Article

Improving quality of care: focus on liaison old age psychiatry

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ABSTRACT

Introduction Elderly patients occupy up to 65% of acute hospital beds and a significant proportion of them present with a comorbid psychiatric condition such as depression, delirium or dementia. Liaison old age psychiatry (LOAP) services have been developed to provide psychiatric consultation in medical and surgical settings, improving at the same time the knowledge and expertise of general ward staff.

Objective The aim of this study is to evaluate clinical characteristics across different psychiatric disorders among elderly patients in medical wards.

Method A prospective observational study was developed between October 2011 and January 2013, which involved 107 subjects aged 65 years or older that were hospitalised in the Department of Internal Medicine and referred to the LOAP service. Psychiatric diagnostic was assessed using the Confusion Assessment Method, the Geriatric Depression Scale, the Mini-Mental State Examination and the Clinical Global Impression Scale.

Results Delirium (40.6%), depression (22.4%) and dementia (20.4%) were the most common psychiatric diagnoses. Patients with delirium were significantly older, had more severe psychiatric symptomatology (mean CGI = 5.35) and presented infectious processes as acute medical conditions more frequently than the other patients.

Conclusion Psychiatric disturbances occurring in elderly inpatients in medical wards are highly prevalent and complex. A LOAP service may play an important role in effectively reducing the over-utilisation and consumption of health resources through early recognition of these conditions, effective management and prevention of adverse outcomes, and effective communication with outpatient clinics, community mental health teams and day-care centres.

Keywords: delirium, geriatric psychiatry, liaison
Introduction

Several industrialised countries, where older people constitute the fastest growing population, are witnessing an ongoing rise in life expectancy. In 2000, 15% of Europe’s population was aged 65 or older with nearly 7% aged 75 or over – the world’s highest percentages. By 2030 these figures are expected to increase to 24% and 12% respectively.

In Portugal, the number of people aged over 65 (the majority of which are women at 58.2%) has been continuously increasing, particularly the group aged over 80. In fact, there will probably be twice as many older people than younger people within the next 25 years.

The concomitant rise in the number of older people with mental health problems poses important challenges for policy makers since many of these disorders have a significant impact on individuals’ quality of life and are associated with an increased use of health resources.

Morbidity and outcomes in elderly patients

Elderly patients occupy up to 65% of acute hospital beds and a significant proportion of them present with comorbid psychiatric conditions such as depression, delirium or dementia. In a large Portuguese general hospital, Coimbra University Hospital Centre (CHUC), the number of inpatients in medical wards reached 3600 in 2010, with a total of 1043 patients (28%) over the age of 80.

This situation creates an ever-growing challenge for healthcare institutions since many of these older patients are readmitted to hospitals due to a relapse of the initial illness, an adverse reaction to medical treatment, or care facility problems; especially if they also present with five or more comorbidities, a history of depression, or the absence of documented family or patient education.

Community-based strategies targeted at prevention of frequent hospital readmissions, such as increasing the availability of medically skilled staff in the day-to-day care of patients in municipalities or other community structures, may prove to be an important measure to effectively reduce the over-utilisation and consumption of health resources.

Many factors complicate the hospitalisation of older patients, such as multisystem diseases, poor nutritional conditions, removal from their familiar home settings, diminished overall strength and impaired mental functioning. Among older inpatients, the prevalence of psychiatric disturbances rises to up to 40% for dementia, 53% for depression and 61% for delirium.

Furthermore, several studies show that psychiatric comorbidities have an adverse impact on outcomes, including length of stay, loss of independent functioning and institutionalisation, and act as specific risk factors for morbidity and mortality.

However, these symptoms are often under-diagnosed by hospital staff – delirium is missed in up to two-thirds of cases – and the care received by these patients is far from optimal, which further accounts for longer hospital stays, higher mortality and higher medical costs.

Early recognition and adequate management of these conditions are crucial to improve the clinical outcome of patients, but there is still no consensus about what the most effective approach is to deliver specialised psychiatric care to elderly patients with acute medical or surgical conditions.

Improving quality of care: the need for LOAP services

Evidence from controlled trials shows an overall benefit of LOAP services in terms of decreased costs and early recognition and prevention of these conditions.

Several studies focusing on the major factors for incident delirium have shown that misrecognition of delirium is associated with increased mortality, and suggest that all patients admitted to hospital should be regularly assessed for delirium. A randomised, controlled trial of 174 patients with delirium receiving individually tailored geriatric treatment in general medicine units recovered quicker from delirium and showed improved cognitive function after six months. Lundström and colleagues, in a prospective intervention study, also found that staff education focusing on the assessment, prevention and treatment of delirium had positive effects on reducing the incidence of delirium and the duration of hospital stay.

