ORIGINAL SCIENTIFIC PAPER

QUANTITATIVE RESEARCH

Medication use in community-dwelling older people: pharmacoepidemiology of psychotropic utilisation

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ABSTRACT

INTRODUCTION: Psychotropic medications have a significant adverse drug event profile, particularly in older adults, and appropriate use is paramount. Patterns of prescribing in community-dwelling older adults in New Zealand remain unknown.

AIM: This study aimed to determine the prevalence and the pattern of psychotropic use amongst community-dwelling older people in New Zealand and to identify any association between depressive symptomatology and psychotropic medication use.

METHODS: Data were collected on the demographics, medication use and mood status of community-dwelling older adults from two New Zealand studies: the BRIGHT trial, which recruited potentially disabled participants (N=141) and the DeLLITE trial, which recruited potentially depressed participants (N=193). The prevalence and the pattern of psychotropic use were established and the gender, age and level of depression assessed using regression analysis.

RESULTS: The use of any psychotropic medication was 28.9% in the BRIGHT trial and 43.5% in the DeLLITE trial. Antidepressants were the most commonly used psychotropic medication in the two studies, followed by hypnotics and sedatives. Psychotropic use was highly correlated with the presence of depressive symptoms in the BRIGHT trial and with female gender in the DeLLITE trial. Age was not associated with psychotropic medication use. In both studies, there is possible underdiagnosed, undertreated and inappropriately treated depression.

DISCUSSION: The prevalence of psychotropic medication use is high in community-dwelling older people with disability and very high in community-dwelling older people with depressive symptoms, but varies by gender and level of depression.

KEYWORDS: Aged; depression; independent living; New Zealand; psychotropic drugs

Introduction

It is predicted that by the year 2100, 34% of the world's population will be over the age of 60 years—a 24% increase from the year 2000.[1] In the interim, the proportion of the New Zealand population over age 65 years is set to double by 2050 from 12% to 25%. With this increase comes a concomitant increase in the number of older people for whom issues relating to quality of life and good health become more salient.[2]

Twenty percent of hospital admissions for adverse drug events in older people are caused by psychotropic medications.[3] One of the most common psychiatric disorders in older people is depression.[4,5] Depression is also the most likely condition to be comorbid with other physical and psychiatric disorders.[6,7] Somatic symptoms that may be prominent for the diagnosis of depression in young and otherwise physically healthy people, such as gastrointestinal problems,[8] decreased appetite, weight loss and bodily aches,[9] may be

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seen as symptoms of other medical comorbidities in the elderly, or may be seen as a part of the natural process of ageing.[10] Other dominant symptoms of depression, such as persistent sadness, fatigue, delusional disorders, a diminished ability to think or concentrate, and sleep problems, may make it difficult to distinguish between depression and other psychiatric disorders or social problems.[11] Undertreatment and inappropriate treatment of depression and other psychiatric disorders results in reduced quality of life, higher levels of disability and increasing need of health services,[12] and insufficient treatment results in an increase in mortality.[13]

Psychotropic medication use in the general population is between 3.5% and 10.6%.[14] In older populations, the prevalence was recorded in New Zealand in 2006 at 35% for all those aged 64 years and older,[15,16] and at 54% for those in residential care.[17] Those specifically focusing on community-dwelling older people in other countries report high prevalence of psychotropic use in patients with conditions such as dementia, in which the use of psychotropic agents is influenced by these diseases.[18,19] Few studies have examined a community-dwelling population, and within these studies, only a few have considered medications other than benzodiazepines.[20–22] To date, no studies have been undertaken in New Zealand that have considered the prevalence of psychotropic use among elderly community-dwelling people and how this compares to other countries.

In order to be able to improve the quality and safety of psychotropic medicine use in older people, there is a need to firstly establish the extent of the problem, to assess what kind of medications are currently used, and how use relates to demographics and depressive symptoms. This study reports psychotropic medication use in two community-dwelling samples of older New Zealanders.

Methods

This study was based on data collected from two New Zealand studies: The BRIGHT (a subset with disability) and the DeLLITE trials. The two trials involved community-dwelling older adults but with different sample characteristics. The BRIGHT trial included potentially frail people 75 years and older for non-Māori and 65 years and older for Māori; the DeLLITE trial focused on potentially depressed patients 75 years and older.

