

Evaluation of Older Adults Hospitalized with a Diagnosis of Failure to Thrive



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ABSTRACT

Background

Older adults are sometimes hospitalized with the admission diagnosis of failure to thrive (FTT), often because they are not felt safe to be discharged back to their current living arrangement. It is unclear if this diagnosis indicates primarily a social admission or suggests an acute medical deterioration. The objective of this study was to explore the level of acuity and medical investigations commonly conducted among older hospitalized adults with a diagnosis of FTT.

Methods

We conducted a retrospective cohort study at three hospitals in Calgary, Alberta. Data were extracted from the electronic medical records of the 603 admissions of patients 65 years or older with a diagnosis of FTT between January 2010 and January 2011. Markers of medical acuity were evaluated.

Results

The vast majority of patients had short hospital stays. Specialist physicians were consulted for 323 cases (54%). Allied health-care professionals were consulted in 151 cases (25%). While in hospital, patients underwent extensive investigations, including CT scans, ultrasounds, and echocardiograms. Many patients received IV fluids (71%) and IV antibiotics (35%).

Conclusions

The data suggest that acute illnesses, and not social factors, were the primary reason for admission among those given a diagnosis of FTT.

Key words: failure to thrive, older adults, level of acuity

INTRODUCTION

Hospital overcapacity rates and emergency department (ED) waiting times are important issues currently being faced by the Canadian medical system.⁽¹⁾ There is increasing pressure to reduce health-care costs and diminish unnecessary hospital admissions and ED visits. Of particular concern are social admissions, where patients are admitted to the hospital primarily for social reasons including inadequate supports and caregiver burnout, or to await placement in a long-term care (LTC) facility.⁽²⁾ Older adults are sometimes hospitalized with the admission diagnosis of failure to thrive, often because they are not felt safe to be discharged back to their current living arrangement.^(3,4,5,6,7) The diagnosis of failure to thrive can be non-specific when the exact reasons for hospitalization are poorly understood. It is unclear if this diagnosis is used to document a social admission or if it may actually suggest an admission for yet-to-be-diagnosed acute medical conditions.

Failure to thrive (FTT) is a medical term most often used in the pediatric population to describe a child who is not growing along the expected trajectory.^(3,8) Failure to thrive, however, is also a diagnosis used in the geriatric population. The prevalence of failure to thrive is unclear, but it appears to be common in the aging population.⁽⁴⁾ A review of the medical literature identified six studies related to the diagnosis of failure to thrive among older adults, all of which were small observational studies.^(3,5,6,7,8,9)

FTT does not have a universally agreed definition in the adult population. The term failure to thrive within the geriatric population was first used in 1973 by Hodkinson.⁽¹⁰⁾ He described it in older adults who often have multiple medical conditions, experiencing loss of appetite, weight loss, and cognitive issues. Evans⁽¹¹⁾ and Roubenoff and Harris⁽¹²⁾ described failure to thrive as a syndrome of sarcopenia associated with aging. Currently, failure to thrive is often used to describe a syndrome of global decline that occurs in older patients as an aggregate of frailty, cognitive impairment, and

functional disability, complicated by medical comorbidities and psychosocial factors.⁽⁵⁾ The United States National Institute of Aging described FTT as a “syndrome of weight loss, decreased appetite and poor nutrition, and inactivity, often accompanied by dehydration, depressive symptoms, impaired immune function, and low cholesterol”.⁽⁹⁾ Other authors describe FTT as a more generalized syndrome involving a complex interaction of physiological, social, and physiological issues leading to functional and cognitive decline and eventually death.⁽⁵⁾

For most clinicians, medical causes for failure to thrive are not easily evident. Older patients are predisposed to FTT for both age related and sociodemographic reasons such as social isolation, inadequate social supports, and low socioeconomic status.⁽⁴⁾ The available literature suggests that a patient’s medical, functional, nutritional, and psychological status should be evaluated to determine the causes of FTT.⁽⁶⁾ Dementia, depression, delirium, and chronic diseases can all accompany the diagnosis of FTT.⁽⁴⁾

FTT is an important medical diagnosis that has been found to be associated with increased admission rates to the hospital, low level of independence in all activities of daily living,⁽³⁾ and cognitive impairment.⁽¹³⁾ FTT appears to help predict worse outcomes including nursing home placement and death.^(14,15) FTT can be linked to unintentional weight loss that is accompanied by other abnormalities such as anemia of chronic disease, impaired immune function, hypoalbuminemia, and hypocholesterolemia.^(9,16,17) In older patients, it appears that failure to thrive may be related to frailty.

