



JAMDA

journal homepage: www.jamda.com

Original Study

Potentially Inappropriate Prescribing in Belgian Nursing Homes: Prevalence and Associated Factors

Pauline M.S. Anrys MS, PhD^{a,*}, Goedele C. Strauven MS, PhD^b, Veerle Foulon MS, PhD^b,
Jean-Marie Degryse MD, PhD^{c,d}, Séverine Henrard MS, PhD^{a,c},
Anne Spinewine MS, PhD^{a,e}

^a Université catholique de Louvain, Louvain Drug Research Institute, Clinical Pharmacy Research Group, Brussels, Belgium

^b KU Leuven, Department of Pharmaceutical and Pharmacological Sciences, Leuven, Belgium

^c Université catholique de Louvain, Institute of Health and Society, Brussels, Belgium

^d KU Leuven, Department of Public Health and Primary Care, Leuven, Belgium

^e Université catholique de Louvain, CHU UCL Namur, Pharmacy department, Yvoir, Belgium

A B S T R A C T

Keywords:

Inappropriate prescribing
nursing homes
STOPP/START
Beers criteria

Background/objectives: Our aim was to describe the prevalence of potentially inappropriate medications (PIMs) and potential prescribing omissions (PPOs) in Belgian nursing homes and to identify characteristics of residents, general practitioners (GPs), and nursing homes (NHs) that are associated with the number of PIMs and PPOs.

Design: A cross-sectional study.

Setting: and **Participants:** Nursing home residents (NHRs), aged ≥ 65 years, not in palliative care were included in 54 Belgian NHs participating in the COME-ON study.

Measures: Instances of PIMs were detected using a combination of the STOPP v2 and AGS 2015 Beers criteria. Instances of PPOs were detected using START v2. To assess factors associated with the number of PIMs and PPOs, a multivariate binomial negative regression analysis was performed.

Results: A total of 1410 residents, with a median age of 87 years, was included. The median number of medications taken was 9. PIMs were detected in 88.3% of NHRs and PPOs in 85.0%. Use of benzodiazepines (46.7%) and omission of vitamin D (51.5%) were the most common PIM and PPO, respectively. The factor most strongly associated with increased PIMs was the use of 5 to 9 drugs or ≥ 10 drugs [relative risk (RR) (95% confidence interval [CI]): 2.27 (1.89, 2.76) and 4.04 (3.37, 4.89), respectively]. The resident's age was associated with both decreased PIMs and increased PPOs. PIMs and PPOs were also associated with some NH characteristics, but not with GP characteristics.

Conclusion: Implications: The high prevalence of PIMs and PPOs remains a major challenge for the NH setting. Future interventions should target in priority residents taking at least 10 medications and/or those taking psychotropic drugs. Future studies should explore factors related to organizational and prescribing culture. Moreover, special attention must be paid to the criteria used to measure inappropriate prescribing, including criteria relative to underuse.

© 2018 AMDA – The Society for Post-Acute and Long-Term Care Medicine.

This study is funded by the National Institute for Health and Disability Insurance (NIHDI) (Belgium). The funding body had a limited role in the design, but had no role in data collection, implementation, analysis, or the decision to publish the results. PA and GS were paid by the NIHDI.

The authors declare no conflicts of interest.

* Address correspondence to Pauline M.S. Anrys, MS, PhD, Clinical Pharmacy Research Group, Louvain Drug Research Institute, Université catholique de Louvain, Av E Mounier, 72 B1.72.02, Brussels 1200, Belgium.

E-mail address: pauline.anrys@uclouvain.be (P.M.S. Anrys).

Inappropriate prescribing, defined as suboptimal medication use, encompasses 3 categories: overprescribing, that is, the prescription of a drug without a valid indication; misprescribing, that is, incorrectly prescribing a drug for a valid indication; and underprescribing, that is, the failure to prescribe indicated drugs.¹ Explicit and implicit tools to assess the appropriateness of prescribing are available. The most widely used explicit tools are the Beers² and STOPP-START criteria.³ Both were updated in 2015. These tools make it possible to identify potentially inappropriate prescribing (PIP), in the form of potentially inappropriate medications (PIMs, addressed by Beers and STOPP) and/

or potential prescribing omissions (PPOs, addressed by START). A high prevalence of PIP has been found across settings^{4,5} and in particular in nursing homes (NHs).^{6,7} Moreover, the use of PIMs in the NH setting has been associated with poor outcomes.⁸

Two recent systematic reviews analyzed the PIP use in the NH setting. The overall PIP prevalence was 43.2%,⁶ but prevalence varied considerably across studies.⁷ A higher prevalence was observed in Europe than in North America.⁶ However, the studies used older versions of the Beers and STOPP-START criteria, and data on potential underuse were very limited. In Belgium, a study conducted in 2005 reported a prevalence of PIM of 27.0% according to Beers and a prevalence of PPO of 58.0% according to ACOVE.⁹ However, the researchers only had access to a limited list of comorbidities and did not apply the “unless” rules of the criteria. Furthermore, the 2003 version of the Beers criteria has been criticized for its restricted applicability in Europe.¹⁰

In the quest for the optimization of medication use in the NH setting, identifying factors associated with inappropriate prescribing might be of great value, as it could show the factors to target and the NHRs who might benefit most. The most common factors previously found to be associated with PIMs in NHs are polypharmacy,^{6,11} geographic region,¹¹ younger age,¹¹ and diagnoses of depression or diabetes.¹¹ A very limited number of studies has explored the association between PIMs and NH or general practitioner (GP) characteristics. Moreover, factors associated with PPOs have not been extensively studied. To our knowledge, no investigation has been carried out in the NH setting.

