Balancing medication use in nursing home residents with life-limiting disease

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Introduction

- Balancing medication use at the end of life means carefully weighing the benefit-risk ratio of every added medication and every medication that was prescribed earlier in the disease trajectory of a life-limiting disease
- Unbalanced medication use may foster polypharmacy, PIM use and associated health-related outcomes such as falls, hospitalizations etc.
- Aim: to describe medication use at two time points within a period of 3 to 6 months, the prevalence of actual deprescribing of medications suitable for deprescribing, and the prevalence of new initiation of PIMs according to STOPPFrail**

Methods

- Cross-sectional study with retrospective analyses of medication use
- Convenience sample of 10 nursing homes
- Inclusion criteria participants:
 - Age $\geq$ 65 years
 - Capable of answering questions adequately
 - Limited life-expectancy due to dementia, organ failure and/or advanced cancer
- Copy medication chart at 2 time points:
 - Time of data collection (t2)
 - Time 3 to 6 months before data collection (t1)
- Deprescribing = stopping or tapering a medication suitable for deprescribing between t1 and t2
- Medications suitable for deprescribing: literature & expert opinion
- PIMs according to STOPPFrail, only PIMs for which no clinical information is needed to determine appropriateness

Results

Characteristics of the study population	n=296
Age in years mean (range)	86.2 (65-100)
Gender: female (%)	74.0
Informal caregiver interviewed (%)	54.4
Life-limiting disease (%):	
• Dementia	72.6
• Heart failure	31.2
• COPD	11.1
• Renal failure	10.8
• Advanced cancer	6.8

Table 1. Characteristics of the study population

Figure 1. Prevalence (%) of initiation of PIMs according to STOPPFrail

Results - continued

Figure 2. Prevalence of medications suitable for deprescribing at t1 and t2 and prevalence of actual deprescribing of these medications between t1 and t2

- Mean number of chronic medications increased from 7.4 (t1) to 7.9 (t2) ($p < 0.001$)
- For almost one third (30%) at least one PIM from the STOPPFrail list was initiated at t2
- For almost one third (31%) at least one of the medications suitable for deprescribing was deprescribed between t1 and t2
- Changes in medication use were observed in 133 residents. Deprescribing was observed in 76 residents. In this subgroup of 76 residents, less PIMs were initiated.

Discussion

- Strengths:**
 - Data on medication use = representation of what residents actually use
 - Validated criteria, the STOPPFrail criteria, were used to identify PIMs
- Limitations:**
 - Using a selection of PIMs instead of the whole list may have led to an underestimation of PIM use
 - No information on co-morbidities, indications and contra-indications
 - Only a small selection of life-limiting diseases included in our sample

Conclusion

- Medication use remained high at the end of life for nursing home residents with life-limiting disease
- Deprescribing was limited
- In the subgroup of 76 residents for whom deprescribing was observed, less new PIMs were initiated.
- In these 76 people medication use can be considered to be carefully balanced