

## **ABSTRACT**

### **INTRODUCTION:**

The issue of care for older patients has recently been discussed more and more frequently. The proportion of older adults in the population has been raising exponentially, especially in the last few decades, so the expectations concerning the extent and quality of geriatric care increases as well.

In order to improve the quality of pharmacotherapy in the old age, many tools have been published in the last 25 years aimed at support of physicians in better care for older adults, enabling selection of safer pharmacotherapeutic strategies that respect specific pharmacological, physiological and homeostatic changes in the old age.

Consequently, multiple explicit criteria of potentially inappropriate drugs and drug procedures (PIMs) have been published to help clinicians to distinguish pharmacotherapeutic strategies of choice for geriatric patients and oppositely to identify drugs, indications and dosing schedules potentially inappropriate in seniors.

The aim of this diploma thesis was to evaluate in the pilot round the registration rates and other issues related to availability of all known PIMs in countries participating in the EU COST Action IS1402 study.

### **METHODOLOGY:**

Based on diploma thesis of S. Grešáková, MS („Application of explicit criteria of medications potentially inappropriate in the old age in the evaluation of quality of prescribing (III.)“, Faculty of Pharmacy of the Charles University, June 2016 (27)), a table containing 487 PIMs, until now known and published in different explicit criteria in the world scientific literature, has been created. The table contained in rows all identified PIMs and in each column specific information related to PIMs to be completed by European research teams: registration of a PIM in a given country, the brand names of most frequently used PIMs on the country's pharmaceutical market, strength and drug forms of PIMs available, combined registered drug forms, accessibility of these drugs based on recipe or as OTC (including prescribing restrictions by specialty of physician)

Evaluation table has been sent out in January 2016 to be filled in by research teams of the EU COST Action IS1402 in the Czech Republic, Hungary, Serbia, Turkey, Spain and Portugal. Final results have been checked twice in cooperation with researchers in individual countries and were completed in the period of September-December 2016.

Based on this evaluation table, the prevalence data comparing the extent of registration of various PIMs in individual countries including other evaluated data (see above) have been analyzed). Quantitative and qualitative differences between different countries were discussed.

## **RESULTS:**

The highest registration of PIMs from all evaluated countries has been documented in Portugal (60%), while the lowest in Serbia (35%). In all evaluated countries these were mainly PIMs from the ATC group N – the nervous system, again most common in Portugal (24%) and least frequent in Serbia (14%). In all evaluated countries more than 90% of the active substances of PIMs were available only on medical prescription. In Spain higher accessibility PIMs as OTC was noted (8%), in other countries this availability was around 3%. In all evaluated countries the most common drug forms were solid p.o. drug forms, available among 88% PIMs in Spain and 92% PIMs in Portugal, with the exception of Turkey. In Turkey the most commonly accessible drug forms were powder for the preparation of a peroral suspension or a peroral solution.

## **CONCLUSION:**

Evaluated countries differed in number of registered PIMs, in the qualitative list of registered active substances on the national pharmaceutical market, and also in restrictions of their prescription and in availability of PIMs as OTC drugs. Qualitative similarities in registered PIMs (on the level of registered active substances) were found in countries with similar geographical location, e.g. countries of Central Europe (the Czech Republic, Serbia and Hungary) and Western Europe (Spain and Portugal). Significantly different in all evaluated qualitative and quantitative characteristics was Turkey. The data in this thesis are pilot results of the EU COST Action IS1402 project, necessary for initiation and evaluation of prospective multicentric study evaluating prescribing and the quality of use of PIMs in different settings of healthcare.

**Key words:** racional pharmacotherapy, potentially inappropriate drugs and drug procedures, potentially inappropriate medications, prevalence, explicit criteria, geriatric patients, seniors

**Support:** The study has been supported by the EU COST Action IS 1402 initiative