

What's in a Name? Understanding Failure to Thrive and Frailty in the Emergency Department

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INTRODUCTION

Up to 20% of older adults present to the Emergency Department (ED) with nonspecific symptoms such as generalized weakness or fatigue.^{1,2} Failure to thrive and frailty are two terms that are often used interchangeably for nonspecific complaints and aging. Despite their often-interchangeable use, the terms are very different. Failure to thrive is a poorly defined term that, when used, is often a disservice to patients, as it may minimize the perception of an acute medical condition. By contrast, frailty is a well-defined, measurable, geriatric syndrome that can help assess patients' function, ability for safe independent living, and risks in undergoing invasive procedures. It is important for the emergency clinician to avoid the umbrella term of "failure to thrive" and instead remain vigilant for symptoms such as confusion, fatigue, and poor appetite to be atypical presentations of acute emergencies such as pneumonia, heart failure, and intra-abdominal emergencies. It is similarly important to recognize frailty as an independent risk factor for complications of surgery or invasive procedures, and be aware of the growing literature around frailty and how its identification may be helpful in the ED.

FAILURE TO THRIVE

Failure to thrive is a term derived from pediatrics, in which children consistently do not meet growth parameters as expected. However, in adults, the same milestones and trajectories do not exist. The definition for failure to thrive varies between experts but typically includes a constellation of weight loss, decreased appetite, and functional decline. In some cases, this is expanded to include psychosocial characteristics such as depression and lack of social support.^{3,4}

Failure to thrive is an increasingly problematic term to label older adults. Because of unclear definitions and overlying social insinuations, a bias is created in which older adults are categorized as psychosocially or medically complex with unclear etiology of symptoms but also with anticipated social concerns such as unsafe or inadequate discharge plans. This bias may lead clinicians to underestimate the presentation due to the implication that the symptoms are chronic, overly vague, potentially age-related, or non-medical in nature. However, one study showed that of older adults admitted to the hospital with the admitting diagnosis of "failure to thrive," 88% of these patients ultimately had an acute medical problem, the most common of which were infectious, followed by cardiac and neurologic³. Patients with failure to thrive had longer and more complex hospital stays than patients who were admitted for long-term care placement only.⁴ Additionally, over half of the patients presenting with "nonspecific complaints" developed a serious condition within 30 days.⁵ These studies suggest that nonspecific symptoms grouped as failure to thrive may instead indicate a high probability of serious underlying, acute, medical etiology.

Acute medical causes that may present as weakness, confusion, poor appetite and can be masked if categorized as failure to thrive include, but are not limited to, cardiac ischemia, valvular disease, stroke, electrolyte imbalance, infections, neurologic disease, and anemia. Medication reactions and interactions should also be considered, particularly if temporally related to the onset of symptoms. Higher-risk

medications include steroids, statins, antihypertensives, and any centrally-acting medications. Furthermore, clinicians should determine if the clinical presentation generalized as failure to thrive more accurately represents hypoactive delirium when assessing a patient. Hypoactive delirium is the most common form of delirium and is characterized by increased somnolence, decreased activity, inattention, with a waxing and waning course, the symptoms of which may be imprecisely summarized as failure to thrive. Given the high morbidity and mortality associated with delirium, all patients experiencing delirium should be investigated further for the underlying cause.¹ Thus, the differential is extensive and necessitates a comprehensive diagnostic evaluation.

Older adults frequently present with atypical symptoms that are different from the “classic” presentations of disease, often because of physiologic reasons but also because the “classic” symptoms were frequently defined in a younger adult population.⁶ For example, older adults with COVID-19 infection may not report cough or fever; instead, they may present with weakness, delirium, and fatigue.⁷ Older adults are also more susceptible to the effects of polypharmacy and co-morbidities and may have barriers in communication due to hearing or cognitive impairment.^{3,4} While these factors may cloud the clinical picture, it is important not to dismiss nonspecific presentations in older adults. Instead of using the term failure to thrive to encompass the diagnostic uncertainty, clinicians should strive to be more precise. For example, describing a patient as having generalized weakness and anorexia is more specific, communicates more clearly with other healthcare professionals, and recognizes that there still may be an acute medical process yet to be diagnosed.³ If an etiology for symptoms is not uncovered in the ED, these patients should be considered carefully for admission or discharge with close follow-up care.²

FRAILITY

Unlike failure to thrive, frailty is a well-defined geriatric syndrome that can be assessed with several available screening tools. Frailty is a clinical condition characterized by decreased physiologic reserve and increased vulnerability to stressors, such that individuals can experience disproportionate changes in their health after even minor stressful events. Frailty is not a normal result of aging, but rather a distinct entity, and is present in up to one-third of older adults. The significance is that frail adults have higher mortality, worse outcomes after surgery and cardiovascular procedures, and increased complications after trauma compared to non-frail older adults.⁸ Frailty is an independent risk factor for adverse events and mortality after even low-stress ambulatory surgical procedures.⁹

Multiple models for frailty exist and there is not a gold standard for assessment.¹⁰ Universal components of frailty include fatigue and decreased physical activity.^{8,10,11} Involuntary weight loss is generally included in frailty assessments as well, although this may not account for individuals who lose muscle mass despite an elevated body mass index, a phenomenon known as sarcopenic obesity.⁸ Given the time constraints experienced in the ED, the Clinical Frailty Scale is one quick, straightforward tool that has been validated for the prediction of 30-day mortality in the ED independent of age, sex, and condition. It is also an independent predictor for in-patient mortality and length-of-stay for hospitalized patients. The Clinical Frailty Scale is scored based on how the patient was two weeks prior to presentation to assess their baseline and focuses on function. There are nine categories, ranging from 1 (very fit) to 8 (very severely frail) with the ninth category as terminally ill but not otherwise evidently frail.¹² Increasing severity of frailty is likewise associated with increased risk of adverse outcomes.^{9,12}

Frailty is a multifactorial process that is not easily treatable or reversible, especially in the ED. However, assessing or diagnosing frailty helps frame a fuller understanding of older, frail patients, their needs, the effects of an acute medical condition, as well as the potential risks and benefits of invasive procedures.^{13,14} Frailty more accurately predicts outcomes compared with age alone or single organ compromise.^{12,15} Therefore, recognition of frailty can assist in decision-making, prognostication, and coordination of resources and specialty care. Frail patients who receive specialized care as inpatients are likely to have better outcomes including returning home, less functional or cognitive decline, and lower mortality.^{8,16} At a minimum, frail patients should be referred for a comprehensive geriatric assessment.

