

Geriatrician involvement in community-based psychogeriatric service

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ABSTRACT

Aim. To evaluate the effectiveness of geriatric assessment and interventions in a psychogeriatric community service and to assess the prevalence of delirium in patients referred to this service.

Methods. 16 female and 14 male psychogeriatric patients aged 65 to 97 (mean, 81.1) years were referred to a tertiary hospital in southwestern Sydney, Australia and assessed by the psychogeriatric team and a geriatric registrar. Data collected included patient characteristics and demographics, referral source, reasons for referral, medications, medical comorbidities, and clinical assessments made by the geriatric registrar. Differences between patients deemed to require interventions and those who did not were compared.

Results. After assessment by the geriatric registrar, 10 of the patients were considered to require further medical interventions. Two of them were hospitalised for delirium; 2 were treated for osteoporosis owing to minimal trauma fractures, and 6 needed medication adjustments. Hypertension was more common in those not deemed to require an intervention (85% vs. 30%, $p=0.005$), whereas seizures were more common in those deemed to require an intervention (30% vs. 0%, $p=0.03$).

Conclusion. Psychogeriatric patients may benefit from medical input by a geriatric registrar in terms of evaluating and managing complex medical issues and proceeding to a medical intervention.

Key words: Delirium; Geriatric assessment; Geriatric psychiatry

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INTRODUCTION

There is strong association between old age, medical comorbidities, multiple medications, and hospitalisation. Chronic diseases are common in older patients.¹ Nearly all persons aged >65 years have at least one chronic disease,² and >80% have 3 or more.³ Among patients with cardiovascular disease, 60% have arthritis, 20% have diabetes, and 10% have mental health problems.⁴

The mind-body connection⁵ or the relationship

between mental and physical health is important in elderly patients. Medical comorbidities may affect the treatment course and prognosis of older patients with serious mental illness.⁶ Psychiatric illness may aggravate existing medical comorbidities.⁷ The prevalence of depression is high in patients with chronic illnesses such as heart disease, hypertension, and diabetes.⁸ The relationship between physical and mental health needs to be recognised and managed appropriately, as it can result in functional decline and premature mortality among older patients with serious mental illness.⁹

Delirium is commonly associated with acute illness in older patients. Its incidence is about 0.5 to 1% in community settings.⁹ Its frequency in patients referred to psychogeriatric service is not clear.¹⁰

Psychogeriatric services provide care for older patients who have physical impairments and welfare needs, in addition to mental illness.¹¹ As the management of concurrent psychiatric and medical issues is complex, joint care by geriatric and psychogeriatric teams may facilitate treatment through improved communication and cooperation.¹¹ Cooperation may improve clinical outcomes and length of hospital stay for psychogeriatric inpatients.¹² This study aimed to determine whether geriatric medical input adds benefit to a community psychogeriatric service, and to assess the frequency of delirium in patients referred to community psychogeriatric services.

METHODS

This prospective study was carried out jointly by the psychogeriatric team and a geriatric registrar of a tertiary hospital in southwestern Sydney, Australia. 16 female and 14 male psychogeriatric patients aged 65 to 97 (mean, 81.1) years were referred by their general practitioners, nursing staff in hostels/nursing homes, or immediate family members/carers.

The assessment/intervention phase was between September and December 2008 and between March and June 2010. The psychogeriatric team comprised a psychogeriatric clinical nurse or a social worker and a psychogeriatrician (when necessary). The geriatric registrar screened, evaluated and managed geriatric syndromes and medical comorbidities of the patients, including delirium using the Confusion Assessment Method,¹³ falls, and osteoporosis. The geriatric registrar then referred to the patient's general practitioner for follow-up and to the psychogeriatric team for treatment of any mental health issue.

The follow-up phase began from August 2010 and lasted for 2 months to 2 years. It was conducted by the geriatric registrar using a telephone survey to assess each patient's compliance and response to interventions.

Data collected included patient characteristics and demographics, referral source, reasons for

referral, medications, medical comorbidities, and clinical assessments made by the geriatric registrar.

Differences between those who required interventions and those who did not were compared, using the Pearson Chi squared test for categorical variables, and unpaired independent sample *t* test for continuous variables. A *p* value of <0.05 was considered statistically significant.

