Available online at www.sciencedirect.com
ScienceDirect
Research in Social and Administrative Pharmacy 10 (2014) 494–507
RESEARCH IN SOCIAL & ADMINISTRATIVE PHARMACY

Original Research

Quality of psychopharmacological medication use in nursing home residents

Linda Simoni-Wastila, Ph.D.[a], Yu-Jung Wei, Ph.D.[a,*], Mario Luong, Pharm.D.[a], Christine Franey, M.P.H.[a], Ting-Ying Huang, B.S.[a], Gail B. Rattinger, Pharm.D., Ph.D.[a,b], Ilene H. Zuckerman, Pharm.D., Ph.D.[a], Nicole Brandt, Pharm.D.[c], Judith A. Lucas, Ed.D., R.N., G.C.N.S.-B.C.[d,e]

[a]*Department of Pharmaceutical Health Services Research, University of Maryland School of Pharmacy, Baltimore, MD, USA*
[b]*Fairleigh Dickinson University School of Pharmacy, Florham Park, NJ, USA*
[c]*Department of Pharmacy Practice and Science, University of Maryland School of Pharmacy, Baltimore, MD, USA*
[d]*Department of Behavioral and Community Health, Seton Hall University College of Nursing, South Orange, NJ, USA*
[e]*Institute for Health, Health Care Policy, and Aging Research, Rutgers University, New Brunswick, NJ, USA*

Abstract

Background: Despite well-documented evidence regarding antipsychotic use in older adults residing in nursing homes (NHs), there is a lack of evidence-based use and quality benchmarks for other psychopharmacological medications (PPMs), including antidepressants, anxiolytics, and sedative-hypnotics.
Objective: To estimate the prevalence and patterns of use of PPMs and to measure the quality of PPM use.
Methods: Using a 5% random sample of 2007 Medicare claims data linked to the Minimum Data Set 2.0, this cross-sectional study identified a nationally representative sample of 69,832 NH residents with ≥3 months of institutionalization. This study measured 1-year prevalence and quality of PPM use, as assessed by indication, dose, and duration of use defined and operationalized according to the current Centers for Medicare and Medicaid Services Unnecessary Medication Guidance for Surveyors and relevant practice guidelines.
Results: Over two-thirds of residents (72.1%, n=50,349) used ≥1 PPM in 2007, with the highest prevalence seen in antidepressants (59.4%), and the lowest in anxiolytics (8.9%). Almost two-thirds (61.0%) of PPM users used ≥2 PPM classes. Compared to other PPM therapeutic classes, antipsychotic users had greatest evidence of guideline adequate use by indication (95.8%) and dose (78.7%). In addition, longer duration of adequate treatment was observed among antipsychotic users (mean = 208 days, standard deviation [SD] = 118) as compared to anxiolytic (mean = 159 days, SD = 118) and sedative-hypnotic users (mean = 183 days, SD = 117).
Conclusions: This study found that PPM use remains highly prevalent among long-stay Medicare NH residents. While antipsychotic use remained high (31.5%), little antipsychotic use was deemed inadequate by indication. However, the 1-year prevalence of use, dose, and duration of use of other PPMs remain high

* Corresponding author. Tel.: +1 410 706 1074; fax: +1 410 706 5394.
E-mail address: ywei@rx.umaryland.edu (Y-J. Wei).

1551-7411/$ - see front matter
http://dx.doi.org/10.1016/j.sapharm.2013.10.003

and potentially inadequate. Practitioners and policy-makers should heed both the high use and lower prescribing quality of antidepressants, anxiolytics, and sedative-hypnotics in NH residents.

Keywords: Quality of medication use; Psychopharmacological medications; Nursing homes

Introduction

The Institute of Medicine defines the quality of health care as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."[1] According to this widely accepted definition, the quality of health care in the United States (U.S.) continues to fall short of the mark.[2] A primary reason for suboptimal health care quality is inappropriate medication use, a problem that results in unnecessary and largely preventable excess morbidity, mortality, and costs.[3]

Suboptimal medication use causes significant morbidity and mortality among individuals residing in nursing homes (NHs).[3–5] Of particular importance is the poor prescribing of psychopharmacological medications (PPMs), such as antipsychotics, due to their potential use as chemical restraints.[6] This concern resulted in passage of the 1987 Nursing Home Reform Act to ensure the quality of care and medications received by NH residents.[7] PPM use in NHs, however, continued to draw attention when antipsychotic use was linked to increased risks of death[8–12] and disability due to stroke and other adverse effects among NH residents with dementia.[13] These findings led the U.S. Food and Drug Administration (FDA) to issue black-box warnings regarding antipsychotic use in dementia patients.[14] Other research had since documented the evidence of antipsychotic use with an increased mortality in the general NH population.[5,8,15,16] Accordingly, in 2012 the Centers for Medicare & Medicaid (CMS) declared an initiative to reduce antipsychotic use among NH residents by 15% by the end of the year.[17]

Recognizing the importance of appropriate medication use in achieving optimal resident outcomes, in 2006, CMS updated the F-329 Interpretive Guidance (Unnecessary Medication Guidance [UMG]) to include a comprehensive medication review to assist facility surveyors looking at indication, dose, duration, and other aspects of medications.[18] Additional tools, including the updated Beers Criteria, provide further attention to potentially inappropriate medications and associated risks in older adults.[8] Yet, even with prescribing criteria, the use of antipsychotics and other "high risk" medications in nursing home residents remains both controversial and common.[4,19–22]

Despite current national interest in antipsychotic prescribing quality, there remains a paucity of data establishing national rates of use—and quality of use—in nursing facilities. Even less is understood about the use of other potentially problematic PPMs, such as anxiolytics, antidepressants, and sedative-hypnotics. The few available studies focus on small, clinical or site-specific samples of nursing facilities and/or rely on data which lack dose, duration, and other information necessary to ascertain prescribing quality.[19,22–25] Indeed, the only U.S. nursing home metric of PPM quality is collected by Nursing Home Compare, which reports state- and facility-level rates of antipsychotic prevalence in long- and short-stay residents in nursing facilities.[26] These estimates, derived from the Minimum Data Set (MDS), lack detailed information, including specific agent administered, dose, duration, and indication, required to assess prescribing.[17]

Using nationally representative data of Medicare beneficiaries residing in long-term care (LTC) facilities, this study aimed to: 1) estimate the 1-year prevalence and patterns of use of PPMs, including antipsychotics, antidepressants, anxiolytics, and sedative-hypnotics; and 2) measure the quality of PPM use by operationalizing the CMS UMG for Surveyors criteria.

Methods

Study design and source

This descriptive, cross-sectional study used a 5% random sample of U.S. Medicare beneficiaries from the 2006–2007 Chronic Condition Data Warehouse (CCDW) data linked to MDS 2.0 files to examine PPM use among beneficiaries residing in LTC settings. The latest available at the time of this study, the CCDW data contain detailed claims data for all Medicare Part A (inpatient),