**Prescription of potentially inappropriate medicines and comparison with lists of essential medicines for treatment of chronic disorders in older patients**

Objectives

To examine the current situation of potentially inappropriate medicines (PIM) for treatment of chronicity in older patients and whether the inappropriate medicines were included in ໿the 22nd World Health Organization (WHO) Model List of Essential Medicines (EMLs), China National Model list of Essential Medicines (China EMLs), or supplementary list of essential medicines in Guizhou Province 2018 (Guizhou EMLs) through real world data, so as to promote the development of lists of essential medicines suitable for older patients and provide a reference for the revision of lists of essential medicines to reduce adverse effects, drug-induced diseases and even possible death due to use of inappropriate medicines existing in lists of essential medicines.

Methods

A retrospectively study was conducted. Dispensing records of patients aged ≥ 65 admitted to convenience clinic of a tertiary hospital from January 1, 2021 to December 31, 2021 were extracted through electronic information system. Then, we merged dispensing records of the same patient on the same date as one record and patients with at least one chronic disease were included. The American Geriatrics Society(AGS)/Beers Criteria 2019 (Beers 2019) was used to evaluate the PIM status. Thereafter, the inappropriate medicines were compared with ໿WHO EMLs, China EMLs, and Guizhou EMLs to find out percentages of drugs of PIMs existing in above lists of essential medicines in all drugs of PIMs. The above evaluation was conducted using Excel software (version 2019).

Results

A total of 5314 dispensing reports were included in this study. 5.95% (316/5314), 7.88% (419/5314) of PIMs met table 2 (medicines that are potentially inappropriate in most older adults), table 4 (medicines that should be used with caution) of Beers 2019, respectively. Among PIM drugs which met table 2 of Beers 2019, 47.37%, 78.95%, and 78.95% were respectively included in WHO EMLs, China EMLs, and Guizhou EMLs, and that was 47.06%, 76.47%, and 82.35% for table 4 of Beers 2019.

Conclusions

PIM in older patients is common in clinical practice. Patients with diabetes, hypertension, arthritis, depression and/or anxiety and Parkinson’ diseases were more frequently prescribed drugs of PIM according to Beers 2019. Take older patients into consideration and formulate List of essential medicines special for older patients may be a key way to reduce PIM.