

Abstract

Introduction

Benzodiazepines (BZDs) are among the most discussed groups of medications potentially inappropriate in older patients. Due to reduced function of elimination organs and increased sensitivity of target receptor sites, seniors are particularly vulnerable to their side effects and are at risk of serious medication-related complications, such as falls, orthostatic hypotension, syncope, depression, cognitive impairment, and drug dependence. Seniors in long-term care facilities are especially sensitive to adverse drug outcomes due to their poorer health status, polymorbidity, polypharmacy and increased geriatric frailty. Restricting the prescription of BZDs in seniors is part of the effort towards rational geriatric pharmacotherapy and better health and quality of life in older patients.

Methods

This thesis provides current results on the use of BZDs in Czech long-term care facilities, using data collected in 2022–2023 as part of the START/MED/093 project called "Rational Geriatric Pharmacotherapy, Medication Errors, and Availability of Clinical-Pharmaceutical Services in Long-Term Care." The data were collected in three different regions, namely in the Capital City of Prague, the Ústí nad Labem Region, and the Pardubice Region. For each patient, a complete list of medications, including dosing, drug forms and duration of drug therapy was documented, and their comprehensive geriatric assessment was conducted using the interRAI LTCF tool. A total of 225 patients participated in the study. The overall prevalence of BZD use in the sample and selected potentially inappropriate aspects of pharmacotherapy were analysed.

Results

The mean age of NH residents was 80.0 years and 66.7 % of them were women. The overall prevalence of BZD use was 18.7 % in 225 patients. Specifically, alprazolam (19.0 %), bromazepam (14.3 %), and oxazepam (69.0 %) were the most often prescribed BZDs. The recommended daily geriatric dose was not exceeded in any patient and the recommended individual geriatric dose was exceeded in only 1 patient. The combination of BZDs with sedative medications was present in 24 (57.1 %) BZD users. Psychotropic hyperpolypharmacy,

defined for the purpose of this study as the use of 4 or more psychotropic medications, was found in 10 (23.8 %) of BZD users. Drug interactions (of moderate to severe clinical significance) occurred in the therapy of 2 (4.8%) BZD users and BZDs were indicated for the treatment of insomnia in 4 (9.5%) BZD users. Duration of therapy exceeding 4 weeks was confirmed in 16,7 % users.

Conclusions

The current total prevalence of the use of BZDs in Czech NHs is very low and comparable with results from the Czech Republic in the European SHELTER study (2009–2014). The current absence of the use of long-acting BZDs indicates a better adherence to the recommendations in the Czech expert criteria on appropriateness of geriatric prescribing from 2012. Nevertheless, considering the global recommendation on appropriate use of BZDs in geriatric patients, it's beneficial to further restrict the duration of exposition of Czech seniors to long-term use of BZDs. New clinical strategies such as deprescribing methods may help to achieve these goals.

Support: *This study was supported by grants START/MED/093, NETPHARM CZ.02.01.01/00/22_008/0004607, I-CARE4OLD H2020 – 965341, Cooperatio (KSKF1 group) Faculty of Pharmacy, Charles University and SVV260 665.*