The fact that older patients can present with symptoms that differ from the classically taught disease presentations^(18,19) may contribute to the diagnosis of FTT. The differential diagnosis of FTT may include underlying chronic infection, malignancy, or organ failure.⁽⁴⁾ Impaired self-care and social isolation are often the accompanying characteristics of FTT.⁽⁴⁾ A patient diagnosed with FTT requires a comprehensive assessment including a thorough history from the patient and patient’s family members, physical examination, and selected laboratory studies.⁽⁴⁾ The management plan depends upon underlying etiologies, which are often misdiagnosed because of lack of experience, inadequate medical education, and incomplete policies.⁽²⁾

The objective of this study was to review the hospitalizations of patients with a diagnosis of FTT, specifically exploring markers of acuity. The aim was to determine if patients admitted to hospital with this diagnosis required investigations suggestive of an acute medical admission versus being admitted more for psychosocial reasons.

METHODS

We retrieved data in de-identified format from the electronic medical record for 603 admissions of patients 65 years of age or older to any of the three Calgary area hospitals between January 2010 and January 2011. For inclusion, patients had to

have a coded diagnoses that included failure to thrive (FTT). We did not define the diagnosis of failure to thrive further and accepted the diagnosis as given within the electronic record. Data elements retrieved included age in years, length of hospital stay in days, radiological investigations ordered, consults to in-patient services, and intravenous (IV) fluids and IV antibiotics ordered. Radiological investigations included CT scans, ultrasounds, and echocardiograms. In-patient consults were divided into physician consults by specialty and non-physician consults by type of allied health-care service provided. Consultations to physiotherapy and occupational therapy were not considered because of the high frequency of rehabilitation service consults among older patients admitted to Calgary area hospitals.

During the period of investigations, there were data from 603 hospital admissions available for analysis. Data were analyzed using descriptive statistics. Means and ranges were used to examine length of hospital stay and age. Rates were determined for radiological investigations ordered (by type) and consults to in-patient services (by physician specialty or allied health-care service provided). The percentage of patients with IV fluid ordered and IV antibiotics ordered was also determined. This project received approval from the Calgary Conjoint Health Research Ethics Board.

RESULTS

The mean age of the 603 patient admissions was 82.7 years. Nearly one in five was 90 years of age or older (Table 1). The average length of stay in the hospital was 12 days but ranged from 0 to 106 days. The vast majority of the patients had short hospital stays (less than 20 days).

Specialist physicians were consulted for 323 cases (54%) (Figure 1(a)). The most commonly consulted service was psychiatry. However, other physician specialists were

TABLE 1.
Baseline characteristics of the patients hospitalized with a diagnosis of failure to thrive

<i>Characteristic</i>	<i>N</i>	<i>%</i>	
<i>Age (years)</i>	65-74	101	16.74
	75-84	214	35.48
	85-89	172	28.51
	90 and older	116	19.22
<i>Length of Stay (days)</i>	0-20	480	79.6
	21-40	71	11.77
	41-60	32	5.3
	61-80	10	1.65
	more than 80	10	1.65

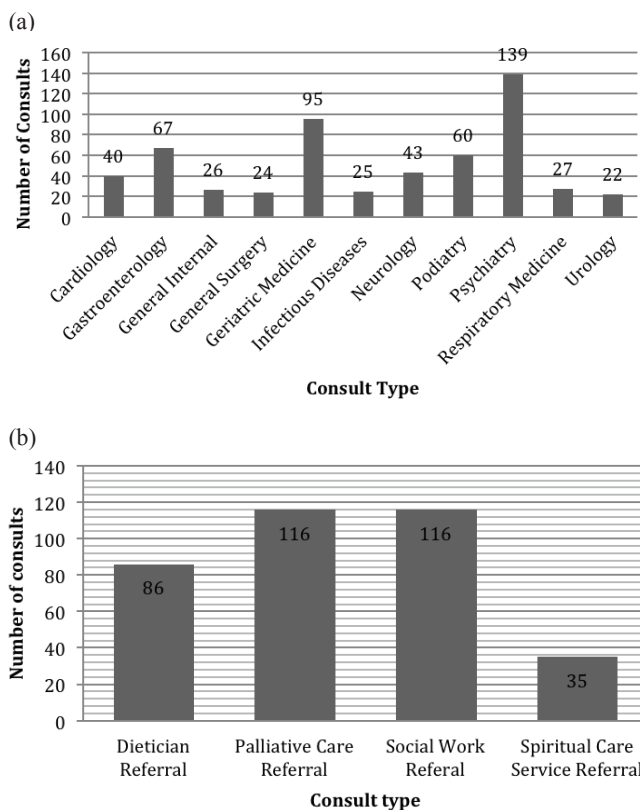


FIGURE 1. Consultations, by consult type, to: (a) specialist physician services, and (b) allied health-care professionals during hospital admission for failure to thrive

also frequently consulted including geriatric medicine, gastroenterology, podiatry, and neurology. Allied health-care professionals were consulted in 151 cases (25%) (Figure 1(b)). Social work and the palliative care services were most frequently consulted, followed by the dietetic and spiritual care services. Many patients received consultations from more than one consulting service.