Patients with dementia in the acute hospital setting are older, require more hours of nursing care and are more at risk of delayed discharge and functional decline during admission. Specialised rehabilitation following hip fracture for patients with dementia is effective in improving functional outcomes and reducing hospital stay. Ballard reported a significant reduction in neuroleptic usage in care facilities receiving the liaison service, but not amongst those receiving standard clinical support.

A number of studies point out the beneficial effects of specialised psychiatric intervention for depressive symptomatology. A multifaceted psychi-
Principal intervention in medically ill inpatients resulted in significant improvement of depressive symptoms over time, perceptions of physical and mental health, and quality of life with less hospital admissions. The Pathways Study showed that collaborative primary care intervention in patients with diabetes provided for up to 12 months of improved depression outcomes while showing a trend for reduced mean total medical costs during a five year follow-up period. Several approaches have been developed to provide psychiatric consultations in medical and surgical settings, improving at the same time the knowledge and expertise of general ward staff. The consultation model consists of diagnostic and therapeutic consultation on behalf of other medical specialties. However, this type of service is slow to respond, it is reactive (since it depends on isolated referrals from the general staff), it does not educate the general hospital staff and it works ‘like a volunteer fire brigade’. In contrast, the ‘liaison model’ is more comprehensive, where the psychiatrist co-operates in a regular, integrated and unrequested fashion with a multidisciplinary team that includes consultation aspects, ward visits, discussion of ward cases and education programmes for general staff to improve their basic psychiatric skills. A systematic review of older people’s mental health services concluded that the liaison approach in general hospitals has advantages over consultation, because it involves the education and training of general ward staff, which in turn promotes better diagnostic accuracy by referring doctors, more psychiatric reviews and increased adherence to recommendations.

Until recently, despite being an academic-affiliated institution providing high-standard healthcare to the central region of Portugal, the CHUC still did not have a LOAP unit. This meant that mental healthcare for inpatients was provided by the emergency psychiatric team, which had subsequent limitations, including the lack of continuity of care, difficulties interacting with the ward staff and poor quality of clinical notes.

Since October 2011, the psychogeriatric unit from CHUC has created a new LOAP service in order to initiate a consistent project that focuses on psychiatric disturbances occurring in elderly inpatients at medical wards, based on the following premises.

1 Providing a high-quality standard of services.
2 Performing standardised clinical assessment and data gathering (with essential neurocognitive tools).
3 Ensuring continuity of care during hospitalisation and after discharge (outpatient setting, day hospital).
4 Redirecting these patients to social-support services provided in the community (e.g. community mental health teams, day-care centres and rehabilitation programmes) in order to prevent relapse or worsening of the illness and to reduce readmission to psychiatric or medical wards.

The aim of this work is to present the recently created LOAP service, as well as to provide some empirical evidence to support its implementation, namely the clinical characterisation and differential outcomes of the patients referred to this type of unit.

Method

A prospective observational study was developed between October 2011 and January 2013, including subjects aged 65 or older hospitalised in the Department of Internal Medicine and referred to the LOAP service due to psychiatric conditions or symptomatology requiring specialised intervention. After the initial referral, the liaison team discussed each case with the medical staff and periodically evaluated the patient until he or she was stable and/or was discharged.

Standardised psychiatric evaluation was made and data were collected from each patient, including social demographic characteristics, and medical and psychiatric comorbidities. Psychiatric diagnostics were assessed using the Confusion Assessment Method, the Geriatric Depression Scale, the Mini-Mental State Examination and the Clinical Global Impression Scale.

In order to evaluate the relevance and significance of the collected data, statistical tests were performed using SPSS software version 16.0. Group comparisons were performed using Student’s t-test (a parametric test to compare the significance of continuous variable mean scores) and Chi-square test (to compare the significance of dichotomic variable proportions). Statistical significance was set at $P<0.05$.

Results

From October 2011 to January 2013, 107 patients were observed after being referred to the LOAP service. The average age was 78.4 and 60.7% ($n = 65$) of the patients were female.

The most frequent acute medical conditions, accounting for 70% of the hospitalisations, were re-
piratory tract infections (44.9%), hyponatremia (10.3%), urinary tract infections (9.3%) and acute renal failure (5.6%).

