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32 – The Frail Elderly in Primary Care

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Introduction

Assisting frail older adults at any clinical setting has always been a medical challenge. The complexity due to their multi-morbidities and disabilities frequently make physicians overwhelmed. Frailty is a highly prevalent condition in which the individual is in a vulnerable state at increased risk of adverse health outcomes, including mortality, institutionalization, hospitalization, falls, immobility and functional dependency, as a consequence of a diminished ability to respond to stress, culminating in higher costs of health care services.

Unquestionably, early stages are more common in community dwelling older adults. Therefore, for effective prevention and to permit early interventions, avoiding the scenario described above, it's essential that pre-frailty and frailty are well recognized in primary care.

Definition

The scientific and clinical relevance of its concept has been increasing considerably for several years. However, how frailty should be defined remains controversial. According to the 2013 Frailty Consensus, frailty is defined as “a medical syndrome with multiple causes and contributors that is characterized by diminished strength, endurance, and reduced physiologic function that increases an individual's vulnerability for developing increased dependency and/or death.”

Epidemiology

For using a variety of criteria and definitions, the studies about frailty showed a wide variation in prevalence (4.0% to 59.1%). One systematic review mentions average prevalence of 10.4 % for frailty and 41.6 % for pre-frailty. In addition to increased prevalence with age, it's observed that women have a higher prevalence (9.6 x 5.2%), whereas mortality is higher in men. Hispanic and Afro-American population, as well poorer and lower scholar individual are at major risk for this condition.

Clinical Presentation

In daily practice, several red signs in patients' story must alert the health care professional as they may represent risk factors for developing frailty or even call attention for an already frail, sub diagnosed individual. The loss of weight has a major importance, as well as sarcopenia has a straight correlation. Advanced age

(octogenarians), recent hospitalizations, mobility and balance impairment, recurrent falls, poor social support and polypharmacy are also important conditions for the primary care team to be aware of.

Evidence suggests that chronic diseases as heart failure, cancer, renal failure, HIV and diabetes are associated with the development of frailty, while specific conditions as depression, cognitive impairment, visual impairment and hearing, social and economic disorders are potential related factors.

As described next, the definition of frailty into a phenotype, privileging physical features, may in certain way correspond to its clinical characterization itself.

Diagnosis

Although many diagnostic instruments are currently in use, operational definition of frailty predominantly is made by two approaches. The most widely cited is the frailty phenotype (CHS definition), a physical model proposed by Fried *et al.* using data from the Cardiovascular Health Study (CHS), in which in any individual, frailty can be recognized by the presence of at least three of five particular deficits, specified as:

- measured slow walking speed (stratified by median standing height);
- measured impaired grip strength (stratified by gender and body mass index);
- self-reports of declining activity levels;
- exhaustion;
- unintended weight loss.

The other traditional approach, the Frailty Index (FI), is based in the principle of deficit accumulation, proposed by Rockwood *et al.*, and consists of adding together a range of symptoms, diseases, impairments and disabilities to create an index that can predict an adverse health outcome, as well as the former one. In fact, since their development, these instruments have been useful in identifying frail elderly. However, its use is remarkably impractical in the clinical setting due to the complexity (FI), requirement of measurements and physical space (CHS).

Two other more suitable screening tools for assessing frailty in a busy clinical practice setting are the FRAIL Scale and the SOF Frailty Index, both known for being easy to perform and with high sensitivity. The mnemonic "FRAIL" is helpful in remembering the components listed below, which can even be incorporated as questions into the history-taking part. On its turn, the SOF Frailty Index (from the Study of Osteoporotic Fractures) defines frailty by the presence of at least two of three items: self-perceived reduced energy level, inability to rise from a chair 5 consecutive times without using the arms, and weight loss (regardless of intention).

FRAIL Scale
F atigue R esistance (ability to climb one flight of stairs) A mbulation (ability to walk one block) I llnesses (Greater than 5) L oss of Weight ($\geq 5\%$ over 1 year)
$\geq 3 = \text{frail} / 1 - 2 = \text{pre-frail} / 0 = \text{robust}$

Reference: Woo, Jean, Jason Leung, and John E. Morley. "Comparison of frailty indicators based on clinical phenotype and the multiple deficit approach in predicting mortality and physical limitation." *Journal of the American Geriatrics Society* 60.8 (2012): 1478-1486.

SOF Scale
Reduced energy level (“Do you feel full of energy?”)
Inability to complete 5 chair rises
Weight loss (≥ 5% over 2 years)
≥ 2 = frail / 1 = pre-frail / 0 = robust

Reference: Ensrud KE, Ewing SK, Taylor BC, et al. Comparison of 2 frailty indexes for prediction of falls, disability, fractures, and death in older women. Arch Intern Med. 2008 Feb 25;168 (4):382-9

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Treatment

There’s no specific treatment for frailty syndrome. Physical activity provides better performance in frail patients, especially resisted training, with synergetic effect when associated to a better nutritional support. Both strategies can also be considered preventive, reducing pre-frail elderly from turning into frail. Physical exercise for frail individuals must be realized under specialized supervision, whereas pre-frail can exert by intermittent supervision. Intake has to be carefully scrutinized, mainly to evaluate the adequacy of calories and protein consumption, because frequently there is diminished intake of both. Dietary pattern is of main importance, since Mediterranean diet is associated with lower prevalence of frailty, probably by micronutrients and antioxidant properties of the diet. The adequate management of chronic conditions and rapid resolution of acute diseases also have key importance in preventing frailty.

Management of polypharmacy can benefit the frail elderly, since this population is more prone to have adverse reaction to drugs. We emphasize the medications that can lead to gastrointestinal discomfort since it can perpetuate or even promote malnutrition. Anticholinergic drugs may get cognitive and motor performances worse, which implies an augmented risk for falls, delirium and dementia.

Despite the increasing number of publications, there’s no clear benefit of vitamin D supplementation for frail patients, still remaining a polemic issue. At last, although hormonal supplementation with testosterone or growth hormone are recommended in elderly with proven deficiency, studies of hormonal supplementation in frail elderly did not show better performance and even increased risk of cardiovascular adverse events.

Take Home Message

- Frailty is a highly prevalent condition related to numerous adverse health outcomes, such as mortality, hospitalization, institutionalization, falls, immobility and functional dependency.
- For this reason, it's important to recognize it in early stages, permitting effective prevention (in pre-frail cases) and early interventions.
- Different models of frailty have been developed. The phenotype model, proposed by Fried et al is the most widely cited as good predictor of adverse health outcomes.
- The FRAIL and SOF scales are two useful screening tools to detect frailty in clinical practice in a feasible way.
- Physical activity provides better performance in frail patients, especially resisted training, with synergetic effect when associated to a better nutritional support.

Original Abstract

<http://www.woncaeurope.org/content/794-po-determinants-frailty-elderly-people-seen-primary-care>

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