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Frail elderly people: Detection and management in primary care☆

Iñaki Martín-Lesende [a,*], Ana Gorroñogoitia Iturbe [b], Marta Molina Olivas [c], Pedro Abizanda Soler [d]

[a] San Ignacio Health Centre, Bilbao-Basurto Integrated Health Organisation, Member of the Working Groups for the Care for Elderly People and Programme of Preventive Activities and Health Promotion (PAPPS) of the Spanish Society of Family and Community Medicine (semFYC), Spain
[b] Bizkaia Unit for Multi-professional Training in Family and Community Care, Member of the Working Groups for the Care for Elderly People and Programme of Preventive Activities and Health Promotion (PAPPS) of the Spanish Society of Family and Community Medicine (semFYC), Spain
[c] Sub-Directorate General of Health Promotion and Epidemiology, Directorate General of Public Health, Quality and Innovation, Spanish Ministry of Health, Social Services and Equality, Spain
[d] Albacete University Hospital, and Associate Professor, Faculty of Medicine, University of Castilla-La Mancha, Spain

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ABSTRACT

The Spanish FISTERRA Clinical Guideline about the detection and management of frailty in primary care is shown. Frailty is a stage in which elderly people are more vulnerable to adverse health-related events, physical and functional decline, and death, because of decreased physiological reserves. According to the Fried phenotype, the prevalence of frail elderly people above 65 years of age is around 10%, higher in women and increasing with age. Different ways to detect frailty have been described and used: functional performance tests (widely recommended as the first choice), clinical phenotype (Fried criteria), short multidimensional indices, and assessment of instrumental activities of daily living (IADL), The comprehensive geriatric assessment (CGA) is probably the best option for characterising frailty but, due to several characteristics (length, specific training to carry out), in primary care it is used more as a method to confirm the status or to direct the management of elderly patients identified as frail, than as a screening tool. Various consensus documents recommend a systematic screening for frailty, generally from 70 years of age onwards. Others suggest more a case-finding approach. Exercise and physical activity is the primary recommendation in frailty interventions.

1. What are we referring to?

Frailty is a stage prior to disability, which can be detected early and is potentially reversible, there being a window of opportunity for high impact preventive intervention. A frail elderly person can be defined as someone with decreased physiological reserves who is more likely to have or is more vulnerable to adverse health-related events (including hospitalisation, falls, post-surgical complications, infections, immobility and other geriatric syndromes) [1–4], and to physical and functional decline (hazard ratio [HR] for risk of new disability of 2.5; 95% confidence interval [CI], 1.5–5.0), as well as more likely to die (HR 5.5; 95% CI, 1.5–20.2) [5].

Although the **physiopathology** of frailty has not been clearly established, it is recognised to be a multicausal and multidimensional phenomenon, involving various body organs and systems (nervous, endocrine, immune and musculoskeletal) [3,6]. Biological markers associated with its physiopathology (sarcopenia, testosterone, leptin, insulin-like growth factor 1, cytokines, C-reactive protein, albumin, chromosomal, etc.) may be able to detect preclinical frailty, but are still at the experimental stage or only useful in more specialised settings. However, sarcopenia, by which we mean a decline in muscle function with loss of muscle mass and strength, is one of the biological phenomena to which most importance has been given in recent years in relation to frailty, often being considered the final result of a series of triggering factors [6].

In Spain, there have been various population cohort studies on ageing, all adopting a definition of frailty based on the Fried phenotype (see below): Toledo-ETES [7], Peñagrande-Leganés [8,9], FRADEA [10–12], FRALLE [13], and OCTABAIX [14] studies. Although the results have been mixed, they suggest a prevalence of frailty of around 10% in people above 65 years of age, the prevalence being higher in women [15–17] and increasing with age [8,17].

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* Corresponding author.
E-mail addresses: INAKI.MARTINLESENDE@osakidetza.eus (I. Martín-Lesende), ANAISABEL.GORRONOGOITIAITURBE@osakidetza.eus (A.G. Iturbe), mmolinao@msssi.es (M.M. Olivas), pabizanda@sescam.jccm.es (P.A. Soler).

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2. How is it detected and diagnosed? (Fig. 1)

Currently, the **comprehensive geriatric assessment** (CGA), as a structured tool for assessing elderly people and managing problems detected, is probably the best option for characterising frailty [6,18]. However, it is difficult to see it being used for screening in primary care, mainly due to its length, and the need for specific training to carry it out, as well as insufficient supporting evidence for this purpose in this health setting. In any case, it may be considered more a method for checking or confirming the status of elderly patients identified as frail [19], as well as being useful for decisions about their management. Recognising this, a possible strategy is to use other detection tools to identify who would most benefit subsequently from the CGA [19]. Further, given the importance of this issue, it would be interesting if the CGA, performed for other reasons, were to be expanded to include a specific measure of frailty, among those outlined below.

2.1. Models of frailty

In general, there are currently two conceptual models of frailty, each with different detection strategies [20]: a phenotype of frailty, corresponding to a physical model; and frailty as product of cumulative deficits in different domains, corresponding to a multidimensional model.

The frailty phenotype, a physical model. This concept emerged from the Cardiovascular Health Study that defined a phenotype of frailty, now often referred to as the Fried phenotype, based on five objective clinical components: unintentional weight loss, weakness in terms of grip strength, low energy and resistance as indicated by exhaustion, slowness as measured by walking speed, and low levels of physical activity [21]. These components are used as clinical criteria, Appendix 1, frailty being identified by the presence of three out of the five criteria [21].