In the present study, we aimed (1) to describe the prevalence of PIMs and PPOs in a sample of NHRs in Belgium and (2) to identify which factors—at the resident, GP, and NH levels—are associated with the number of PIMs or PPOs.

Methods

Study Setting

The present work is a cross-sectional analysis of the baseline data of the COME-ON study. This multicenter cluster-controlled trial was

conducted in 54 NHs in Belgium (37 in Flanders and 17 in Wallonia) with the aim of assessing the impact of a complex intervention on the appropriateness of prescribing. The COME-ON study protocol has been described elsewhere.¹² In each NH, the aim was to recruit 35 NHRs aged 65 years and older, under the care of a participating GP.

The health care professionals (ie, GP, nurse, and pharmacist) caring for each resident prospectively recorded data (ie, clinical data, medical conditions, laboratory values, and the medication schedule) in a dedicated secured web application.

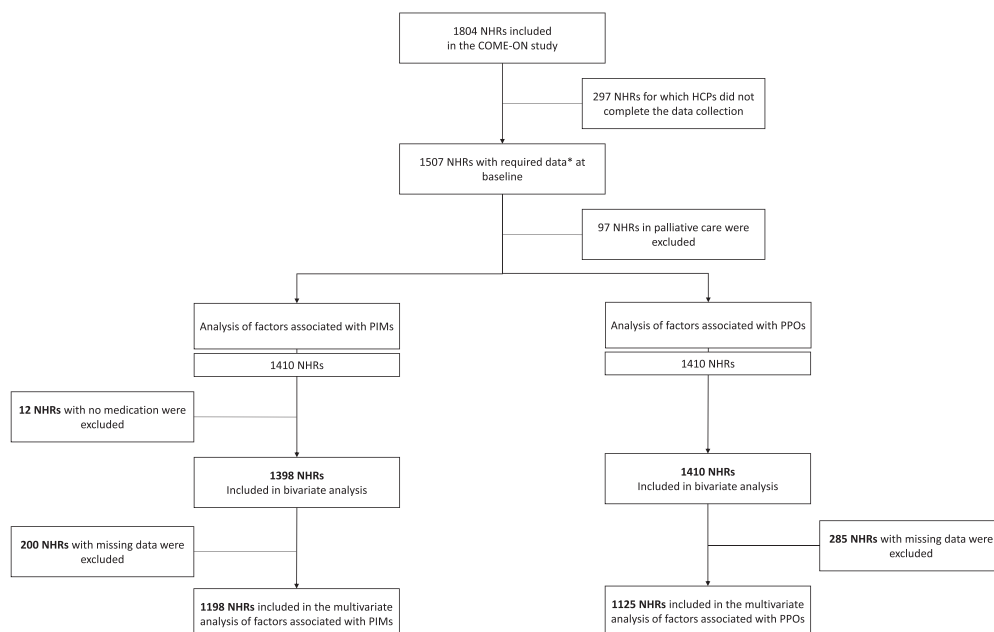
Each Belgian NH has to appoint a coordinating physician (CP) who is responsible for training, coordination of quality initiatives, etc. Residents can choose their GP; consequently, the number of visiting GPs is unrestricted. Furthermore, the GP has total freedom in the choice of therapeutic strategies. The delivery of medication is performed by a hospital or community pharmacy. Drugs are delivered either in their original boxes or using multidose drug dispensing (ie, 1 unit for each dose occasion is packed in individual bags). Currently, there is no legal obligation to conduct medication reviews in NHs, and the role of the pharmacist is mainly focused on the delivery of medications.

Study Sample

From the 1804 NHRs included in the COME-ON study, data required for the identification of PIP at baseline (ie, clinical data, comorbidities, and medication schedule) were available for 1507 NHRs. Ninety-seven NHRs in palliative care at the time of data collection were excluded. Therefore, a total of 1410 NHRs were included in this analysis (Figure 1). Some clinical data or comorbidities could be registered as “unknown/I don’t know” by the nurse or the GP. In the analysis, we considered an “unknown/I don’t know” variable as “not present.”

Identification of PIMs and PPOs

PIMs and PPOs were automatically detected using an algorithm specially developed for the study.¹³ The STOPP-START version 2³ and the AGS 2015 Beers criteria² were applied. As previously described,¹³



* NHRs with the data required to apply the STOPP-START and Beers criteria
NHRs: Nursing Home Residents, PIMs: Potentially Inappropriate Medications, PPOs: Potential Prescribing Omissions

Fig. 1. Flowchart of NHRs.

Download English Version:

<https://daneshyari.com/en/article/11018869>

Download Persian Version:

<https://daneshyari.com/article/11018869>

[Daneshyari.com](https://daneshyari.com)