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## Prescription of Potentially Inappropriate Drugs for Geriatric Patients and Pharmacists Interventions

Conxita Mestres<sup>1\*</sup>, Anna Agustí<sup>2</sup>, Laura Puerta<sup>3</sup>

<sup>1</sup>Pharmacy Director, Group Mutuam, Barcelona, Spain

<sup>2</sup>Pharmacist, HSS Mutua Girona. Girona, Spain

<sup>3</sup>Pharmacist, HSS Mutuam Güell, Barcelona, Spain

### Review Article

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#### \*For Correspondence

Conxita Mestres, Pharmacy Director, Group Mutuam, Barcelona, Spain,  
Tel: 34699005935

**E-mail:** conxita.mestres@mutuam.com

### BRIEF REPORT

Drug therapy in elderly patients, is a controversial and complicated issue, due the convergence of different problems as their frailty and multiple comorbidities, resulting in a higher probability to suffer drug adverse effects and generate higher medication costs.

Different tools and guidelines are used in the adequacy of drug prescription in this patients, being Beers Criteria one of the most common <sup>[1]</sup>. In 2010, we began in our institutions (two geriatric long term and sub-acute care hospitals) a study to improve the prescription of potentially inappropriate drugs based on these criteria. We found that 19% of the medications used were potentially inappropriate drugs prescribed to our patients during 2010; therefore we undertook a program to inform physicians about the possibility of improvement in this area. We provided the physicians with factsheets concerning potentially inappropriate use of drugs in geriatric patients followed by a program of interventions/recommendations from the pharmacists, every time they found prescriptions of potentially inappropriate drugs susceptible to be changed for other more appropriate medications. In the period of our interventions (March-November 2012), the potentially inappropriate drugs prescribed dropped to 14.5% <sup>[2]</sup>.

Alprazolam has been and remains one of the major medications that still require pharmacy intervention as physicians are reluctant to stop or change to a more appropriate benzodiazepine.

Drugs with anticholinergic effects are also problematic in patients who are taking multiple medications. Often, we find patients taking several of these drugs leading to an important anticholinergic event.

What has happened since then? In our Pharmacy Service we have enlarged the scope of pharmacist's interventions, as we were aware that Beers Criteria were not enough to use as a basis for improving prescription; even though, recently, an updated version of Beers Criteria has been published, including two new areas: drug-drug interactions to avoid and drugs to adjust or avoid based on renal function <sup>[4]</sup>.

During a normal working day, pharmacists review patients' medication at admission, during hospital stay and at discharge. We have developed an algorithm (**Figure 1**) in order standardize our work, that includes potentially inappropriate drugs review as well as other professional pharmacy activities.

The first approach was made in 2010, when pharmacists became an integral part of the healthcare team at the hospital. Therefore, when the range of recommendations and interventions was enlarged we have had less barriers and reluctance for their acceptance by the physicians. We have incorporated many other criteria in our drug revisions as STOPP/START criteria <sup>[3]</sup>, dosage, interactions, potential adverse drug reactions and others as can be seen in our algorithm. Regarding potentially inappropriate drug prescription, this has continued to improve, with only 8% of prescriptions during 2015 were in this category. This perhaps

resulted from our efforts in this respect. The work we did so far has focused on potentially inappropriate drug prescription which enabled us to continually improve in our recommendation, but also to broaden our pharmaceutical interventions and increase our collaboration with physicians. We continue to have important challenges in this area, because, even though there have been an increasing interest in improving medication in older patients at all levels of health care, we see that poly-pharmacy is not diminishing over time. It is very essential that pharmaceutical care becomes an integral part in delivering healthcare to patients as has been documented in this short report [4,5].

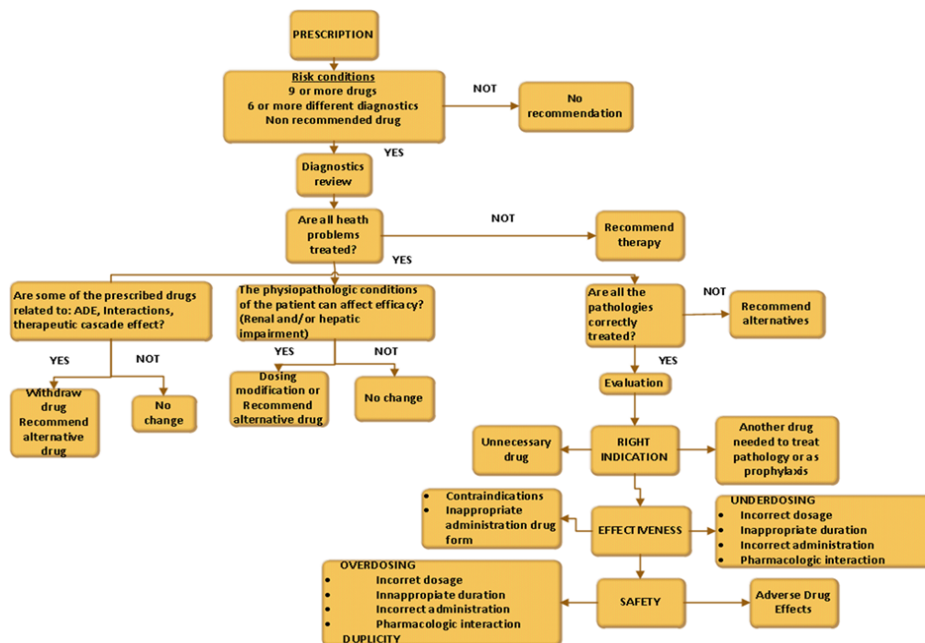


Figure 1. Algorithm for pharmacist's prescription revision.

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