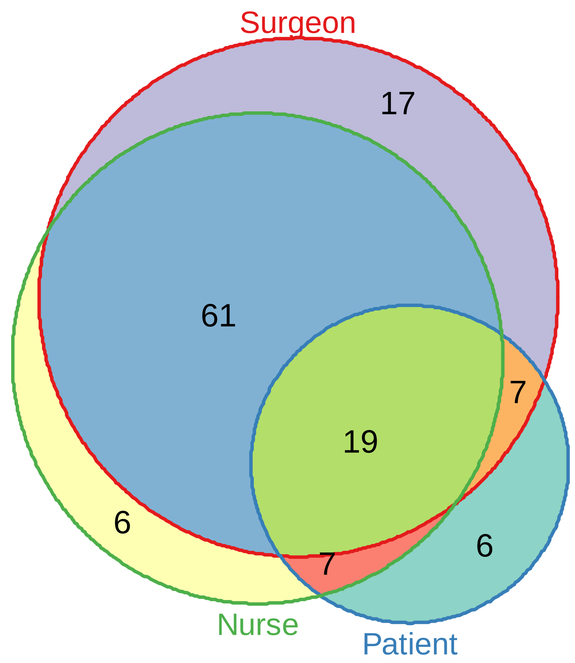
In case of chronic medications the most frequent error type (71%) was the inaccuracy of product strength or dosing regimen recording. In case of newly prescribed drugs the lack of daily update on patient charts was the most frequent DRP (60%). Drug interaction was found in 7 cases.



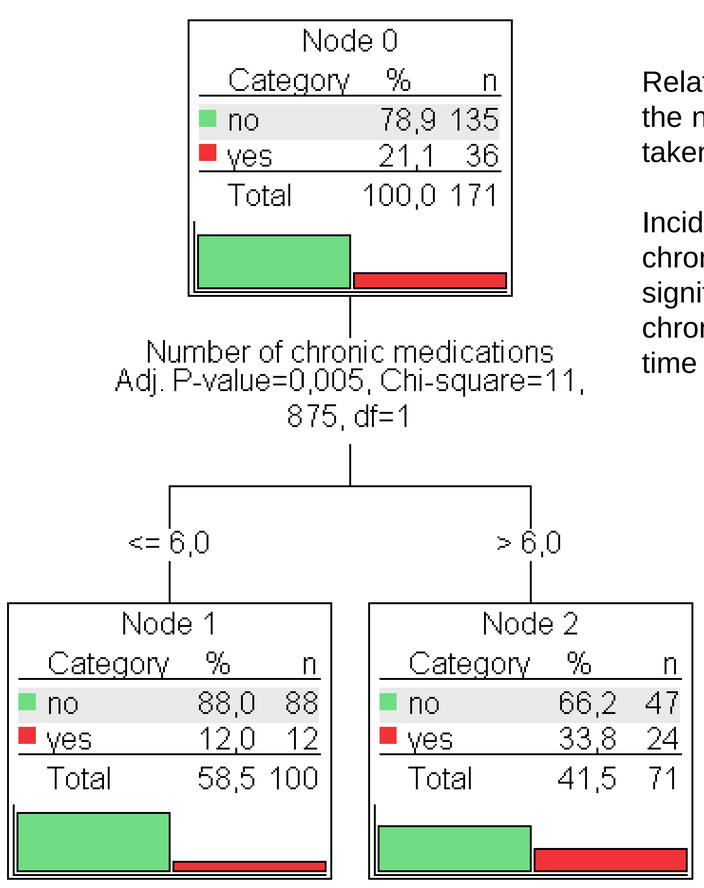
Results III.: Pharmacist's interventions and communicational routes

All detected DRPs were followed by pharmacist intervention. The most frequent intervention types were clarification of dosage/dosing regimen (60 cases) and clarification of daily drug necessity (53 cases). Drug withdrawal or drug addition happened in 17 cases. In 38 cases patient education was performed by the pharmacist, mainly in case of the chronic medication-related DRPs. For DRPs associated with newly prescribed drugs in the hospital, the most frequent communicational routes were the nurse/physician discussions.