BRIGHT (Brief Risk Identification Geriatric Health Tool) trial

This randomised controlled trial aimed to test the impact of a primary care screening strategy on the general population of older people to prevent hospitalisations and residential care placement. The main sample was recruited by inviting all enrolled patients aged 75 and older (65 and older for Māori) from 60 general practices in three centres in New Zealand in 2007–2008. A 47% response rate was achieved, resulting in a main sample of 3875. At entry, all participants contributed health and socioeconomic data and a pre-planned subgroup with disability was selected for a home visit.

To screen for disability, two trigger questions from the Nottingham Extended Activities of Daily Living (NEADL) Scale[23] were used:

1. Do you get in and out of the car?
2. Do you take hot drinks from one room to another?

If either one of these questions was answered with 'not able to do' or 'can do with help', a physical assessment was performed. A total number of 141 patients were identified as potentially disabled. These participants underwent the physical assessment, which was performed by a trained research nurse using standardised procedures at a home visit, and included a list of medications currently taken and tests to assess the patients' overall condition. Baseline data from these 141 participants were included in this study.

DeLLITE (Depression in Late Life: an intervention Trial of Exercise) trial

The aim of this randomised controlled trial was to test the effectiveness of a proven home-based physical activity programme in a new population—those with depression. The programme was enhanced with goal setting and social interaction,

and outcomes were function, mood and quality of life. The recruitment process is detailed by Kerse et al. in a 2010 paper.[24] Participants were invited to participate by sending a letter to all patients aged 75 and older enrolled in general practices in the Auckland region. The letter included a brief depression screening tool and a reply-paid card. If the card was not returned, older people were phoned; all potential participants were contacted and a 60% response rate was achieved.

To screen for potential depression, a validated three-question depression-screening tool[25] was used:

1. During the past month have you often been bothered by feeling down, depressed or hopeless?
2. During the past month have you often been bothered by having little interest or pleasure in doing things?
3. Answer, if you responded 'yes' to (1) or (2), is this something with which you would like help?

The third question about 'help' increases the specificity of the screening tool.

After informed consent was given, baseline data was collected at a home visit. The baseline data included the medication information recorded by trained interviewers from medicines at home from 193 participants; data from all those recruited and randomised were examined in this study.

Methods for the analysis of psychotropic drug utilisation

Similar data was recorded during a home visit in both trials.

Demographic information

Age, gender and ethnicity were analysed. Since the Māori participants had eligibility criteria related to their age range in the BRIGHT trial, it was necessary to analyse this population group separately. This was only undertaken for the analysis of the psychotropic drug use and the Māori subsample was further excluded, due to the low number of participants.

WHAT GAP THIS FILLS

What we already know: The use of psychotropic medications in older people is associated with poor outcomes. Older people with depression and disability are at increased risk of adverse drug events from psychotropic use and an accurate picture of medication use is not available.

What this study adds: The prevalence of psychotropic use was modest in those with disability and high in those selected because of a high likelihood of depression. The match between depressive symptoms and antidepressant use was not always evident, perhaps suggesting that some undertreatment and unnecessary treatment may occur in primary care.

Medication data

The medication name, dose, dosage form, frequency and reason/s for taking the medication were recorded at the home visit by viewing medication bottles and packets to ascertain what medications the participant was taking. Medications were coded using the World Health Organization Anatomical Therapeutic Chemical (WHO ATC) coding system.[26] Psychotropic medications were defined as antipsychotics (N05A), anxiolytics (N05B), hypnotics and sedatives (N05C), and antidepressants (N06A), according to the system.

Mood status

Participants' level of depression was assessed using the Geriatric Depression Scale (GDS-15).[27] A score greater than five indicated significant depressive symptoms and likelihood of depression, subsequently termed 'depression'.

Statistical analysis

Data were analysed using IBM SPSS Statistics Version 19. Psychotropic subclasses were combined into the following classes according to ATC coding categories: antipsychotics, anxiolytics, hypnotics and sedatives, and antidepressants. All psychotropic classes and subclasses were combined to form the variable 'any psychotropic use'. All outcome variables were plotted against gender, age, GDS-15 score, and presence of depression.

