

The Use of Medicines by Older Patients: A Need to Improve

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Current Updates in Gerontology

In most European countries, the number of people older than 65 years are growing faster than other age groups. Twenty-four percent of the population is already aged 60 years or over and that proportion is projected to reach 34 per cent in 2050 [1]. Various factors have contributed to this demographic change, such as the evolution of medicine, the access of the population to health care services and health technology, like medicines, that play an important role to promote better health. Nowadays policymakers and healthcare professionals face a new challenge: achieving a better quality of life for increasing peoples' life.

Population ageing increases the demand for healthcare services and technologies to prevent and treat chronic conditions associated with the ageing process. In aged population regions this challenge should be a priority for all the stakeholders of the region, namely academic and researchers, health professionals and policymakers. Data from United Nations shows that in 2013 people lost, on average, approximately nine years of healthy life due to disability. Older persons are tremendously diverse in terms of health and wellbeing. Understanding levels and trends in the prevalence and severity of disability is a key to assessing the implications of ageing for population health [1].

The morphological, physiological, biochemical and psychological changes that take place during the aging process will determine the loss of adaptability, making the elderly more susceptible to external aggressions, occurring higher incidence of pathological processes. The main consequences of multimorbidity are decreased functional capacity, poor quality of life, and the increasing use of healthcare system, which carries more costs. This high prevalence of chronic diseases leads to a wide use of drugs by this population, and it was observed that older patients use, on average, 2 to 5 prescription drugs daily, and about 20 to 40%, use more than 5 medicines [2]. Besides the high level of prescription, elderly drugs over-use are also related to higher frequency and drug intake for longer durations than clinically indicated. In addition, the biological and physiological changes that occur during aging process have implication on drugs pharmacokinetics and pharmacodynamics, leading, frequently, to drug adverse reactions (ADRs) [3,4].

It is well known that polypharmacy, drug pharmacokinetic and pharmacodynamic modifications and the decline of physiological and cognitive function in elderly make them more prone to Drug-Related Problems (DRPs). Pharmaceutical Care Network Europe Foundation defines Drug-Related Problem as an event or circumstance involving drug therapy that actually or potentially interferes with desired health outcomes [5]. DRPs could be associated with prescribing, dispensing or use of the medicines. When associated with the prescription the main causes are the selection of the drug and drug form, dose selection and treatment duration. Related to the dispensing, the cause of DRP is associated with the logistics of the prescribing and dispensing process. On the other hand, when associated with the use of medicines the cause of the DRP is related to

the way the patient gets the drug from a health professional or carer, in spite of proper dosage instructions (on the label), leading to inappropriate timing of administration or dosing, drug under-administered, drug over-administered, drug not administered at all or wrong drug administered. For DRP related to patient the cause of the DRP is associated with patient and his behaviour. It could occur because patient uses/takes drug less or more than prescribed or does not take the drug at all, patient abuses drug (unregulated overuse) or uses unnecessary drug, patient takes food that interacts, patient stored drug inappropriately, patients takes drug in inappropriate timing or dosing intervals, patient administers/uses the drug in a wrong way, drug abused (unregulated overuse) or patient is unable to use drug/form as directed [5].

About two-thirds of all older people have problems with their medicines, either related to drug use because the complexity and difficulty to take drugs [6-8], either related to prescription because the high prevalence of Potentially Inappropriate Medicines (PIMs) prescription reported in the elderly [9-11] or related to dispensing [12].

Drug-related problems in older patients is mostly associated with the use of PIMs, that have been reported to account for a large percentage of emergency treatment and hospitalizations, increasing the costs with health in the most aged regions [13-17].

For detection of inappropriate prescribing in older patients, some criteria have been developed [18]. In a search on PubMed, it was found that the most used criteria have been Beers' Criteria, Medication Appropriateness Index (MAI), Screening Tool of Older Person's potentially inappropriate prescription (STOPP) and Screening Tool to Alert doctors to Right treatment (START). In 2015 it was published the EU(7)-PIM list, a screening tool developed by experts from seven European countries that allows identification and comparison of PIM prescribing in older people across European countries [19]. In recent studies using these tools [20-23] it was observed that PIMs evaluated by STOPP criteria varied between 46.2% and 69%, by the Beers criteria varied between 24% and 50%, and for the EU(7)-PIM list, values ranged between 40.9% and 66.7%. These results show a high prevalence of PIMs in older people, and the needs to develop European studies to investigate the feasibility, applicability and clinical benefits of the new EU(7)-PIM list.

Improving the quality and safety of prescribing in older people is a global challenge for all the stakeholders, such as health professionals, researchers and policymakers.

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