Frailty care in the ED is still developing. The next steps for research will include whether frailty screening in the ED is associated with improved outcomes. Another option would be using frailty screening as a method to identify patients who would benefit most from in-home services and resource-limited geriatric ED interventions such as fall prevention measures.

CONCLUSION

Failure to thrive is a progressively outdated way to describe older adults with vague symptoms without an immediately apparent etiology. The associated bias that there is no acute medical condition or that it is a surrogate for inability to cope at home may result in missing a serious underlying condition and further highlights the need to move away from this phrase and instead to depict patients more precisely in terms of their symptoms. Conversely, frailty is a geriatric syndrome that the ED should strive to recognize more frequently in order to accurately risk-stratify older adults, assist in medical decision-making, and pro-actively connect patients and families to the most appropriate resources.

KEYWORDS

failure to thrive, frailty, geriatric

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REFERENCES

1. Anderson RS Jr, Hallen SA. Generalized weakness in the geriatric emergency department patient: an approach to initial management. *Clin Geriatr Med.* 2013;29(1):91-100. doi:10.1016/j.cger.2012.10.002
2. Jackman C, Laging R, Laging B, Honan B, Arendts G, Walker K. Older person with vague symptoms in the emergency department: Where should I begin?. *Emerg Med Australas.* 2020;32(1):141-147. doi:10.1111/1742-6723.13433
3. Tsui C, Kim K, Spencer M. The diagnosis "failure to thrive" and its impact on the care of hospitalized older adults: a matched case-control study. *BMC Geriatr.* 2020;20(1):62. Published 2020 Feb 14. doi:10.1186/s12877-020-1462-y
4. Kumeliauskas L, Fruetel K, Holroyd-Leduc JM. Evaluation of older adults hospitalized with a diagnosis of failure to thrive. *Can Geriatr J.* 2013;16(2):49-53. Published 2013 Jun 3. doi:10.5770/cgj.16.64
5. Nemeč M, Koller MT, Nickel CH, et al. Patients presenting to the emergency department with non-specific complaints: the Basel Non-specific Complaints (BANC) study. *Acad Emerg Med.* 2010;17(3):284-292. doi:10.1111/j.1553-2712.2009.00658.x
6. McGarry M, Shenvi CL. Identification of Acute Coronary Syndrome in the Elderly. *Emerg Med Clin North Am.* 2021;39(2):339-346. doi:10.1016/j.emc.2020.12.003

7. Kennedy M, Helfand BKL, Gou RY, et al. Delirium in Older Patients With COVID-19 Presenting to the Emergency Department. *JAMA Netw Open*. 2020;3(11):e2029540. Published 2020 Nov 2. doi:10.1001/jamanetworkopen.2020.29540
8. Busby-Whitehead J, Fain MJ, Mohler MJ. Frailty. In: Reichel's care of the elderly: clinical aspects of aging. 7th ed. Cambridge: Cambridge University Press; 2016. p. 97–106. doi.org/10.1017/CBO9781107294967
9. George EL, Hall DE, Youk A, et al. Association Between Patient Frailty and Postoperative Mortality Across Multiple Noncardiac Surgical Specialties. *JAMA Surg*. 2021;156(1):e205152. doi:10.1001/jamasurg.2020.5152
10. Cesari M, Calvani R, Marzetti E. Frailty in Older Persons. *Clin Geriatr Med*. 2017;33(3):293-303. doi:10.1016/j.cger.2017.02.002
11. Morley JE, Malmstrom TK, Miller DK. A simple frailty questionnaire (FRAIL) predicts outcomes in middle-aged African Americans. *J Nutr Health Aging*. 2012;16(7):601-608. doi:10.1007/s12603-012-0084-2
12. Kaeppli T, Rueegg M, Dreher-Hummel T, et al. Validation of the Clinical Frailty Scale for Prediction of Thirty-Day Mortality in the Emergency Department. *Ann Emerg Med*. 2020;76(3):291-300. doi:10.1016/j.annemergmed.2020.03.028
13. Hall DE, Arya S, Schmid KK, et al. Development and Initial Validation of the Risk Analysis Index for Measuring Frailty in Surgical Populations. *JAMA Surg*. 2017;152(2):175-182. doi:10.1001/jamasurg.2016.4202
14. Arya S, Varley P, Youk A, et al. Recalibration and External Validation of the Risk Analysis Index: A Surgical Frailty Assessment Tool. *Ann Surg*. 2020;272(6):996-1005. doi:10.1097/SLA.0000000000003276
15. Robinson TN, Eiseman B, Wallace JI, et al. Redefining geriatric preoperative assessment using frailty, disability and co-morbidity. *Ann Surg*. 2009;250(3):449-455. doi:10.1097/SLA.0b013e3181b45598
16. Oliver D. 'Acopia' and 'social admission' are not diagnoses: why older people deserve better. *J R Soc Med*. 2008;101(4):168-174. doi:10.1258/jrsm.2008.080017