

HIGH INPUT IN PATIENT SAFETY DOCUMENTATION OF CARDIOVASCULAR SYSTEM DRUGS

Beata Laszloffy, Doris Haider
SMZ Süd – Kaiser Franz Josef Spital, Vienna, Austria

BACKGROUND

- Cardiovascular disease (CVD), together with its main components, coronary heart disease (CHD) and cerebrovascular diseases, is the main source of morbidity and mortality in the European Union (EU).
- Cardiovascular system drugs have a high risk for adverse drug events and medication errors.
- The involvement of clinical pharmacists demonstrated an ability to improve CVD outcomes through providing patient education, medicine management or a combination of both.

PURPOSE

In a retrospective analysis of data from 2016 to 2018 we identified most clinical pharmacists interventions in CVD-drugs. Therefore the questions we asked were:

- which areas of CVD could be improved by pharmacists with what kind of medication safety inputs
- which are the main types of different drugs in detail (e.g. ACE-Inhibitors, Diuretics, etc.)

METHODS

- Four times a week pharmaceutical counseling on two wards of a medical department for infectious diseases and tropical medicines with ~1600 to 1800 admissions per year (mainly patients of age > 70 years)
- a rated documentation system of the Viennese Hospital Trust was used
- Data was scored according to frequency and type of recommendations
- CVD drugs were recommended according to recent ESC-guidelines
- All accepted and implemented interventions were included (rate 70%)
- Interventions were communicated by written recommendations or in multidisciplinary decision
- All patients were informed about changes in their drug regimen

RESULTS

3145 clinical pharmaceutical recommendations were made within a time period of 3 years by the pharmacist (approx. 900 in the class of CVD-drugs)

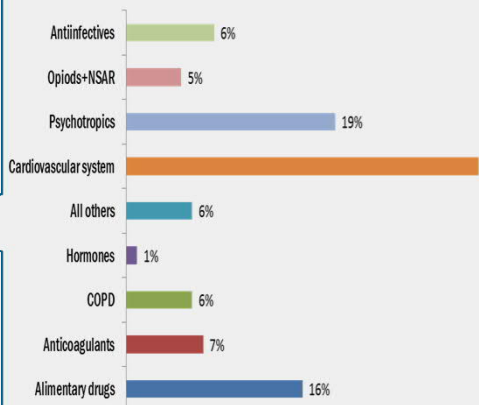
Distribution of main detected drug related problems (table 2)

- Stop medication due to missing indication (32%)
Most involved Drugs (31%) were Nicorandil (risk of ulcerations) and NO-Donators (lack of benefit for the patient)
- Suggestion of new medication: appropriate statin use according to ESC/EAS Guidelines was monitored
- Change of medication:
for reasons of better side effect profiles or after occurred adverse drug events (≥ 50% of involved classes)
 - Diuretics (e.g. electrolyte imbalances)
 - β-Blockers (e.g. selectivity)
 - Calcium Channel Blocker (e.g. less flush and edema)
- Time of administration:
simplification of the medication regimen (e.g. adjusting timing, frequency, dosage) matching to patients' activities of daily living (e.g. amlodipine and carvedilol + other β-blockers)
- Dose modification: optimization of ACE-Inhibitors and Sartanes according to blood pressure (21%) (e.g. long term control, during infection)

CONCLUSION

Patients with CVD are at significant risk for adverse drug events and medication errors due to polypharmacy; they also have proportionally greater utilization of high-risk medications. Improvements in patients' safety, level of care and medication management in addition to better control of cardiovascular risk factors and reduction in health care costs justify the need for active collaboration between clinical pharmacists and physicians in the management of patients with CVD. Patients with CVD are often underprescribed critical, evidence-based therapies for a variety of reasons. Our findings support the benefits of the presence of clinical pharmacists in a hospital setting and in particular in the cardiovascular setting.

Drug classes involved in interventions



Involved drug types in detail

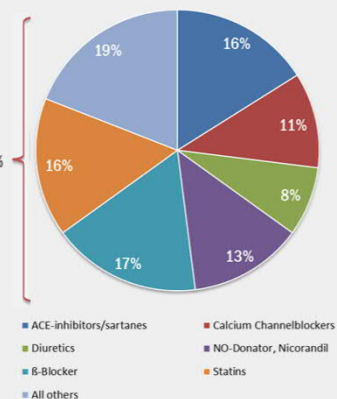


table 1

Distribution of drug related problems

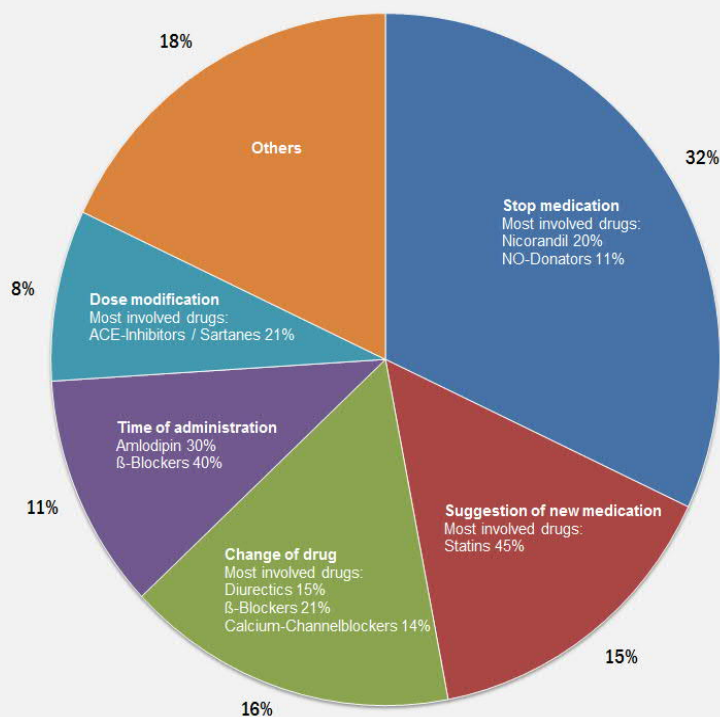


table 2

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