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Identifying and addressing drug-related problems in nursing homes: an unmet need in Malaysia?

To the Editor

Nursing homes are required to provide personal care to a broad range of residential patients. While medications are an integral part of this care, medication risks may not recognised, particularly in vulnerable elderly patients. Pharmacist-led medication reconciliation has been shown to reduce the number of medications in nursing homes, and is part of USA health care (1–3). In Malaysia, few studies have examined this issue. We conducted a prospective exploratory study which involved medication review of 20 residents of a nursing home in a semi-urban setting, from 1 November 2013 to 31 January 2014. Medication review was undertaken by a year 4 pharmacy student with input from a clinical pharmacist, who together took a medical history, recorded details of all medication, and current medical problems. Medication-related problems were identified from this data. Potentially inappropriate medications with clear causal correlations or contribution to the principal reason were documented. Another clinical pharmacist independently classified each medication-related problem. Disagreement was resolved through discussion to arrive at a consensus classification. The Monash University Human Research Ethics Committee approved this study (CF13/2911-2013001564).

The mean age of the 20 study subjects was 64 years (range 48–85). The total number of prescribed medications was 96 (mean: 4.8; median: 5; range: 1–12). Fifteen subjects had two or more documented comorbidities, including hypertension, diabetes and schizophrenia. We identified 122 medication-related problems in the 20 individuals, a mean of 6.1 problems per individual. The most common problems were drug–drug interactions, identified in the medications of 11 individuals (Table 1). Most of these interactions related to the use of antihypertensive agents and long-term use of non-steroidal anti-inflammatory drugs (NSAIDs). Two other significant issues were (i) a high prevalence of untreated indications and (ii) the number of seemingly inappropriate prescribing decisions. For example, seven individuals complained of nocturia which was had not been identified or treated. Similarly, another seven individuals were prescribed anticholinergic agents to treat the extrapyramidal effects of neuroleptics.

Medication-related problems have important implications for morbidity, hospitalisation rates and quality of life (4). This exploratory study suggests that pharmacist-led medication review is of significant benefit for improving medication safety in a nursing home for older adults, many of whom have comorbidities and are on multiple medications. Clinical pharmacists' are well suited for this role due to their training (5) in pharmacotherapeutics, which enables them to identify medication-related problems. One significant example is the identification of prolonged, inappropriate NSAID use, which carries significant dose-related cardiovascular, renal and hematological risk (6). With regular medication review, this can help identify adverse events and ensures that NSAIDs are discontinued when no longer indicated.

Indeed, this study suggests that pharmacist-led medication review can be a simple and low-cost intervention. It has the potential to significantly enhance medication safety in a vulnerable section of the elderly population. Medication review should be part of the routine collaborative care of such patients, and should involve physicians, nursing home carers and pharmacists.

Table 1 Types of drug-related problems identified

Type of issue	No of problems identified	No of subjects
Drug–drug interaction	34	11
Apparently unidentified and/or untreated indication	25	15
Inappropriate drug selection for condition or disease; or contraindication	24	11
Duplicated treatment	12	7
Inappropriate dose or frequency	12	10
Adverse drug event	9	5
Inappropriate dose form	4	3
Drug wrongly identified in patient's medical record	2	2

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Disclosures

None.

Author contributions

SWHL conceived the study. SWHL had full access to all the data, and take responsibility for its integrity. SWHL and DWKC conceived the study, developed and tested the data collection forms, conducted the analysis. SWHL and CSC collected and interpreted the data and drafted the manuscript. All authors critically reviewed the manuscript.

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