Ageing & Frailty

The European Commission identified the ageing of the population as one of the most pressing policy issues in the 21st century. Life expectancy at birth grew rapidly during the last century due to improved living standards, better healthcare, medical progress and increased awareness of health issues, and this trend is expected to continue.

In EU-27 the life expectancy is now 82.4 years for women and 76.4 for men, with significant differences among the EU Member States: for females, the lowest life expectancy is registered in Bulgaria and Romania (77.4 years) and the highest in France (85.0 years); for males, the range is from 67.5 years in Lithuania and 79.4 in Sweden (2009). By 2050, the number of people over 65 living in the European Union will grow by 70% and the number of people aged over 80 by 170%, with consequent challenges in terms of demand for healthcare, needs of an ageing population and sustainability of workforce (ec.europa.eu/health-eu [1], 2012). The proportion of people aged 80 years and older shows the greatest growth, representing 5.3% of the total population (Eurostat, 2013).

There are various theoretical models of ageing. All concur that ageing is a challenge to every living organism. In humans, physiologic development characterized also by cell division and metabolism that occurs exuberantly goes on up until about 25 years of age. Beyond this age, cell damage accumulates in various ways, and progressive organs and systems decline begin leading to the appearance of phenotypes of ageing appear, which is linked to greater co-morbidities and ultimately mortality.

According to population predictions, the dependency ratio in Spain will go from 25% in 2010 to 57% in 2050 despite an estimated total net contribution in this period of almost 11.6 million immigrants and another 18.5 million births, such that Spain will have one of the highest dependency ratios in Europe along with Germany (58%), Greece (57%), and Italy (56%) (Muszy?ska & Rau, 2012).

Frailty and functional decline
Frailty is a progressive process of increasing vulnerability, predisposing to functional decline and, finally, leading to death. It consists in the loss of functional homeostasis, which is intended as the potential for the individual to resist disease without loss of function. The effects of aging, lack of physical exercise, adequate nutrition, and inadequate defense to stressors, create a vicious circle that causes chronic under-nutrition, loss of bone and skeletal muscle mass.

Frailty is operationally defined as a clinical condition meeting 3 out of 5 criteria related to a physical phenotype including weak muscle strength, slow gait speed, unintentional weight loss, malnutrition or comorbidity, exhaustion and low physical activity. Some authors have added falls, delirium and urinary incontinence. Moreover, depression is a common feature of the aged person, for which there is a specific geriatric depression scale, and which may at turn be both a consequence of frailty and further cause of worsening.

A scale of clinical frailty has been proposed, from 1 to 7, depending on the degree of dependence on others. A pre-frail stage, in which one or two criteria are present, identifies a subset at high risk of progressing to frailty. Alternatively, frailty has been operationalized as a risk index by counting the number of deficits accumulated over time (termed “frailty index (FI)”), including disability, diseases, physical and cognitive impairments, psychosocial risk factors, and geriatric syndromes (e.g. falls, delirium, and urinary incontinence). Frailty therefore can be considered as the result of a combination of physical, cognitive, psychological and, finally, social weaknesses.

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Links
[1] http://ec.europa.eu/health-eu