



**Letter to the Editor**

**A Socioeconomic Paradox in the COVID-19 Pandemic in Italy: a Call to Study Determinants of Disease Severity in High and Low-Income Countries**

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There is a well-established socioeconomic gradient in health, with more vulnerable groups experiencing a higher risk of disease/mortality, possibly resulting from a variety of societal and economic processes, unequally distributed within or between populations.<sup>1,2</sup>

Health inequities in the risk of chronic non-communicable diseases (cardiovascular or neurological disease, cancer) are largely documented worldwide but also appear present in communicable diseases such as pandemic outcomes.

During the 1918 Influenza pandemic, significant class differences in excess mortality were observed in Sweden, but no perfect class gradient,<sup>3</sup> which in turn led to hypothesize that work-related differences in the degree of interpersonal interaction had been crucial, at that time, to shape the socioeconomic fashion of contagion.

In Italy, the current COVID-19 outbreak hardly hit the Northern regions, the heart of Italy's manufacturing and financial industries, with a furious impact in Lombardy so that it was renamed the Ebola of the rich.<sup>4</sup> The so-called 'patient 1' was an apparently healthy and sporty 38-year old manager, with an active social life. Many episodes of contagion likely occurred during the winter holidays in Trentino and Austria, which are out of reach for those belonging to the lower classes.

On the contrary, the Southern regions of Italy report (at least until May 15, 2020) relatively fewer cases and deaths from COVID-19.

Of interest, the Southern part of Italy is less industrialized, the number of industries being well below that of the North, so that also interpersonal interactions at work, travel inside the country and abroad, and social gathering presumably differs a lot.

Another aspect leading to think that COVID-19 may have a 'reverse' socioeconomic gradient, is that migrants appear to be less vulnerable to the infection,

although this may depend on potential barriers in accessing health services in host countries.<sup>5</sup>

Worse clinical outcomes of COVID-19 infection, including death, more frequently occur among individuals with pre-existing non-communicable diseases;<sup>6</sup> thus, given the socioeconomic-gradient of such diseases, it is likely that the COVID-19 outbreak will ultimately hit harder those individuals at the lower ends of society. This condition is evident in the US, where poor communities are hot spots for COVID-19 transmission, but also is present in countries of the Southern or Eastern parts of the world.

Africa, as well as other low-income Countries, is currently facing the challenge of the scarcity of adequate health equipment along with the high prevalence of comorbidities accompanying Covid-19.<sup>7</sup>

Unfortunately, to date, research/institutional centers all over the world have missed the opportunity to gain information on socioeconomic factors concerning the COVID-19 outbreak, which could remain overlooked, as recently discussed.<sup>8</sup> This gap in knowledge will possibly prejudice future research, also in terms of the understanding of the economic impact that the Covid-19 pandemic will have for global economies. Indeed, the poverty-related diseases account for about 50 percent of the disease burden in the poorest countries; similarly, in Western Countries, there is a ubiquitous socioeconomic shape in chronic disease distribution, possibly linked to differentials in health behaviors across population strata; such inequities risk to be exacerbated during the recession that will follow the pandemic. In light of this, all efforts should be directed to preserve more vulnerable groups from the devastating indirect effects of the COVID-19 outbreak.

In conclusion, even if the COVID-19 outbreak was more rapidly and frequently spread among subjects from middle-upper classes and in high-income Countries, the post-pandemic scenario will possibly tell the same old story, with more vulnerable people and

Countries forced to face the most serious damages after this pandemic ends.

As a consequence, it is strongly advised that pandemic-related guidelines issued by international and

national agencies recognize the contribution of the social determinants of health and their intersectionality to pandemic risk mitigation.<sup>8</sup>

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## References:

1. Bonaccio M, Di Castelnuovo A, Costanzo S, Persichillo M, Donati MB, de Gaetano G, Iacoviello L. Interaction between education and income on the risk of all-cause mortality: prospective results from the MOLI-SANI study. *Int J Public Health*. 2016;61765-76. <https://doi.org/10.1007/s00038-016-0822-z> PMID:27091201
2. Bray BD, Paley L, Hoffman A et al. Socioeconomic disparities in first stroke incidence, quality of care, and survival: a nationwide registry-based cohort study of 44 million adults in England. *Lancet Public Health*. 2018;3(4):e185-e193. [https://doi.org/10.1016/S2468-2667\(18\)30030-6](https://doi.org/10.1016/S2468-2667(18)30030-6)
3. Bengtsson T, Dribe M, Eriksson B. Social Class and Excess Mortality in Sweden During the 1918 Influenza Pandemic. *Am J Epidemiol*. 2018;187(12):2568-2576. <https://doi.org/10.1093/aje/kwy151> PMID:30059957
4. Nacoti M, Ciocca A, Giupponi, A et al. At the Epicenter of the Covid-19 Pandemic and Humanitarian Crises in Italy: Changing Perspectives on Preparation and Mitigation. <https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0080>
5. Liem A, Wang C, Wariyanti Y, Latkin CA, Hall BJ. The neglected health of international migrant workers in the COVID-19 epidemic. *Lancet Psychiatry*. 2020;7(4):e20. doi: 10.1016/S2215-0366(20)30076-6. [https://doi.org/10.1016/S2215-0366\(20\)30076-6](https://doi.org/10.1016/S2215-0366(20)30076-6)
6. Pal R, Bhadada SK. COVID-19 and non-communicable diseases. *Postgraduate Medical Journal* Published Online First: March 30 2020. doi: 10.1136/postgradmedj-2020-137742 <https://doi.org/10.1136/postgradmedj-2020-137742> PMID:32234837
7. COVID-19 on the African continent, *Lancet Infect Dis* 2020, Published Online May 6, 2020 [https://doi.org/10.1016/S1473-3099\(20\)30374-1](https://doi.org/10.1016/S1473-3099(20)30374-1)
8. Khalatbari-Soltani S, Cumming RG, Delpierre C, Kelly-Irving M. Importance of collecting data on socioeconomic determinants from the early stage of the COVID-19 outbreak onwards. *J Epidemiol Community Health*. 2020 May 8. pii: jech-2020-214297. <https://doi.org/10.1136/jech-2020-214297> PMID:32385126 PMCID:PMC7298202