Descriptive statistics were performed analysing the frequencies and concomitant use of psychotropic medications within the two study samples.

Table 1. Demographic data and mood status of participants across the two New Zealand–based studies

	BRIGHT trial	DeLLITE trial
Number of initial participants	141	193
Ethnicity		
Non-Māori (%)	128 (90.8)*	192 (99.5)†
Māori (%)	13 (9.2)	1 (0.5)
Participants included in analyses	128‡	193
Mean age (years)	80.9	81.1
Gender		
Male (%)	52 (40.6)	80 (41.5)
Female (%)	76 (59.4)	113 (58.5)
Prevalence of depressive symptoms (%)	20 (15.6)	42 (21.9)
Mean GDS-15 score	2.97	3.66

GDS-15 Geriatric Depression Scale

* New Zealand European (85.1%); Pacific (2.1%); Asians (0.7%); Other (2.8%)

† New Zealand European (96.5%); Asians (1.5%); Pacific (0.5%); Other (1.5%)

‡ Non-Māori only included in analysis

Table 2. Psychotropic medication use in the two study samples

Participants	BRIGHT trial Non-Māori n=128 n (%)	BRIGHT trial Māori n=13 n (%)	DeLLITE trial N=193 n (%)
Any antipsychotics (N05A)	6 (4.7)*	0	4 (2.1)
Typical	1 (0.8)	0	2 (1.0)
Atypical	4 (3.1)	0	0
Lithium	2 (1.6)	0	2 (1.0)
Any anxiolytics (N05B)	8 (6.3)	0	16 (8.3)
Benzodiazepines	8 (6.3)	0	16 (8.3)
Others	0	0	0
Any hypnotics and sedatives (N05C)	10 (7.8)	1 (7.7)	40 (20.7)
Benzodiazepines	4 (3.1)	0	20 (10.4)
Non-benzodiazepines	6 (4.7)	1 (7.7)	20 (10.4)
Others	0	0	0
Any benzodiazepines (N05B, N05C)	12 (17.2)	0	34 (17.6)*
Any antidepressants (N06A)	22 (17.2)*	1 (7.7)	53 (27.5)*
TCAs	12 (9.4)	1 (7.7)	23 (11.9)
SSRIs	10 (7.8)	0	27 (14.0)
Others	1 (0.8)†	0	4 (2.1)†
Any psychotropic use	37 (28.9)	1 (7.7)	84 (43.5)

TCAs Tricyclic antidepressants

SSRIs Selective serotonin reuptake inhibitors

* Concomitant use of two representatives of psychotropic subclasses (as a result numbers do not sum)

† Venlafaxine

Due to the different eligibility criteria for non-Māori and Māori, the frequencies in the BRIGHT trial were reported separately for these two subgroups and the Māori subsample was excluded from further analysis.

Binary logistic regression analyses were performed with individual psychotropic classes and any psychotropic use.[28] The explanatory variables included gender, age and GDS-15 score plus all their two-way interactions. Non-significant interactions were removed from the analysis.

For both trials the effect of clustering was adjusted for in the analysis, using a generalised linear mixed effect model for binary outcomes, entering the general practitioner (GP) into the regression as a random effect to control for the effect of the individual prescriber. The use of antidepressants in people identified as depressed and non-depressed and the use of antidepressants, anxiolytics and hypnotics and sedatives alone, or concomitantly in depressed participants, were tabulated using descriptive statistics.

The DeLITTE trial was approved by the Northern Ethics Committee in 2004 and the BRIGHT trial was approved by the Multi-regional Ethics Committee in 2007.

Results

Demographic data and mood status of participants are summarised in Table 1.

Pattern of psychotropic use

Psychotropic medication use was determined between the two study samples, including the Māori subsample (Table 2). The prevalence of any psychotropic use was 28.9% in the BRIGHT trial and 43.5% in the DeLLITE trial.

Across the two non-Māori subsamples, the most frequently used psychotropic class were the antidepressants. More than half of the psychotropic medication users were taking antidepressants—59.5% in the BRIGHT trial and 63.1% in the DeLLITE trial. Any benzodiazepine use—anxiolytics or hypnotic or sedatives—was recorded as 17.2% in the BRIGHT trial and 17.6% in the DeLLITE trial.

