

Pharmaceutical interventions at a Danish emergency department: incidence, importance and special target groups for pharmaceutical intervention

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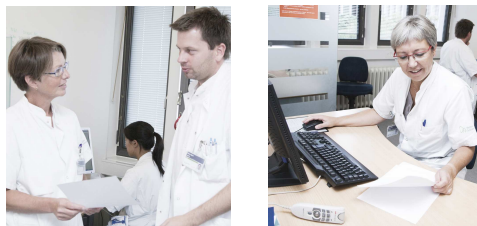


Objectives

A common reason for emergency admissions is medication related adverse events. It would be of interest to evaluate whether the addition of a specialist in clinical pharmacy would be beneficial for the quality in care of the patients.

The aim of the present study is to report the incidence, categories and seriousness of the suggested pharmacist interventions after the patient has been cared for by at least one physician, and to evaluate if it was possible to identify groups of patients in the Emergency Department (ED) who would benefit the most from a pharmacist review.

Methods and Study Design



The study took place at the ED at Lillebaelt Hospital, Denmark. The ED receives around 9.000 patients annually for admission with general surgical, vascular surgical, medical, cardiological or orthopedic conditions, with an average stay of 23 hours and a discharge rate to home of around 65 %.

During the study period the pharmacists reviewed the patient files in the ED. If the pharmacists suggested any kind of medical intervention, a notice in the file was made describing the problem and a suggestion for a solution. After the study period two specialists reviewed the intervention files. An evaluations of the importance of the pharmacist notice was put into 4 categories.

Results

During the study period of 130 working days 1696 patient files were reviewed. The number of pharmacists' notices amounted to 420. A random sample of 324 patient files was further studied. 153 (47%) of the pharmaceutical interventions were considered serious.

Figure 1: Importance of interventions

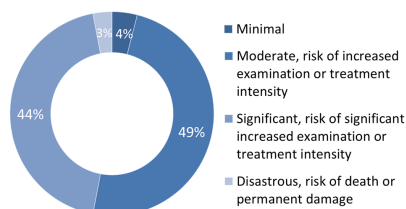


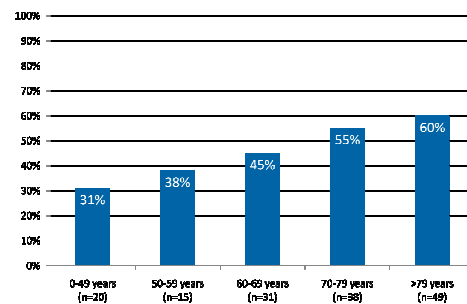
Table 1: Primary interventions

Primary intervention	Number	Percent
Lack of medication reconciliation	110	34 %
Untreated indication	47	15 %
Incorrect dosage/frequency	45	14 %
Inappropriate medication	45	14 %
Others*	26	8 %
Interactions	21	6 %
Prescription errors	20	6 %
Prescription without indication	10	3 %

* Example: i.v. instead of orally, mg instead of number, adverse reactions (one patient only)

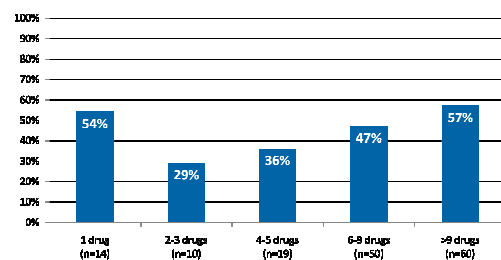
Discussion

Figure 2: Percent of serious interventions in relation to age



Increasing age and one drug as opposed to 2-9 drugs were associated with serious intervention. Only age above 70 years remained of significant importance for identifying patients with a risk of serious intervention.

Figure 3: Percent of serious interventions in relation to number of drugs



Conclusions

We found that there was a considerable amount of serious pharmaceutical interventions in the ED uncovered by the physicians, and these interventions were especially prevalent among the elderly patients, irrespective of the number of prescriptions.

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