Assessment of medication discrepancies by pharmacist-led medication reconciliation at admission : a prospective study in traumatology

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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 **the doctor's request**

1. **Establishment** of the Best Possible Medication History (**BPMH**) list for each patient from 3 information sources
2. Comparaison of the BPMH with the list of admission medication prescriptions to **identify medication discrepancies**
3. **Classification of discrepancies** as intentional or unintenional (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 outcome 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)

Conclusion

This study confirms the **major interest of the Medication Reconciliation at admission in an orthopedic and traumatology department** in an elderly and polymedicated population, exposed to high-risk medications and to a risky process.

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 lenght 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

reconcilied within 48 hours post-admission

3. Characteristics of UMDs at admission

60.8 %
of included patients had at least one UMD on admission

2 UMDs/patient
in median [IQR : 1-3]

88.5 %
of UMDs corrected by doctors in charge of patients at hospital

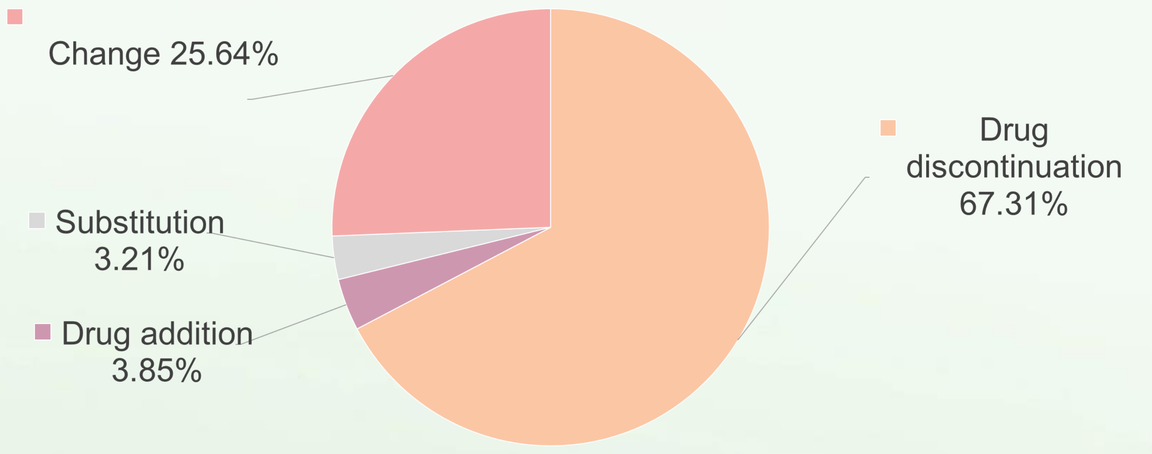

Fig. 1 Subtypes of UMDs (n = 156)

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].

Disclaimer : No conflict of interest to declare

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