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Prevalence of potentially inappropriate prescribing among older adults: a comparison of the Beers 2012 and Screening Tool of Older Person's Prescriptions (STOPP) criteria version

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Background: There is not any study comparing the Beers 2012 and STOPP version 2 criteria nor reporting Prevalence of Potentially Inappropriate Prescribing (PIM) with STOPP version 2. We aimed to evaluate the prescriptions of patients admitted to geriatric outpatient clinic with these tools and document factors related to PIM use.

Method: Older patients (>65-years) admitted to outpatient clinic of a university hospital were retrospectively evaluated for PIM with Beers 2012 and STOPP version 2 criteria. Age, sex, chronic disease and drug numbers, functional, depression and nutritional statuses were studied with regression analysis as possible factors related to PIM.

Results: The study included 667 subjects (63.1% female, mean age: 77.6±6.3 years). Mean drug number was 6.1±3.4. PIM prevalence detected by STOPP version 2 was higher than that of the Beers 2012 criteria (39.1% vs 33.3%, respectively; $p<0.001$; $Z= -3.5$) with moderate agreement in between ($\kappa=0.44$). Antipsychotics, over the counter vitamin/supplements, aspirin, selective-serotonin-reuptake-inhibitors and anticholinergics were the leading drug classes for PIM. Extend of polypharmacy [$p<0.001$, odds ratio (OR)= 1.29, 95% confidence interval (CI)= 1.20-1.38] was the most important variable related to PIM, along with multiple comorbidities ($p=0.005$, OR=1.16, 95% CI= 1.05-1.30), and functional dependency ($p=0.009$, OR= 0.90, 95% CI= 0.83-0.97).

Conclusions: Inappropriate prescription prevalence of ~40% by STOPP version 2 was similar to the global worldwide prevalence -yet at the upper end. STOPP version 2 was more succesfull than Beers 2012 to detect PIM. Patients with multiple drug use, multiple comorbidities, and more dependency were more likely to have PIM requiring special attention during prescription.