Are older people prescribed antidepressants on the basis of fewer symptoms of depression, and for longer periods of time? A survey of 1,825 New Zealanders

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Abstract

Aims: *To determine whether older people are prescribed antidepressants at lower levels of depression and with fewer symptoms, and whether they are more likely to engage in chronic usage.*

Methods: *An online survey about experiences with, and opinions about, depression and antidepressants, was completed by 1,825 New Zealand adults who had been prescribed antidepressants in the preceding five years.*

Results: *Participants over 55 were prescribed antidepressants with significantly fewer symptoms and were significantly less likely to meet DSM criteria for depression. They were also significantly more likely to have used the drugs for three years and still be using them.*

Conclusions: *Prescribing physicians and their older patients might benefit from discussing the pros and cons of antidepressants (including the additional risk factors with this age group) and the alternatives; and, if prescription does occur, careful monitoring to avoid unnecessary, potentially damaging, long-term use is recommended.*

Key words: *depression, antidepressant medication, older people.*

Introduction

Although depression is the most common mental health problem [1], general population surveys, including in New Zealand – where the current study was conducted, show that older people have a lower prevalence of depression, with shorter duration and less severity [2]. This trend is, however, reversed towards the end of life [2], with a recent meta-analysis calculating a prevalence rate of diagnosed 'depressive disorders' in people aged ≥75 of 17.1% [3].

Age and prescribing rates of anti-depressants

Prescribing rates of antidepressants (ADs) are approaching epidemic proportions. In New Zealand (where the current study was conducted) the number of people prescribed ADs increased 35% from 304,530 to 412,631 between 2006/07 and 2011/12 (PHARMAC, personal communication, 2012), meaning that approximately one in nine of the adult population receive ADs every year. In 2013 there were 53 million prescriptions in England, a country with a population of 52.6 million [4]. These increases in annual prescriptions are less explicable in terms of new recipients but are more the result of people staying on ADs for longer [5].

In the Netherlands there was a 5.8 fold increase between 1991 and 2011 in SSRI prescribing to people > 45, with the highest rates for those aged ≥72 [5]. Prescribing rates in older people's nursing homes have been reported to be 40% in Belgium [6], 41%, in England [7], and 46% in Sweden [8]. In England and Wales 11.3% of 403,259 people aged ≥ 65 living in the community, and 37.5% of 10,387 care home residents, had been prescribed ADs in the past 90 days [9]. A study of 271,365 British people found that 28.7% of those with dementia

were on ADs [10]. Of 60,746 British people ≤ 65 diagnosed by their GP as having a new episode of depression, 89% were prescribed ADs [11].

Efficacy and safety of anti-depressants with older people

Recent research has raised concerns about the efficacy of ADs; with less than half of trials finding ADs superior to placebo [12]. A meta-analysis [13] found that 'the overall effect of new-generation antidepressant medications is below recommended criteria for clinical significance' (p. 265) with no significant benefit compared to placebo for all but 'patients at the upper end of the very severely depressed category' (p. 260). A meta-analysis of double-blind randomized controlled trials with people aged ≥55 found that SSRIs were not more likely to lead to remission than placebos [14]. Two other recent meta-analyses have concluded that older age is related to poorer response to ADs [15, 16]. This has been partially confirmed with the sample of nearly 2,000 AD users on which the current study is based; older people were equally likely as younger people to report improved quality of life as a result of taking ADs, but were significantly less likely to report depression reduction [17].

The most frequently reported adverse effects in the sample of AD recipients on which the current study was based included: sexual difficulties (62%), feeling emotionally numb (60%), drowsiness (58%), dry mouth (58%), weight gain (56%), withdrawal effects (55%); feeling not like myself (52%), reduction in positive feelings (42%), suicidality (39%) and caring less about others (39%) [18]. Adverse effects that are particularly common amongst older people include ischemic stroke, falling, fainting, hip fractures, and acute angle-failure glaucoma [6, 11, 19-20]. In the recent study of 60,746 depressed GP patients aged ≥65 all classes of antidepressant drug were significantly associated with: 'all cause mortality',

attempted suicide/self harm, and upper gastrointestinal bleeding. In addition, SSRIs were associated with: stroke/transient ischaemic attack, epilepsy/seizures, and increased risks of myocardial infarction and hyponatraemia (low blood sodium level) [11]. Old age can alter the pharmacokinetics and pharmacodynamics of ADs, which can affect both efficacy and safety of the drugs. For example, older people are particularly vulnerable to the anticholinergic effects of some SSRI agents and thereby to cognitive impairment [21]. In nursing homes ADS have been identified as among the most common inappropriately prescribed drugs that increase the risk of hospitalisation and death [22].

