

Differential burden of functional decline and age-related chronic conditions among older people in Italy: an analysis from the Global Burden of Disease 1990-2019

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Background

The global current rise in longevity is accompanied by an increasing amount of life spent with disability, mainly driven by chronic conditions and functional decline (i.e. limitations in performing physical and cognitive actions).

Disability and the consequent loss of independence negatively affect individual wellbeing, and represent an emerging societal and public health concern especially in high income countries. This highlights the urgent need for reliable information to orient targeted interventions.

Objectives

The overall aim of this first scientific endeavour of the Thematic Group on Healthy Ageing and Frailty of the Italian Global Burden of Disease (GBD) Initiative was to analyse levels and trends of the disability burden of older Italian from GBD estimates 1990-2019, with a special focus on Functional Decline (FD) as proxy for frailty, Chronic Diseases (CD), and sex disparities.

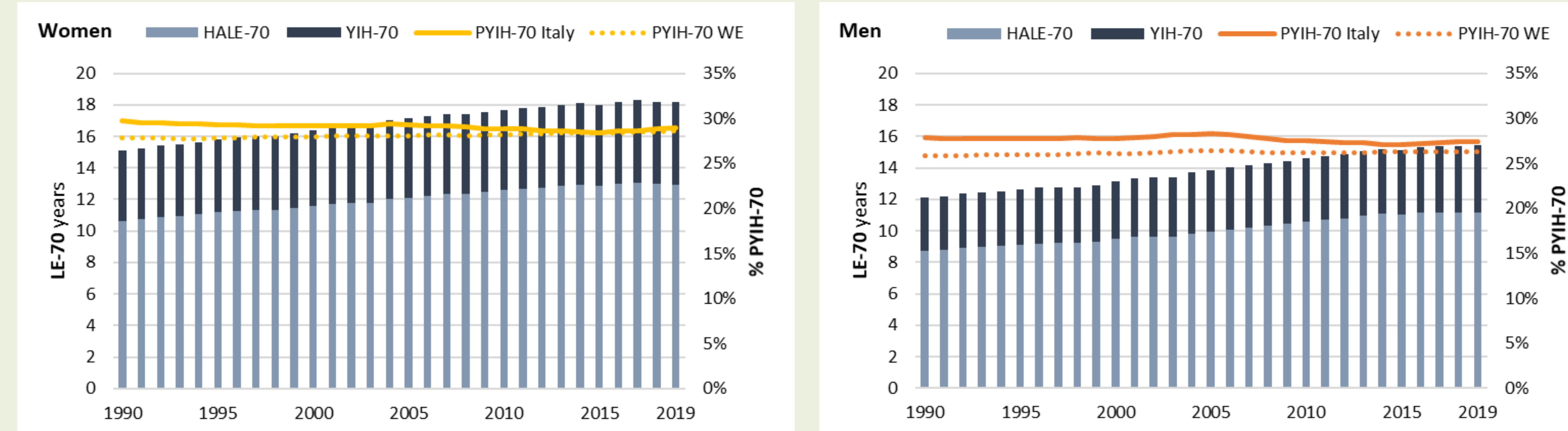
Methods

Data on older Italians aged ≥ 70 were extracted from GBD 1990-2019, and compared to Western Europe (WE) analogous estimates. The main outcome measures analysed were:

- LE-70 Life Expectancy at age 70
- HALE-70 Healthy Life Expectancy at age 70
- YIH-70 Years in Ill Health at age 70 (LE-70 - HALE-70)
- PYIH-70 Proportion of Years in Ill Health at age 70 (LE-70 - HALE-70)*100/LE-70)
- DALYs Disability Adjusted Life Years
- YLD Years Lived with Disability
- YLL Years of Life Lost

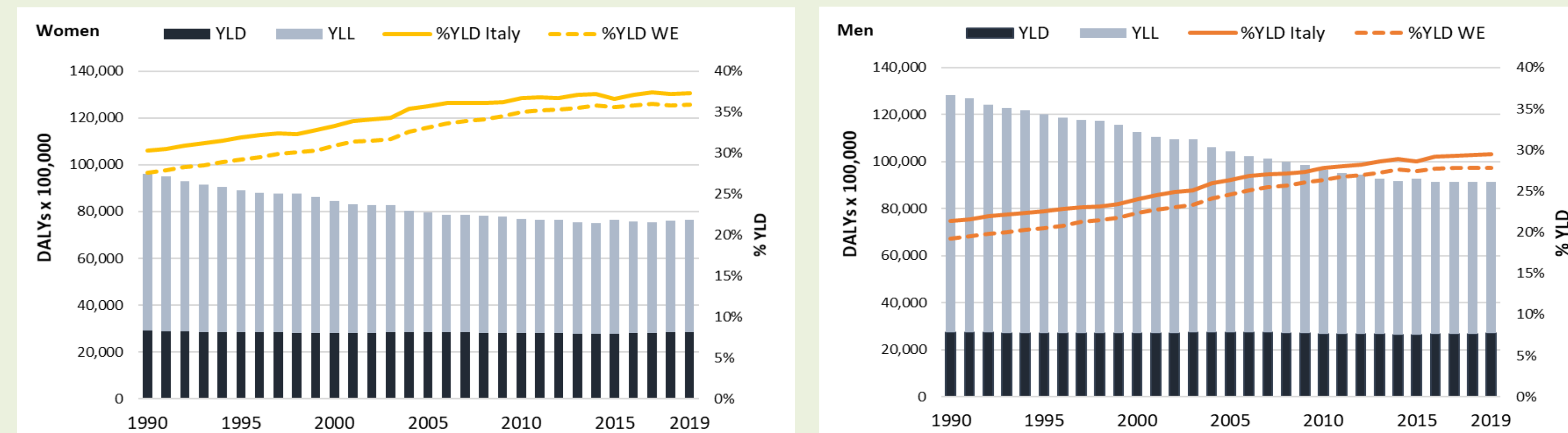
The 19 age-related FD and CD conditions examined were selected from the leading ten causes of total deaths and/or total YLDs reported for people 70+ in Italy and WE in 2019 (GBD2019 Ageing Collaborators, BMJ 2022). All findings were analysed separately for women and men.

