ABSTRACT

Introduction: Proportion of seniors in the world population is growing and substantial attention is given to population aging worldwide. Geriatric patients present very heterogenous group of patients with high interindividual differences. With increasing age number of chronic and degenerative disorders increases, drug consumption raises and consequently also polypharmacy. The more medications a senior consume, the higher probability of prescription of high-risk medications he/she has. With the aim to rationalize drug prescribing in geriatric patients, significant number of explicit criteria of medications/medication procedures potentially inappropriate in older age has been published. The aim of this diploma thesis was to evaluate prevalence of potentially inappropriate prescribing in geriatric population in studies published between 1991 and 2015 years and to further evaluate the most frequently prescribed potentially inappropriate medications (PIMs) in these studies.

Methods: Detailed literature search has been conducted with the use of PubMed and Web of Science databases. Studies dealing with potentially inappropriate prescribing that have been published from 1st January 1991 to 31st December 2015 were included. Data from scientific articles were summarized in the first part of the diploma thesis into well-arranged tables according to type of prescription tool and according to care setting where high-risk prescribing has been assessed. In the following part, tables summarizing the most often prescribed potentially inappropriate medication groups/medications were stated (again with respect to explicit tool/criteria used).

Results: In total, the prevalence of prescribing of potentially inappropriate medications in 97 studies was compared in this diploma thesis. Among the most often analyzed populations were found non-institutionalized older people, particularly seniors in the community and ambulatory care, hospitalized geriatric patients or older people living in nursing homes. Studies found a wide range of prevalence of PIM use, in concrete values in non-institutionalized seniors ranged between 4,2% and 86,2% and inseniors in nursing homes from 18,7% to 82,6%. In hospitalized geriatric patients values ranged from 11,0% to 84,5%. The most often prescribed potentially inappropriate medications were amitriptyline, amiodaron and diazepam.

Conclusion: Use of potentially inappropriate medications was found in evaluated studies to be very frequent in older population. Prevalence of prescription of high-risk medications in older age differed markedly among individual studies, between different settings of care as well as with the use of different prescription tools for the evaluation. Results indicated that for the magnitude of observed prevalence is the most important issue selection of a specific prescribing tool. This thesis has also discovered insufficient amount of published studies dealing with the length of PIM use in geriatric patients. Most of the tools were developed for evaluating quality of drug prescribing during long-term (chronic) use of medicines and short-term use of PIMs can be beneficial in some clinical cases. For this reason more attention should be given to this issue. Results of the diploma thesis will be used for continuing research of the research subgroup "Aging and changes in the therapeutic value of medications in the aged" at the Department of Social and Clinical Pharmacy, Faculty of Pharmacy - scientific program PROGRES - and in further research projects EU COST Actions IS 1402 and EUROAGEISM.

Key words: potentially inappropriate medications, potentially inappropriate prescribing, explicit criteria, prevalence, seniors, geriatric patients