

How high is the prevalence of depression in old age?

Qual é a prevalência de depressão na terceira idade?

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Abstract Depressive symptoms are highly prevalent in late life – in Brazil and around the world. Some experts have argued that depression is less common in old age, quoting studies that show a lower prevalence of major depression in late life. Results from cross-age studies have been remarkably inconsistent, both regarding which age-group has the peak rate and regarding actual rates. A majority of surveys of the prevalence of depressive conditions in old age (not just major depression), warranting clinical interventions, report it to be over 10%. Physical ill-health is the most significant associated factor, but it may distract doctors from recognising depression. Clinical interventions for late life depression are worthwhile. It is recommended that funding be allocated to training in assessment and management, environmental initiatives to counter feelings of helplessness and lowered self-esteem, and research.

Keywords Depression. Risk factors. Epidemiology. Brazil.

Resumo *Sintomas depressivos são altamente prevalentes em fases tardias da vida – no Brasil e no mundo todo. Alguns “experts” argumentam que a depressão é menos comum na terceira idade e citam estudos que mostram prevalência menor de depressão maior entre idosos. Os resultados de estudos que avaliam diferentes grupos etários são inconsistentes no que se refere à faixa etária que apresenta a taxa de pico e em relação à própria frequência da depressão. A maioria dos estudos de prevalência de transtornos depressivos entre idosos (não limitados à depressão maior) que requerem intervenção clínica indica que mais de 10% dos idosos apresentam quadros depressivos. Doença física é um dos fatores de risco mais significativos, embora essa associação possa impedir os clínicos de reconhecerem a depressão. Intervenções clínicas para depressão na velhice valem a pena, e se recomenda a alocação de recursos adequados para treinar profissionais na avaliação e no manejo desses pacientes, desenvolver iniciativas ambientais dirigidas aos sentimentos de desalento e baixa auto-estima dessa população e promover a pesquisa.*

Descritores *Depressão. Fatores de risco. Epidemiologia. Brasil.*

Introduction

In 1980 there were 7.7 million people in Brazil aged over 60 years. That number doubled in the last twenty-one years, and will be over 30 million (about 14% of the population) by 2025.¹ The Brazilian National Health System aims to provide medical care for the population free of charge; in São Paulo, the primary care services network is readily accessible and offers comprehensive health care,¹ but it must be recognised that the ageing of the population will result in greatly increased costs, if the health system is to cope with an age-associated increase in the prevalence of chronic

health problems. Organising and providing services for the elderly is said to be an urgent need of the Brazilian population.¹

Almeida et al¹ showed that depressive symptoms and tension are highly prevalent in late life in São Paulo, and referred to evidence that depression in old persons is associated with increased burden on primary care services. Sartorius² noted the high prevalence of ICD-10 depressive disorders (15.8%) among people contacting general health services in Rio de Janeiro and commented that the prevalence of such disorders increases considerably among those who

have chronic physical illnesses. However, although at least 20% of patients with chronic conditions suffer from depressive disorders, which results in a worse prognosis for both the depression and the physical illness, "only a very small proportion are ever recognised as such".²

Reporting data from 15 centres around the world, including Rio de Janeiro, it was stated that nearly half of the subjects with ICD-10 anxiety or depressive disorders were not recognised as having such a disorder by the primary care physicians responsible for their care.³ Depression co-morbid with physical disorder is less likely to be recognised and treated than when depression appears alone.³ Depression is commonly co-morbid with anxiety disorder (4.6% in the World Health Organization study, versus 7.5% having depressive disorder without anxiety disorder).³

There is good reason to believe that depression is less likely to be recognised among older than younger people, and not just because of the distracting effect of co-morbid physical disorders, which are much more prevalent in old age. Several cross-age studies have reported that the prevalence of depression is lower in old age than earlier in life, but it is possible that these studies were flawed by the failure of researchers to allow for differences in the way clinically significant depressive conditions present or are reported by older persons. Such flaws may have had negative consequences. Reports that depression is less common in old age may diminish the motivation of physicians to consider whether their older patients are depressed. Added to this, ageist attitudes may cause them to think that depression in old age is usually understandable and unlikely to respond to treatment, and therefore there is no point in looking for it.

The main aims of this paper are to consider whether depression really is less prevalent in old age, and to discuss whether factors associated with late life depression are modifiable. Is it cost-beneficial to devote limited resources to identification and treatment of late life depression?