Life Expectancy (Healthy Life Expectancy+Years in Ill Health) and Proportion of Years spent in Ill Health for the Italian population 70 years and older, for both sexes from 1990 to 2019



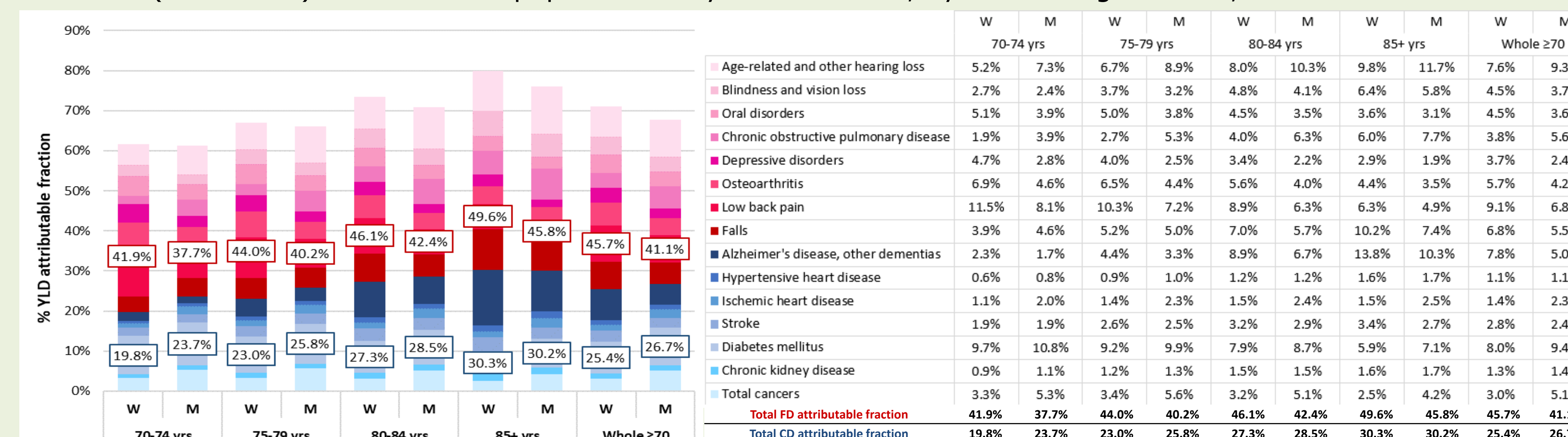
As expected, LE-70 was always higher among women (2019 W18.2, M15.4) with an increasing trend over time more evident for men (% variation 2019-1990 W20.3%, M27.4%), counterbalanced by a larger PYIH-70 for women (2019 W29.0%, M27.5%) slightly decreasing over time for both sexes (%var 2019-1990 W-2.4%, M-1.3%). The comparison with WE estimates showed a feebly smaller gender gap but an opposite trend in PYIH-70 (WE %var 2019-1990 W2.9%, M1.5%).

Disability Adjusted Life Years (Years Lived with Disability+Years of Life Lost) and percentage proportion of Years Lived with Disability for the Italian and WE population 70 years and older, for both sexes from 1990 to 2019



DALYs were considerably lower for women (% difference W-M 1990 -25.2%, 2019 -19.3%). A decreasing trend over time was more marked for men (%var 2019-1990 W-20.4%, M-28.9%) and mostly attributable to YLL reduction (%var 2019-1990 W-28.5%, M-36.3%; WE W-30.4%, M-38.2%). On the contrary, the YLD fraction was always higher among women (%diff W-M 2019 5.7%; WE 8.6%) and nearly constant over time (%var 2019-1990 W-1.9%, M-2.1%; WE W2.2%, M-0.1%).

Fraction of Years Lived with Disability attributable to selected Functional Decline indicators (red tones) and Chronic Diseases (blue tones) for the Italian population 70 years and older, by sex and age classes, 2019



The 19 FD and CD conditions analyzed represented ~70% of total YLD, the majority attributable to FD (2019 W45.7%, M41.1%). The FD conditions with the heaviest YLD burden were low back pain for the younger segment and falls for the older one, especially of women. A considerable fraction of YLD was attributable to hearing deficits, especially for older men. The burden of FD tended to a very slow decrease over time in Italy, while in WE was constant for men and increased among women.

- Despite a major longevity, women spend a higher proportion of life in worst conditions and disability than men, both in Italy and Western Europe countries
- The disability burden of older people is heavier among women and mostly driven by Functional Decline rather than Chronic Diseases, both in Italy and WE
- GBD estimates could be of great help to promote older people wellbeing in general and face the observed gender inequality by providing information to orient targeted public health measures