Local assessment of Medication Review in an internal medicine unit

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Background

Polypharmacy commonly found in multi-morbid elderly patients, is linked to an increased risk of preventable drug-drug interactions (DDIs), adverse drug events (ADE), use of inappropriate medications, hospital admissions and overall mortality.

Medication review (MR) constitutes an attempt to improve the quality of prescribing and to evaluate inappropriate polypharmacy identifying medication discrepancies (MDs).

While the concept of MR seems straightforward, local implementation can be challenging in settings where the Pharmacist does not conduct MR as daily practice.

In May 2017, local assessment was conducted to implement a MR project in an internal medicine ward.

Figure 1. Multi-morbid elderly patient

| Increased risk of preventable DDIs |
| ADE |
| Use of inappropriate medications |
| Hospital admissions |
| Overall mortality |

Table 1. Risks of polypharmacy

Figure 2. Medication reconciliation

Purpose

To assess clinical relevance of a MR project and to define a structured model.

Material and methods

A retrospective study was conducted at admission (A) and at discharge (D) in an internal medicine unit over a 5-month period by Pharmacists.

Patients included were elderly and/or had polypharmacy.

Data collected were:
- number of patients;
- number of drugs evaluated;
- number and type of identified MDs.

Figure 3. Data collection sheet

Results

Forty-one patients (34% male, mean age 84.5 ± 7.7 years) were included corresponding to 309 prescriptions at A and 290 at D. The mean number of drugs per patients was 7.5 ± 2.7 at A and 7.1 ± 3.6 at D. Five patients were not considered at D (death). Overall, 128 MDs were identified at A and 148 at D. The most frequent type of MDs were severe DDIs (A: 49; D: 53), therapeutic duplications (A: 10; D: 10), dose modifications (A: 29; D: 34) and omissions (A: 40; D: 51). Twenty-five patients (61%) had already been admitted to hospital previously and 4 patients (10%) were admitted for falls (all had therapeutic duplication and > 2 severe DDIs).

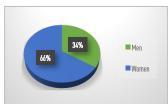| Patient characteristics	N°
N° patients	41
Mean age (years) ± SD	84.5±7,7
Mean hospital admission (days) + median	15.6 + 13

Table 2. Patient characteristics

Graph 1. Patients' sex

	At A	At D
N° prescriptions	309	290
N° drugs per patient ± SD	7.5 ± 2.7	7.1 ± 3.6
MDs	128	148
Severe DDIs	49	53
Therapeutic duplications	10	10
Dose modifications	29	34
Omissions	40	51

Table 3. Results

Figure 4. MR at A and at D

Conclusion

The study demonstrated that MR could be an important tool in this setting to avoid MDs and ensure patient safety.

However, implementation is not so simple in a setting where Pharmacists do not conduct MR in daily practice because of limited resources.

Therefore, priority patients have been defined to support clinicians in identifying MDs when most needed: elderly patients at discharge with polypharmacy and patients admitted to the emergency department for falls.

References
Christensen M. Cochrane Database Syst Rev 2016