



Tom Daly. Second World War veteran. Korean prisoner of war. aged 71.
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Suicidal ideation and the 'wish to die' in dementia patients: the role of depression

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Abstract

Objective: to determine the prevalence of self-reported suicidal ideation and the 'wish to die' in dementia patients, their association with depressive symptoms and the type of dementia.

Design: the cohort was formed retrospectively of consecutive referrals between 1985 and 1994 of cognitively impaired patients who met American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, third edition and third edition, revised, criteria for dementia. They were assessed for depression using the 21-item Hamilton Rating Scale for Depression (HRSD) which includes an item on suicide.

Setting: an outpatient multidisciplinary memory disorders clinic in Sydney, Australia.

Patients: the sample comprised 221 patients with dementia: 148 with Alzheimer's disease according to NINCDS-ADRDA criteria, 24 with vascular dementia diagnosed by a Hachinski ischaemia scale score of seven or more, plus focal neurological signs, symptoms or computed tomography-visible lesions, and 49 with other dementias.

Measures: cognitive impairment was measured by the Mini-Mental State Examination and the Blessed orientation-information-memory-concentration test and dementia scales, depression by the 21-item HRSD, suicidal ideation and the 'wish to die' as defined by the suicide item on the HRSD, functional capacity by the activities of daily living scale and the instrumental activities of daily living scale. Caregiver psychological morbidity was assessed with the General Health Questionnaire.

Results: 12 patients (5.4%) felt life was not worth living, seven (3.2%) 'wished to die' or had thoughts of death, two (0.9%) had suicidal ideation or gestures and none had made any suicide attempts. The nine patients who 'wished to die' or had suicidal ideation scored 12 or more on the HRSD. Of these, six were clinically depressed. Suicidal ideation and the 'wish to die' were significantly correlated with the presence of depressive symptoms as measured by the HRSD (suicide item excluded), but only in those with Alzheimer's disease. There were no significant differences in HRSD scores between the dementia groups. Suicidal ideation was unrelated to the presence of insight into loss of memory.

Conclusions: suicidal ideation and/or the 'wish to die' is self-reported in 4% of dementia patients attending a memory disorders clinic and is associated with comorbid depressive symptoms, particularly in Alzheimer's disease.

Keywords: dementia, depression, suicidal ideation, wish to die

Introduction

Suicidal behaviour in dementia patients has received little research attention. Most studies of attempted [1, 2] and completed suicide in elderly people [3, 4] have reported few cases associated with dementia. However, in studies that have included comorbid diagnoses, dementia has been more frequently reported, being found in 14% of elderly suicides [5] and 8-26% of elderly people who have attempted suicide [6-8]. In

most cases, depression was regarded as being the primary diagnosis.

While there is some debate about the prevalence of major depression in dementia, depressive symptoms are common: most studies report depressed mood in 30-40% of patients [9]. Higher rates of depressive symptoms have been found in studies using a collateral source of information in addition to self-reports [10, 11]. As depression could be regarded as being the 'final common pathway' for most suicidal behaviour in

old age [12], it is surprising that suicide has not been more frequently reported in dementia, although several case reports have highlighted the issue [13, 14].

The prevalence of suicidal ideation in dementia has not been frequently reported. Rubin and Kinscherf [10] found that only 2% of patients with mild Alzheimer's disease reported suicidal thoughts, which was similar to normal controls. However when an informant was used, 15% of the patients were reported to have suicidal thoughts, significantly more than the control group. In a study based on caregiver reports alone, Teri *et al.* [15] reported that 26% of dementia patients mentioned death and 9% made suicide threats at least weekly. Similar results were obtained utilizing the caregiver-administered Behaviour Rating Scale for Dementia, where about 30% of patients with Alzheimer's disease were reported to have 'wished to die' in the previous month [16]. Factor analysis of the scale showed that the 'wish to die' was included in a factor with other depressive features. More recently it has been reported that 45% of dementia patients with the Research Diagnostic Criteria 'major depression' and nearly 12% with 'minor depression' had suicidal thoughts [17]. However, the relationship between suicidal ideation, the 'wish to die' and depression has not been specifically examined.

This study has three aims: (i) to ascertain the prevalence of self-reported suicidal ideation and the 'wish to die' in dementia patients assessed in a multidisciplinary memory disorders clinic; (ii) to determine whether suicidal ideation and the 'wish to die' in dementia patients is associated with depressive symptoms; and (iii) to ascertain whether suicidal ideation and the 'wish to die' are associated with the type of dementia.

Methods

All patients assessed at the Prince Henry Hospital memory disorders clinic between 1985 and 1994 who met American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, third edition DSM-III (until 1988) or third edition, revised (DSM-III-R) criteria for dementia were eligible for inclusion in the study [18, 19].

