

PSYCHIATRIC MORBIDITY IN ELDERLY ATTENDERS AT AN ACCIDENT AND EMERGENCY DEPARTMENT

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SUMMARY

The point prevalence of depression and dementia, their effect on length of admission and outcome and the extent to which they were detected by the attending doctor were assessed in 109 elderly patients presenting with physical illness at an accident and emergency department. Depression and dementia were assessed using the Brief Assessment Schedule (BAS). Twenty-seven percent were found to be depressed and 16% demented. The only feature associated with depression was female gender. Depressed patients stayed in hospital significantly longer and had a worse outcome at 14 days than patients not depressed. This was independent of the severity of their physical illness. Only 10% of the psychiatric morbidity was detected by the attending doctor.

KEY WORDS—depression; dementia; elderly; A&E department; detection; outcome

Elderly adults with significant physical illness and/or disability are at greater risk of coexisting psychiatric morbidity (Eastwood and Corbin, 1986; Rapp, 1988). Prevalence rates of depression ranging from 10% to 45% have been reported in elderly medical inpatients (Rapp *et al.*, 1988; Cooper, 1987; Koenig *et al.*, 1988a; O'Riordan *et al.*, 1989; Ramsay *et al.*, 1991). Despite this, detection of depression among medical inpatients by physicians is low (Koenig *et al.*, 1988a; Rapp *et al.*, 1988). Depression is frequently viewed as an integral part of the physical illness and thus efforts to diagnose and treat it are not made (Stewart, 1991).

The relationships between physical illness, physical disability, depression and mortality have

been explored in a number of studies (Cooper, 1987; Murphy *et al.*, 1988; Rapp, 1988; Koenig *et al.*, 1989; Ramsay *et al.*, 1991; Fenton *et al.*, 1994). Rather than being simply linear, these relationships seem to be more complex and synergistic (Murphy *et al.*, 1988; Koenig *et al.*, 1989; Burvill and Hall, 1994). A number of investigators have also studied the impact of psychiatric morbidity on the length of hospital admission and mortality but no consensus has emerged (Cooper, 1987; Johnston *et al.*, 1987; Fulop *et al.*, 1987; Murphy *et al.*, 1988; Koenig *et al.*, 1989; Finch *et al.*, 1992; Burvill and Hall, 1994). Two of the studies did not control for severity of physical illness (Johnston *et al.*, 1987; Fulop *et al.*, 1987). The others took severity of physical illness into account but reached differing conclusions. Koenig *et al.* (1989), Murphy *et al.* (1988) and Burvill and Hall (1994) found an increased mortality in

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depressed patients. Koenig *et al.* (1989) also found a relationship between depression and the length of hospital stay. However, Cooper (1987) and Finch *et al.* (1992) found no such association.

Studies of psychiatric morbidity in elderly hospital inpatients have also revealed high rates of dementia (Johnston *et al.*, 1987; Ramsay *et al.*, 1991; Shah *et al.*, 1992; Burn *et al.*, 1993). In the setting of an acute medical or surgical ward, cognitive impairment can be easily overlooked, especially if the patient's social façade is well preserved. However, cognitive impairment has been shown to have an unfavourable influence on outcome in terms of mortality, increased morbidity and the length of hospital stay (Cooper, 1987; Ramsay *et al.*, 1991).

Alcohol misuse is often missed in the elderly. There are a number of reasons for this. First, there may be embarrassment and reluctance on the admitting doctor's part to ask the appropriate questions. Secondly, alcohol abuse in the elderly can have a different presentation than in younger adults, for instance with falls, confusion, incontinence, hypothermia or self-neglect (Naik and Jones, 1994).

An accident and emergency (A&E) department is frequently the point of first medical contact with patients presenting with acute physical complaints. Thus the A&E department seemed to be a logical starting place for screening patients for depression and dementia. Only two studies to date have measured patients' psychiatric morbidity in A&E departments (Bell *et al.*, 1990; Salkovskis *et al.*, 1990). Both involved only adults below the age of 65. Both groups observed that psychiatric morbidity in A&E attenders goes largely unrecognized. No study has looked at the point prevalence of psychiatric morbidity in patients over 65 attending an A&E department with physical complaints and the influence of this morbidity on outcome (admission to hospital or discharge home from the A&E department).

The aims of our study were: (1) to assess the point prevalence of depression and dementia in patients over 65 attending an A&E department with physical complaints; (2) to estimate, for those admitted, the effect of depression and dementia on the length of admission; (3) to determine the influence of depression and dementia on outcome at 14 days; and (4) to establish to what extent depression and dementia were recognized by the attending doctor.

