

## Letter to the editor

## Open Access

### Polypharmacy among elderly home care patients

Cenk Aypak<sup>1,\*</sup>, Münevver Tulunay<sup>1</sup>, Hülya Yıkılkan<sup>1</sup>, Derya İren Akbıyık<sup>1</sup> and Süleyman Görpelioğlu<sup>1</sup>

<sup>1</sup> Department of Family Medicine, Dışkapı Yıldırım Beyazıt Training and Research Hospital, 06110, Ankara, Turkey

The use of multiple medicines (polypharmacy (PP)) is common among the elderly [1]. Researchers suggest that PP has potential for negative outcomes (adverse events, drug-drug interactions, non-adherence, hospital admissions as well as unnecessary healthcare utilization and mortality) [2]. PP is a particular concern for home care patients who are among the frailest patient group. Furthermore, those patients are particularly at risk of receiving potentially inappropriate medications compared to community-dwelling population. Therefore we aimed to determine the frequency of PP in elderly home care patients and to find out whether a relationship exists between PP and socio-demographic features, comorbidities and functional status.

We retrospectively reviewed the medical records of all patients older than 65 years who have been followed by a tertiary hospital home care service. The data about demographic characteristics, comorbidities, medications which were regularly utilized by the patients and functional status were extracted from medical files. PP was defined as using 5 drugs or more. The patients were classified as fully dependent or half-dependent regarding their functional status according to Katz Index of Independence in Activities of Daily Living [3].

A total of 232 patients (mean age: 80.25±6.64 years; 72% female and 28% male; 104 (44.8%) fully-dependent and 128 (55.2%) half-dependent) were included in this study. Median number of drugs which were utilized by the patients was 5.4 per day and PP was found out in 141 patients (60.9%). Other medications like over the counter drugs, herbal drugs, vitamins and as needed drugs (e.g., antibiotics) could not be extracted from medical files, so PP rate could be higher. There was no relationship between PP and gender, sociodemographic characteristics, comorbidities or functional status ( $p>0.05$ ). PP was found to be higher among patients who were diagnosed with HT, diabetes mellitus, CAD, parkinsonism or chronic obstructive pulmonary disease (COPD) ( $p<0.05$ ).

As our data have revealed that PP is a real problem also among elderly Turkish patients receiving home health care services, a finding that warrants further attention. Although this could be explained by their multiple co-morbidities,

studies have suggested an overuse of drugs for which the risk-benefit ratio is unknown in those frail patients [4]. The situation is further complicated by pharmacokinetic and pharmacodynamic changes in geriatric population.

Previous studies suggest that discontinuation of overprescribed drugs does not necessarily result in declined health states [5]. Furthermore, overenthusiastic attempts to lower blood pressure or blood glucose in elderly patients have been associated with increased mortality and morbidity [6]. However, clinicians should be aware of underprescribing for those patient group which leads to not receiving potentially beneficial, clinically indicated medications. Accordingly, several assessment tools have been developed to optimize prescribing [7, 8]. Systematic medication reviews are shown to be successful in reducing PP and inappropriate prescribing rates and should be carried out by the physicians in each visit in order to attain optimal benefit. However, it should be further evaluated whether that intervention leads improvement in patients' quality of life.

#### Conflicts of interest

The authors declare that they have no conflicts of interest.

#### References

- [1] Qato DM, Alexander GC, Conti RM, Johnson M, Schumm P, et al. Use of prescription and over-the-counter medications and dietary supplements among older adults in the united states. *JAMA*. 2008; 300(24):2867–2878.
- [2] Maher RL, Hanlon J, Hajjar ER. Clinical consequences of polypharmacy in elderly. *Expert Opin Drug Saf*. 2014; 13(1):57–65.

**\*Corresponding author:** Cenk Aypak, MD, Associate Professor, Department of Family Medicine, Dışkapı Yıldırım Beyazıt Training and Research Hospital, 06110, Ankara, Turkey. Tel: +90 312 318 69 81-514; Fax: +90 312 317 02 87; E-mail: [cenkaypak@yahoo.com](mailto:cenkaypak@yahoo.com)

Received 26 February 2016 Revised 11 April 2016 Accepted 22 April 2016  
Published 29 April 2016

**Citation:** Aypak C, Tulunay M, Yıkılkan H, Akbıyık DI, Görpelioğlu S. Polypharmacy among elderly home care patients. *J Clin Pharmacol Toxicol*. 2016; 1(1):6-XX.

**Copyright:** © 2016 Aypak C, et al. Published by NobleResearch Publishers. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

- 
- [3] Katz S, Ford AB, Maskowitz RW, Jackson BA, Jaffe MW. Studies of illness in the aged: the index of ADL: A standardized measure of biological and psychosocial function. *JAMA*. 1963; 185:914-919.
  - [4] Stawicki SP, Kalra S, Jones C, Justiniano CF, Papadimos TJ, et al. Comorbidity polypharmacy score and its clinical utility: A pragmatic practitioner's perspective. *J Emerg Trauma Shock*. 2015;8(4):224-231.
  - [5] Wouters H, Quik EH, Boersma F, Nygård P, Bosman J, et al. Discontinuing inappropriate medication in nursing home residents (DIM-NHR Study): protocol of a cluster randomised controlled trial. *BMJ Open*. 2014; 4(10):e006082.
  - [6] Molander L, Lovheim H, Norman T, Nordström P, Gustafson Y. Lower systolic blood pressure is associated with greater mortality in people aged 85 and older. *J Am Geriatr Soc*. 2008; 56(10):1853-1859.
  - [7] Dimitrow MS, Airaksinen MS, Kivelä SL, Lyles A, Leikola SN. Comparison of prescribing criteria to evaluate the appropriateness of drug treatment in individuals aged 65 and older: a systematic review. *J Am Geriatr Soc*. 2011; 59(8):1521-1530.
  - [8] Cooper JA, Cadogan CA, Patterson SM, Kerse N, Bradley MC, et al. Interventions to improve the appropriate use of polypharmacy in older people: a Cochrane systematic review. *BMJ Open*. 2015; 5(12):e009235.