Table 3. Correlates of psychotropic drug use: summary of p-values and odds ratios

	BRIGHT trial	N=128	DeLLITE trial	N=193
	p-values	OR (95% CI)	p-values	OR (95% CI)
Antipsychotics (N05A)				
Age	0.77	0.97 (0.78, 1.20)	0.83	0.97 (0.77, 1.24)
Gender	0.45	1.96 (0.34, 11.3)	0.54	0.48 (0.04, 5.17)
GDS-15	0.01*	1.42 (1.08, 1.84)*	0.42	1.15 (0.82, 1.60)
Anxiolytics (N05B)				
Age	0.22	1.11 (0.94, 1.30)	0.17	0.90 (0.78, 1.05)
Gender	0.49	0.55 (0.10, 2.94)	0.90	0.94 (0.32, 2.71)
GDS-15	0.09	1.23 (0.97, 1.55)	0.05	1.18 (1.00, 1.40)
Hypnotics and sedatives (N05C)				
Age	0.71	0.97 (0.84, 1.13)	0.53	1.03 (0.95, 1.11)
Gender	0.08	0.15 (0.02, 1.22)	0.06	0.47 (0.21, 1.02)
GDS-15	0.61	1.06 (0.84, 1.35)	0.28	1.07 (0.94, 1.22)
Antidepressants (N06A)				
Age	0.53	0.96 (0.86, 1.08)	0.49	0.97 (0.90, 1.05)
Gender	0.25	0.53 (0.18, 1.58)	0.15	0.61 (0.31, 1.20)
GDS-15	0.00*	1.42 (1.18, 1.71)*	0.54	1.04 (0.92, 1.17)
Total psychotropic use				
Age	0.81	1.01 (0.92, 1.11)	0.52	0.98 (0.91, 1.05)
Gender	0.09	0.44 (0.18, 1.12)	0.02*	0.47 (0.26, 0.87)*
GDS-15	0.00*	1.50 (1.24, 1.80)*	0.13	1.09 (0.98, 1.21)

OR Odds ratio

CI Confidence interval

GDS-15 Geriatric Depression Scale

* Statistically significant correlation

Correlates of psychotropic use

A regression analysis correlating gender, age and level of depression (according to the GDS-15 score) to any psychotropic use and the use of the psychotropic classes is shown in Table 3.

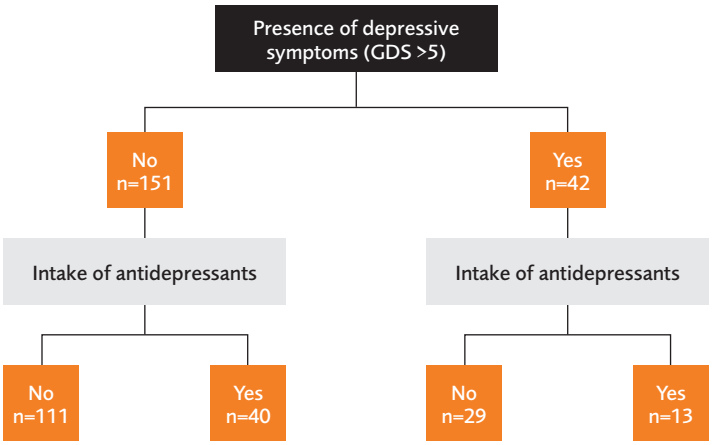
In the DeLLITE trial, female gender was found to be significantly associated with any psychotropic use. The likelihood of a man using a psychotropic agent was 53% less than a woman of the same age and with the same GDS-15 score.

The GDS-15 score was found to be significantly correlated with antipsychotic, antidepressant and any psychotropic use in the BRIGHT trial. Given two individuals in the BRIGHT trial of the same gender and the same age with a one-point difference in the GDS-15 score, the odds of antipsychotic use was calculated to be 42% more for the individual who scored one point higher on the GDS-15. The same finding was found for antidepressant use in this sample. The odds for any psychotropic use were 50% more for the individual that scored one point higher.

Use of antidepressants in the presence of depressive symptoms

The relationship between depressive symptoms and use of antidepressants was investigated in the DeLLITE sample. Figure 1 depicts the use of antidepressants in the presence of depressive symptoms in this study. Antidepressants were used in 13 of 42 (31.0%) participants who exhibited depressive symptoms. Forty of 151 (26.5%) participants who did not report depressive symptoms were taking antidepressants.

