ORIGINAL RESEARCH

Psychotropic Medication Use in Canadian Long-Term Care Patients Referred for Psychogeriatric Consultation

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ABSTRACT

Background and Puspose

Prior studies have shown a high prevalence of psychotropic medication use among patients residing in long-term care homes (LTCHs). The purpose of this study was to examine psychotropic medication use by LTCH patients in a metropolitan Canadian city referred to outreach teams for psychiatric assessment.

Methods

A retrospective review of charts from specialized psychogeriatric outreach teams serving a large metropolitan city in Canada was undertaken. Data from 68 charts were reviewed. Data were analyzed using descriptive and correlational statistics.

Results

Antipsychotic medications were the most frequent drugs prescribed to patients referred for psychogeriatric assessment (55.9%), followed by antidepressants (50.0%), cognitive enhancers (44.1%) and benzodiazepines (29.4%). More than a quarter of patients (26.5%) were on three psychotropic medications. Medications were adjusted in 35.3% of cases mostly resulting in dose increases. Only 5.9% of patients had their medication dose reduced.

Conclusions

This preliminary exploratory study suggests that patients referred to specialized outreach teams may be a difficult-to-treat population. Further studies are required to establish effective prescribing practices and service delivery models.

Key words: antipsychotic agents, behavioral disturbances, aggression, dementia, depression

INTRODUCTION

Patients residing in long-term care homes (LTCHs) have a high prevalence of behavioral symptoms, according to previous research. This includes high rates of depression as well as aggression and other behavioral symptoms associated with dementia.[1–3] These symptoms are associated with several adverse outcomes, including reduced quality of life[4] and increasing care costs.[5] Medications are frequently prescribed to control these symptoms, in spite of the evidence for limited efficacy and the presence of risks associated with certain classes of medications.[6–9]

Many recent studies have focused on the prevalence of psychotropic medication use in LTCHs in various countries. In a recent review of this topic, Hosia-Randell and Pitkälä[2] determined that psychotropic prescription rates in LTCHs from countries including Denmark, Sweden, Norway, Australia, the United States, and the United Kingdom ranged from 48.5% to 74%. In terms of specific drugs, antidepressants have been estimated to be prescribed in 15.6–61.4% of cases compared with antipsychotic medication, estimated to be prescribed in 15–42% of cases. On the contrary, rates of psychotropic medication use in the United States have been estimated to be low, as legislation curtails the use of these medications.[10,11] Although data from other countries is available, few studies to date have looked at patterns of psychotropic medication use in LTCHs in Canada. This issue is particularly relevant in a country such as Canada where, unlike the United States, no restrictions are placed on drug administration in LTCHs. A recent large administrative database study[12] looked at rates of prescribing antipsychotic medication in Canadian LTCHs and discovered that prescription rates varied from 20% to 40%, with 30% being

the average. Furthermore, some facilities were much more likely to prescribe such medications, and residents in such homes were three times more likely to receive antipsychotic medication in such facilities irrespective of diagnosis. Other estimates based on studies conducted throughout LTCHs in Canada show psychotropic drug use ranging from 15% to 30% depending on the region.[13–15]

In spite of evidence suggesting high rates of use of antipsychotic medication among patients in LTCHs, there is substantial evidence to suggest that these medications may be associated with significant adverse effects. Such effects may include falls, confusion,[16,17] and, in the case of atypical antipsychotic medications, increased mortality.[9] Furthermore, the benefits of these medications have not been clear.[6–8] Thus, there is a need for studies to document not only the prevalence of psychotropic medication use but also the reasons for prescribing medications and the impact of medication adjustments on clinical course. It has been proposed that one of the benefits of specialized psychiatric consultation is that it may reduce the use of psychotropic medication and lead to more rational prescribing of medications.[18] However, few studies have explored this. Patients referred for specialized psychogeriatric consultation may constitute a more complex set of patients who may be more ill and, on the contrary, may require higher doses of medications. The purpose of this study was to examine the pattern and prevalence of psychotropic medication use among LTCH patients referred to outreach teams for psychogeriatric assessment.

METHODS

Retrospective patient data were collected from team charts by a trained research assistant. For the purpose of this study teams were defined as a minimum of one psychiatrist and one allied health member, with several teams having multiple members. It should be emphasized that teams consult to LTCHs and are therefore not involved in the direct prescribing of medication. Data from 13 teams in total were reviewed, six teams affiliated with community-based hospitals (non-academic) and seven teams affiliated with university-based hospitals (academic). While teams may have operated slightly differently based on their affiliations, most teams used a consultation liaison approach in keeping with recommendations set by the Toronto Mental Health/Long-Term Care Committee. On average, teams would visit homes every 1 to 2 weeks and see new consults, as well as providing follow-up for ongoing cases.

