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# Frailty in Clinical Practice

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## Abstract

Frailty is a geriatric syndrome characterized by reduced homeostatic reserves, exposing the organism to extreme vulnerability to endogenous and exogenous stressors. Since disability is considered as an almost irreversible condition at advanced age, frailty has been indicated as a promising target for specific interventions in order to prevent disability. From a theoretical viewpoint, the concept of frailty has been well established, but its operationalization is still subject to controversy. This impediment leads to the postponement of the integration of frailty in the clinical setting. In the present article, we discuss the main issues regarding the frailty syndrome in the clinical setting, describe possible solutions (especially on the basis of our experience derived from the frailty clinic we have set up in Toulouse, France), and present the most relevant research perspectives in the field.

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## Introduction

The urgent need of solutions against the threats that disabling conditions at old age pose to the sustainability of health care systems has concurred with increasing interest in the frailty syndrome. Frailty is a geriatric syndrome characterized by reduced homeostatic reserves, exposing the organism to extreme vulnerability to endogenous and exogenous stressors [1]. It has been associated with major negative health-related events (including disability, institutionalization, and mortality) [2]. Moreover, since disability is considered as an almost irreversible condition at advanced age [3], it has been indicated as a promising target for specific interventions to prevent disability [4, 5].

From a theoretical viewpoint, the concept of frailty has been well established, but its operationalization is still subject to controversy. In fact, several assessment instruments have been developed over the last years to evaluate this risk condition. The problem is that each instrument has its specific peculiarities and perceives different aspects of the frailty condition [6]. This often leads to a heterogeneous selection of the target population according to the adopted instrument. Such ambiguity may be perceived as a major issue before frailty can be completely integrated in the clinical setting. In fact, the lack of a universally accepted operational definition potentially affects the capacity to standardize possible health care services devoted to the assessment of frailty, identification of its underlying causes, and development of personalized plans of intervention.

In the present article, we discuss the main issues regarding the integration of the frailty syndrome in the clinical setting, describe possible solutions (especially on the basis of our experience derived from the frailty clinic we have set up in Toulouse, France [7]), and present the most relevant research perspectives in the field. Of note, the paper will deal with frailty in terms of a condition preceding disability only and as a means for preventing disability. Other operational interpretations of frailty nonexclusive of disabling conditions will not be part of this article.

### **Methodological Issues**

Recently, an international panel of experts published a consensus paper soliciting action against frailty [4]. The existing limitations and controversies in the field were acknowledged. At the same time, it was explained that the epidemiological scenario of our societies (characterized by the relative and absolute increase in older persons) as well as the high health care expenditures due to disabling conditions [8] somehow forced the development of rapid and shared initiatives in the clinical field. The consensus paper has been widely diffused and raised discussion in the scientific community. It has been argued that the clinical integration of frailty might still be premature given the limited knowledge (after all, we have started talking about frailty less than 20 years ago) and lack of standardization in the assessment and treatment procedures [9]. Such criticisms are surely legitimate. However, as discussed in a preceding article [10], it is unlikely that deferring a systematic adoption of frailty in clinics will help to clarify which is the most robust or feasible assessment instrument to use. There is the serious risk that we might spend another 20 years discussing the best assessment and developing new instruments without taking action against a pressing need. The reason for urgent action in the field is based on the fact that frailty is now a

well-established risk condition [2] and established as highly prevalent in community-dwelling older persons [11]. Waiting may indeed mean that we accept that clinical needs of a large part of the elderly in our society are not met. In contrast, we believe it is important to take action while preserving the most conservative approach if possible in order to allow future accommodations in the methodology of the clinical ‘take in charge’ of the frail individual.

Since October 2011, the G rontop le of the Centre Hospitalier Universitaire de Toulouse has established an innovative day hospital unit exclusively devoted to the treatment of frailty [7, 12]. In collaboration with the general practitioners of the area, nondisabled frail elders were assessed regarding their overall health status using a comprehensive geriatric assessment; causes of their frailty condition were determined using a multidisciplinary approach, and a person-tailored plan of preventive interventions was then proposed. The model replicates a traditionally and well-established approach which has shown positive results in different settings (e.g. home care) [13–16]. To date, more than 1,200 persons have been evaluated in our clinic. Since all the subjects have been assessed in a standardized and objective way, a clinical database has been developed in parallel providing us the possibility to analyze frailty in the ‘real world’. This has led to modifications and improvements of the instruments originally adopted based on ‘pure research’ findings.

### **The ‘Overdiagnosis’ Issue**

It might be argued that the development of a health care service around a clinical condition which is not yet optimally developed could simply mean ‘overdiagnosis’ [17]. In other words, there might be the risk of medicalizing an otherwise healthy individual. After all, the persons with frailty are not yet disabled and still able to conduct independent lives in the community. From available evidence and our personal experience, this may not be the case for several reasons.

