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Review Article

Interventions to Reduce Inappropriate Prescribing of Antipsychotic Medications in People With Dementia Resident in Care Homes: A Systematic Review

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A B S T R A C T

Background: Antipsychotic medications are commonly used to manage the behavioral and psychological symptoms of dementia. Several large studies have demonstrated an association between treatment with antipsychotics and increased morbidity and mortality in people with dementia.
Aims: To assess the effectiveness of interventions used to reduce inappropriate prescribing of antipsychotics to the elderly with dementia in residential care.
Method: Systematic searches were conducted in 12 electronic databases. Reference lists of all included studies and forward citation searching using Web of Science were also conducted. All quantitative studies with a comparative research design and studies in which recognized methods of qualitative data collection were used were included. Articles were screened for inclusion independently by 2 reviewers. Data extraction and quality appraisal were performed by 1 reviewer and checked by a second with discrepancies resolved by discussion with a third if necessary.
Results: Twenty-two quantitative studies (reported in 23 articles) were included evaluating the effectiveness of educational programs (n = 11), in-reach services (n = 2), medication review (n = 4), and multicomponent interventions (n = 5). No qualitative studies meeting our inclusion criteria were identified. Eleven studies were randomized or controlled in design; the remainder were uncontrolled before and after studies. Beneficial effects were seen in 9 of the 11 studies with the most robust study design with reductions in antipsychotic prescribing levels of between 12% and 20%. Little empirical information was provided on the sustainability of interventions.
Conclusion: Interventions to reduce inappropriate prescribing of antipsychotic medications to people with dementia resident in care homes may be effective in the short term, but longer more robust studies are needed. For prescribing levels to be reduced in the long term, the culture and nature of care settings and the availability and feasibility of nondrug alternatives needs to be addressed.

Antipsychotic medications are often prescribed to manage the behavioral and psychological symptoms of dementia (BPSD). However, several large studies have demonstrated a clear association between treatment with antipsychotic drugs and increased morbidity and mortality in people with dementia.[1–3] Treatment guidelines recommend that the first-line management of BPSD should be detailed

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assessment to identify any treatable cause of symptoms (eg, hunger, thirst, pain, infection, loneliness). Furthermore, underlying causes should be treated and alternative nonpharmacological interventions explored before the initiation of antipsychotics.[4–6] Risperidone is the only antipsychotic licensed in the United Kingdom for this indication, and then only for short-term use. Nevertheless, other antipsychotic agents are often prescribed and used on a long-term basis with infrequent medication review.[7] BPSD can cause significant carer stress to family members and care home staff that, without intervention, may rapidly lead to acute hospital admission and/or transfer to a more intensive care setting.[8] Antipsychotic medication may be viewed as an easier option than nonpharmacological alternatives, and the risks are rarely discussed or documented. In 2013, the American Medical Directors Association was involved in identifying the top 5 items that physicians and patients should question in the long-term care setting as part of the American Board of Internal Medicine Foundation's Choosing Wisely Campaign. Item 4 on this list was "Don't prescribe antipsychotic medications for behavioral and psychological symptoms of dementia (BPSD) in individuals with dementia without an assessment for an underlying cause of the behavior."[9]

The most recent UK audit of primary care data showed a decrease in antipsychotic prescribing to individuals with dementia from approximately 17% in 2006 to 7% in 2011.[10] The audit showed widespread and significant variation in practice across the country, ranging from approximately 3% of individuals with dementia receiving antipsychotic medication at the time of the audit in London and the southeast to approximately 13% in the northwest. The audit provided no information on duration of prescription or on the residential setting of people with dementia and represents data from approximately 50% of general practices in the United Kingdom. Audit studies based in nursing homes have generally reported a higher prevalence of antipsychotic prescription among individuals with dementia.[11–14]

Anecdotally, we are aware of a variety of interventions being used to assess, evaluate, and review the prescription of antipsychotic medications in care homes. These include education and raising staff awareness, development and use of decision-making pathways, medication checklists, mood, pain and behavioral charts, advice on nondrug-based alternatives, regular medication review by pharmacists, community or hospital-based psychiatrists and general practitioners, interdisciplinary education programs, and pharmacist-led strategies.

