This article has been accepted for publication in Evidence-based nursing, 2019 following peer review, and the Version of Record can be accessed online at http://dx.doi.org/10.1136/ebnurs-2018-102906

International study reveals aged patients with dementia frequently receive 'inappropriate prescriptions'

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Commentary on: Renom-Guiteras A, Thürmann PA, Miralles R, et al. Potentially inappropriate medication among people with dementia in eight European countries. Age Ageing 2018;47:68–74.1

Implications for practice and research

Clinicians must routinely evaluate prescriptions in elderly people with dementia to prevent adverse effects from polypharmacy.

Use and application of tools which evaluate 'inappropriate prescribing' must also be country specific (to reflect healthcare systems) and individual specific (to reflect clinical appropriateness in patient groups).

Context

Older people suffering dementia have a range of needs and pharmacological treatments to manage the array of comorbidities associated with ageing and ill health.[1] Many countries have reviewed medicine regimens which are potentially harmful in older populations. However, because of differences in healthcare and pharmaceutical regulations across the globe, identifying the drugs which may be 'potentially harmful' has been difficult. The situation becomes even more complicated by the need to assert whether prescriptions are clinically appropriate, and this means research is difficult to undertake. This paper analyses data from a larger study of older people with dementia, to reveal factors associated with prescriptions of 'inappropriate medicines' and whether prescriptions cause adverse outcomes.

Methods

Secondary data analysis of a cohort of subjects drawn from a purposive sample group of elderly persons with dementia, who were either receiving home support, or were in residential care settings across Europe (n=2004).

Multivariate logistic regression analysis models were used to reveal factors associated with prescriptions of two or more 'potentially inappropriate medicines' (PIM) including age, gender, functional and cognitive status, comorbidities and residential setting. Then to reveal adverse outcomes and whether they were impacted through the use of PIM and/or polypharmacy (mortality, falls injury and hospitalisation).

Findings

This study revealed the most frequently prescribed 'PIMs' were medications used for acid-related disorders and psycholeptics. Multivariate analysis linked >2 PIMs with falls and hospitalisation.

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Online supplementary material revealed this was mainly proton pump inhibitors; however, subjects in Estonia received more prescriptions of psycholeptics (mainly zopiclone). Frequencies and numbers of drugs prescribed across European countries differed. Most countries prescribed average 6–8 drugs per person. Estonia's average was 2.9 (SD 2.2).

Of the total cohort, 1692 sustained 'falls-related injuries' and 1695 required 'hospital admission'. Of the 133 deaths across all countries, rates were highest in Estonia (14.3%) and lowest in Sweden (2.6%). Mean death rates in this cohort was 6.5%.

Commentary

There are a wide variety of tools for reviewing medicines and polypharmacy in elderly people and separating which medicines are appropriate to prescribe is complex. The original brief for data collection was to explore country-specific factors influencing institutionalisation and circumstances of people with dementia and their informal caregivers across eight European countries.[2] This means that population sampling was biased to elderly people with dementia who needed intervention, either at home, or in residential care.

Authors used these data to review whether there were any adverse outcomes associated with 'potentially inappropriate medicine' use in older people with dementia who were 'at risk' of admissions into residential care settings. Although there are many tools for identification of PIMs, they cannot substitute for individual patient assessment and evaluation of appropriateness of prescribing.[3]

For example, the PIMs on Renom-Guiteras et al's list include drugs such as cardiac medications, beta blockers and drugs for diabetes. These may be clinically indicated and necessary to sustain life. Authors of this study prepiloted the tool used to identify PIMs[4] so that it most appropriately reflected drug markets of several European countries. Amalgamating such a large number of potentially confounding variables into a simple multivariate analysis can be complex and would normally require assessment to reveal whether variables cross-relate, such as hospital falls and hospital admissions, or if there were any clinical comorbidities in the cohort requiring specific pharmacological treatments.

Overall, the study reveals a need to assess people on an individual basis, and supports routine pharmacovigilance and assessments of polypharmacy in this group of individuals. However, more research is needed in clinical relevance to assert PIM status and evaluate this in a clinically applied context.

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