First, the frail older person perceives the modification of his/her health status due to the syndrome of interest. They realize that their organism is no longer the one it used to be and report a poorer quality of life [18, 19]. Nevertheless, such perceptions are apparently not yet considered sufficient for taking clinical action. This is probably due to the lack of awareness (by both the general population and health care professionals) of the frailty syndrome and the absence of specific settings where the necessary ad hoc evaluation is conducted.

Second, frailty represents still a reversible condition we can target with interventions before the onset of physical disability (i.e. the ‘gold standard’ outcome for geriatric medicine). In a very simplistic way, frailty and disability may represent

in geriatrics what hypertension and myocardial infarction are in cardiology. Hypertension at old age is often undiagnosed [20, 21], although some vague symptoms might be present. The treatment of hypertension is not aimed at simply reducing the objective blood pressure values, but at improving the risk profile for their possible devastating consequences (e.g. myocardial infarction). A proof of this is that the risk thresholds defining hypertension have been repeatedly modified (with a tendency to lower levels) over the years. This obviously implies that (1) in itinere corrections of operational definitions adopted in clinics are possible, and (2) treatment of a risk condition may prevent the 'hard outcome'.

Third, it is noteworthy that almost half of the frail older persons assessed at our frailty clinic were found to have at least one undiagnosed condition [unpubl. data, available upon request]. This means that the presence of the general practitioner (who refers the individual to our clinic) may not be sufficient to comprehensively assess the older person's clinical complexity. A coordinated and multidisciplinary approach is indeed required to identify the inner causes of the frailty condition. The detection of a previously unknown clinical condition will surely conduct to the need of a specific treatment. On the other hand, the early intervention may signify (1) preventing more serious consequences in the future, and (2) potentially solve (part of) the individual's complaints.

Last but not least, it should never be forgotten what posing a diagnosis means to the patient. The individual may find out for the first time to be 'officially' sick or to have one more condition to treat. Such information does not only deal with the physical aspect of the disease, but touches the personal feelings of the person. In other words, every action anticipating a diagnosis presents serious ethical repercussions. The screening of a clinical condition makes sense and is justified if, in case of positive results, we are able to provide effective solutions. In the case of frailty, evidence exists about the possibility of treating signs of disability. Moreover, the model of the comprehensive geriatric assessment and integrated care has been well established in the literature for a long time.

### **The Cost-Effectiveness Issue**

Of course, doing more diagnoses also involves more economic costs. Our frailty clinic has costs. Both have to be justified, especially during an economic crisis. The presentation of our activities devoted to the prevention of disability often leads to the question: 'Who pays for this?' Our service is funded as a geriatric day hospital unit by the health care system. In our case, public health authorities have decided to invest in such a project in order to identify potential risk factors leading to the ultimate problem: disability. Nevertheless, cost-effectiveness anal-

yses supporting the long-term implementation of the model are needed and currently under development.

The time variable has to be taken into account when performing cost-effectiveness analyses of preventive interventions. In fact, in order to conduct a fair cost-effectiveness analysis, the time needed to correctly appreciate the capacity of the intervention to prevent the unwanted outcome has to be considered. In the case of disability, the evaluation cannot be limited to the few months of observation, considering that the disabling process may take some time before reaching the most catastrophic scenarios. Three to 5 years are probably necessary to understand whether the intervention and its relatively high initial expenditures are cost-effective. The new diagnoses we have made are associated with an immediate rise in health care expenses in terms of previously unforeseen extra examinations, additional evaluations, and/or specific treatments. On the other hand, the early intervention may reverse the frailty status by acting at a very preliminary phase of the clinical conditions responsible for it. This potentially means restoring the individual's robustness (or at least reducing the severity of his/her frailty status) and extending independent life. We do not exclude that hospitalizations, requests of social support, and/or implementation of specific health care services might increase. Nevertheless, we believe that such an immediate rise in costs may indeed be balanced against relevant long-term savings [5].

## **Conclusions**

Frailty represents a unique opportunity to study the aging process and its consequences [12]. At the same time, it is the ideal outcome for the structuring of clinical actions devoted to the prevention of disabling conditions in older persons. Surely, a huge amount of work is in front of us for clarifying existing ambiguities and reinforcing evidence on specific aspects. Nevertheless, the critical decision of diverting some health care resources to specific actions against disability and the burden of age-related disabling conditions has to be urgently made. Too many community-dwelling older persons are with unmet clinical needs, and therefore procrastination or avoidance of the problem can no longer be justified.

## **Disclosure Statement**

Matteo Cesari has received honoraria for presentations at scientific meetings and/or research fundings from Nestlé, Pfizer, Novartis. Both authors participate in the coordination of an Innovative Medicines Initiative-funded project (including partners from EFPIA) on physical frailty and sarcopenia (SPRINTT project).

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