Abstract citation ID: ckae144.984
Mortality related to different circulatory diseases: a multiple causes of death analysis, 2008-2022

Ugo Fedeli

U Fedeli[1], *V Casotto*[2]
[1]Epidemiological Department, Azienda Zero, Veneto Region, Padua, Italy
[2]Department of Woman's and Child's Health, University of Padova, Padua, Italy
Contact: ugo.fedeli@azero.veneto.it

Background: Mortality from circulatory diseases significantly increased in 2020 compared to pre-pandemic years in many countries. However, data were mostly limited to the underlying cause of death and to the first phases of the pandemic. Analyses of any mention of a disease in death certificates (multiple causes of death approach, MCOD) are more robust to changes in coding rules/practices and to the role of COVID-19 as a competing cause of death.

Methods: Mortality records were extracted from 2008 to 2022 among residents of the Veneto Region (Northeastern Italy, 4.9

million population). Based on MCOD, age-standardized mortality rates (2013 European standard) were computed for ischemic heart diseases (IHD), cerebrovascular diseases (CVD), atrial fibrillation (AF), and hypertensive diseases (HD). The annual percent change (APC) was estimated through the pre-pandemic period (2008-2019), and change in rates during pandemic years were computed compared to 2019.

Results: Before the pandemic, rates were steeply declining for IHD (APC -5.1%; 95%CI -5.5, -4.6) and CVD (-4.0%; -4.4, -3.5); mortality related to HD reduced at a slower pace (-1.9%; -2.3, -1.4), whereas AF-related mortality was increasing (+1.0%; 0.1, 1.8). During the first year of the pandemic, the growth in mortality compared to 2019 was +26% for HD, +18% for AF, +13% for CVD and +12% for IHD. In 2021-2022, rates for CVD and IHD returned to pre-pandemic levels; rates for HD reduced with respect to 2020 but remained above the baseline; AF-related mortality was still increasing.

Conclusions: The pandemic differentially impacted mortality associated to different circulatory diseases, depending on pre-existing long-term trends (increasing for AF) and on susceptibility to severe COVID-19 disease (higher for HD). Continuous surveillance based on MCOD is warranted to properly assess changes in mortality associated to specific circulatory diseases after the end of the pandemic.

Key messages:

- Multiple causes of death analyses are warranted to assess how the pandemic affected pre-existing long term trends in cause-specific mortality.
- Mortality related to different circulatory diseases increased in 2020, but pre-pandemic trends, the extent of the increase in 2020, and further changes observed in 2021-2022 largely diverged.