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## Letter to the Editor

### Why are COVID-19 fatality rates among medical doctors higher than those among medical nurses?


**Keywords:**

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Dear Editor,

Erdem's and Lucey's callout to the World Health Organization about reporting COVID-19 morbidity/mortality data of global healthcare workers is commendable (Erdem and Lucey, 2020). However, being designed as a survey, their data table may lead to some misinterpretations. For example, as compared with COVID-19 morbidity/mortality among medical doctors, their data reported more numbers of COVID-19 infections and yet less COVID-19 fatality rates among medical nurses in eight of the 18 surveyed countries that have reported at least 50 COVID-19 infections among medical doctors and nurses (i.e., Bangladesh, Bulgaria, Colombia, Croatia, Czech Republic, Egypt, France, India, Iran, Italy, Kosovo, Lebanon, Mexico, Oman, Pakistan, Poland, Portugal, and Romania). Moreover, the smaller number of COVID-19 infections among medical nurses in four of these 18 countries (Bangladesh, Bulgaria, India, and Italy) may not completely explain the comparatively higher COVID-19 fatality rates among medical doctors therein. While Croatia and Mexico have respectively reported nil to almost nil difference in COVID-19 fatality rates among medical doctors versus medical nurses, only Czech Republic, Egypt, Pakistan, and Poland have reported higher COVID-19 fatality rates among medical nurses compared with medical doctors.

Thus, the key question arises: how come COVID-19 fatality rates are more likely to be higher among medical doctors than among medical nurses? Is this only due to the evolutionary protective effects of estrogens against pathogens like SARS-CoV-2 keeping the global workforce of predominantly female medical nurses safe (Aguilar-Pineda et al., 2020; Úbeda and Jansen, 2016)? Can Japan be succeeding in containing the COVID-19 pandemic due to the higher dietary and serum phytoestrogens (Desmawati and Sulastri, 2019; Zamora-Ros et al., 2012; Morton et al., 2002)? Or is this striking and startling difference pointing towards differences in pandemic-induced behavioral changes among medical doctors compared with medical nurses? Assuming that most of these COVID-19 infections were acquired while working in healthcare settings and that the total time spent by medical nurses in contact with COVID-19 patients is highly unlikely to be less than the total time spent by

medical doctors with COVID-19 patients, the differences in their COVID-19 morbidity/mortality seem inexplicable. Henceforth, as compared with scheduled breaks among medical nurses, can the preponderance of unscheduled breaks from personal protective equipment by medical doctors between caring for COVID-19 patients be leading them to letting their guard down, thus increasing their exposure/infection/fatality risks to SARS-CoV-2 (Gooch, 2020; Ault, 2020)? Essentially, further structured exploration into comparative investigations at the frontline are warranted to unravel whether practicing is becoming more difficult than preaching with relentless COVID-19-pandemic-inducing fatigue, irreverence and rebellion against SARS-CoV-2-mandated personal protective measures.

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This letter to the Editor does not require/warrant ethical approval from an institutional review board.

#### Conflict of interest

None.

The submitted manuscript has NOT been presented or published (online or print) anywhere else and is NOT under consideration for the same anywhere else.

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