Figure 1. The use of antidepressants in the presence of depressive symptoms (DeLLITE trial N=193)



In comparison, 35.0% of participants with depressive symptoms were taking antidepressants in the BRIGHT trial.

Use of any psychotropic medications in the presence of depressive symptoms

The intake of antidepressants, anxiolytics or hypnotics and sedatives, either alone or concomitantly, in the presence of depressive symptoms in the DeLLITE trial is shown in Figure 2. Six (14.3%) participants on antidepressants were concomitantly taking anxiolytics or hypnotics and sedatives. In five of those people, benzodiazepines were used concomitantly with antidepressants. Eight participants (19%) who were not taking antidepressants, despite the presence of depressive symptoms, were taking anxiolytics or hypnotics and sedatives, and five of those people were taking benzodiazepines.

The majority of those using antipsychotics in the BRIGHT trial used atypical antipsychotics, such as risperidone, quetiapine and clozapine,[29] whereas the participants in the DeLLITE trial were more usually taking lithium or older, typical antipsychotics, such as prochlorperazine or haloperidol.

Discussion

Psychotropic use varied between the two studies. Since each study had specific selection criteria (depressive symptoms and disability), the results cannot be generalised to the wider population of older adults prescribed psychotropic medicines in New Zealand. Prevalence of psychotropic use in the DeLLITE trial (43.5%), selected because of depressive symptoms, was closer to that observed in residential care in New Zealand (54%),[17] and the prevalence observed in disabled older people in the community from the BRIGHT trial (28.9%) was lower than that observed in the whole New Zealand population over age 65 years in 2006.[15]

Pattern of psychotropic use

Studies have shown the prevalence of psychotropic use to be in the range of 12.3–42.6%.[20–22,30–34] In this study, 28.9% of participants in the BRIGHT trial and 43.5% in the DeLLITE trial used at least one psychotropic agent. The level of depression is a strong predictor for psychotropic use,[21,30,32] which might explain why the level of psychotropic use was higher in the DeLLITE trial, which recruited potentially depressed people. Similarly, functional impairment is a predictor for current and long-term psychotropic use,[30] as disability can lead to high levels of depression.[10,12,35] Higher levels of depression and a subsequent higher intake of psychotropic medications were therefore expected to be seen in the subset of the BRIGHT trial, which identified potentially disabled participants.

The use of antipsychotics in both studies was within the 2.5–6.1% range found in previous studies.[21,22,31,32] Due to the small sample of participants taking antipsychotics, these results should be interpreted with caution.

Previous studies reported the prevalence of anxiolytic use in older populations to be between 7.5% and 8.8%.[20,22] While this is in keeping with data from the DeLLITE trial, in the BRIGHT trial the prevalence was lower at 6.3%. Benzodiazepines were the main anxiolytic used. Due to the possibility of abuse and dependence and the higher sensitivity of older people to the adverse drug events associated with this class,[36] safer alternatives such as SSRIs could be considered.

Hypnosedative use worldwide is estimated to be between 4.8% and 20.6%.[20,22] While the data

from the BRIGHT trial fits well into this range, the DeLLITE trial reports a prevalence at the top of this range (20.7%). At least 50% of the participants in the DeLLITE trial using this psychotropic drug class were taking a non-benzodiazepine hypnosedative, potentially associated with fewer side effects.