METHODS

Setting

The study took place in the A&E department at Princess Alexandra Hospital, Harlow, a district general hospital serving a population of 400 000.

Patients

In order to obtain a representative sample, it was considered necessary to see consecutive patients over a 2-week period. As it was not practical to interview patients on consecutive days and nights of the same weeks, a rota was arranged so that consecutive patients were seen in 4–6 hour sessions over a 6-month period from November 1992 to April 1993. These sessions covered the equivalent of the full 24 hours of two working weeks and one weekend. All patients over 65 years of age attending the A&E department with physical complaints during these periods were included. Those with primarily psychiatric complaints were excluded.

Assessments

Semi-structured interview. Patients were screened for depression, dementia and alcohol intake with a semi-structured interview. The interview was administered by CL or ZW and took 20–30 minutes. It included sociodemographic details (gender, age, marital status, whether living alone, services provided and when last seen by the family practitioner), the Brief Assessment Schedule (BAS) (Ramsay *et al.*, 1991) and questions about alcohol (whether the patient ever drank alcohol and, if so, the amount of alcohol he/she drank weekly). Answers about alcohol were corroborated by relatives or friends if present. The BAS is derived from the Comprehensive Assessment and Referral Evaluation (CARE) (Gurland *et al.*, 1977). It contains 21 items for depression with a score of 7 or more indicating depression. There are eight items for dementia, score 0–2 indicating not demented, score 3–7 mildly/moderately demented and score 8 severely demented. These scales generate operational diagnoses which refer to syndromes of depression and cognitive impairment severe enough for further clinical intervention (Kay *et al.*, 1985).

All patients discharged home were seen in the A&E department before leaving, with the exception of five who were seen at home within 72 hours

Table 1. Sociodemographic details

	Number (%)
<i>Gender (N = 109)</i>	
Male	46 (42%)
Female	63 (58%)
<i>Marital status (N = 107)</i>	
Single	8 (7%)
Married	47 (43%)
Widowed	50 (46%)
Separated/divorced	2 (2%)
<i>Living alone (N = 108)</i>	
Yes	42 (39%)
No	66 (61%)
<i>Home help (N = 105)</i>	
Yes	11 (10%)
No	94 (86%)
<i>Meals on wheels (N = 105)</i>	
Yes	10 (9%)
No	95 (87%)
<i>Day centre (N = 105)</i>	
Yes	13 (12%)
No	92 (84%)

of attending the A&E department. Patients who were admitted and who were well enough to be interviewed were seen in the A&E department while waiting to be transferred to a ward, or within 72 hours of being admitted, once their physical illness had stabilized.

Attending doctor questionnaire. At the same time the attending doctor (casualty officer or resident medical or surgical doctor on duty) was asked to rate the severity of the patient's physical illness on a scale of 1–7 (1—normal, 2—borderline physically ill, 3—mildly ill, 4—moderately ill, 5—markedly ill, 6—severely ill and 7—among the most extremely ill patients) and to make a judgement about the patient's mental state (is the patient psychiatrically ill or not, and, if so, does he/she need a psychiatric assessment?). 'Psychiatrically ill' was defined as suffering from mental illness which could be contributing to the patient's presenting problem. The attending doctor was also asked to give an opinion as to whether the patient's attendance in the A&E department was justified and what was the medical/surgical diagnosis or the main presenting problem.

Information on outcome. The length of admission was ascertained from hospital records for all patients who were admitted. Each patient's out-

come (categorized as inpatient, at home or deceased) was obtained at 14 days from the family doctor's records, hospital records or by direct contact with the patient.

Statistical analysis

Data were analysed using SPSS/PC+ version 3.1 (*Statistical Package for the Social Sciences*). Univariate analyses, employing the Mann-Whitney U test and the chi-square test with Yates' correction, were used to explore the relationships between patient characteristics and depression, dementia and alcohol use. Subsequently, variables which were identified as having a statistically significant univariate relationship with outcome at 14 days were entered into a logistic regression analysis to control for relationships between different predictors.

RESULTS

A total of 109 patients were entered: 46 men aged 65–93 (mean age 74.2) and 63 women aged 65–97 (mean age 78.4). Of these, 34 men and 39 women were admitted, the rest being sent home. Forty-seven per cent of the sample had seen their family doctor within the previous week. Sociodemographic details of the sample are shown in Table 1.