Memory clinic patients and their caregivers were evaluated by a psychiatry registrar using a structured format, which included the Mini-Mental State Examination [20], the Blessed orientation-information-memory-concentration test and dementia scales [21], the Hachinski ischaemia scale [22], the 21-item Hamilton rating scale for depression (HRSD) [23], past alcohol consumption and assessment of insight into their dementia. Insight was operationally defined as normal; partial or doubtful loss; or no insight. Any patient with equivocal or unusual neurological findings was reviewed by a neurologist. All patients were

assessed by a neuropsychologist and all caregivers by a social worker.

The structured HRSD [24], a clinician-administered scale which measures depressive symptomatology over the previous week, was the primary measure used in this study. Scores range from 0 to 64, with scores of 16 or more being regarded as indicative of clinically significant depression and scores of 10-15 regarded as indicative of mild depression. The HRSD has a suicide item, scored as follows: 0 = absent; 1 = feels life is not worth living; 2 = wishes s/he were dead or any thoughts of possible death to self; 3 = suicidal ideas or gestures; and 4 = suicide attempts.

The following standard components of the memory clinic assessment were completed by the caregivers: the General Health Questionnaire [25], a 30-item self-report scale measuring caregiver psychological morbidity, and the activities of daily living (ADL) [26] and the instrumental ADL (IADL) scales [27].

Unless patients had been recently investigated, the following standard investigations were undertaken: full blood count, erythrocyte sedimentation rate, serum urea, creatinine, electrolytes, calcium, liver function tests, thyroid function tests, syphilis serology, vitamin B12 and folate levels, computed tomography or magnetic resonance imaging brain scan and an electro-encephalogram.

Information derived from clinical assessment, neuropsychological assessment, standard laboratory investigations and neuro-imaging were reviewed at a case conference involving a psychogeriatrician, neuropsychiatrist, neuropsychologist, neurologist, psychiatry registrar, occupational therapist and social worker. A consensus dementia diagnosis was then made using DSM-III or DSM-III-R criteria [18, 19]. Probable or possible Alzheimer's disease was diagnosed using National Institute of Neurological and Communicative Disorders and Stroke-Alzheimer's Disease and Related Disorders Association criteria. Vascular dementia was diagnosed by an ischaemia scale score of ≥ 7 , plus focal neurological signs, symptoms or computed tomography-visible lesions [22, 28, 29].

Data were analysed with the SPSS statistical package [30] using Pearson's product moment correlation, the χ^2 test, analysis of variance (ANOVA) tests and Students' *t*-tests. All tests were two-tailed and α was set at 0.05.

Results

The sample comprised 221 patients who fulfilled diagnostic criteria for dementia. They were divided into three diagnostic groups: 148 patients with dementia of the Alzheimer's type (106 probable and 42 possible Alzheimer's disease), 24 with vascular dementia and 49 with other dementias, including dementia associated with Parkinson's disease, alcohol-

related dementia and atypical dementias of uncertain aetiology. There were no significant differences between the three groups on the severity of dementia distribution: overall, 54% had mild, 32% moderate and 13% severe dementia according to DSM-III-R criteria. The patient's level of insight into their memory or behaviour problems was assessed by the clinician as 'normal' in 47% ($n = 209$), 'partial' in 31% and 'none' in 22%. Past alcohol consumption was reported as 'never' for 64% ($n = 214$), 'briefly/occasionally' for 22% and 'frequently/for a prolonged period' for 14%.

The mean age of the sample was 71.6 years ($SD = 8.3$, range = 41-89); 58% were married and 30% widowed. Ninety-five percent were living at home, 58% with a spouse and 28% alone. No significant differences between the diagnostic groups were found in terms of age, marital status or living arrangements. However, there were significantly more men in the vascular dementia group (67%) than in the Alzheimer's disease or other dementias groups (41 and 39% male, respectively; $\chi^2 = 6.2$, $d.f. = 2$, $P < 0.05$).

There were no significant differences between the three groups in total HRSD scores (mean = 6.0, $F = 0.021$, $SD = 5.5$), total General Health Questionnaire scores (mean = 5.5, $SD = 6.4$) and ADL score (mean = 0.8, $F = 0.5$, $SD = 1.5$) or IADL score (mean = 1.86, $F = 2.74$, $SD = 0.80$). With respect to the suicide item of the HRSD, 12 (5.4%) felt life was not worth living (HRSD mean = 9.6, $SD = 5.0$, range 1-17), seven (3.2%) 'wished to die' or had thoughts of death (HRSD mean = 19.0, $SD = 6.7$, range 12-33), two (0.9%) had suicidal ideation or gestures (HRSD mean = 15.0, $SD = 2.8$, range 13-17) and none had made any suicide attempts. Of the nine patients who 'wished to die' or had suicidal ideation, six were diagnosed as having comorbid clinical depression (HRSD score of 16 or more), while three had HRSD scores consistent with mild depression. In the entire sample, 37.5% of patients who had comorbid clinical depression ($n = 16$) and 10.3% with mild depression ($n = 29$) either 'wished to die' or had suicidal ideation.