Objectives of the study

Given increased prescribing, minimal efficacy, and frequency of adverse effects in older people, this study examined: [A] whether older people are prescribed ADs at (i) lower levels of depression, (ii) with fewer depressive symptoms, or (iii) without meeting DSM-IV diagnostic criteria (i.e. five or more symptoms without significant loss in past two months); and [B] whether older people are disproportionately 'chronic' users (defined here as three years or more and ongoing). Relevant beliefs, about depression and ADs, which might help explain the study's findings, were also analysed.

Methods

The study was approved by the University of Auckland Ethics Committee. An anonymous questionnaire was placed online and a google webpage advertising the study was established [*www.viewsonantidepressants.co.nz*] [17, 18]. This webpage provided participant information and a link to the questionnaire. The study was further publicised in the media.

Instrument

The questionnaire had 47 questions (in yes/no, likert scale, or open-ended formats), in eight sections: demographics; the prescribing process; information about AD usage and perceptions of their effectiveness; side-effects; benefits; experiences of alternative treatment options; and beliefs about the causes of depression [17, 18]. To ascertain appropriateness of the prescription in relation to diagnostic criteria, participants were asked to respond to a checklist of symptoms based on the DSM-IV symptoms for Major Depressive Episode (of which five are required). Participants were also asked: "Please rate your level of depression for the year before taking antidepressants ('not at all', 'mild', 'moderate' or 'severe)", and (to assess for the DSM grief exclusion criterion) "In the *two months before* you were first prescribed antidepressants, had a loved one died?" The other two key questions were about how long the participants had taken ADs, and whether they were still taking them.

Data Analysis

Relationships between age and depression severity were analysed using Spearman's rank correlation coefficients, as was the relationship with the 20 adverse effects (but the significance level for the latter was, because of the large number of analyses, set at $p < .01$. to reduce the probability of Type 1 – false positive – errors). The relationship between age and 'chronic' usage (taking ADs for three or more years and still taking them) was analysed using a chi-square test. For the purposes of further analyses the sample was divided into three age groups ('Younger': 18-35, n = 690; 'Middle': 36-55, n = 846; and 'Older': $\geq$56, n = 289).

Results

Participants

The criteria for participation included having been prescribed ADs in the last five years and being at least 18 years old. Of the 2,171 people who started the survey, 295 stopped before question 19 (of 47) and their responses were not analyzed. Of the remaining 1,876, 45 cited medications other than ADs when asked which AD they were prescribed. The Internet Protocol address (IP) of 168 of the remaining 1,831, was the same as at least one other respondent, indicating possible use of the same computer. The responses of these 168 were checked and two respondents whose scores were nearly identical to those of someone else with the same IP were excluded. This left 1,829. A further four did not disclose their age and were excluded, leaving 1,825 for analysis. Of these, 1399 (76.7%) were female. The majority (1,671; 91.6%) were European and 52 (5.3%) Maori. Age groupings ranged from 18-25 years (297; 16.3%) to 86+ (2), with the modal grouping being 36-45 (405; 22.1%).

Symptoms, diagnostic criteria and depression severity

The mean number of DSM symptoms of depression at the time of first being prescribed antidepressants, for all respondents, was 6.65 (SD = 2.80). Age was negatively correlated with the number of symptoms ($r = -0.17$; $p < .0001$). Table 1 shows that the Older group had a significantly lower mean number of symptoms (5.68) compared to both the Middle (6.57; $t = 4.7$, $df = 1133$, $p < .0001$) and Younger (7.16; $t = 4.3$, $df = 977$, $p < .0001$) groups. Age was negatively related to most specific symptoms at the < .0001 level of significance, including both of the two symptoms that must be present in DSM 5, depressed mood and reduced interest/pleasure, as well as having thoughts of death or suicide (see Table 1).

There were small, but non-significant, differences in the percentage who responded

yes to 'in the two months before you were first prescribed antidepressants, had a loved one died?': Older 9.7%; Middle 7.2%; Younger 6.4%.

Older age was negatively related to probability of meeting DSM diagnostic criteria (X^2 =37.7; $p < .0001$); with only 59.4% of the Older group reporting five DSM symptoms (and no loss of loved one) at the time of first being prescribed DS, compared to 74.0% and 78.3% for the Middle and Younger groups respectively.