Cross-age studies

Studies that allow comparison of rates of depression in different age-groups have led to inconsistent findings. Jorm⁴ referred to 14 reports of age-associated variations in scores on depressive symptom scales. Five showed an increase with age, 4 showed no age-group differences, 2 reported a fall followed by a rise, and 3 showed a decrease. Jorm was a co-author of another report showing a lower prevalence of depressive symptoms in old age.⁵

There has been inconsistency, too, in the results of research examining the prevalence of depressive disorders defined by DSM criteria.⁴ Several reported no age difference. The Epidemiologic Catchment Area (ECA) study⁶ showed a peak depression rate at age 25-44 years, though in at least one of the five sites the peak prevalence of DSM-III depressive disorders *other* than major depression was in old age (65 years or more).⁷ Two studies^{8,9} reported peak rates at age 55-64 years, and another¹⁰ showed a peak at 60-69 years.

An Australian study of 10,000 adults¹¹ reported the highest rate of affective disorders among men was at 35-44 years, but among women it was at 18-24 years.

Some studies examined differences in prevalence between middle-aged and "young old" people and those who were older. Roberts et al¹² showed an increase in the prevalence of major depressive episode from 8.1% at age 50-59 years and 6.9% at 60-69 years, to 10.4% at 70-79 and 12.7% at 80 years and more. Beekman et al¹³ reported an increase in prevalence of major depression from 1.3% at 55-59 years to 2.7% at 80-84 years, and a corresponding increase in the rate of minor depression from 9.4% to 16.7%. Kramer et al¹⁴ found that the major depression rate rose from 0.7% at 65-74 to 1.3% at over 75 years, and Kay et al¹⁵ reported the prevalence of major depression was 6.3% at 70-79 years and 15.5% at over 80 years. By contrast, Prince et al,¹⁶ analysing data from subjects aged over 65 years in 14 centres in Europe, showed no overall tendency for the prevalence of depressive 'caseness' to rise or fall with age.

The above-mentioned studies show a remarkable inconsistency between their findings, both regarding the age-group with the highest prevalence of depression and in relation to actual rates.

Prevalence studies of late life depression

In addition to those mentioned above,¹²⁻¹⁶ studies of the prevalence of DSM major depression in community samples of older people have been reported from various countries. Inconsistency between results has been remarkable! For example, in contrast to a major depression rate of 11% among a sample aged over 70 years in California,¹² Henderson et al¹⁷ found that 0.4% of a same-age sample in Canberra had major depression and another 0.6% had current dysthymia. The prevalence of major depression at over 65 years in Edmonton (Canada)¹⁸ was 0.9%, with another 3.6% having minor depression. In Zaragoza (Spain),¹⁹ among people aged over 65 years, 1.0% had major depression, 1.3% had dysthymic disorder, and 2.5% had adjustment disorder with depressed mood (total 4.8% with "any depression"). Corresponding rates in Athens²⁰ were 1.6% major depression (plus 0.6% bipolar), 5.5% dysthymic disorder, and 2.0% adjustment disorder with depressed mood (total 9.5% affective disorder). Much higher rates were reported from Hobart (Australia)¹⁵ and Finland²¹ (age 70 years or more), and among persons aged 85 years in Goteborg (Sweden).²² Palsson & Skoog²³ compared results of a number of studies that used DSM criteria to make diagnoses: total prevalence rates ranged from less than 2% to 26.8%! They commented that epidemiological studies of depression among elderly people tended to be heavily weighted towards people aged 65-75 years (who may have a lower prevalence of depression following retirement), thus over-shadowing an increased prevalence after age 75 years.²³

Less inconsistency is noted between the findings of researchers who used structured interview schedules (e.g. the Geriatric Mental State schedule and AGE-CAT, a

computerised diagnostic system)²⁴ to assess the prevalence of clinically significant depression in community samples of older people. A majority of these studies among people aged over 65 years reported rates in the range 10.3%²⁵ to 13.5%.²⁶ Copeland et al²⁷ referred to data from 9 centres in Europe when reporting a prevalence rate of 12.3%. Researchers from Singapore²⁸ and Taiwan²⁹ recorded rates of 6.0% and 21.3% respectively. Beekman et al³⁰ listed 28 studies that reported rates of major plus minor depression. Twenty recorded rates in the range 9-18%. Four each recorded rates above and below this range.