The purpose of this systematic review was to assess the effectiveness of interventions used to reduce inappropriate prescribing of antipsychotic medications to individuals with dementia resident in care homes to help to inform the provision of services. We also were interested in published accounts of the views and experiences of prescribers of included interventions to highlight barriers and facilitators to the successful implementation of such interventions.

Methods

The systematic review was conducted following the general principles published by the NHS Centre for Reviews and Dissemination (CRD).[15] A predefined protocol was developed following consultation with topic and methods experts and is registered with PROSPERO (PROSPERO 2012:CRD42012003425).

Literature Search and Eligibility Criteria

A comprehensive search syntax using MeSH and free text terms was developed by an information specialist (M.R.) in consultation with the review team (Table 1). The strategy was developed for MEDLINE and adapted as appropriate for the other searched databases (EMBASE, Social Policy and Practice [including AgeInfo], and PsycINFO [via OVID], CDSR and CENTRAL [via The Cochrane Library], CINAHL [via EBSCOhost], AMED and British Nursing Index [via NHS Evidence], Science Citation Index Expanded and Social Science Citation Index [via Web of Science]). All databases were searched from inception to November 2012. Update searches were run in November 2013. No date, study design, or language restrictions were imposed. The reference lists of all included articles and identified review articles were checked for additional relevant studies. Forward citation searching for each included article was conducted using ISI Web of Knowledge.

Table 1
Master Search Strategy

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) <1946 to Present>	
1	assisted living facilities/or group homes/or homes for the aged/or nursing homes/or skilled nursing facilities/(35398)
2	(care adj (setting* or home* or residence* or facilit* or unit*)).ti,ab. (103097)
3	long-term care.ti,ab. (12891)
4	LTCF.ti,ab. (227)
5	elderly care.ti,ab. (636)
6	geriatric care.ti,ab. (1130)
7	geriatric clinic*.ti,ab. (339)
8	(geriatric adj2 unit).ti,ab. (722)
9	communal care.ti,ab. (11)
10	institutional* care.ti,ab. (1440)
11	(residential adj (care or unit* or home*)).ti,ab. (2424)
12	nursing home*.ti,ab. (20297)
13	(dementia adj (unit* or home* or care)).ti,ab. (941)
14	or/1–13 (150033)
15	exp Dementia/(109677)
16	exp Alzheimer Disease/(60964)
17	dementia.ti,ab. (58425)
18	alzheimer*.ti,ab. (80216)
19	(cognitive adj (impairment or decline)).ti,ab. (28848)
20	BPSD.ti,ab. (401)
21	(agitated or agitation).ti,ab. (11407)
22	(depressed or depression).ti,ab. (242245)
23	(anxiety or anxious).ti,ab. (100546)
24	(aggressive* adj2 behav*).ti,ab. (11959)
25	(unsettled adj2 behav*).ti,ab. (11)
26	(difficult adj2 behav*).ti,ab. (395)
27	residents.ti,ab. (58407)
28	or/15–27 (528228)
29	antipsychotic*.ti,ab. (23427)
30	neuroleptic*.ti,ab. (17905)
31	exp Antipsychotic Agents/(117101)
32	psychotropic*.ti,ab. (12422)
33	29 or 30 or 31 or 32 (137714)
34	14 and 28 and 33 (1025)
35	((reduce* or reducing or reduction) adj4 (medication or drug*)).ti,ab. (21110)
36	inappropriate prescribing.ti,ab. (446)
37	exp Inappropriate Prescribing/(329)
38	suboptimal prescribing.ti,ab. (59)
39	(inappropriate* adj3 (prescribed or prescriptions or medication or drug* or antipsychotics or neuroleptics)).ti,ab. (1307)
40	35 or 36 or 37 or 38 or 39 (22890)
41	40 and 14 (659)
42	34 or 41 (1621)

We were interested in the effectiveness of interventions (eg, staff training, regular medication review) designed to reduce inappropriate prescription of antipsychotic medications to individuals with dementia in community residential care settings. Interventions had to be aimed at professionals (eg, general practitioners, community psychiatrists, pharmacists) responsible for prescription of these medications in these settings. We also were interested in reports of the views and experiences of prescribers using the included interventions.

All quantitative studies reporting comparative data were included. Qualitative studies using recognized methods of qualitative data collection (eg, focus groups, interviews, and observation) and analysis (grounded theory, narrative analysis, thematic analysis, discourse analysis) were sought.