Men, in general, had significantly fewer symptoms (6.32) than women (6.76) ($t = 2.85$, $df = 666$, $p < .01$). An Analysis of Variance, with age and gender as predictors and number of symptoms as the dependent variable, found that age was significantly predictive ($t = 7.28$, $p < .0001$) and gender was not quite predictive ($t = 1.96$; $p = .05$). The difference between genders in the percentages that met DSM criteria (men 70.1%; women 74.3%) was not statistically significant.

Age was negatively, but not significantly, related to self-reported severity of depression in 'the year before taking antidepressants' ($r = -.04$, $p = .08$). The difference between 38.7% of the Older group reporting 'severe' depression, and 44.2% of the Younger group, was not significant.

Chronic usage

About half of the sample (51.7%) had taken ADs for three years or more. This was positively related to age ($X^2 = 74.7$; $p < .0001$). About two thirds (65.7%) of the Older group, but only 38.9% of the Younger group had taken ADs for three years or more.

Age was positively related to still taking ADs at the time of completing the survey ($X^2 = 27.2$, $p < .0001$). This was the case for 74.2% of the Older group and 66.0% of the Younger group.

Age was, therefore, strongly related to having taken ADs for three years *and* still taking them, combined (the operational definition of 'chronic usage' for the purpose of this study) ($X^2 = 84.3$, $p < .0001$). This was the case for 59.0% of the Older group, 46.9% of the Middle group and 33.5% of the Younger group. There was no gender differences in terms of chronic useage.

Withdrawal and other adverse effects

Age was not significantly related to self-reported 'addiction' or 'withdrawal effects'. About a quarter of the Older respondents (27%) reported experiencing some degree of addiction; with 6% saying that the level of addiction was 'severe'. Nearly half (48%) had experienced 'Withdrawal effects after stopping taking the anti-depressants' with one in five (22%) describing them as 'severe'.

Although age was negatively correlated to the total number of adverse effects [18], more than 40% of the older group reported seven other adverse effects besides withdrawal effects: Dry mouth (60%); Sexual difficulties (58%), Weight gain (58%); Feeling emotionally numb (55%); Failure to reach orgasm (54%); Drowsiness (50%); and Feeling not like myself (43%). In addition, 36% reported Reduction in positive feelings; 35% Caring less about others; and 29% Suicidality.

Interaction with Prescriber

Age was unrelated to whether the prescriber told the patient how long to take the ADs and, if they were told, how long they were told to take them.

Beliefs

Participants were asked about the extent to which they agreed with a range of causes, of depression in general [23] and of their own depression [24]. Age was unrelated to belief in 'Chemical Imbalance' as a cause of either. However, age was negatively related to a belief in 'Disorder of the brain' as a cause of either depression in general or of their own depression. Over half of the Older group (57.9%) disagreed with 'Disorder of the brain' as a cause of their own depression, compared to 48.3% of the Middle group, and 34.2% of the Younger group.

Participants were asked to respond to: 'If you benefited from antidepressants, to what extent to you think it was because of the chemical effect of the antidepressants vs. the placebo effects of hope and expectation' by ticking one of ten boxes ranging from '100% chemical to '100% placebo' [23]. Age was negatively related to degree of belief in placebo effects ($r = -.21$, $p < .0001$); with 40.1% of the Older group believing that the effect of ADs was 100% chemical, compared to 31.0% of the Middle group and only 20.2% of the Younger group.

Discussion

A recent study found that 69% of AD recipients in Baltimore had never met DSM criteria for Major Depressive Disorder and concluded that 'Our data indicate that antidepressants are commonly used in the absence of clear evidence-based indications' [25, p. 40]. The current study suggests that this may disproportionately be the case for older people. In the current sample, the largest online survey of AD recipients to date, people over 55 were prescribed

ADs with fewer DSM symptoms of depression. They were more likely to be prescribed ADs without meeting DSM criteria for a Major Depressive Episode. They did not report being significantly more or less depressed than younger people in *the year prior* to being prescribed ADs, but they were significantly less likely to report having the symptom 'down or depressed' *at the time of the prescription.* This first group of findings is consistent with the previous finding that older people are more likely than younger people to be prescribed ADs in the absence of a diagnosis [26]. For example, 33% of Swedish nursing home residents without a diagnosis of depression were found to be taking ADs [8]. A study of Canadian medical inpatients aged $\geq$ 65 found that in the subsequent six months those with no depression were prescribed SSRIs at the same rate as those with minor depression [21]. Among residents of three Sydney nursing homes 27% of those with no significant symptoms of depression were on antidepressants, at a similar rate (23%) to those with a moderate level of symptoms [27]. A study of US Veterans found that of the just over half a million prescribed ADs outside of mental health services in 2010, 51% had no psychiatric diagnosis; and that Veterans aged 65 or older were more than four times more likely than those under 40 to be prescribed psychiatric drugs without a diagnosis [28]. These findings of high rates of apparently inappropriate prescribing occur in the context of t older people having a lower prevalence of depression, with shorter duration and less severity [2].

