



Research Brief

A preliminary examination of over-the-counter medication misuse rates in older adults

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Abstract

Background: Older adults are the largest consumers of over the counter (OTC) medications. Of the older adults who are at risk of a major adverse drug event, more than 50% of these events involve an OTC medication.

Objective: To explore how older adults select and hypothetically use OTC medications and if the selected medications would be considered safe for use.

Methods: Walking interviews were conducted with 20 community-dwelling older adults in a community pharmacy. Each participant selected an OTC medication for a hypothetical pain and sleep scenario. Data were analyzed for four types of misuse: drug–drug interaction, drug–disease interaction, drug–age interaction, and excess usage.

Results: At least one instance of potential misuse was found in 95% of participants. For sleep medications, drug–drug interactions and drug–age interactions were more common, affecting 50% and 65% of participants respectively. The most common type of misuse noted in the pain products selected was that of drug–drug interaction, with a total of 39 occurrences, affecting 60% of the participants.

Conclusions: OTC misuse is common among older adults, and it is important for older adults to seek out resources, such as a pharmacist, to help them make safe OTC decisions.

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Introduction

Older adults, aged 65+, are the largest consumers of over the counter (OTC) medications. While older adults comprise 13% of the U.S. population, they account for 30% of OTC medication use.¹ One-fourth of all older adults are on a combination of 10 or more OTC and prescription medications.²

Of the estimated 2.2 million older adults who are at risk of a major adverse drug event (ADE), more than 50% of these events involve an OTC medication.¹ Four of the 10 most frequently used drugs are OTC ibuprofen, aspirin, acetaminophen, and diphenhydramine.³ Older adult use of non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen and aspirin, results in 80,000 preventable ADEs annually. NSAIDs account for a larger burden of ADEs (15.4%) than anticoagulants (10.2%), one of the top priority drugs in the National Action Plan for ADE prevention.^{4,5} Unintentional overdoses of acetaminophen result in 14,000 emergency department visits, and up to 50% of all acute liver failures per year.^{6,7} Diphenhydramine has anticholinergic properties which can increase risk of falling.^{8,9} Of older adults taking diphenhydramine for sleep, 40% were also taking one or more anticholinergic medications concurrently, compounding the risk of ADEs.¹⁰

Providers often do not know which OTC medications their patients are consuming.¹¹ Such lack of awareness and documentation about OTC medication use may lead to duplication of therapies and dangerous overdosing. In fact, the U.S. Centers for Medicare and Medicaid Services single out diphenhydramine and NSAIDs for review specifically because of their OTC availability and potential for therapeutic duplication.^{12,13} One study found that 57% of elderly patients taking chronic prescription and OTC medications were not taking their OTC safely and required a pharmacist intervention.¹⁴ The current study sought to explore how older adults select and would hypothetically use (dosing and duration) OTC pain and sleep medications and if the selected medications would be considered safe use.

Methods

Recruitment

Participants were recruited through 2 Wisconsin senior centers and a social club. Eligible

participants were 65+ who had used an OTC medication in the past and were able to travel to the study site (a local community pharmacy). Interviews took place between October 2014 and January 2015 and lasted about 45 min. Participants were compensated \$25. The study was approved by the Institutional Review Board at the University of Wisconsin.

Setting

Interviews took place in one regional mass-merchandise store in south-central Wisconsin (U.S. State). The pharmacy department was sectioned off away from the rest of the larger store and contained several OTC medication aisles and a patient waiting area. The longer OTC aisles were located “outside” the pharmacy department and separated by a main walking aisle that contained short shelves of non-pharmacy items. Pain and sleep medications, along with cough/cold and allergy medications were located in one of the long OTC aisles.

Data collection materials

Questionnaires

Participants were asked to rate their overall health on a 5-point, Likert-type scale from poor to excellent (1 = poor, 5 = excellent). They also were asked to indicate their health conditions using the Older American Resource Survey.¹⁵ The OARS is a self-report checklist of 19 illnesses common in midlife and older adults (e.g. asthma or wheezing, high blood pressure, kidney disease).

Demographics collected included age, gender, education, race and ethnicity. Additional questions on the number of prescribers/doctors and the number of pharmacies the participant uses were also included.

Lastly, participants were asked to self-report any prescription medicines, OTC medications, dietary supplements, or herbal remedies that were used in the last 30 days. Information collected for each drug included drug name, dose/strength, how often the medication is taken and when, how long they have been taking the medication, why they are taking the medication, and if they have had any problems with the medication.

Interviews

Interviews were conducted by one primary interviewer. An observer recorded observational notes during the interview. The interview consisted of two parts. The first part, the “walking

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