Brief Assessment Schedule

Out of the 109 patients entered into the study, six could not be interviewed (two refused, three were dysphasic and one died before being seen). Five patients found the BAS an unacceptable intrusion but only two refused to cooperate. Seventy patients said it was interesting, 23 had no feelings either way and seven found it irritating.

Depression. Ninety-seven of the 103 patients interviewed were assessed for depression, the remaining six being too severely cognitively impaired to make a valid assessment of their mood; 32/97 (33%) scored as depressed. Significantly more women (24/57, 42%) than men (8/40, 20%) scored as depressed (chi-square = 4.24; $p < 0.05$). The median depression score of the whole sample was 4.0 (range 0–23) (Table 2). The median score for females was 5.0 (range 0–23) and for males 3.5 (range 0–12). No statistically significant associations were found between depression and age, marital status, living alone, alcohol

intake, severity of physical illness or outcome of A&E attendance (admission or discharge home).

Dementia. Eighteen patients of the sample scored as demented. Two men scored as severely demented and two as mildly/moderately demented. Four women scored as severely and 10 as mildly/moderately demented. The mean score for women was 1.73 (range 0–8). The mean score for men was 0.86 (range 0–8) (Table 3). The mean age of the not demented patients was 75.9 years, of the mildly demented 79.5 years and the severely demented 83.8 years. There was no association between dementia and gender, marital status, severity of physical illness, living alone or outcome of A&E attendance, but all six severely demented patients were admitted. Five patients fulfilled criteria for both depression and dementia.

Alcohol intake

Information regarding alcohol consumption was available on 101 patients. Twelve men and 35 women (46.5%) reported never drinking. Out of the 29 males and 25 females who admitted to drinking, only three men said they drank more than 21 units per week and one woman said she drank more than 14 units per week. The median number of alcohol units drunk per week by males was 1 (range 0–56) and by females 0 (range 0–30).

Patient outcome

Length of admission. Seventy-three patients were admitted to hospital; 18/73 (24.6%) scored as depressed and 12/73 (16.4%) as demented. Depression was associated with longer hospital stay. Those not depressed stayed on average 10.2 days compared to the depressed group, who stayed on average 14.8 days ($p < 0.03$, Mann–Whitney U test). The mean stay for patients scoring as not demented was 11.7 days, for those with mild/moderate dementia 8.8 days and for those with severe dementia 27.5 days. Although severely demented patients stayed considerably longer, this did not reach statistical significance because of the small number (six) in that group.

Outcome at 14 days. At 14 days follow-up, out of the 73 patients admitted, three had died, 26 were still inpatients and 44 had been discharged home; 10/18 depressed patients were still in hospital, compared with 9/42 not depressed patients ($p < 0.03$, chi-square $F = 5.3$). Inpatients at 14 days had higher depression scores on admission

(mean 6.95) compared with patients discharged home within 13 days of their admission (mean 4.12) ($p < 0.01$, Mann–Whitney U test).

Poor outcome (still an inpatient at 14 days) was also associated with never drinking alcohol; 15/21 inpatients at 14 days never drank alcohol compared with 16/43 patients discharged home (chi-square $F = 5.3$, $p < 0.03$) (Table 4).

There was no significant association between severity of physical illness and outcome at 14 days. In the subsequent logistic regression analysis both abstinence ($p < 0.03$) and depression ($p < 0.04$) emerged as independent risk factors for poor outcome at 14 days.

Attending doctor questionnaire

The attending doctor questionnaire was completed for all but five cases. Out of the 104 patients, no male and only five female patients were considered to be mentally ill by their attending doctor. Two were thought to need referral to a psychiatrist.

Table 2. Brief Assessment Schedule. Depression

BAS	Total	Males	Females
<i>Depression</i>			
Not present	65	32	33
Present	32	8	24
Too demented	6	2	4
Not interviewed	6	4	2
<i>Depression score</i>			
Mean	5.4	4.1	6.3
Range	0–23	0–21	0–23
Median	4.0	3.5	5.0
SD	4.1	2.8	4.6

Table 3. Brief Assessment Schedule. Dementia

BAS	Total	Males	Females
<i>Dementia</i>			
Not present	85	38	47
Mild/moderate	12	2	10
Severe	6	2	4
Not assessed	6	4	2
<i>Dementia score</i>			
Mean	1.38	0.86	1.73
Range	0–8	0–8	0–8
Median	0	0	1
SD	2.2	1.8	2.4

Five were rated as normal, six as borderline physically ill, 27 as mildly ill, 40 as moderately ill, 16 as markedly ill, nine as severely ill and one as among the most extremely ill patients. In only three cases was attendance in A&E felt not to be justified by the attending doctor.

