A comparison of two tools to screen potentially inappropriate medication in internal medicine patients

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Abstract

What is known: Potentially inappropriate medication (PIM) is an important issue for inpatient management; it has been associated with safety problems, such as increases in adverse drugs events, and with longer hospital stays and higher healthcare costs.

Objective : To compare two PIM-screening tools—STOPP/START and PIM-Check—applied to internal medicine patients. A second objective was to compare the use of PIMs in readmitted and non-readmitted patients.

Method : A retrospective observational study, in the general internal medicine ward of a Swiss non-university hospital. We analysed a random sample of 50 patients, hospitalized in 2013, whose readmission within 30 days of discharge had been potentially preventable, and compared them to a sample of 50 sex- and age-matched patients who were not readmitted. PIMs were screened using the STOPP/START tool, developed for geriatric patients, and the PIM-Check tool, developed for internal medicine patients. The time needed to perform each patient's analysis was measured. A clinical pharmacist counted and evaluated each PIM detected, based on its clinical relevance to the individual patient's case. The rates of screened and validated PIMs involving readmitted and non-readmitted patients were compared.

Results : Across the whole population, PIM-Check and STOPP/START detected 1348 and 537 PIMs, respectively, representing 13.5 and 5.4 PIMs/patient. Screening time was substantially shorter with PIM-Check than with STOPP/START (4 vs 10 minutes, respectively). The clinical pharmacist judged that 45% and 42% of the PIMs detected using PIM-Check and STOPP/START, respectively, were clinically relevant to individual patients' cases. No significant differences in the rates of detected and clinically relevant PIM were found between readmitted and non-readmitted patients.
What is new and conclusion : Internal medicine patients are frequently prescribed PIMs. PIM-Check's PIM detection rate was three times higher than STOPP/START's, and its screening time was shorter thanks to its electronic interface. Nearly half of the PIMs detected were judged to be non-clinically relevant, however, potentially overalerting the prescriber. These tools can, nevertheless, be considered useful in daily practice. Furthermore, the relevance of any PIM detected by these tools should always be carefully evaluated within the clinical context surrounding the individual patient.

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