As seen in Figure 1, among the 107 patients the main reasons identified by the medical staff for referral to the LOAP service were mood disturbances (35.5%; \( n = 38 \)), behavioural disturbances (30%; \( n = 32 \)) and cognitive changes (28%; \( n = 30 \)).

After evaluation by the LOAP team, delirium (40.2%; \( n = 43 \)), depression (22.4%; \( n = 24 \)) and dementia (20.6%; \( n = 22 \)) were the most common psychiatric diagnoses (Figure 2), meaning that patients with (persistent or transitory) cognitive impairment accounted for 60.8% of the cases.

In order to evaluate clinical characteristics that could differentiate delirium from other diagnoses, comparisons were made between two groups; patients with delirium (\( n = 43 \)) versus patients without delirium (\( n = 64 \)), as seen in Table 1.

Patients with delirium were significantly older, had more severe psychiatric symptomatology (mean CGI = 5.35) and presented infectious processes as acute medical conditions more frequently than the other patients. Interestingly, none of the patients with delirium was taking corticosteroids.

There were no significant differences between diagnostic groups regarding gender, level of education, place of residence or psychiatric history.

**Conclusions**

Psychiatric disturbances occurring in elderly inpatients in medical wards are highly prevalent and complex, and often require intervention from specialised teams. Due to their proactive, comprehensive and regular intervention, liaison models seem to be more effective than traditional consultations for delivering psychiatry services and education to general hospitals, although direct comparison be-
Improving quality of care: liaison old age psychiatry

between different models of old age psychiatry service delivery in the acute hospital should be addressed by future research.

In our sample, a significant proportion of patients presented psychiatric disorders requiring specific intervention from a LOAP service, with delirium and dementia accounting for more than 60% of the diagnoses. Interestingly, although the main reason for referral was mood disturbances, after evaluation only 24 patients (22.4%) were found to present with depression, which suggests a low diagnostic accuracy among referring doctors.31

It was established that patients with delirium were older and had more severe psychiatric symptomatology. One possible explanation is that older patients may present more medical comorbidities, which is known to increase the risk of the development and continuance of delirium.

Infection was also found to be the main acute medical condition associated with delirium; this relation is supported by different studies which emphasise that an acute systemic inflammatory condition (e.g. infection or surgery) is a major underlying aspect of delirium.32

Information regarding medication being used in this medical setting was collected in order to evaluate potential deleterious effects on older patients. It was discovered that only patients without delirium were using corticosteroids. Despite being part of the potentially inappropriate medication for the elderly population, corticosteroids were not associated with the development of delirium in this study. This is in line with the Neuroinflammatory Hypothesis of Delirium, in which delirium corresponds to a neuroinflammatory response that compromises cognitive function following stimulation by systemic immune stimuli such as peripheral inflammation and/or infection.33 In the context of this study, the use of corticosteroids may have played a protective role on the development of delirium, especially considering their potent anti-inflammatory properties.

A LOAP service may play an important role for the early recognition of psychiatric conditions among elderly inpatients and the effective management and prevention of adverse outcomes, particularly for patients with delirium. The effective communication of these services with outpatient clinics, community mental health teams and day-care centres can be an important measure to reduce hospital readmissions and overutilisation of health resources.

**REFERENCES**


### Table 1 Comparison of the two groups: with delirium and without delirium

<table>
<thead>
<tr>
<th></th>
<th>Mean age (SD)*</th>
<th>Infection as acute medical condition (n)**</th>
<th>Use of corticosteroids (n)**</th>
<th>Mean CGI scale (SD)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delirium</strong> (n = 43; 40.2%)</td>
<td>80.81 (± 6.215)</td>
<td>n=32</td>
<td>n=0</td>
<td>5.35 (± 0.839)</td>
</tr>
<tr>
<td><strong>No Delirium</strong> (n = 64; 59.8%)</td>
<td>77.04 (± 6.812)</td>
<td>n=18</td>
<td>n=7</td>
<td>3.97 (± 1.085)</td>
</tr>
<tr>
<td><em>P value</em></td>
<td>0.031</td>
<td>0.0014</td>
<td>0.001</td>
<td>0.001</td>
</tr>
</tbody>
</table>

SD = standard deviation; CGI = Clinical Global Impression Scale

*Student’s t-Test

**Chi-square (χ²) Test


21 Pitkala KH, Laurila JV, Strandberg TE and Tilvis RS. Behavioral symptoms and the administration of psychotropic drugs to aged patients with dementia in nursing homes and in acute geriatric wards. *International Psychogeriatrics* 2006;16(1):61–74.