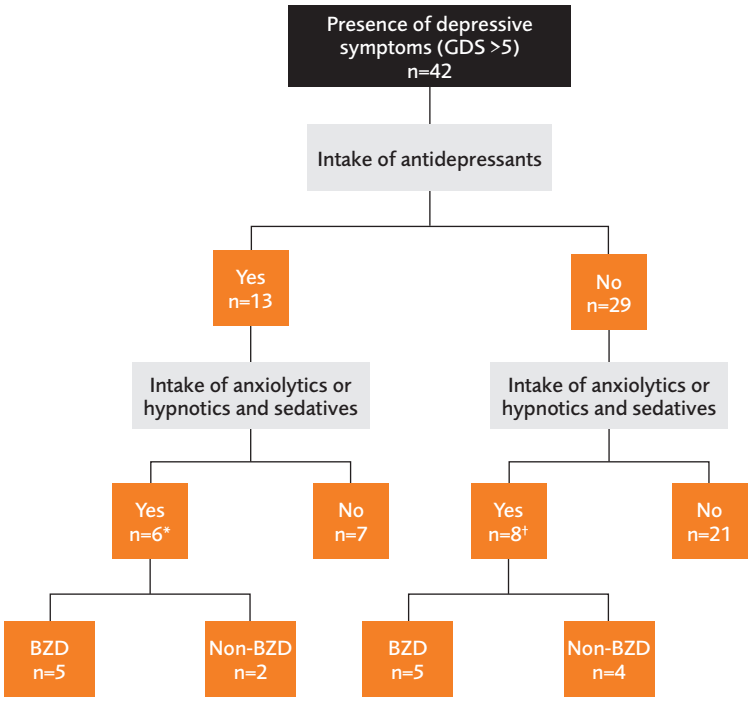
Benzodiazepines are the most frequently prescribed medications in the elderly for insomnia and anxiety, with 9.9% to 31.9% of the community-dwelling elderly in Western countries taking these.[37] The use of benzodiazepines in the two studies is lower in comparison, but even this level of prescribing should be avoided.[38,39] We are unable to comment on the length of time that participants had been on their medications; however, long-term use of benzodiazepines remains inappropriate.[40]

The worldwide prevalence of antidepressant use in elderly people ranges from 1.9–17.5%.[21,31,32,41] Data from the BRIGHT trial fits well into this range. However, as expected in the DeLLITE trial, the selection of patients with depressive symptoms probably resulted in the higher prevalence of 27.5% being observed. While both studies show relatively similar use of tricyclic antidepressants (TCAs) and selective serotonin reuptake inhibitors (SSRIs), current data suggests that SSRIs or other antidepressants, such as venlafaxine and mirtazapine may be appropriate therapies in older people.[42–44]

Correlates of psychotropic use

In the DeLLITE trial, more women than men used psychotropic agents (p=0.02). While this finding is supported by a number of other studies,[20,32,33,45–48] this association was not found in the BRIGHT trial. Considering that the DeLLITE trial recruited potentially depressed participants, it may be that female gender significantly increases the likelihood of psychotropic medication use compared to males. Women seem to be twice as likely to develop depression with comorbid anxiety disorders than men,[49–51] and insomnia is also more common in older women.[52] Women are also more likely to have psychiatric disorders, which probably explains this result. It is also possible that prescribing was inappropriate for some of these patients.

Figure 2. Intake of antidepressants or hypnotics and sedatives, alone or concomitantly, in the presence of depressive symptoms (DeLLITE trial)



BZD Benzodiazepine

* One participant was taking paroxetine, zopiclone and lorazepam concomitantly

† One participant was taking zopiclone and temazepam

No significant correlation was found between age and psychotropic use in this study, which is consistent with other studies.[21,33] While female gender is a predictor for depression, older age is not.[49,53] Lack of significance may be a result of the poor correlation between age and depression. As depression does not increase with age, there is a possibility that psychotropic use might not either.

GDS-15 scores were the strongest predictor for psychotropic use in this study, which is supported by studies linking depression to the use of psychotropic medications.[21,30,32] Interestingly, the DeLLITE trial, which recruited potentially depressed people, exhibited no significant correlation between the level of depression and psychotropic use. This may be due to several reasons. Firstly, only those with depressive symptoms at recruitment participated. Partici-

pants who did not have depressive symptoms at recruitment were either successfully treated with antidepressants or were not depressed, which means that well-managed and healthy patients may not have been included in this sample. Secondly, the people included in this study that were not depressed according to the GDS-15 cut-off point, but who were still included in the study according to the three-question depression screen, may have at some time reported their symptoms to the general practitioner (GP) who consequently prescribed antidepressants or other psychotropic medications. These two reasons may have led to a high percentage of non-depressed patients taking antidepressants or other psychotropic medications. They could also represent people appropriately treated. The severely depressed people, who possibly take antidepressants but still show depressive symptoms, are also perhaps not recorded in this study because these people are probably more likely to decline the offer of participation in a research project. These three assumptions may have led to a similar prevalence in any psychotropic use, between non-depressed and depressed participants in the DeLLITE sample.

