

ABSTRACT

Introduction: As the population is aging and the number of the seniors is rising, the importance of knowledge and methods of geriatry and gerontology grows bigger. The seniors represent highly specified group of patients whose health care and treatment should be paid especial attention. Multimorbidity, polypharmacotherapy and an enlarged risk of adverse drug events often make such treatment more complicated. Complex geriatric assessment and acceptance of principals of geriatric prescription both represent key values of rational treatment. This thesis is dedicated to the issue of insomnia and rating of sedative/hypnotic treatment in the czech sample of seniors in acute care.

Methodology: The data for this thesis were collected between the years 2018–2019 within EUROAGEISM H2020 project. They include information on 438 patients 65 years of age and older which was collected from three geriatric medical acute care centres in Czech republic (Prague, Brno, Hradec Králové) and gained from the medical documentation combined with the information from patient and medical staff themselves, which were interviewed with use of standardized questionnaire of the EUROAGEISM H2020 research project. The questionnaire was composed from sociodemographic characteristics, assesment of functional ability, nutrition state and patient's lifestyle alongside with the utilization of medical services, clinical characteristics (diagnoses and current symptoms), laboratory data and detailed data about currently used pharmacotherapy. Prevalence of illnesses (including their compensation) and the use of drugs that may potentially be in a risky relation to insomnia were both rated. Rationality of prescription of sedative-hypnotic medication in observed sample was analysed among other things according to explicit criteria of potentially inappropriate medication use in geriatrics (revised 2019 Beers criteria and EU(7)-PIM list) considering the dosage, legnth of use and combinations of hypnosedatives.

Results: From the overall number of 438 patients with 80 years being the average age, 74 individuals (16,9 %) were diagnosed with insomnia. Another 151 individuals (34,6 %) were using hypnosedatives in the evening or at night without being diagnosed with insomnia. The prevalence of insomnia and/or the use of hypnosedatives grew with age of the patient and was higher among women compared to men. Polymorbidity and polypharmacotherapy showed as a typical trait (95 % of individuals suffered from 5 or more diseases, 97 % were using 5 and more drugs). In 76 % of cases the patients were diagnosed with either psychiatric disorder and/or pain. In the majority of cases, however, the patients were suffering from 5 severe diseases at once (most commonly represented by arterial hypertension, diabetes mellitus, urinary incontinence, ischemic heart disease and atrial fibrillation followed by acute pain). At least one non-compensated illness was reported by 30,6 % of patients in Brno, up to 51,1 % in Hradec Králové. 68,7 % of seniors reported the use of at least one risky drug, which can lead to insomnia, however it was not more than 61 individuals of them (47 %), who were using them in the evening or at night and who reported any sleep issues. These drugs in particular include lipophilic beta blockers, diuretics and teophylline. In the whole dataset there were 48 % of users of sedative/hypnotic treatment. The most used hypnotics were Z-drugs followed by

benzodiazepines (BZD). The off-label drugs were represented mostly by antipsychotics (18,5 %) especially thanks to a high prevalence in Prague (41,3 %). At least one potentially inappropriate medical procedure was recorded within 19,6 % of the entire dataset, while 11,2 % was given the hypnotic drugs in the evening or at night. 65 % of users of Z-drugs (10,5 % of the whole) was given a dosage unsuitable for geriatric patients, nearly half of them was using the drugs for longer than 4 weeks (19 seniors from Brno were using them for longer than 6 months). There was only one recorded case of long-acting BZD but most of the patients were long-term users of benzodiazepines. The combination of both sedatives and hypnotics was recorded in 5,9 % of cases.

Conclusion: To conclude, according to the survey we proved that the inappropriate geriatric prescription in the area of hypnotic drugs is an ongoing issue while there are not nearly used non-pharmacological treatments. The dosage was miscalculated especially for Z-drugs which may be caused by an outdated opinion on their efficiency and safety. Majority of sedative/hypnotic treatment was too long. The risks of potentially inappropriate treatment can be very high, the solutions, however, are usually quite simple. The most important thing is to constantly bring awareness to rational geriatric pharmacotherapy and to keep the principles up to date according to the newest scientific research.

Key words: rational geriatric pharmacotherapy, inappropriate prescribing, explicit criteria, insomnia, hypnotic use, acute care

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