Background

- Medication errors leading to preventable adverse drug events occur mainly during transitions of care (admission and discharge from a healthcare facility, hospital interdepartmental transfers)
- Data on drug reconciliation in surgical wards are scarce; no data in Switzerland so far

Objectives

- Assess the prevalence of medication discrepancies in patients admitted to an orthopedic and trauma department during the Medication Reconciliation process performed by a pharmacist at admission
- Identify potential risk factors

Setting and Method

A prospective single-center observational study
Conducted over a 15-week period (07/2021 - 11/2021)

Two units of an orthopedic and trauma department of a tertiary university hospital in Switzerland

Eligible patients:
- admitted for a duration of hospitalization of more than 48 hours
- presence of a chronic pathology and/or a medication at risk and/or at the doctor’s request

1. Establishment of the Best Possible Medication History (BPMH) list for each patient from 3 information sources
2. Comparison of the BPMH with the list of admission medication prescriptions to identify medication discrepancies
3. Classification of discrepancies as intentional or unintentional (UMDs) on the basis of the medical record and, if necessary, a discussion with the doctor in charge of the patient

Identify predictors of the « presence of unintentional discrepancy » among: age, place of residence before hospitalization (at home/not at home), polymedication (≥ 5 medications), elective/non-elective admission, week/weekend admission [multivariable analysis by logistic regression]

Main outcomes measures

Quantify the UMDs at admission

Describe the UMDs at admission by type: drug discontinuation; drug addition; substitution; change (in dosage / frequency / route of administration)

Results

1. Characteristics of the study population

120 patients included
- Median age: 71 years [IQR: 63.5-83.5]
- 71.7% of patients: ≥ 5 medications before admission
- 80% of patients: live at home before admission
- Median length of stay: 9 days [IQR: 6-13]

2. Characteristics of the medication reconciliation activity at admission

- 36 minutes median pharmaceutical time required to perform the medication reconciliation activity [IQR: 29-45]
- 2/3 of patients reconciled within 48 hours post-admission
- 88.5% of UMDs corrected by doctors in charge of patients at hospital

3. Characteristics of UMDs at admission

- 60.8% of included patients had at least one UMD on admission [IQR: 1-3]
- Change 25.64%
- Substitution 3.21%
- Drug discontinuation 67.31%
- Drug addition 3.85%

Fig. 1 Subtypes of UMDs (n = 156)

4. Multivariable analysis by logistic regression

Polymedication (≥ 5 medications) was the only variable associated with “presence of an unintended discrepancy” at a level very close to the established statistical significance level of p = 0.05 [OR = 2.24, p = 0.065].

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