

## **Frailty Clinical Phenotype: A Physical and Cognitive Point of View**

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Frailty is recognized as a clinical geriatric syndrome used to describe the weakest or most vulnerable older adults. Frailty has been described as a state of increased vulnerability to poor resolution of homeostasis after a stressor event, which increases the risk of adverse health outcomes, including fall-related injuries, delirium, hospitalization, disability, and even death [1, 2]. Accordingly, frailty is associated with high utilization of health care resources, especially within the last 2 years of life [3]. Thus, there is great importance in identifying and treating individuals who are frail or at risk of becoming frail to maximize their functional independence for as long as possible.

It is widely accepted that the prevalence of frailty increases dramatically with age [4] and appears to be a result of a vicious cycle influenced by endogenous and exogenous factors. The United States Census Bureau has predicted that by 2050, Americans aged 65 years or older will number nearly 89 million people, which is more than double the number of older adults in the United States in 2010 [5]. Given these projections, it is critical that health care practitioners are able to identify individuals with this condition or at risk for this condition. Without intervention, the number of frail older adults is likely to dramatically increase in the next few decades. Thus, there is an urgent need for interventions that can assist frail older adults in maintaining independence and reducing adverse health outcomes associated with frailty [6].

Although the term frailty is commonly used in clinical practice, and the theoretical phenomenon is well accepted, it remains an evolving concept that lacks a universally accepted definition and specific diagnostic criteria. Different perspectives on frailty have led to two distinct viewpoints of this phenomenon in the literature. The first describes the phenomenon based solely on physical attributes and capabilities. In contrast, more recent perspectives describe the phenomenon in broader, multi-dimensional terms by incorporating the concept of cognitive frailty. In

support of this view, there is increasing evidence that consideration of both cognitive and physical factors can better improve the ability to predict adverse health outcomes among frail older adults over physical factors alone. The recent recognition of the importance of cognitive factors has increased the complexity of this phenomenon and difficulty in developing a consensus definition. To add to this challenge, frailty can present in different stages of severity (from mild to severe), and there appears to be a dynamic relationship between these stages.

Despite the challenges involved in coming up with a consensus definition of frailty, the development of an accepted operational definition is essential to advance the understanding of the causes and improve the treatment of this syndrome. Such a definition would be helpful in characterizing subsets of vulnerable older people (i.e. those with chronic disease conditions), who are not evaluated for the disability risk in the clinical health care process. The following factors will contribute to advancing research and treatment of this condition: (1) a consensus on an international definition of frailty including physical and cognitive criteria; (2) the development of simple screening tools for frailty; (3) longitudinal studies of factors that predict frailty and its consequences in diverse populations; (4) interventional studies to delay frailty and its adverse health outcomes, and (5) translation into clinical practice of the scientific findings regarding the predictors and treatments for this condition.

## References

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