Blay et al³¹ used the Clinical Interview Schedule to identify psychiatric 'cases' among persons aged over 65 years in Mannheim (Germany) and São Paulo. Psychiatric symptom scores were conspicuously higher among the São Paulo sample, and depressive states were diagnosed in 14.3%, contrasting with 9.6% in Mannheim. An additional 6.6% in São Paulo manifested adjustment reactions.

Conclusions from these prevalence studies

A more than ten-fold difference between centres in the prevalence of depressive disorders seems unlikely, though it may be relevant to note that reported suicide rates of some countries differ by more than ten-fold.³² It seems likelier that researchers differ in their use of diagnostic criteria, and in the methodology used to establish those criteria. Skoog's²³ comment about differences between samples in the percentages of "young old" and "old old" included in a study is pertinent. Flaws in methodology (as discussed³³ in relation to the large Australian survey) may affect results, as may differences in response rate between young and old samples.

Given the fact that disability is much more common in old age, and the finding that handicap due to disability is associated with a sixfold higher prevalence rate of depression,³⁴ it does not make sense to suggest that depression is much less common in old age. Depression is common among residents of aged care facilities³⁵ and hospital inpatients,³⁶ and in association with dementia,³⁷ strokes³⁸ and Parkinson's disease.³⁹ There is evidence of associations between ageing-related (possibly vascular) changes in the brain and development of depression.⁴⁰

The losses of old age are largely different from those of young people. Loss situations are common in old age, though it cannot be stated with certainty that a higher proportion of older people experience depression-inducing losses. Loss of role and loss of self-esteem may have particular relevance in old age. Depression in old age is often understandable, but commonly hidden or denied by depressed individuals.⁴¹

Some might consider it incredible that the prevalence of depression among elderly people in the community has been recorded as only 1%.¹⁷ However, it should be remembered that Henderson et al,¹⁷ and the ECA study⁶ before them, were reporting rates only of subjects with major depression and dysthymia. Some⁴² have suggested that 'depression'

means 'major depression'. It is true that people with at least five of the listed DSM-IV criterion symptoms of depression are likely to have more severe functional and mental problems than those with only 2-4 such symptoms. However, there is good evidence that patients with 'subsyndromal' depressive symptoms are functionally disabled to a degree comparable to patients with major depression or dysthymia.⁴³ Such patients experience psychosocial dysfunction which improves when they are treated with an antidepressant.⁴⁴ Their quality of life is worse and their dysfunction and disability is greater than is true of hypertension or diabetes.⁴⁵ Although the morbidity associated with subsyndromal depression may be less than that attributable to major depression, the prevalence rates are greater and the total attributable burden to the community is larger for the "subclinical" depressions.⁴⁶ The number of days lost from work was similar for people with minor and those with major depression.⁴⁷

Having surveyed over 4000 community-dwelling elderly persons, Hybels et al⁴⁸ concluded that depression appears to exist along a continuum. Slater & Katz⁴⁶ recommended that clinical care and public policy be designed to address the needs of those with the wider spectrum of disorders, rather than concentrating on those with major depression. Gurland et al⁴⁹ reported that 13% of elderly people had 'pervasive depression' to a degree warranting clinical intervention. Copeland⁵⁰ regarded it as inappropriate to use the term 'subsyndromal' when referring to depressions that could be relieved by clinical interventions.

The main conclusion to be derived from this discussion is that clinically significant depression is common in old age, and it would be inappropriate to use data concerning the prevalence of major depression and dysthymia when planning services. Conclusions cannot be drawn on whether depression is more common in one age-group than in another. It is possible that the pattern of presentations of depressive types varies between age-groups. Drug-related depressions are probably commoner in early adult years. Depression comorbid with physical illness or disability is probably commoner in old age, and major depression without comorbid physical disease may be correspondingly less common in old age. Dementia with depression is rarely encountered in youth or middle age, and must surely be more prevalent after age 75 years than at 65-74 years.

It should be noted that many of the above-quoted community studies do not provide data regarding the prevalence of depression in cases of dementia. Where studies excluded persons with evidence of organic brain disease, it could be expected that the prevalence of depressive disorders (with or without dementia) was under-estimated. In one community study⁵¹ of people aged over 65 years, 4.6% had major depression, 3.6% dementia with depression and 5.4% other depressive disorders.

Variations between age-groups in the prevalence rates of different types of depression could be relevant when analysing differences between age-groups in the costs and

benefits of clinical care. If, for example, major depression is more prevalent, and depression with co-morbid physical illness or dementia less prevalent, in middle age than old age, and if outcome for the former is better, some might argue that allocation of resources should be dependent on the prevalence of major depression (in which case, old age psychiatry services would be left under-resourced). Others would regard such an attitude as discriminatory, comparable to suggesting that surgeons should spend proportionally more time operating on benign rather than malignant lesions because the outcome is better.