The chart review of the patient population was drawn from a pool of all new team consultations to LTCHs within a 4-month period (March 1, 2007 to June 30, 2007). Progress notes from team charts were reviewed from the time of the initial consult to time of discharge or for an approximate 6-month period in the case of patients who were not discharged, although the follow-up period may have varied slightly (within 1 or 2 months) depending on when the chart was reviewed. A maximum of 10 charts were selected at random from a pool of all new consults to each of the 13 teams serving a total of 84 homes. The research assistant who was blind to the team case load was given access to all charts seen over the designated time period and, depending on the number of charts, selected charts at random to ensure a maximum sample of 10 charts. While LTCHs also operated slightly differently based on funding and resources, all had to abide by regulations set out by the Ontario government. In addition, most LTCHs had very few resources to deal with behavior, apart from having a single nurse trained in evaluating behavior (PIECES-trained nurse, a nurse who has undergone a specific training program to become proficient in evaluating behavior) and having access to a psychogeriatric resource consultant (PRC), a professional trained to provide education to staff on how to deal with behaviorally difficult residents).

As each team was assigned to multiple homes, a protocol was adopted that maximized the variation between LTCHs to ensure that not all charts were from a single home. Chart data were collected from the time of the initial assessment until the last documented note, a period ranging from 1 to 6 months. To ensure accuracy, spot-checking of data collected from team charts was conducted. This involved the investigators on the study selecting a few of the team charts at random and abstracting the data. These data were then compared with the data abstracted by the assigned research assistant to ensure consistency. Consent was sought and obtained from individual research ethics boards within each of the 11 hospitals in which the 13 teams were based (three teams were based at one institution) using the harmonized University of Toronto research ethics application form. Data were analyzed using SPSS 16.0 (IBM Corporation, Somers, NY, USA). Chi-square tests were completed to determine variables that were significantly associated with the use of particular types of psychotropic medication. Independent-samples *t*-tests were completed to compare mean number of medications by diagnosis and type of team.

RESULTS

In total 88 patient charts were reviewed from 13 outreach teams based at 11 hospitals. Nineteen patient charts were excluded from the analysis due to incomplete data on psychotropic medication, and one was excluded due to inconsistent data. In terms of patient demographics (see Table 1), patients were elderly (mean age 81.43 years) and were cognitively impaired (mean Mini-Mental State Examination [MMSE] score 21.87). Most patients received approximately four visits from teams throughout the course of the assessment. Patients were divided approximately equally between academic (55.9%) and nonacademic (44.1%) teams. More women (60.3%) than men (39.7%) were referred for assessment. Approximately three-quarters of patients spoke English (76.6%) and one quarter (23.4%) were non-English speaking. Most patients were referred for behavioral symptoms (including agitation,

TABLE 1
Demographics of patients ($N = 68$) referred for specialized psychogeriatric consultation.

	Number	*Mean*	*Range*
Age	68	81.43±1.112	56–97
MMSE score	39	21.87±1.094	5–30
Number of staff visits during program	64	3.97±0.358	1–14
Hospital type	68		
Academic	38	55.9%	
Nonacademic	30	44.1%	
Gender	68		
Male	27	39.7%	
Female	41	60.3%	
Language	64		
English	49	76.6%	
Non-English	15	23.4%	
Reason for referral	68		
BPSD	41	60.3%	
Depressive symptoms	16	23.5%	
Other	11	16.2%	
Current diagnosis	66		
Mood/anxiety disorder	15	22.7%	
Cognitive disorder	47	71.2%	
Other	4	6.1%	
Critical incidents: aggression	57		
Present	28	49.1%	

BPSD = behavioral and psychological symptoms of dementia; MMSE = Mini-Mental State Examination.

wandering, and aggression) (60.3%) or depressive symptoms (23.5%). Most patients had a diagnosis of either a cognitive disorder such as dementia (71.2%) or a mood disorder such as depression (22.7%). Approximately half of patients (49.1%) engaged in some form of verbal or physical aggression during the assessment period.

More than half (60.3%) of patients seen were on more than one type of psychotropic medication (see Table 2). Antipsychotic medications were the most common psychotropic medication (55.9%) prescribed, followed by antidepressants (50.0%), cognitive enhancers (44.1%), and benzodiazepines (29.4%). In most cases there was no recommended change in psychotropic medication (64.7%) while medications were started or increased in a third of cases (29.4%) and reduced in only a few cases (5.9%).

TABLE 2
Pharmacological characteristics of patients ($N = 68$) referred for specialized psychogeriatric consultation.