Antidepressant use in the presence of depressive symptoms

Forty people (26.5%) without the presence of depressive symptoms were taking antidepressants. This could either indicate that good control of previous depressive symptoms was achieved, or that antidepressants were used for conditions other than depression, such as neuropathic pain.

Only about a third (31%) of DeLLITE trial and BRIGHT trial (35%) participants with depressive symptoms were prescribed antidepressants. This means that 69% of participants had depressive symptoms but may not have been treated with antidepressants. People who take antidepressants but still present with depressive symptoms may either be suffering from resistant depression or they may not be adequately treated. Depressed people who do not take antidepressants may not have been diagnosed appropriately, or the symptoms of depression may have been treated with other psychotropic medications or non-pharmacological treatments.

A number of authors have brought attention to the underdiagnosis and undertreatment of depressive symptoms in the elderly.[54,55] Not adequately addressing depression may result in worsening depression, an association with comorbidities, low treatment adherence and an increased risk of suicide. Undertreated depression can lead to high levels of physical and social disability, with an adverse impact upon quality of life. This may result in a 'downward cycle' for older people, with either depression or disability, and consequent increased health care services use.[10,12,35] Resistant depression poses its own dilemma, as a significant number of patients remain depressive or do not achieve remission, even after several adequate antidepressant trials.[56,57]

Intake of other psychotropic medications in the presence of depressive symptoms

The significant correlation between GDS-15 scores and anxiolytic use (p=0.01) and hypnotic and sedative use (p=0.01) may be due to the fact that depressed people often present with symptoms of anxiety and sleeping disorders, and may therefore be treated with anxiolytics and/or hypnotics and sedatives, instead of, or concomitantly with, antidepressants.[49,58]

From the DeLLITE study results, 29 participants who had depressive symptoms did not take an antidepressant. Of these, eight participants were taking anxiolytics or hypnotics and sedatives, which may have provided symptomatic relief, but left the underlying depression untreated. Inappropriate treatment with anxiolytics or hypnotics and sedatives contributes to the high number of elderly people with depression who receive treatment but still suffer from their symptoms.[32]

Future research could examine a representative group of community-dwelling older people, record their medications with appropriate diagnostic criteria, and then follow up this group to understand the consequences of combinations of medications.

Limitations of the study

The main limitation of this study was the small sample size in each study. This resulted in a small

number of participants on psychotropic medications. Ethnicity could not be included in all parts of the analysis, an area that requires further investigation. We were also unable to establish the length of time medications had been used as part of this study.

The ATC coding system used in this study was considered to be useful in unifying different drug brands and formulations into a single code, but it showed a weakness in the coding of psychotropic medications. Even with diagnostic confirmation of the reason for prescribing, it was not possible to perform a detailed analysis of psychotropic use. Medications such as TCAs and SSRIs were strictly classified into one specific medication class despite the fact that they are used for various diseases, sometimes in the same or slightly lower or higher doses. We also had no knowledge of the indication for medication use. To confirm whether the results are still valid when taking the diagnosis into account a follow-up of the patients' conditions is needed. Knowing the diagnosis makes a sensitivity analysis possible, which could be used to prove whether the outcomes, prevalence and correlates of psychotropic utilisation change when excluding the participants that are taking the medication for any indication other than for the treatment of psychiatric disorders. Furthermore, a more detailed analysis of the appropriateness of the current therapy would be possible.

The GDS-15 is an indication of depressive symptoms rather than a diagnostic instrument. As such, the appropriateness of treatment is less able to be ascertained.

Conclusion

This study provides important information about the prevalence and the pattern of psychotropic use in community-dwelling older patients with depressive symptoms in 2006–2007.

The prevalence of psychotropic medication use varied in the samples according to selection criteria (depressive symptoms or disability), and some mismatch between depressive symptoms and treatments received was present. For those with disability, depressive symptoms were related to likelihood of psychotropic use, while for older people selected as potentially with depression, current GDS-15 scores were not related to psychotropic use.

Prescribing for older people is complex. The older population may be at risk of inappropriate psychotropic medication use, and also of under-treatment of depressive symptoms.

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COMPETING INTERESTS
None declared.