

Potential for community programs to prevent depression in older people

Michael J Bird and Ruth A Parslow

DEPRESSION is one of the most common psychiatric disorders in late life, is costly in human suffering and service use, and has severe effects on physical health. There is currently no public health approach to this serious community problem. This article canvasses prospects for community-level prevention of late-life depression by discussing why it is worthwhile, examining malleable risk factors, and examining how it could be done.

Rationales for prevention

Prevalence of late-life depression

Epidemiological studies suggest that the prevalence of major depression in community-dwelling older people (usually defined as above 60 years) is between 1% and 3%.¹ This has led to speculation that depression declines in old age,² but the point is controversial.³ Objections are based on sampling and measurement. Most studies find much greater non-response rates among people with health or cognitive problems,^{4,5} which are important risk factors in this population. Major depression occurs in up to 25% of older people with comorbid conditions such as ischaemic heart disease, stroke, cancer, chronic lung disease, arthritis, and Parkinson's disease.⁶ Major depression is also very common in other important subpopulations commonly excluded from epidemiological studies, such as nursing home residents.⁷

Different methods of measurement produce very different results.³ One study (using self-report, not diagnostic interview) found an 8.7% community prevalence of DSM-IV major depression.¹ Other studies using age-specific instruments or not using strict DSM or ICD cut-off scores find a very high rate of disabling depressive symptoms in older people. For example, a large community-based study, using the Centre for Epidemiological Studies Depression Scale (CES-D),⁴ found the prevalence of major depression to be 2.02%, but 12.9% had "minor depression", and a further 14.9% had significant depressive symptoms. Other researchers find similar rates, and one author has noted that, together with dementia and anxiety, depression is the most common psychiatric disorder in late life.⁴

Centre for Mental Health Research, Australian National University, Canberra, ACT.

Michael J Bird, PhD, MPsych, Visiting Fellow;

Ruth A Parslow, MPH, PhD, Research Officer.

Correspondence: Dr M J Bird, Centre for Mental Health Research, Australian National University, Canberra, ACT 0200
mike.bird@anu.edu.au

ABSTRACT

- Depression is one of the most common mental health disorders in older people.
- Sequelae include unnecessary suffering, excess physical and social disability, exacerbation of co-existing illness, earlier death, and overuse of services.
- There are currently no reported public health approaches to prevent late-life depression.
- Five risk factors appear susceptible to community-level prevention programs: recurrent depression, commonly undertreated precipitants, vascular disease, functional impairments, and metabolite abnormalities.
- We propose three broad but interacting prevention methods: increasing literacy about late-life depression, exercise, and dietary supplements.

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Costs of late-life depression

Health services exist to reduce suffering, and there is no reason why older people should endure depression more than younger populations. Unfortunately, they do. There is chronic undertreatment of depression in all populations, but older people are the most vulnerable.⁸ One cause is primary healthcare providers' failure to recognise symptoms,⁹ which can present or be described differently in older patients,¹⁰ or be seen as side effects of medical illness.¹¹ However, even when major depression is diagnosed, it often remains untreated or wrongly treated (eg, with benzodiazepines, or not long enough).^{12,13} A commonly cited reason for non-treatment is the nihilistic belief that depression is normal and to be expected in old age,¹⁴ although this hypothesis remains untested. In any case, whatever the cause of depression, the symptoms are no less intense, nor any less deserving of treatment.¹¹

In addition to costs in terms of unnecessary suffering, there is good evidence that late-life depression is a risk factor for other negative events. A prospective study showed that self-rated health at baseline is strongly associated with depression at follow-up.¹⁵ Another study showed that depressive symptoms predict both onset of impairments in mobility and functioning, and declines in physical health.¹⁶ Depressive symptoms also have an interactive effect with physical illness in old age, compounding associated disability.¹⁷

Depressed older people are much more likely to commit suicide than younger people with depression,¹⁸ with rates as high as 67 suicides per 100 000 among white men aged over

85 years.⁶ The presence of depression also greatly increases the risk for non-suicide mortality in important subpopulations (eg, people who have had myocardial infarction, or nursing home residents).^{19,20} Depression may even be a prodrome of dementia, although the relationship remains complex.²¹ Important psychosocial sequelae commonly found are grossly reduced activities and social isolation.¹²

A final cost of depression in older people is service use. Although actual treatment of depression is underutilised, there is excess use of non-mental health treatments.^{12,22}

Summary

There is a large population of older people with significant depressive symptoms, and consequences of these symptoms include development of other illnesses, exacerbation of co-existing illnesses, excess use of health services, severe restriction of quality of life, and unnecessary suffering because of inadequate, wrong or no treatment. Clearly, there is scope for prevention, if feasible. To do this, it is necessary to find risk factors that might be ameliorated.