While in the hospital, patients underwent extensive investigations including CT scans (56%), ultrasound (23%), and echocardiograms (14%) (Table 2). Among the various sites for CT investigations, CT of the head was most frequently ordered followed by CT of the abdomen. Abdominal ultrasound was the most frequently ordered ultrasound investigation. Intravenous fluids were ordered for 71%, and 35% received IV antibiotic therapy.

DISCUSSION

A diagnosis of FTT appears to be common among hospitalized older patients. Overall, the study results indicate that a diagnosis of FTT is used not for the primary purpose of social admissions but, instead, indicates admission for the management of acute medical illness.

These patients had relatively short hospital stays and received consultations from various medical specialists and

TABLE 2.

Summary of markers of medical acuity among 603 admissions for failure to thrive

Markers of Acuity	N	%
Echocardiogram	83	13.8
Ultrasound	136	22.6
CT scan	338	56.1
IV fluids	427	70.8
IV antibiotics	209	34.7
Physician consults	323	53.6
Allied health service consults	151	25.0

allied health-care professionals. The relatively short hospital stay suggests an admission for acute medical reasons and not to await LTC placement. In Canada, the time spent in an alternate level of care hospital bed awaiting LTC can be extensive, well beyond 12 days.

A high prevalence of cognitive, psychiatric, and functional issues may be inferred from the relatively high consultation rates to psychiatry and geriatric medicine specialists. Nearly one in four patients was assessed by social work and by palliative care services, which might indicate the presence of psychosocial issues and end-stage disease.

While in the hospital, more than half of patients were investigated extensively, presumably in an attempt to find the underlying cause(s) of their acute medical decline. IV fluids were administered in the vast majority of patients and many required IV antibiotic therapies. The high rate of investigations and extensive treatment supports the conclusion that these admissions were for acute medical issues. However, the markers of acuity considered were a collection of investigations and interventions that are imposed on the patient by the health-care team, rather than features of the patient's presentation itself. The results reflect practice patterns of hospital staff. If one assumes that such investigations and consultations were indeed necessary and appropriate, then patients admitted with a diagnosis of FTT appear to be experiencing acute medical illness.

Older patients account for 12% to 21% of all ED visits and they are at risk for the adverse health outcomes within the ED.⁽¹⁸⁾ Although the number of older adults within EDs is high, the admission diagnosis for this group of patients tends to be less accurate, mostly because of atypical disease presentation, polypharmacy, and multiple comorbidities.⁽¹⁹⁾ The medical complexity of the older patient may result in a diagnosis of FTT. According to Canadian institute for Health information, almost half of the patients (49.3%) admitted from the ED to the hospital in Canada were older patients.⁽²⁰⁾ Cardiovascular diseases and infectious causes accounted for a large number of these hospital admissions

including coronary artery disease,⁽²¹⁾ pneumonia,^(22,23) and urinary tract infection/urosepsis.⁽²⁴⁾ Often, older patients present to acute care hospitals with several chronic conditions, which can contribute to rapid functional decline in hospital. Besides acute illness, nosocomial infection, polypharmacy,⁽²⁵⁾ immobility,^(25,26) and malnutrition,⁽²⁷⁾ admissions are often complicated by increased rate of falls⁽²⁸⁾ and delirium.⁽²⁹⁾ Given the higher rate of hospital-acquired adverse events among older patients, some of the investigations and treatments may have been related to events that occurred after admission.

This situation could be improved by improving the triage of older patients presenting to the ED,⁽¹⁸⁾ along with providing further education of medical students and emergency room staff about the normal processes of aging and aged-related health issues.⁽²⁾ The outcomes for hospitalized older patients could be further improved within the hospital by applying a multidisciplinary multicomponent approach to help ensure early mobilization⁽³⁰⁾ and aggressive prevention of falls and delirium.^(28,29)

Although this study included all hospital admissions related to a diagnosis of FTT in older patients over a one-year period, it included data only from hospitals in Calgary, Alberta. However, these hospitals provide services not only to the residents of the city but also to those residing in other smaller communities within Southern Alberta and parts of British Columbia. Although Calgary has an ethnically diverse population and its hospitals provide services to all socioeconomic groups, information about the patient's ethnicity and other demographic information was not available.

CONCLUSION

A diagnosis of FTT may indicate health issues that are not easily evident. Patients hospitalized with this diagnosis appear to have acute medical issues. Therefore, a diagnosis of FTT suggests the need for a comprehensive assessment and initiation of an appropriate management plan.

CONFLICT OF INTEREST DISCLOSURES

The authors declare that no conflicts of interest exist.

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