

ABSTRACT

Introduction: Proportion of older people is rapidly increasing in the world population. Elderly represents a specific, heterogeneous population which is because of many reasons more vulnerable to some adverse drug events. Many explicit criteria of potentially inappropriate medication used in the elderly have been developed in order to improve the quality and safety of geriatric pharmacotherapy. These criteria represent basic tools, defining fundamental prescribing rules for the evaluation of appropriate choice and dosing of medications in the old age and for the evaluation of potentially inappropriate prescriptions in older patients. The aim of the diploma thesis was to compare advantages and disadvantages of explicit criteria published until the end of 2015 year and to summarize a list of all potentially inappropriate medications in the elderly (regardless of diagnoses and concomitantly used medications), applicable in the epidemiological studies of the EU COST Action 1402 project and in subsequent studies.

Methods: Using systematic literature search in PubMed dataset, conducted in the period 04/2015 - 12/2015, all explicit and explicit-implicit criteria (published in the foreign peer-reviewed scientific journals by the end of year 2015 and validated by expert panels) have been identified. Information obtained via studying these criteria and other publications (methodology of criteria development, advantages and disadvantages of different criteria) was summarized using comparative tables. Considering first parts of all criteria including medications potentially inappropriate in older patients regardless of diagnoses and concomitantly used medications, the summarized list of all potentially inappropriate medications was developed.

Results: Diploma thesis analyzed methodology of development and the main content of 20 explicit criteria. 15 of those criteria were explicit and 5 criteria were explicit-implicit. The majority of criteria have been validated using 2 round Delphi or modified Delphi technique and were more or less based on the Beers criteria. Validation method and content of different criteria was significantly heterogeneous. Summarized list of potentially inappropriate medication for elderly (available in at least 3 explicit criteria) contained 125 potentially inappropriate medications in total (99 medications were listed in the less than 7 criteria, 7 - 10 criteria listed 23 medications, and more than 12 criteria listed only 3 medications).

Conclusion: Analyzed explicit criteria were significantly heterogenous in applied methodology of criteria development and in their content. Transferability of some explicit criteria was very limited because of different availability of medications on local pharmaceutical markets and because of different prescription habits. In more than 7 criteria there were listed only 99 potentially inappropriate medications. This diploma theses enabled to compare all existing explicit criteria and to develop a summary list of potentially inappropriate medications in the elderly, applicable in subsequent epidemiological studies.

Keywords: geriatrics, rational pharmacotherapy, explicit criteria, potentially inappropriate medications, methodology

Support: The diploma thesis was supported by the EU COST Action 1402 initiative and SVV 260 295.