The other major finding of the current study was that people over 55 are more likely to be 'chronic' users of ADs, and thereby may be disproportionately contributing to the ever increasing prescribing rates of ADs internationally. These two primary findings cannot be explained either by specific instructions from prescribers about how long to take the medication or by older participants having a more biological understanding of depression. However, older people in the current sample believed more strongly than the younger people that ADs are 'the best treatment' and that their effect is more chemical than placebo [23].

These two beliefs may partially explain their longer use of the drugs, and even - via pressure on the prescriber - why they are given them without meeting diagnostic criteria. The additional finding that the older people reported fewer adverse effects [18] may be a further partial explanation for the longer duration of use.

The findings should be considered in conjunction with the additional finding, from the same survey, that older people received significantly fewer other (non-medical) treatment recommendations at the time of AD prescription, and were specifically less likely to have 'Counsellor/Psychologist/Psychotherapist' or 'Social Activities' suggested to them.

A recent analysis of Australian national data found that people over 65 were frequently prescribed potentially inappropriate medicines, and 'that health practitioners indicated that they do not routinely elicit patient preferences or initiate conversations about the risks and benefits of medicines' [29, p.35]

Limitations

The study used a convenience sample which was not demographically representative of the New Zealand general population. Self-reports are subject to the failings of memory. Correlations are not necessarily indicative of a *causal* relationship between variables.
It is not clear how many of the participants were still depressed when completing the questionnaire.

The definition of 'older' (≥56) was lower than many other studies, but no signifcant differences were found between the 56-65 and >65 groups on the key variables. For example, the mean number of symptoms was 5.7 for the 56-65 year olds and 5.5 for those over 65.

Older people may more often be prescribed ADs for issues other than depression (e.g. post stroke); but there were no significant differences between the three age groups in the percentage who reported that they were 'not at all' depressed in the year prior to first being prescribed ADs.

Conclusions

Many older people, including the majority of the current sample (82%), find ADs beneficial. Most, however, also experience multiple adverse effects. Nearly half of the current sample of older people had tried to reduce or come off but had experienced withdrawal effects, which one in five described as 'severe'.

Similar surveys of the attitudes and beliefs of prescribers, and in relation to other psychiatric drugs, may prove valuable. In the meantime, prescribers might consider alternatives to ADs, including exercise, social activity and psychological therapies such as cognitive therapy [30], or even a 'wait and see' approach, especially for moderate to mild depression (the majority of AD users). In relation to older people, doctors should be particularly focussed on ensuring (a) that ADs are not being prescribed unnecessarily (ie in the absence of depression), (b) that the advantages and disadvantages of ADs are discussed, (c) that other treatments are considered, including those that address psycho-social needs such as loneliness, (d) that interactions with other drugs are carefully monitored and (e) that chronic use is monitored and, where possible, avoided.

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Key Points

- People over 55 are prescribed antidepressants on the basis of fewer depressive symptoms , and lower probability of meeting DSM criteria for Major Depressive Episode, than younger people.
- People over 55 are more likely to be chronic users of antidepressants.
- Prescribers should discuss the pros and cons of, and alternatives to, antidepressants with older patients, and avoid unnecessary or chronic prescribing.

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Table 1: Symptoms, level of depression and chronic usage, by age

	18-35 years (n = 690)	36-55 years (n = 846)	>55 years (n = 289)
depressed mood	90.6%	86.9%	79.9% *
diminished interest/pleasure	78.6%	76.8%	66.1% *
thoughts of death/suicide'	62.5%	52.1%	44.3% *
Mean number of symptoms	7.16	6.57	5.68 *
Met DSM criteria [1]	78.3%	74.0%	59.4% *
'severe' depression in year prior to starting ADs	44.2%	42.9%	38.7% ns
Chronic usage [2]	33.5%	46.9%	59.0% *

1 = five DSM symptoms and no loss of loved one in previous two months

2 = taken ADs for three years and still taking them; * = $p < .0001$