

Poster for the Physical Frailty and Sarcopenia International Conference (deadline Jan 18, 2024)

TITLE:

Frailty related features to define outcomes subsets in Older Adults facing COVID pandemic, results from Gerocovid Observational e-registry.

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BACKGROUND:

To capture long-term clinical trajectories of older adults suffering or at-risk of COVID-19, Bluecompanion developed a web-based e-registry in partnership with the Italian Society of Gerontology and Geriatrics (SIGG): from March 2020 “Gerocovid Observational” followed 3604 participants in 86 Italian and 3 Norwegian investigational sites in multiple clinical settings, from COVID specialised hospitals to nursing homes.

OBJECTIVES:

To identify **which frailty related features may contribute to explain major health outcomes** in older adults who faced the first wave of COVID-19 pandemic, up to December 2020 (before vaccination campaigns).

METHODS:

The **outcome type** [0=no change, 1=clinical improvement, 2= SAE, 3=death, 4=transfer, 5=withdrawal] was defined as the target variable. **Four features** were selected in the e-registry, that could describe or accompany physical frailty, with a focus on mobility and nutrition: Frailty Score (Fried 2001, adapted by Pedone 2016), 0 to 3, Mobility Function (0 = walking independently to 7=lying only); physical activity, 1=(20 min/day 4 days/week), to 3 (walks indoors); nutritional conditions (1=obese, 2=normal, 3=underweight); and BMI. One additional feature, MMSE, for cognitive function, was also tested to challenge the approach.

A **classification tree** was built (with Orange open-source biostatistics software by Ljubljana University, Slovenia).

RESULTS:

3083 outcomes were evaluated. A low Frailty score (FS) (0 or 1) easily identifies the subset with the lowest death incidence (7.6%) versus 26% (FS=2 or 3). Adding mobility disability (>4) further defines

the highest mortality subset (43%). MMSE and nutritional conditions could play a defining role only in frail and highly disabled patients. BMI and physical activity do not score in the main subsets' features.

The most frequent outcome (0= no change) behaves according to the same defining features: frailty score and level of preserved mobility function.

CONCLUSIONS:

The classification tree method allowed an easy visualisation of which frailty components could have modified disease resilience in older adults during COVID-19 first wave. In this model, the adapted "frailty score" and the "mobility function" behave as the two most effective defining features.