	Number	*Mean*	*Range*
Number of psychoactive medications	68	1.94±0.115	0–4
0	1	1.5%	
1	26	38.2%	
2	20	29.4%	
3	18	26.5%	
4	3	4.4%	
Type of psychoactive medication	132		
Benzodiazepines	20	29.4%	
Antipsychotics	38	55.9%	
Antidepressants	34	50.0%	
Cognitive enhancers	30	44.1%	
Other	10	14.7%	
Pharmacologic intervention	68		
No change	44	64.7%	
Medication started/increased	20	29.4%	
Medication stopped/reduced	4	5.9%	

Use of antipsychotic medication was significantly associated with the presence of behavioral and psychological symptoms of dementia (BPSD) ($p < .05$), use of cognitive enhancers was strongly associated with diagnosis of a cognitive disorder ($p < .05$), but use of antidepressant medication was not associated with a diagnosis of major depression ($p > .05$). Patients taking cognitive enhancers were prescribed a higher number of psychotropic medications on average than patients not taking cognitive enhancers ($p < .001$). Finally, there was no difference in prescribing rates between academic and nonacademic teams ($p > .05$).

DISCUSSION

The present study looked at a sample of patients referred from LTCHs for specialized psychogeriatric assessment. In our study, 98.5% of patients were on psychotropic medications,

suggesting that most patients referred for specialized assessment were already on some form of psychotropic medication. Furthermore, many patients were on multiple medications. One would predict that psychotropic medication use would be much higher than in the general long-term care population, given that patients have been identified as having psychiatric issues. Antipsychotic usage rates among LTCHs in general have been estimated to be significant.[2] Use in Canadian LTCHs seems to be about 30% on average,[13] with significant variation from home to home. A more accurate comparison, therefore, might be with specialized care units within homes, where psychotropic medication rates have been reported to be in the range of 80%.[1] Previous studies looking at psychotropic medication use in LTCHs have documented high rates of polypharmacy[19,20].

Approximately 50% of patients in our sample were on antidepressants in spite of only 20% having a mood disorder diagnosed, suggesting that antidepressants are being used often to treat not only depression but also BPSD, an indication for which there is some emerging evidence.[21] Antipsychotic medications, on the contrary, have been shown to be beneficial in the management of behavioral symptoms,[22–24] although their use is somewhat controversial given the increased risk of death in patients with dementia.[9] Recent studies have suggested a significant escalation in the use of these medications over the past decade.[25] Patients were significantly more likely to be prescribed an antipsychotic medication in our sample if they had BPSD. Cognitive enhancers, on the other hand, are a disease-specific treatment that may help to delay the emergence of behavioral symptoms but show only modest benefits in patients with significant cognitive impairment.[26] In our study, use of these medications by comparison was quite high (44.1%), which might reflect recent efforts to educate physicians about the potential benefits of these medications, in addition to the fact that these medications are funded and therefore widely accessible in Ontario.

It has been proposed that one of the benefits of specialized psychiatric assessment in long-term care may be that it may result in more rational prescribing of psychotropic medication. In our study only a third of patients underwent a change in medication and only a very small percentage (5.9%) actually had a reduction in medication. One possible interpretation of this finding is that patients referred for specialized psychogeriatric consultation may constitute a difficult-to-treat subgroup of patients who may require more aggressive psychiatric management. It is also unclear from our study, based on the short time patients were followed, whether such patients were able to eventually tolerate reduced medication doses over time or underwent remission of symptoms. Finally, teams affiliated with academic centers were just as likely to recommend changes in medication as teams not affiliated with academic centers. This may be a ceiling effect, given that most patients with symptoms severe enough to be referred for specialized assessment in all likelihood would have required a change in medication, irrespective of setting.

While the findings of this study are of interest, some limitations should be pointed out. The study focused only on patients referred for psychiatric assessment and as such did not look at psychotropic medication use in general. As well, we did not review nonpharmacological interventions. Data were obtained retrospectively from charts kept by teams, and no formalized scales were used to evaluate behavioral severity. As such, the results may be somewhat subjective and biased. In addition, patients were followed for only a few months, so it is impossible to predict whether medication changes made by teams had any significant or long-term impact. Furthermore, while changes in medication were recommended, it is impossible to know how often these changes were implemented, as only team charts were reviewed. Finally, some factors may have affected the outcome of this study and its conclusions, including the small sample size and diversity between homes and outreach teams.

In conclusion, the preliminary findings from our exploratory study suggest that psychotropic medication use is high in LTCH residents referred for psychiatric assessment. In our sample medication changes very rarely resulted in a reduction in medication use (5.9%), and academic affiliation had very little bearing on whether medication changes were made. Future studies should explore what approaches, both pharmacological and nonpharmacological, may be most beneficial in the management of this complex group of patients.

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CONFLICT OF INTEREST DISCLOSURES

There are no conflicts of interest.

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