

Appropriate Medication Use in Individuals Aged 80 or More Years

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Abstract

Over the last few years, there has been a rapid and steadily expanding demographic explosion in the elderly population in France. When the most dynamic segment of this growth is considered, i.e. patients aged 80 years or more (who, moreover, usually have several diseases), under- or over-prescribing and/or inappropriate prescribing are identified. Three short- and medium-term recommendations are proposed: to quickly get expert consensus on the theme of prescribing for the aged patient; to integrate systematic drug re-evaluation into annual consultations for people aged 80 years or more; and to better coordinate actions and communication between institutions, health professionals and the pharmaceutical industry.

Keywords: appropriate medication use, drug, iatrogenesis, elderly

To complete the previous Giens 2003 Round Table project^[1] focusing on recommendations concerning drug re-evaluation for the elderly age group, two objectives have been identified by the 2004 Round Table members:

1. to identify indicators and tools favouring appropriate medication use for this age group;
2. to identify communication tools and ultimately induce behavioural changes favouring medication use.

1. Context of Medication Consumption and Use in Elderly Patients in France

1.1 Frequency of Polymedication

According to demographic data in France and the US, the elderly population in general and the population aged more than 80 years in particular are steadily growing.

In 1999, during the last census, people aged over 65 years accounted for more than 9 400 000 people in France, i.e. 15.7% of the population. In 2004, this population had reached nearly ten million, i.e. 16.2% of the population according to the French national institute of statistics and economic studies (Institut National des Statistiques et des Etudes Economiques [INSEE]).^[2]

The population aged over 80 years amounted to more than 2 150 000 in 1999 and 2 620 000 in 2004, i.e. an increase of nearly 18%.

Demographic data (INSEE 2003) confirm that this increase (absolute as well as relative) is likely to be sustained, as life expectancy at birth is growing (82.9 years) in women and (75.9 years) in men in France, while births are decreasing and reaching a no-replacement rate.

Drug consumption is high in the elderly population and would account for 33% of total drug consumption according to data from a French cohort study.^[3] Elderly individuals living in institutions consume more medicines than those living at home (5.2 vs 4.5 medicines per day). Drug consumption increases with patient age and, whatever the age, women consume more drugs than men. Thirty-seven percent of the cost of reimbursed medications is explained by prescriptions for elderly patients.^[4]

The union of French government departments dealing with health insurance and sickness benefits in the Haute-Normandie region (L'Union Régionale des Caisses d'Assurance Maladie [URCAM] de Haute-Normandie) analysed the drug prescriptions for March 1999 for individuals aged more than 65 years. This study showed that, on average, 5.5 medicines were delivered per patient. In a study from the Bretagne region, URCAM focused

* For a list of participants, please see the end of the article.

on people aged over 80 years and showed that, on average, 6.7 different medicines were delivered and reimbursed per patient.

A study by the Poitou-Charentes region URCAM focused on hospital admissions of people aged more than 70 years for 5 consecutive days. Drug consumption was, on average, five medicines per day, although it was higher in patients with adverse effects. The prevalence of adverse effects was 12.5%.

In the Provence-Alpes-Côte d'Azur region, URCAM performed a study on polymedication in those aged 65 years and/or more, based upon a questionnaire given to patients selected according to medicine reimbursement criteria. This study showed that 28% of the patients had not complied with their treatment: 64% because they forgot, while in 70.5% noncompliance was intentional (feelings of satisfaction or dissatisfaction). Moreover, the study has shown that self-medication was occasional for 39% of the patients and usual for 25%.

According to data originating from French government departments dealing with health insurance and sickness benefits in family medicine (MSA [Mutuelle Sociale Agricole], CNAMTS [Caisse Nationale d'Assurance Maladie des Travailleurs Salariés]), it appears that the therapeutic classes most prescribed in this age group are, in descending order, painkillers, cardiovascular drugs, digestive tract drugs and psychotropic drugs.

In summary, there is some evidence supporting polymedication in the very elderly patient because of the existence of comorbidities.

1.2 Inappropriate Prescribing in the Elderly

Three main categories of prescribing misuse can be identified:

- underutilisation of useful medicines;
- over-prescribing of some drugs in the absence of any obvious indication, or drugs with an insufficient medical service level;
- inappropriate prescribing with, for example, failure to take into account known interactions, redundant treatments, non-compliance with dosages or treatment durations, failure to carry out or noncompliance with recommendations on the monitoring of treatment effects, with, overall, no regular re-evaluation of the individual benefit/risk ratio or therapeutic strategy.

In the US, an expert panel consensus published a useful list of criteria to characterise inappropriate medication prescribing for people aged more than 65 years.^[5]

The most iatrogenic drugs (i.e., most frequently causing adverse effects associated with hospitalisation) are, in descending order, anticoagulants (particularly anti-vitamin K), nonsteroidal

anti-inflammatory drugs, diuretics, ACE (angiotensin-converting enzyme) inhibitors, β -blockers and antiarrhythmic agents, sulfamide drugs, hypoglycaemic agents, psychotropic drugs and anticholinergic drugs.

Faced with these observations, the general practitioners present have stressed how difficult it is to re-evaluate prescriptions, because their origin varies (e.g. specialists) and because patients become dependent on non-essential drugs that claim to improve their quality of life.

1.3 The Risk

Because of this population's fragility (homeostasis and metabolic impairment, renal insufficiency together with pharmacokinetic changes, and the direct influence of concomitant diseases), in people aged more than 65 years iatrogenesis has been reported to be responsible for 5–10% of total hospitalisations.^[6]

Drug accidents are twice as frequent, on average, in those aged over 65 years and 10–20% of these accidents lead to hospitalisation. A high proportion (> 50%) of iatrogenesis in the elderly is deemed avoidable.^[7]

While medicines are useful overall in patients aged more than 80 years, their appropriate use requires both some general and specific precautions, depending on the health of the individual patient. However, analysis of drug consumption in this population shows that both drug prescribing and utilisation are inappropriate.

2. Indicators of and Tools to Identify Appropriate Medication Use

The legal guideline for appropriate drug use consists of the Summary of Product Characteristics (SPC) and the patient leaflet.

Information referring to older individuals is available, even though disseminated over different SPC sections (4.1: therapeutic indications, 4.2: dosage and administration, 4.4: warnings and particular precautions for use, 5.2 pharmacokinetics properties), as imposed by the European Guideline (SPC Guideline, December 1999).^[8]

The number of very elderly patients included in phase III trials is still insufficient, particularly for diseases that do not exclusively concern older patients, but in whom the drug treatments may be potentially useful. According to the International Conference on Harmonisation (ICH) Guideline dated 1994 (ICH Topic E7-Studies in Support of Special Populations: Geriatrics^[9]): "Drugs must be studied in the different age groups, including older patients, when there is no doubt about usefulness. Patients

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