Indeed, if quality of life and psychosocial function are similarly affected in cases of non-major and major depression in old age, but outcome studies show that people with major depression recover to a greater extent, and quicker, or for longer, maybe more funds should be channelled into services for those with seemingly less recoverable conditions, rather than diverting funds away from them.

Beekman et al⁵² found that the incidence and course of minor depression were closely related to impaired physical health, whereas major depression was more frequently associated with long-standing vulnerability factors, such as family and personal histories of depression. If this is so, it would suggest that different management strategies are likely to be used, but it does not mean that one is more treatable than the other.

In contrast, Ormel et al⁵³ found no evidence to suggest aetiological discontinuity between major and subsyndromal episodes of depression. High neuroticism and long-term difficulties (such as poverty) increase the risk of developing major or subsyndromal depression, especially when there have recently been stressful life-events.

There is no strong evidence that depression in old age has a worse prognosis than depression at younger ages⁵⁴ (even if major depression really is proportionally less common in late life), beyond the fact that mortality of patients whose depression is co-morbid with life-threatening physical illnesses is higher.

Relevance to Brazil

As well as evidence that primary care practitioners identify no more than half of their adult patients who suffer from a diagnosable depressive syndrome,^{3,55} it is stated that less than half of those identified receive any treatment for their depression, and half of those treated do not receive adequate dosage or duration of antidepressant treatment.⁵⁵ Evidence concerning the adequacy of treatment of depression in Brazil is not known to this author. If not currently available, cooperation of doctors could be sought for an appropriate study. Involvement would probably lead to improved understanding and knowledge, and thus improved outcomes for older patients in Brazil.

There is certainly evidence¹ that depression is highly prevalent in late life, and there was a suggestion from Almeida et al¹ that women may be more vulnerable to mental health problems. Far more women than men sought medical treatment

in a primary care unit, and it was noted that Brazilian elderly women are more likely to be socially isolated. Blay et al³¹ recorded that in peripheral areas of São Paulo a large section of the population lives in poverty. These factors could well contribute to development of depression, and may partly explain the greater prevalence of depressive states in the Brazilian city. However, as a protective factor, only 12% of the São Paulo elderly were living alone, compared with 43.7% of elderly people in Mannheim.

Various demographic, social and biological factors may predispose elderly people to become depressed,⁵⁶ and now is not the time to discuss them in detail. Katona⁵⁶ stated that poverty, loneliness and a positive family history emerge as the most robust predisposing factors, while adverse events (particularly bereavement) and deteriorating physical health are the most powerful precipitants. Poor physical health is the factor most likely to impede recovery, but good social support may protect elderly people even in the face of adversity.

Are the negative factors modifiable? Doctors can agitate for governments to do something about poverty and (where necessary) shortage of physical health services. They may need to coordinate environmental interventions and provision of adequate social support. Some treatments for depression, including grief-work, take much (expensive) time, but may be as effective as medication.

Finally, is it cost-beneficial to devote limited resources to identification and treatment of late life depression? It is certainly beneficial in that most depressed patients will feel better after treatment. Their quality of life will be improved. Untreated depression in late life is associated with excess disability, increased use of health services and premature death.

It has to be admitted, though, that less than one third of depressed elderly patients make lasting recoveries.⁵⁴ In a Liverpool study⁵⁷ of 120 elderly community subjects with depression (meeting 'caseness' criteria), 34% died within 5 years. After 3 years, 36 (of 79 interviewed subjects) no longer fitted 'case' criteria. After 5 years, 21 (of 46 interviewed) were no longer 'cases'.

Conclusion

Psychiatric services and doctors' time cost money. Brazil needs to determine the costs that the country is prepared to sustain in order to reduce distress and suffering endured by older people who are depressed. This paper has highlighted the high prevalence of depression in old age around the world (including Brazil), arguing against those who have reported relatively low rates and a decreased prevalence of depression in old age. Treating depression in old age is worthwhile, though commonly not lastingly beneficial. To treat it appropriately, depression must be recognised. The level of government funding will affect whether current levels of late life depression can be reduced. Funds are needed for (1) educational and research initiatives, (2) costs of services and treatment, and (3) reducing socio-environmental risk factors for depression.

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