RESULTS

83.3% of the patients were Caucasian. 73.3% were referred from nursing homes. 33.3% were non-ambulatory or required assistance with ambulation. 90% were on ≥ 4 medications. 60% had dementia. Medical comorbidities included hypertension (66.7%), cerebrovascular disease (33.3%), ischaemic heart disease (30%), and osteoarthritis (30%). 53.3% of the patients were referred for management of worsening behaviour, 23.3% for depression, and 16.7% for psychosis (**TABLES 1 & 2**).

After assessment by the geriatric registrar, 10 patients were deemed to require further medical interventions, and the remaining 20 patients did not require interventions. The 2 groups were of similar age, gender ratio, mobility status, domiciliary status, reasons for referral, and the number of medications (**TABLE 2**).

Hypertension was more common in those deemed not to require any intervention (85% vs. 30%, $p=0.005$), whereas seizures were more common in those deemed to require an intervention (30% vs. 0%, $p=0.03$), but the overall number was small (**TABLE 2**).

Of the 10 patients deemed to require interventions, 2 were hospitalised for delirium, 2 were treated for osteoporosis owing to minimal trauma fractures, and 6 needed medication adjustments.

Medication errors/inappropriate medications were noted in 2 patients. One patient recently discharged from hospital after myocardial infarction was found to be taking different medications from those prescribed by the hospital. In another patient with Parkinson's disease, metoclopramide (that may cause extrapyramidal disorder) was discontinued by the geriatric registrar. In 2 others, antidepressant

TABLE 1
Patient characteristics (n=30)

Parameter	No. (%) of patients
Mean±SD age (years)	81.1±7.7
No. of male/female	16/14
Domiciliary status	
Home alone	4 (13.3)
Home with others	2 (6.7)
Hostel care	2 (6.7)
Nursing home	22 (73.3)
Others	0
Ethnicity	
Caucasian	25 (83.3)
Middle-eastern	2 (6.7)
Asian	3 (10.0)

medications were changed and antipsychotic treatment was initiated by the geriatric registrar after consultation with the psychogeriatrician.

Three of the patients who had an intervention had a history of hypertension (2 of whom were from nursing homes). The first one was a 79-year-old man who was found to be delirious and was urgently transferred to the hospital. The second was an 85-year-old woman who had recurrent falls and was treated with calcium and vitamin D. The third was taking different medications from those prescribed from the hospital. The 3 patients with seizures were residents of nursing homes with limited functional status; 2 of whom were deemed to need treatment for osteoporosis. The third patient was often agitated and the antipsychotic dose was increased.

Three patients (one in the intervention group and 2 in the non-intervention group) were lost to follow-up, and one patient died. The 2 patients with osteoporosis remained on treatment and had not endured further fractures. Two patients had urinary tract infections causing delirium and worsening behaviour, and were hospitalised. The first recovered and was discharged to the nursing home; the second remained in hospital. Four of the 6 patients having medication adjustments remained on the same treatment. The fifth patient whose antidepressant regimen was changed was non-compliant. The sixth patient was lost to follow-up.

DISCUSSION

Psychogeriatric patients may benefit from medical

input by a geriatric registrar. Over 33% of the study population were deemed to require medical interventions including 2 patients requiring urgent hospitalisation for delirium.

Community-dwelling older patients are at risk of geriatric syndromes masquerading as behavioural problems or presenting with depressive symptoms associated with medical comorbidities to the psychogeriatric team. Therefore, cooperation between geriatric and psychogeriatric teams could be beneficial in the management of the elderly patients.

There is a substantial burden of medical comorbidity in elderly patients, including serious mental disorders.¹⁴ The recurrent stresses associated with serious mental illness may directly attribute to the increased burden of general medical comorbidities.¹⁵ Our patients had a high prevalence of medical comorbidities. Two of our patients had delirium masquerading as worsening behaviour. Delirium is a serious condition associated with high mortality (about 25 to 33%).⁶

Osteoporosis is common in older adults and increases the risks of fractures and disability. For residents in nursing facilities, the prevalence exceeds 50% regardless of race and gender. Vertebral and non-vertebral fractures are associated with functional decline and an increased burden of care. It is therefore important to treat osteoporosis-related fractures, if appropriate.¹⁶ Nonetheless, osteoporosis is underdiagnosed and undertreated in the community. In our study, 2 patients with a history of fractures and frequent falls had not been treated for

