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Post-Acute Care Facility as a Discharge Destination for Patients in Need of Palliative Care in Brazil

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Abstract

Patients with complex palliative care needs can experience delayed discharge, which causes an inappropriate occupancy of hospital beds. Post-acute care facilities (PACFs) have emerged as an alternative discharge destination for some of these patients. The aim of this study was to investigate the frequency of admissions and characteristics of palliative care patients discharged from hospitals to a PACF. We conducted a retrospective analysis of PACF admissions between 2014 and 2016 that were linked to hospital discharge reports and electronic health records, to gather information about hospital-to-PACF transitions. In total, 205 consecutive patients were discharged from 6 different hospitals to our PACF. Palliative care patients were involved in 32% (n = 67) of these discharges. The most common conditions were terminal cancer (n = 42, 63%), advanced dementia (n = 17, 25%), and stroke (n = 5, 8%). During acute hospital stays, patients with cancer had significant shorter lengths of stay (13 vs 99 days, $P = .004$), a lower use of intensive care services (2% vs 64%, $P < .001$) and mechanical ventilation (2% vs 40%, $P < .001$), when compared to noncancer patients. Approximately one-third of discharges from hospitals to a PACF involved a heterogeneous group of patients in need of palliative care. Further studies are necessary to understand the trajectory of posthospitalized patients with life-limiting illnesses and what factors influence their decision to choose a PACF as a discharge destination and place of death. We advocate that palliative care should be integrated into the portfolio of post-acute services.

Keywords

post-acute care, palliative care, discharge planning

Introduction

Following an acute care hospitalization, post-acute care facilities (PACFs) have been a common discharge destination for patients with long-term illness and severe disabilities. Clearly, increasing proportions of older patients are being discharged to PACFs as a consequence of multiple factors such as the pressure to decrease the length of staying (LOS) in acute care hospitals, reimbursement issues, and changes in demographics and disease epidemiology.[1,2] Indeed, discharges from acute care hospitals to PACFs increased nearly by 50% between 1996 and 2010 in the United States.[1,3] Most commonly, patients are transferred for a transitional recovery phase, which allows the PACFs to work as a bridge between the acute care hospital and patient's home. However, a significant number of patients who are admitted to PACFs have poor functional outcomes and never return home.[4,5]

To date, little is known about patients who are discharged from acute care hospitals to receive end-of-life care in PACFs. The objective of this preliminary study was to investigate the use of a PACF as discharge destination for posthospitalized patients with complex palliative care needs. A full understanding of patient's trajectory in the health-care system is crucial to minimize inappropriate setting transitions, provide the right level of care, and design innovative palliative care programs to better match the needs of patient and their families.

Methods

Post-Acute Care Facility and the Palliative Care Program

Post-acute care facilities are called "Chronic Care Hospitals" in Brazil. These facilities usually provide multiple services (skilled nursing, rehabilitation, hospice, and long-term acute care) at the same location. Located in Rio de Janeiro, Brazil, The Hospital Placi is a private, 30-bed, PACF, that is mainly

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Table 1. Demographic and Clinical Characteristics.

Cancer, n (%)	42 (63)	Noncancer, n (%)	25 (37)	*P* Value
Mean age, years (range)	72 (32-96)	Mean age, years (range)	83 (34-102)	.002
Female sex, n (%)	22 (52)	Female sex, n (%)	18 (72)	.13
Primary cancer site, n (%)		Main diagnosis, n (%)		
Lung	10 (24)	Dementia	17 (25)	
Pancreas	6 (14)	Stroke	5 (8)	
Breast	5 (12)	Others	3 (4)	
Colon	5 (12)	AE	1	
Genitourinary	3 (7)	ALS	1	
Gynecological	3 (7)	PF	1	
Others	10 (24)			
KPS, mean (range)	28 (20-50)	KPS, mean (range)	35 (30-50)	<.001
Mean PACF LOS (range)	13 (1-56)	Mean PACF LOS (range)	99.2 (3-186)	.004
Mean hospital LOS (range)	34 (5-207)	Mean hospital LOS (range)	103.4 (5-380)	<.001
ICU admission, n (%)	1 (2%)	ICU admission, n (%)	16 (64%)	<.001
MV, n (%)	1 (2%)	MV, n (%)	10 (40%)	<.001

Abbreviations: AE, anoxic encephalopathy; ALS, amyotrophic lateral sclerosis; ICU, intensive care unit; KPS, Karnofsky performance scale; LOS, length of stay in days; MV, mechanical ventilation; PACF, post-acute care facility; PF, pulmonary fibrosis.

focused on rehabilitation and functional recovery. The facility has been working closely with several acute care hospitals and serves as a discharge destination for a complex and heterogeneous patient population, with different clinical characteristics and outcomes.