A significant association was found between suicidal ideation, the 'wish to die' and depression by correlating the suicide item of the HRSD with total HRSD scores across the sample ($r = 0.46$, $n = 219$, $P < 0.0001$). The analysis was repeated with the suicide item excluded from the total HRSD score. This reduced the correlation, but it remained highly significant ($r = 0.39$, $n = 219$, $P < 0.0001$). When the type of dementia was considered, the significant association between the suicide item and the total HRSD score (suicide item excluded) was only significant in patients with Alzheimer's disease ($r = 0.49$, $P < 0.0001$). There was no relationship in vascular dementia ($r = 0.08$, not significant) and only a trend toward significance in the other dementia group ($r = 0.25$, $P < 0.08$).

Similar findings were obtained when the depressed mood/hopelessness item on the HRSD was correlated

with the suicide item. A significant association was found between the suicide item and the depressed mood item for the entire sample ($r = 0.35$, $n = 219$, $P < 0.0001$), but when the type of dementia was considered, the association was only significant in Alzheimer's disease ($r = 0.46$, $P < 0.0001$).

No significant correlations were found between the suicide item of the HRSD and age, gender, dementia severity, dementia insight, past alcohol consumption, ADL or IADL score or with the caregiver's General Health Questionnaire score.

Discussion

In this study, 3% of dementia patients attending a memory clinic stated that they 'wished to die' and a further 1% had had suicidal ideation in the previous week—findings similar to previous self-reports in dementia patients [10]. Two recent community surveys of elderly people have found similar rates of the self-reported 'wish to die', with 5% in the UK [31] and 2% in Australia [32]. In the latter study, cognitive impairment was not found to be a significant risk factor for the 'wish to die' [32]. Together these studies suggest that dementia does not in itself increase the risk of suicidal ideation or the 'wish to die'.

All patients with suicidal ideation or the 'wish to die' had a HRSD score of 12 or more, consistent with at least mild depression, and six of the nine patients were diagnosed as being clinically depressed. Furthermore, the only significant association found was between the total HRSD score and the HRSD suicide item. This would suggest that suicidal ideation and thoughts of death in dementia patients are usually associated with comorbid depressive symptoms. This is consistent with other studies of old people living at home and in residential care where the 'wish to die' has been found to be strongly associated with depression [31-33].

The association of suicidal ideation and the 'wish to die' with depressive symptoms was only significant in Alzheimer's disease. As there were no significant differences between the dementia groups on total HRSD scores, this was not simply due to the severity of depressive symptoms. It would seem that patients with Alzheimer's disease with depressive symptoms were more likely to be preoccupied by suicide or death than depressed patients with other types of dementia. However, this finding should be viewed with caution due to the low numbers of patients with vascular dementia in the sample.

The lack of an association with dementia severity and insight suggests that the 'wish to die' and suicidal ideation are not simply related to the patient's awareness of their impaired cognition in early dementia, but are mainly a function of the patient's mood state. However, it may only be in early dementia with unusually intact insight that the actual risk of suicide is

increased [14]. While our investigation does not specifically address the issue of treatment, we believe that even mild comorbid depression in dementia patients should be treated to reduce the distress of patients and caregivers and the risk of suicidal behaviour.

None of the other variables examined in this study—ADL, IADL or caregiver distress—was associated with the 'wish to die' or suicidal ideation. Other risk factors for the 'wish to die' in the general elderly population that we did not examine include sensory impairment, poor self-rated health, disability, living in residential care and not being married [32].

The results of this study need to be interpreted with some caution due to a number of limitations. First, the absence of collateral reports from caregivers probably underestimates the prevalence of these symptoms [11]. Secondly, measures of outcome are lacking due to the cross-sectional study design. In this regard, it would be of interest to determine whether the 'wish to die' is a predictor of mortality and service utilization in dementia patients, as has been found in old people living in the community [31, 33]. Thirdly, the dementia patients were attending a memory clinic with the associated stress of the assessment process and may not be representative of dementia in the community. Finally, the HRSD has been found to be insensitive in the detection of depression in dementia, and thus the HRSD suicide item may not be an adequate measure [34].

In conclusion, we have found that suicidal ideation and/or the 'wish to die' is self-reported in 4% of dementia patients in a memory clinic population and is associated with comorbid depressive symptoms, particularly in Alzheimer's disease.

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Key points

- The wish to die is reported by 3% of patients with dementia attending a memory disorders clinic and suicidal ideation by 1%.
- The wish to die and suicidal ideation are associated with depressive symptoms in Alzheimer-type dementia.
- Insight into the dementia and severity of dementia are not associated with the wish to die or suicidal ideation.

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