Despite its good reliability indices and prognostic value, generalisation of the use of the Fried phenotype approach in primary care is limited for several reasons: the measuring devices required (to assess grip strength), the need for normative cut-off values for the population, and work overload it might generate in this setting [8].

The cumulative deficit model, a multidimensional approach. This emerged from the Canadian Study of Health and Aging, in which the Frailty Index (FI) was developed [21]. This type of model is based on the calculation of indices, obtained with a scoring system covering several multidimensional domains that are associated with increases in the risk of functional decline and/or adverse events. In our setting (primary care in Spain), such indices have hardly been used; this is attributable to the fact that very few research projects or studies have decided to use or culturally adapt them, in part because of their length (complete versions tending to consider 30 or more factors), and as a result, there is a general lack of data on their applicability to clinical practice [6,21]. One potential advantage of cumulative indices, which generally provide scores (between 0 and 1) reflecting the proportion of abnormal items, is that they enable the assessment of changes over time and the automation of frailty detection as well as its integration into electronic health records.

2.2. Instruments and tools for detecting frailty

As well as the aforementioned approaches (the Fried phenotype and FI), **other simple tools** have been investigated for the standardised identification of frailty in various settings, based

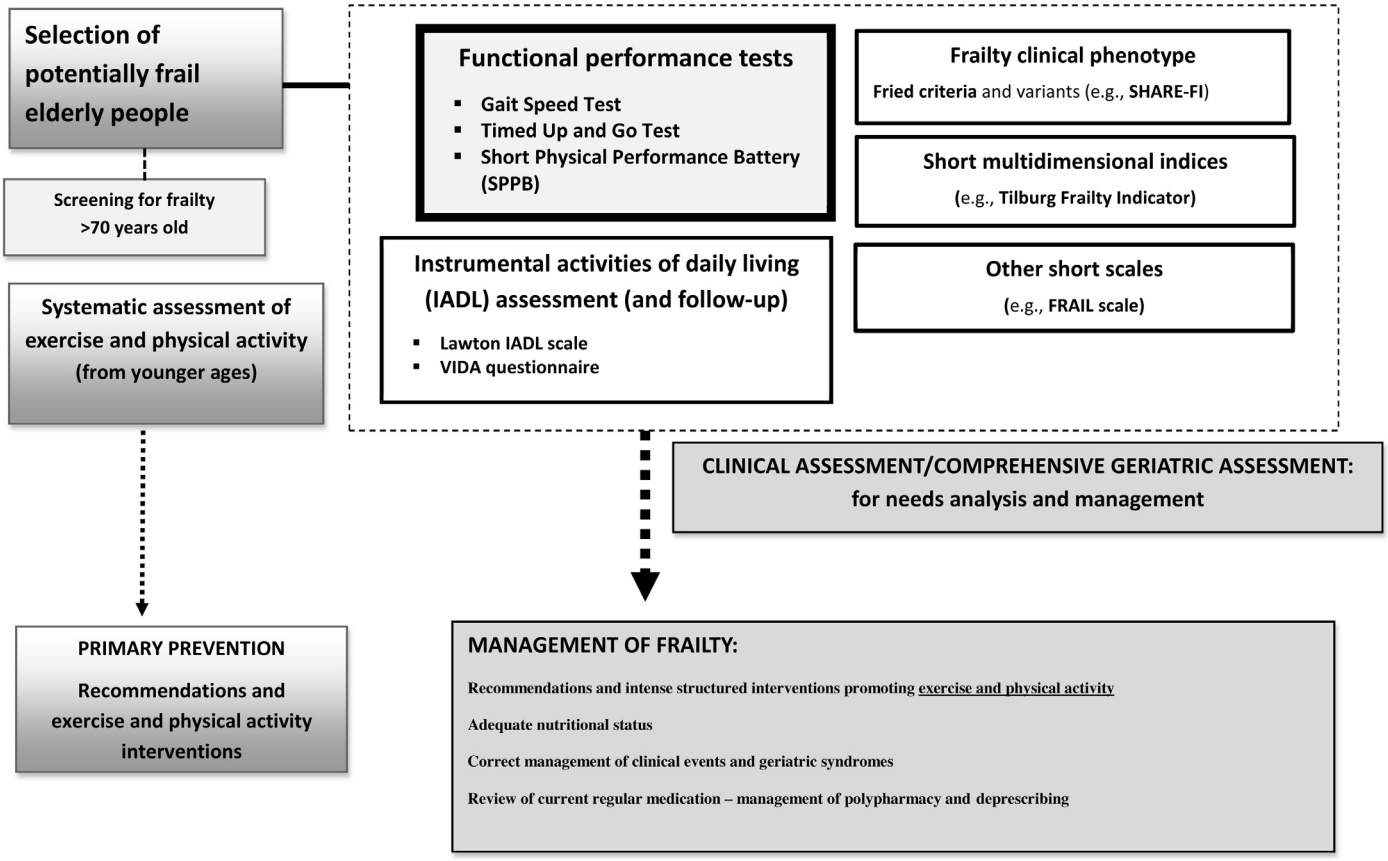

Fig. 1. Detection of frailty and proposal for its management in primary care.