A full-time interdisciplinary team is available to deliver an individualized care plan (within 48 hours of admission), based on clinical diagnosis, patient and caregiver preference, and outcome prediction. A palliative care program has been integrated into the portfolio of post-acute care services and provides documentation of advanced care planning, aggressive symptom control, psychosocial support, and bereavement interventions.

Data Collection

We performed a retrospective study of all consecutive patient admissions discharged from acute care hospitals (with more than 100 beds) to the Hospital Placi, from January 1, 2014, to August 31, 2016. The objective of this study was to investigate the frequency of admissions and characteristics of patients who were discharged from hospitals to our PACF.

We reviewed hospital-to-PACF discharge reports and electronic health records to determine patient demographics, a baseline Karnofsky Performance Scale, and PACF LOS. Additional information about intensive care unit (ICU) admissions, the use of mechanical ventilation (MV), and LOS in acute care hospitals were also collected. Patients were eligible for the study only if they were formally enrolled in the palliative care program.

We used Student *t* test to compare numeric variables and Fisher exact test to evaluate the categorical variables. A *P* value lower than .05 was considered significant. The institutional review board approved the study and provided waiver of patient consent.

Results

Sample Characteristics

The final study sample consisted of 205 consecutive patients discharged from 6 different acute care hospitals to our PACF. We have identified 67 (32%) palliative care patients involved in these discharges. In rank order, the diagnoses were as follows: cancer (n = 42, 63%), dementia (n = 17, 25%), stroke (n = 5, 8%), pulmonary fibrosis (n = 1), amyotrophic lateral sclerosis (n = 1), and anoxic encephalopathy (n = 1).

Among patients with advanced cancer, 52% were female. The patients' ages ranged from 32 to 96 years, and the mean age was 72 years. The most common primary cancer sites were lung (n = 10, 24%), pancreas (n = 6, 14%), breast (n = 5, 12%), and colon (n = 5, 12%). During the hospital stay, only 1 patient was admitted to ICU and was placed on MV. The hospital and PACF LOS were 34 and 13 days, respectively. For most patients with cancer (n = 39, 92%), the PACF was their final destination and the site of their death. In accordance with the preferences of the patients and their family, 2 patients were discharged to receive end-of-life care at home, and 1 patient was discharged back to the acute care hospital. The mean Karnofsky level among patients with cancer was 28.

A heterogeneous group of patients with chronic and nonchronic conditions represented 37% of hospital-to-PACF discharges. Advanced dementia (n = 17, 25%) and stroke (n = 5, 8%) were the most prevalent noncancer conditions. Patients with anoxic encephalopathy, amyotrophic lateral sclerosis, and pulmonary fibrosis were also involved in these discharges. The age of patients ranged from 34 to 102 years, with a mean age of 83 years. During the hospital stay, ICU admissions occurred in 64% (n = 16) of patients and MV was used in 40% (n = 10) of cases. The hospital and PACF LOS were 103 and 99 days, respectively. The mean Karnofsky level among noncancer patients was 35. These results are summarized in Table 1. One patient with advanced dementia was

Table 2. Noncancer Patients.

Characteristics	Dementia (n = 17)	Stroke (n = 5)	Others (n = 3)	*P* Value
EOL admissions, n (%)	17 (25)	5 (8)	3 (4)	
Mean age (range)	87 (63-102)	84 (68-99)	65 (34-73)	.40
Female sex, n (%)	13 (76)	4 (80)	2 (66)	1.00
Mean hospital LOS (range)	120 (14-380)	86 (40-123)	90 (40-145)	.18
Mean PACF LOS (range)	40 (3-128)	145 (96-210)	43 (20-82)	.02
ICU admission, n (%)	9 (52%)	5 (100%)	3 (100%)	<.001
MV, n (%)	5 (29%)	5 (100%)	3 (100%)	<.001
KPS, mean (range)	35 (30-50)	30 (30-40)	33 (20-40)	.10

Abbreviations: EOL, end of life; ICU, intensive care unit; KPS, Karnofsky performance scale; LOS, length of stay in days; MV, mechanical ventilation; PACF, post-acute care facility.

discharged from our PACF to a nursing home according to family's wishes, and the PACF was the final destination and site of death for the remaining patients.

Patients With Cancer vs Noncancer Patients

Patients with cancer were younger than noncancer patients (72 vs 83 years, $P = .002$), had lower Karnofsky score (28 vs 35 points, $P < .001$), and had lower LOS at PACF (13 vs 99 days, $P = .004$). The hospital LOS (34 vs103 days, $P < .001$), the number of ICU admissions (2% vs 64%, $P < .001$), and the use of MV (2% vs 40%, $P < .001$) were lower in the cancer group when compared to noncancer group (Table 1).

We also analyzed the differences within the noncancer group. As expected, patients with advanced dementia had lower rates of ICU admission and MV use than did patients who had a stroke or any other diagnosis (52% vs 100%, $P < .001$ and 29% vs 100%, $P < .001$, respectively). Age, gender, Karnofsky scale, and hospital LOS were similar among noncancer patients (Table 2).