Risk factors for depression in older people

Chronological age *per se* is not a risk factor. Incident depression does increase with each advancing age cohort over 60 years, but when other relevant variables are controlled the age effect disappears.^{1,5} Risk factors commonly cited include female sex, recent bereavement, other stressful life events, chronic medical conditions, social isolation, and prior history of depression.^{1,4,5}

Recent large prospective cohort studies show that the situation is much more complex than appears from cross-sectional data. They suggest, for example, that the greater prevalence of depression among older women may be a result of chronicity in those who are depressed, not that being female and older itself increases risk of incident depression. One study found that being female, having low social support, and being unmarried did predict prevalence of depression in cross-sectional data at baseline, but did not predict incident cases at three-year follow-up.⁵ It is also clear that different factors interact. The same study showed that being unmarried did predict incident cases when there was also functional disability and lack of social support. The risk-factor picture should become clearer in the next decade.

Our purpose is to examine prospects for prevention programs that could be implemented at a community level. We therefore expand upon those risk factors which:

- show reasonably clear evidence that they are a direct risk for depression in older people; *and*
- are sufficiently malleable to suggest that preventive interventions might be possible; *and*
- for which preventive programs could realistically be tried now.

These criteria exclude fixed factors such as sex, and other important risk factors over which no control can be exerted, such as frequency of adverse life events. Also excluded are factors whose amelioration would involve an impossible level of social engineering, such as reducing social isolation,

important though this may be in treating individual cases. Public health programs aimed at reducing community prevalence require a broad-brush approach that cannot take account of aetiology at the individual level.

Five risk factors potentially fit our criteria: currently suffering from depression or history of recurrent depression; conditions which commonly precipitate depression in older people, but which are undertreated; presence or risk of vascular disease; functional impairment; and nutritional deficiencies.

Current or recurrent depression

In prospective studies, the biggest predictor of depression at follow-up is depression at baseline.²³ A history of depression is also an important risk factor.^{1,5} Sixty per cent of older people with prior depression have at least one late-life episode, and 40% remain chronically affected.²⁴

Previous episodes are obviously not malleable, but the current episode often is. Depression in later life has been characterised as following a chronic relapsing course, with slow recovery and increasingly brief periods between episodes.²⁵ A critical factor is the risk, already canvassed, that older people face of not being treated, being treated wrongly, or not being treated intensely enough for long enough. Even frail very old people can respond to antidepressants or psychotherapy, and, with adequate treatment, rate of recovery and relapse for many older people is the same as in younger cohorts.¹³

Predisposing conditions commonly undertreated in older adults

Chronic insomnia,²⁶ pain,²⁷ and incontinence²⁸ are common in older adults, commonly precipitate depression, and are commonly undertreated. Primary insomnia afflicts 5%–10% of the aged community population,²⁶ significant chronic pain 25%–50%,²⁷ and incontinence 15%–30%.²⁸ Rates are much higher in residential care. Each condition also has medical and psychosocial sequelae, such as limited mobility, falls, and earlier entry to residential care, which are themselves risks for depression.

These conditions are treatable in many patients, and it is not clear why they are undertreated. Likely reasons are reluctance to admit to these difficulties, or nihilistic views about the inevitability of suffering in later life.

Vascular disease and stroke

Post-stroke depression is common, with prevalence estimates of 10%–64%.²⁹ One study reported a 23% one-year prevalence of post-stroke major depression, and 18% for minor depression.³⁰ Vascular disease, or even risk of vascular disease in the absence of stroke, is also a major risk factor for late-onset depression. Patients with late-onset depression are significantly more likely than younger subjects to have two or more risk factors for vascular disease.³¹ The term “vascular depression” has been proposed, emphasising the fact that depression is not necessarily a unitary syndrome.

Disability and functional impairment

Lack of mobility, and consequent inability to perform activities of daily living (ADL), is both a direct and an indirect predictor of depression.^{1,32} A recent large prospective study found that functional impairment, rather than disease, predicted onset of depression by follow-up.³² Inability to perform ADL is also a predictor of nursing home placement,³³ where there is a very high prevalence of depression.

Nutritional deficiencies

There is a well-established link between depression and certain metabolites, in particular deficient folate and vitamin B₁₂ and elevated homocysteine levels.³⁴ The risk is much greater for older people because the incidence of these abnormalities increases rapidly with age. For example, in a sample of older women, those with deficient vitamin B₁₂ levels were 2.05 times more likely to have major depression.³⁵ Importantly, elevated homocysteine level is a major risk factor for both vascular disease³⁶ and dementia,³⁷ a possible common causal link between vascular depression and dementia.³¹

Summary

Prevalence of disabling depressive symptoms increases with age, but this is mainly attributable not to age itself, but to multiple medical, physical and psychosocial factors whose occurrence exponentially increases with age. Some of these factors might be modified in preventive programs.

