

ABSTRACT

Introduction: Proportion of the population over the age of 65 is continuously increasing in the European Union, and therefore, the number of polymorbid patients with polypharmacy, limited functional capacities and syndrome of geriatric frailty is rising every year as well. In order to support the quality of geriatric prescribing and to lower possible adverse drug events, explicit criteria for potentially inappropriate drugs and drug procedures for elderly have been created. The aim of the diploma thesis was to evaluate how many potentially inappropriate medications (PIMs) for elderly out of 22 explicit criteria were registered in 6 countries (Czech Republic, Hungary, Portugal, Serbia, Spain and Turkey) participating at the 1st phase of the EU COST Action IS1402 initiative and which criterion or what group of regional criteria (European, American, Asian) would be the most specific and most suitable in individual countries for prospective international study following the quality of PIM prescribing.

Methods: Of 22 explicit criteria of drugs/drug procedures potentially inappropriate in the old age, validated and published in peer-review journals and journals with the impact factor by 2015 year, a list of all until now known 345 PIMs was created (disregarding the dosage scheme, interval of use or clinical indication and with regard to registered non-retard or retard drug forms). This summary has been applied on the list of registered PIMs in 6 countries participating at the first phase of EU COST Action IS1402 project in the period October – December 2016. Subsequently, using the prevalence analyses, specificity of each explicit criterion or group of explicit criteria has been evaluated for individual countries.

Results: There were 200 PIMs (57,97%) from the whole list registered in Spain, 194 (56,23%) in Portugal, 183 (53,04%) in Turkey, 160 (46,38%) in Hungary, 145 (42,03%) in the Czech Republic and 111 PIMs (32,17%) in Serbia. The EU(7)-PIM list was determined to be the most specific and broad enough for international prospective study, however, the number of 76 PIMs on the list in total hardly covers even the half of registered PIMs in evaluated countries (from 55 PIMs in Serbia to 70

in Hungary). The group of all European explicit criteria included 219 PIMs, which covers around 80% of registered PIMs in these countries. Detection of PIMs would be definitely the highest with the use of the entire list of 345 PIMs, but at the same time more than half of PIMs stated on this list is not registered in the evaluated countries.

Conclusion: Considering the number of registered PIMs for the elderly, the EU(7)-PIM list would be the most specific for evaluated countries. For the future multicentric pharmacoepidemiological study, however, the detection of PIMs using only this approach would be insufficient. More appropriate approach would be to apply the whole list of 219 PIMs included in all explicit criteria of PIMs published in Europe.

Keywords: explicit criteria, potentially inappropriate medications, PIMs, registration rates, geriatric patients, seniors