Discussion

Patients with advanced illness frequently seek acute care hospitals during the final months of their lives,[6-8] despite receiving palliative care services.[9-11] Some patients have multiple hospital admissions[12] and prolonged stays, with a significant proportion of them dying in the hospital. Therefore, for those patients who are not imminently dying, initiatives and incentives to avoiding "bed blocking" and promoting early discharges are increasingly common. There is an evidence that delayed hospital discharges can occur among palliative care patients.[13] Indeed, coordinating the discharge planning has been one of the most important tasks for hospital-based palliative care teams.[14-16]

Care setting transitions at the end of life depend on an enormous number of factors such as family support, financial status, health-care services available, and patients' preferences.[17,18] In Brazil, where the quality of end-of-life care has been traditionally poor[19] with limited access to palliative care services,[20] high rates of hospital deaths have been observed.[6]

These circumstances have increased the pressure on acute care hospitals to decrease the LOS, which forces private insurance payers to champion alternative and less costly discharge destinations. By broadening the intersection of rehabilitation and palliative care, PACFs have emerged as a suitable discharge destination for many hospitalized patients at the end of their lives.

This study has demonstrated that 32% of hospital discharges to a PACF were for patients at the end of life. A similar pattern of discharge destination among posthospitalized patients was reported by Aragon and colleagues.[5] In our study, patients with terminal cancer, advanced dementia, and stroke were responsible for 95% of this type of care setting transition.

We have found that the majority of patients had the diagnosis of advanced cancer. Among this group of patients, the use of acute care resources was minimal, probably due to the declining health trajectory in patients with advanced cancer that has been promptly recognized by hospitalists, which had led to less aggressive care. We question whether the type and the intensity of services provided (24/7 care) in PACFs would better match the needs of patients and families, which may have contributed to early discharges. In fact, as the discipline of palliative care evolves and integrates into different settings, patients with advanced cancer may prefer alternative supportive services rather than the traditional hospice model of care.[21]

Our study has demonstrated that patients with advanced dementia were commonly involved in hospital-to-PACF transitions. Although heterogeneity between hospitals in end-of-life treatment intensity can occur,[22] we have found that more than a half of patients with advanced dementia were admitted to ICU, and approximately 30% of them were placed on MV. A recent study by Teno and colleagues have shown that the use of MV among hospitalized patients with advanced dementia increased over the last decade.[23] Of note, most health-care proxies prefer comfort as the main goal of care.[24] These findings support previous evidence that patients with advanced dementia may be receiving a different end-of-life care to those who are cognitively intact.[25]

In this study, stroke survivors represented the third most common diagnosis involved in hospital-to-PACF transitions. Among these patients, up to 40% will have died within 1 year after the event.[26] Patients with stroke have a high prevalence of palliative care needs and poor symptom control at the end of life in acute hospitals.[27,28] The integration of palliative care into active life saving procedures should be a priority in stroke units, but transitions from cure to palliation in acute care hospitals have been problematic.[29] San Luis and colleagues found that the severity of dysphagia was a strong predictor of early palliative care transition in patients with middle cerebral artery stroke.[30] However, the fact that most end-of-life decisions in stroke are usually made when prognosis is uncertain and the outcome unpredictable[31] may have contributed to more

treatment intensity and longer LOS, which postpone the recognition of palliative care needs, either in the acute or in the post-acute care settings.

This study has several limitations. First, our results are based on the Brazilian private health-care system, and findings may not be generalizable to other countries. Moreover, the lack of detailed information about the type of care received in different acute care hospitals, the circumstances involved in these discharges, and whether patient and caregivers had their needs met are important limitations and should be addressed in future researches.

Finally, discharging vulnerable patients can have detrimental effects.[32] Moving patients from one care setting to another may be stressful for individuals at the end of life and those close to them.[33] Setting transitions have a profound impact on the quality of the dying process and increase the risk of care fragmentation and medication errors.[34] As the main goal of palliative care is to improve the quality of end of life care, managing these issues is a critical step to promote safe transitions and minimize major breaks in the continuity of care.

In conclusion, PACFs are a common discharge destination in Brazil for hospitalized patients at the end of life. Most patients involved in these discharges have a diagnosis of terminal cancer, advanced dementia, and stroke. Our preliminary findings suggest that patients with cancer receive a lower intensity of care in hospitals when compared to noncancer patients.

Despite differences in health-care organization, coverage, and reimbursements across countries, we advocate that palliative care programs should be integrated alongside the conventional portfolio of post-acute care services. Further studies are necessary to understand the trajectory of hospitalized patients with life-limiting illnesses, their preferences, and what factors can influence the choice of a PACF as a discharge destination for posthospitalized patients at the end of life.

Declaration of Conflicting Interests

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