TABLE 2
Comparison of intervention and non-intervention groups

Parameter	No. (%) of patients		p Value
	Intervention (n=10)	Non-intervention (n=20)	
Mean±SD age (years)	82±6.8	80±8.3	0.591
No. of males/females	5/5	11/9	0.550
Referral source			0.655
Carer	1 (10)	1 (5)	
General practitioner	1 (10)	6 (30)	
Nursing home/hostel	6 (60)	10 (50)	
Other	2 (20)	3 (15)	
Referral reason			0.522
Depression	4 (40)	3 (15)	
Psychosis	1 (10)	4 (20)	
Worsening of behaviour	5 (50)	11 (55)	
Other	0 (0)	2 (10)	
No. of medications taken			0.605
≥4	19 (95)	8 (80)	
<4	1 (5)	2 (20)	
No. of psychotropic medications taken			0.58
0	0 (0)	6 (30)	
1	1 (10)	5 (25)	
≥2	9 (90)	9 (45)	
No. of falls in the previous year			0.131
0	5 (50)	13 (65)	
1	0 (0)	4 (20)	
≥2	5 (50)	3 (15)	
Mobility			0.173
Walking unaided	3 (30)	7 (35)	
Walking with an aid	2 (20)	8 (40)	
Requiring assistance	3 (30)	1 (5)	
Non-ambulant	2 (10)	4 (20)	
Previous fracture			0.317
Yes	3 (30)	6 (30)	
No	6 (60)	11 (55)	
Unknown	1 (10)	3 (15)	
Dementia			0.191
Yes	4 (40)	14 (70)	
No	5 (50)	5 (25)	
Unknown	1 (10)	1 (10)	
Medical comorbidities			
Gastro-oesophageal reflux disease	3 (30)	4 (20)	0.429
Ischaemic heart disease	4 (40)	5 (25)	0.331
Cerebrovascular accident	5 (50)	5 (25)	0.169
Parkinson's disease	1 (10)	1 (5)	0.563
Hypo- or hyper-thyroidism	3 (30)	3 (15)	0.306
Hypertension	3 (30)	17 (85)	0.005
Seizure	3 (30)	0 (0)	0.030
Pulmonary embolism/deep vein thrombosis	1 (10)	3 (15)	0.593
Osteoarthritis	2 (20)	7 (35)	0.344
Atrial fibrillation	2 (20)	6 (30)	0.452
Diabetes mellitus	2 (20)	4 (20)	0.694
Cancer	0 (0)	5 (25)	0.109
Chronic renal failure	3 (30)	2 (20)	0.191
Mortality status at follow-up			0.771
Died	0 (0)	1 (5)	
Unknown	1 (10)	2 (10)	
Delirium	2 (20)	0 (0)	>0.05

osteoporosis until the geriatric registrar prescribed bisphosphonates.

Medication errors and drug side effects occur quite frequently, particularly in older patients and those on multiple medications. Better information on medication and the use of compliance aids may prevent non-adherence. Special attention should be paid to persons receiving ≥ 3 drugs, living alone, receiving drugs from other doctors, and persons with memory loss symptoms, as they are at higher risk of non-adherence.¹⁷ In our study, 95% of the patients in the intervention group and 80% in the non-intervention group were in receipt of ≥ 4 medications. Therefore, review of medications by the geriatric registrar was important to assess compliance and adverse effects, and to minimise potential drug interactions.

Comprehensive geriatric assessment evaluates and addresses the complex clinical needs of frail older patients.¹⁸ Apart from managing complex multi-system disorders, geriatric medicine also pays attention to physiological changes and disorders of ageing and geriatric syndromes (e.g. delirium).¹⁹ Frail patients with cognitive impairment should receive comprehensive geriatric assessment.

Limitations of this study were the small sample size, limited the availability of the geriatric registrar for the community, and no dedicated geriatric registrar in the usual community psychogeriatric liaison team. The designated geriatric registrar was only available for home visits once a week. Although this study was not designed to determine whether medical interventions improved morbidity and mortality, the medical assessment aspects were strengthened by involvement of the geriatric registrar. Detection and treatment of the cause of delirium may have improved outcomes.

As psychogeriatric patients have complex medical comorbidities requiring medical interventions, clinical staff should be aware of medical conditions that can present with behavioural symptoms.²⁰ In particular, delirium can present as worsening behaviour.

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