Potential for preventive programs

The following discussion is necessarily speculative. There is little or no empirical literature on primary or secondary prevention of depression in later life. However, three broad strategies present themselves.

Increasing literacy about depression in old age

Probably the largest effect on prevalence could be made by increasing the chances, currently not high, that depressed older people will actually be treated for depression. A smaller effect could be made by increasing the chances that older people suffering conditions that often lead to depression, such as pain, primary insomnia or incontinence, receive adequate treatment.

For depression, because of the alarming chronicity and relapse rates, maintenance pharmacological therapy has been advocated for people with recurring symptoms.⁶ For practitioners treating medical conditions, a more inclusive diagnostic process might be introduced, so that neurovegetative symptoms are explicitly investigated as evidence of depression rather than side effects of physical illness.¹¹

How might chronic undertreatment be changed? Obviously, there are outstanding issues, including clarification of how geriatric depression differs from depression in younger

people, development of better instruments to identify depression co-existing with medical illness, and more trials to identify effective treatments both for late-life depression and for common conditions that precipitate it.

Nevertheless, treatments are available now and, even when identified, depression, insomnia, pain and incontinence often remain untreated. There is clear scope for a campaign to increase literacy about these issues. Prime targets would be GPs, who provide the bulk of consultations, and other healthcare practitioners dealing with chronic illness in older people. With respect to depression itself, the primary information to be conveyed would be the high prevalence and costs of late-life depression, how to recognise it, the fact that it is not inevitable, available treatments that are supported by evidence, and how not to treat it.

An essential adjunct, given that GP educational efforts have variable success,²⁵ would be a matching campaign to increase literacy among older people, so that they are able to recognise symptoms in themselves or other family members, not be ashamed of them, know where to go for help, and know what help is likely to be effective. "Mental health literacy" is low in the general public.³⁸ Increased literacy might embolden people to ask for help, even if they have to educate the healthcare professional whose help they seek. The purpose is to assist people suffering from depression to become more discerning and assertive consumers of services. Groups at particular risk for depression could be targeted besides the population at large — for example, people who have lost a spouse or those acting as informal carers.

Exercise

The strongest lifestyle candidate for prevention is exercise. There is excellent evidence that, for older people suffering mild to moderate depression, regular physical exercise produces alleviation of symptoms equal to the effects of antidepressant medication. Exercise has also been an important adjunct in major depression.^{39,40} A meta-analysis of 30 studies found an overall mean effect size of 0.72.⁴¹ The long-term effects of exercise may also alleviate two important risk factors for depression: vascular disease,⁴² and physical and functional mobility or falls, with attendant risk of disability.⁴³

Exercise for older people is already an area of specialisation in several Australian centres, and there are a number of community programs. Exercise does not have to involve major lifestyle changes; it can involve simply a walk every day, or resistance training at home.⁴⁰ However, all studies on depression are with clinical samples, and a recent meta-analysis of controlled trials⁴⁴ concluded that what is now needed is "A well-designed randomised controlled trial with long-term follow-up".

Nutritional supplements

A recent comprehensive review of nutritional and vascular risk factors for late-life depression concluded that, as folate

and vitamin B₁₂ are cheap, easily taken and readily correct elevated homocysteine levels, a more intensive evaluation of their effects is required in a large sample of older patients, and, prospectively, in people at risk of late-life depression.³¹ Given the consistent associations between these metabolites and both depression and vascular disease (a major risk factor for late-life depression), this is an extremely plausible preventive measure.

Nutrition supplementation is already occurring in several countries, including the US, where folate is added to grains. The hope is for reduction in prevalence of a number of disorders, including cardiovascular disease.⁴⁵

Conclusion

It is important to differentiate between the desirable and the feasible in prevention. Suggestions of routine cognitive behavioural therapy for patients who are recently bereaved²⁵ would be an example of the former. We suggest that the three broad approaches canvassed here represent the latter. The evidence suggests that, given the will, increasing literacy about late-life depression in the aged population and treatable causes (among healthcare professionals and the elderly population), expansion of community-based exercise programs, and provision of readily available dietary supplements are realistic and plausible primary prevention methods. Before these programs could be considered, however, their effectiveness would need to be assessed in a randomised controlled trial. No such trials have yet taken place.

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