



LETTER TO THE EDITOR

Healthcare activity as a major risk of dying of COVID-19: medical doctors pay the price

ANDREA CARIATI¹, STEFANO ALICE², ENZO ANDORNO¹¹ Hepatobiliary Surgery and Liver Transplant Unit, Policlinico San Martino Hospital, Genoa, Italy;² Azienda Ligure Sanitaria, ASL 3 Genovese, Genoa, Italy

Keywords

Healthcare activity • COVID-19 • Medical doctor mortality

Dear Editors,

We recently read the interesting article by Wang et al. on the spatio-temporal characteristics of the COVID-19 epidemic in the United States; they reported that COVID-19 cases diagnosed in the United States displayed statistically significant differences related to geographic and socio-demographic factors, including rural/urban context, the percentage of ethnic minorities, the percentage of the population aged 65 years or more etc [1]. However, they failed to report another important factor: the role of working activity.

In Italy, COVID-19 mortality among medical doctors has been significantly higher than nurses or pharmacists. Indeed, at 1 March 2021 332 deaths have occurred among 403,454 medical doctors [2, 3], 81 among 426,707 nurses [4], and 23 among 127,513 pharmacists [5]. Two-tailed Chi-square test reveals statistically significant differences in COVID-19-related mortality, with a p value < 0.00001, between physicians and nurses (Chi-square test value with Yates correction: 165.8748) (relative risk > 1 = 4.33) and between medical doctors and pharmacists (Chi-square test value with Yates correction: 58.9093) (relative risk > 1 = 4.56). In addition, in the 25-70-year age-range, on comparing COVID-19 mortality among medical doctors (240/358161) [3] and in the general population (12500/35665609) [6], the Chi square test and relative risk yielded values of 102.3566 and 1.91 respectively, confirming the higher COVID-19 mortality risk among medical doctors than in the general population in this age range. Moreover, a study on serum conversion to COVID-19 in Italy showed conversion in 2.5% of the general population and in 5.6% of healthcare personnel [7] indicating increased circulation of the virus in healthcare workers than the general population in the first pandemic period.

In conclusion, the Chi square test, and relative risk have demonstrated that medical doctors have a higher risk of dying from COVID-19 than nurses, pharmacists and, in the 25-70-year age range, also versus the general population. Interestingly, the same results have been obtained in the USA and

other countries. This is a major problem and one that could be tackled through extensive vaccination of the general population and healthcare personnel. In this regard, a particular effort should be made to convince skeptics that COVID-19 vaccination is of crucial importance not only to the individual but also to the community.

Acknowledgements

Funding sources: Emilio Brignole MD (+9/04/2020), Renato Pavero, MD (+19/04/2020), Dino Pesce, MD (+26/3/2020).

Conflicts of interest statement

The authors declare no conflict of interest.

Authors' contributions

AC: idea, write, statistical analysis, correction; SA: Journal selection, correction; EA: correction.

References

- [1] Wang Y, Liu Y, Struthers J, Lian M. Spatiotemporal characteristics of the COVID-19 epidemic in the United States. *Clin Infect Dis* 2021;72:643-51. <https://doi.org/10.1093/cid/ciaa934>.
- [2] COVID-19 pandemic data/Italy medical cases. Available at: https://en.wikipedia.org/wiki/Template:COVID-19_pandemic_data/Italy_medical_cases (accessed on 25/2/21).
- [3] Elenco dei Medici caduti nel corso dell'epidemia di Covid-19. Available at: <https://portale.fnomceo.it/elenco-dei-medici-caduti-nel-corso-dellepidemia-di-covid-19> (accessed on 19/2/21).
- [4] Coronavirus. Tutti gli Infermieri morti per Covid-19. Oltre 100.000 colleghi contagiati sul lavoro. Available at: <https://www.assocarenews.it/infermieri/coronavirus-ecco-tutti-gli-infermieri-deceduti-per-covid-19> (accessed on 25/2/21).

- [5] Federazione ordini farmacisti Italiani. Available at: <https://www.fofi.it> (accessed on 25/2/2021).
- [6] EpiCentro - Portale di epidemiologia per gli operatori sanitari. Available at: <https://www.epicentro.iss.it> (accessed on 23/2/2021).
- [7] Covid-19, illustrati i risultati dell'indagine di sieroprevalenza. Available at: salute.gov.it (accessed on 25/2/2021).

Received on March 17, 2021. Accepted on March 22, 2021.

Correspondence: Andrea Cariati, Hepatobiliary Surgery and Liver Transplant Unit, Policlinico San Martino Hospital, largo Rosanna Benzi 10, 16132 Genoa, Italy - E-mail: andrea.cariati@libero.it

How to cite this article: Cariati A, Alice S, Andorno E. Healthcare activity as a major risk of dying of COVID-19: medical doctors pay the price. *J Prev Med Hyg* 2021;62:E5-E6. <https://doi.org/10.15167/2421-4248/jpmh2021.62.1.2072>

© Copyright by Pacini Editore Srl, Pisa, Italy

This is an open access article distributed in accordance with the CC-BY-NC-ND (Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International) license. The article can be used by giving appropriate credit and mentioning the license, but only for non-commercial purposes and only in the original version. For further information: <https://creativecommons.org/licenses/by-nc-nd/4.0/deed.en>