DISCUSSION

In this first study of psychiatric morbidity in patients over 65 attending an A&E department with a physical complaint, 27% scored as being depressed and 16% as being demented. This suggests that psychiatric morbidity is more frequently seen in elderly A&E attenders than in their younger counterparts (Bell *et al.*, 1990; Salkovskis *et al.*, 1990). The morbidity rates in this study are comparable to those identified in some studies of elderly medical inpatients (Cooper, 1987; Finch *et al.*, 1992; O'Riordan *et al.*, 1989; Koenig *et al.*, 1988b). We could identify no relationship between depression and physical illness or outcome of A&E attendance. The substantial depressive symptomatology in patients not admitted raises the possibility that they might have benefited from psychiatric attention.

Depression was associated with poor outcome in those patients whose physical illness was severe enough to warrant admission. Depressed patients had significantly longer hospital stays than patients scoring as not depressed. This association

remained apparent even after the severity of physical illness was controlled for. In addition, depressed patients had worse outcomes at 14 days. In this respect our findings were similar to Koenig *et al.* (1989), but different from Ramsay *et al.* (1991), who found no relationship between depression, length of admission and outcome. Surprisingly, there was no association between severity of physical illness on admission and outcome at 14 days. One explanation for this could be that severity of illness at admission to hospital may not be as important a predictor of length of admission and mortality as has been believed. Indeed, in a study of general medical patients, Hicks and Kammerling (1993) showed that length of stay in hospital is more dependent on diagnostic group than on severity of illness.

Only a small proportion of our patients scored as demented. Despite these small numbers there was a clear trend for all severely demented patients to be admitted, in keeping with other studies that showed that demented patients had a longer hospital stay and higher mortality than patients not demented (Ramsey *et al.*, 1991; Cooper, 1987).

Only a very small proportion of the psychiatric morbidity was recognized by the attending doctors. This low rate occurred in spite of the fact that assessing doctors knew that they would be asked to make a judgement on the patient's mental state. This finding is in keeping with Rapp *et al.* (1988), who reported that only 8.7% (2/23) depressed inpatients were correctly recognized by house staff, and Koenig *et al.* (1988a), who found that, of 15 patients identified as having major depression by DSM-III criteria, only three (20%) had depressive symptoms documented in their case notes by house staff. In the same study, after the house staff were informed of the possibility of major depression, 27% (4/15) eventually received psychiatric consultation, and 13% (2/15) were started on antidepressant medication. Rapp and Davis (1989) attempted to identify the possible causes for the poor detection rate of depression in hospital inpatients and concluded that, whereas medical residents considered detection and treatment of comorbid depression to be important, they knew few of the diagnostic criteria and aetiological factors, rarely screened their patients and viewed current treatments as only marginally effective. On the other hand, it might be argued that it is unrealistic to expect doctors in the A&E department to detect psychiatric comorbidity in patients presenting with physical complaints when

Table 4. Outcome at 14 days

	Total	In patient at 14 days	Home
Patients admitted	73 (3 died)	26	44
<i>Depression category* (N = 70)</i>			
Depressed	18	10	8
Not depressed	42	9	33
Not assessed	10		
Depression score on admission**	5.01	6.95	4.12
<i>Alcohol use*** (N = 70)</i>			
User	33	6	27
Non-user	31	15	16
Not known	6		

* $p < 0.03$, chi-square 5.3 after Yates' correction.

** $p < 0.01$, Mann-Whitney U test.

*** $p < 0.03$, chi-square 5.3 after Yates' correction.

they have to deal with several patients at the same time and have only limited time for assessment. A routine screening for depression in geriatric patients by a psychiatric liaison nurse might be more feasible and could offer a significant improvement over routine detection by junior medical staff.

The validity of our data on alcohol use is limited since we used an unstandardized questionnaire. We were, however, able to corroborate alcohol consumption in the majority of cases through informant interview. Our finding that moderate alcohol consumption was associated with a better outcome than abstinence is similar to that of Koenig *et al.* (1992) and in keeping with recent findings that alcohol intake has a J-shaped relation to mortality with the nadir at 1–14 beverages a week (Grønbaek *et al.*, 1994; Doll *et al.*, 1994).

The main conclusions of our study are that psychiatric morbidity in patients over 65 presenting to A&E with a physical complaint goes largely undetected and has a negative impact on the course of physical illness. Future studies should examine whether early detection and treatment of psychiatric morbidity in this group of patients can improve overall outcome.

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