Prevention of potentially inappropriate medication in internal medicine patients: a prospective study using the electronic application PIM-Check

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Abstract

What is known: Potentially inappropriate medication (PIM) is a risk factor for drug-related problems (DRPs) and an important inpatient safety issue. PIM-Check is a screening tool designed to detect PIM in internal medicine patients.

Objective: This study aimed to determine whether PIM-Check could help to identify and reduce DRPs.

Method: Prospective interventional study conducted on patients admitted to internal medicine wards in a university hospital between 1 September 2015 and 30 October 2015. Adult patients were included if they were hospitalized for more than 48 hours. Patients received either usual care (period 1 = control) or usual care plus medication screening by the wards' chief residents using PIM-Check (period 2 = intervention). An expert panel, composed of a clinical pharmacist, a clinical pharmacologist and two attending physicians in internal medicine, blinded to patient groups, identified DRPs.

Results: A total of 297 patients were included (intervention: 109). The groups' demographic parameters were similar. The expert panel identified 909 DRPs (598: control;311: intervention). The mean number of DRPs per patient was similar in the control (3.2; 95% CI: 2.9-3.5) and intervention groups (2.9; 95% CI: 2.4-3.3) (*P* = .12). PIM-Check displayed 33.4% of the 311 DRPs identified in the intervention group.

What is new and conclusion: In this study, PIM-Check had limited value, as the average number of DRPs per person was similar in both groups. Although one-third of DRPs counted in intervention group had been identified by PIM-Check, this did not lead to a reduction in DRPs. This lack of impact of PIM-Check on drug prescription
may be explained by the number of alerts displayed by the application and hospital physicians' reluctance to modify the treatments for chronic conditions previously prescribed by general practitioners.

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