The communicational routes of the pharmacist



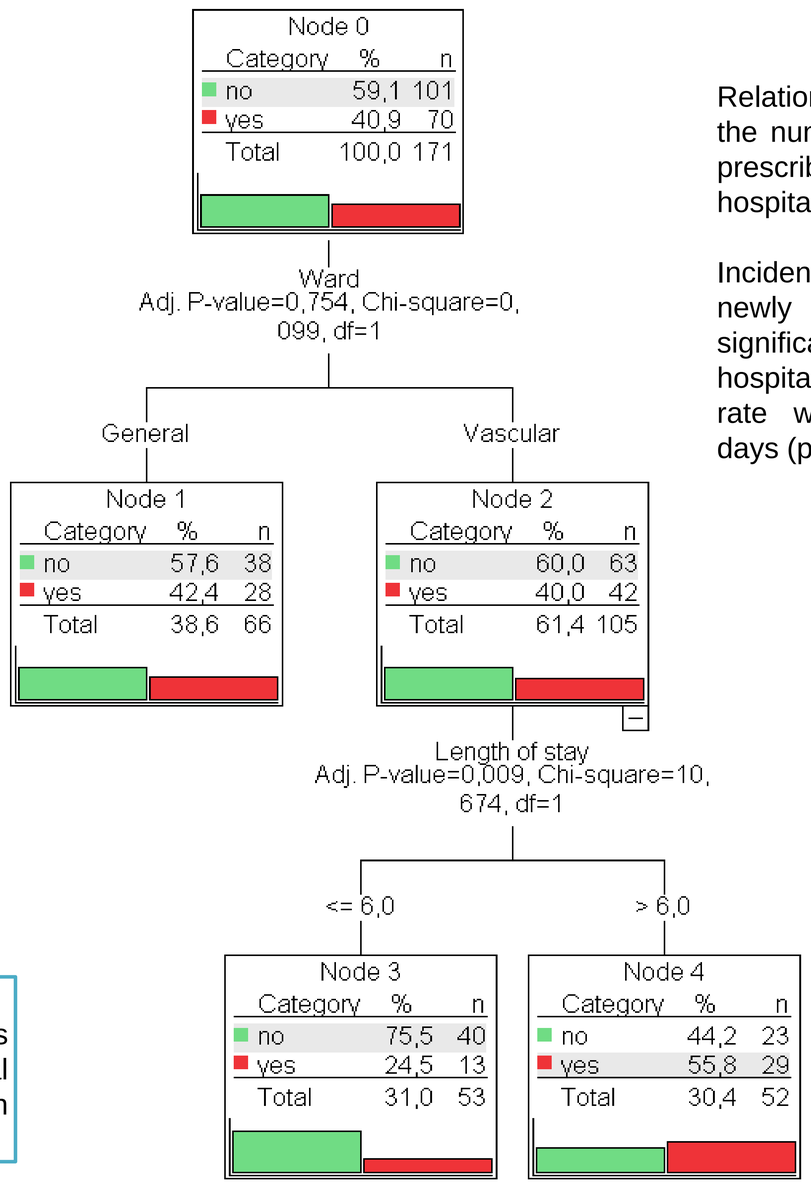
Results IV.: DRPs related to chronic medications



Relationship was detected between the number of DRPs and chronically taken medicines.

Incidence rate of DRPs related to chronic medications were significantly higher above 6 chronically taken drugs at the same time (33.8% vs. 12%, p<0.05).

Results V.: DRPs related to medications added during the hospital stay



Relationship was detected between the number of DRPs related to newly prescribed medications and length of hospital stay.

Incidence rate of DRPs (related to newly prescribed medications) were significantly higher above 6 hospitalised days (55.8%), while this rate was 25.5% in case of 6 or less days (p<0.05).

Conclusion
We've found that roughly half of all patients (89 patients - 52%) suffer from DRPs. The results obtained from the study help us filtering high-risk patients in the future and support the clinical pharmacist activity in this field. The pharmacist were able to complement the missing data in each case and consequently contributed to patient medication safety.

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