Significance of potentially inappropriate medication for elderly patients at a German university hospital

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Background

Certain drugs are classified as potentially inappropriate medication (PIM) for the elderly because they bear an increased risk of adverse drug events resulting in major safety concerns. Several classifications have been published to identify and avoid PIM. For this study FORTA[1] (fit for the aged), PRISCUS[2] (Latin: time-honoured) and STOPP[3] (Screening Tool of Older Persons' potentially inappropriate Prescriptions) criteria have been chosen as the most relevant ones.

Purpose

The aims are to determine which PIM are taken by elderly patients at University Medical Center Hamburg-Eppendorf (UKE) and how the prevalence of PIM changes from admission to discharge.

Material and Methods

Based on the criteria provided by FORTA, PRISCUS and STOPP, medication of patients >65 years is screened within several point prevalence analyses at admission, during inpatient stay and at discharge, respectively.

Medication is recorded and correlated to diagnoses and reason for admission.

Patients are included in the study if they were admitted via the emergency department with at least five drugs prescribed on admission.

Results (interim)

660 patients were screened until 10/2012.

- 107 patients met the inclusion criteria
- 63% of them were female
- median age 79.8 years (min 65 years, max 96 years)

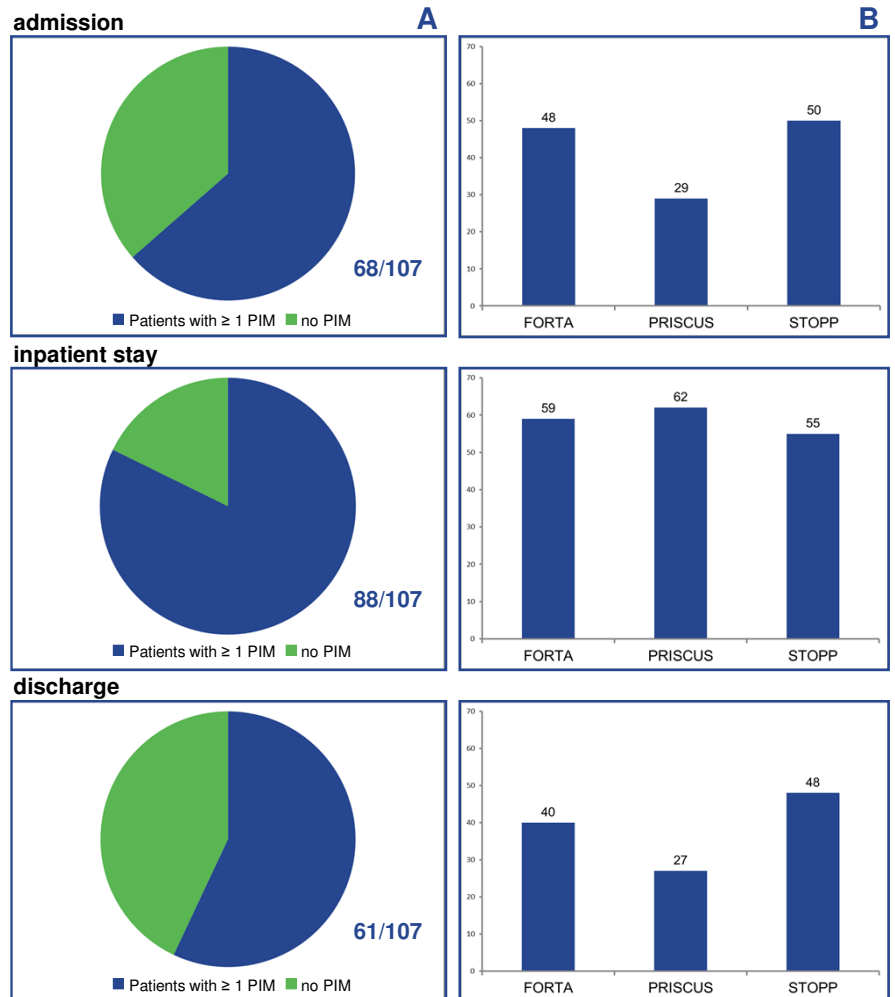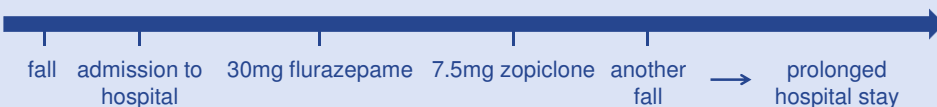Zopiclone was the most often (29% (31/107)) prescribed PIM during inpatient stay.

Figure A: Pie charts show the number of patients taking one or more PIM (blue) or no PIM (green) at admission, during inpatient stay and at discharge.

Figure B: Bar charts show the number of patients taking at least one PIM defined by FORTA, PRISCUS and STOPP, respectively. Multiple classifications are possible.

Example

83-year-old woman

fall → admission to hospital → 30mg flurazepame → 7.5mg zopiclone → another fall → prolonged hospital stay

Following FORTA, PRISCUS and STOPP flurazepame is a PIM which increases the risk to fall. Zopiclone is classified as a PIM by PRISCUS and is said to have a poor benefit-risk-ratio by FORTA. It is not classified by STOPP.

➡ To prevent such incidences in the future a tool will be developed with which the use of PIM at UKE can be minimized.

Conclusion

Data of the interim analysis show that a high proportion of inpatients received PIM. Once the data acquisition of 200 patients is completed, further evaluation is needed to determine the consequences of PIM use, the correlation to reason for admission, which classification is best to detect PIM in hospitals and how the use of PIM at UKE can be minimized.

[1] M. Wehling, H. Burkhardt: Arzneitherapie für Ältere, Springer, 2. Auflage, 2011; [2] Dtsch Arztebl Int 2010; 107(31–32): 543–51; [3] Int J Clin Pharmacol Ther. 2008 Feb;46(2):72-83