

# *Coronavirus disease 2019 (COVID-19): we don't leave women alone*

**Alessandro Mantovani, Andrea Dalbeni  
& Giorgia Beatrice**

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# Coronavirus disease 2019 (COVID-19): we don't leave women alone

Alessandro Mantovani<sup>1</sup> · Andrea Dalbeni<sup>2</sup> · Giorgia Beatrice<sup>1</sup>

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Dear Editor,

Along with other authors and some important *Working Groups* (Wenham et al. 2020), we want to emphasize the need to consider the potential different impact of policies and public health efforts for the novel coronavirus disease 2019 (COVID-19) on men and women separately. It is important to keep in mind (at least) two relevant points. First, at present, specific and reliable gender analyses regarding the main clinical and biochemical characteristics of the COVID-19 as well as regarding important health outcomes are not available (Wenham et al. 2020). In a digitized world (where we can obtain a lot of data easily and quickly), this seems to be a great shortcoming. In this regard, it is important to remember that for various reasons [e.g., bodyweight, sex-dependent differences in enzymatic activity, metabolism and immunology (Whitley and Lindsey 2009)], women might respond to COVID-19 infection differently and they might have a different response to various antiviral drugs or protocol treatments being tested. Based on data available so far, COVID-19 seems to infect men and women similarly, although men appear to have a higher risk of death than women as well as a higher risk of acute respiratory distress syndrome (ARDS) or admission in intensive care unit (indeed, men also tend to have a higher prevalence of smoking which is related to higher expression of ACE2, the receptor for severe acute respiratory syndrome coronavirus 2) (Wenham et al. 2020; Chen et al. 2020; Cai 2020). However, the current data stratifying by gender are not still informative, and additional

observational studies are timely required to explore these aspects. Second, the current (restrictive) measures on travels, the closure of schools and relevant activities or the quarantine, which are adopted in various European countries (including Italy) in order to contain the virus infection, could have different and important repercussions on men and women separately, given that women have often needs that are largely different from those of men, in terms of health, safety or everyday activity. For instance, it is important to remember that, when compared to men, women have distinct demands on work and family, they have often primary roles as caregivers within families, or they are more frequently front-line health-care workers, thereby making them more potentially susceptible to virus infection (Wenham et al. 2020). For such reasons, we strongly believe that all various measures, albeit required, should always guarantee the gender equality. In this context, in addition to *WHO Executive Board and Gender* and *COVID-19 Working Group* (Wenham et al. 2020), we want to highlight the obligation by various health and scientific organizations to hear the voice of women in any decision making for the COVID-19. Too often, indeed, women are not adequately represented in the various organizations. Any health and scientific organization or government that does not act by respecting and promoting gender equity (even in this difficult moment) is abandoning the noble purpose to improve the human health. The recent history of outbreak of Ebola virus (Wenham et al. 2020) should help us not to repeat the same mistakes. The battle against COVID-19 is not the exception.

✉ Alessandro Mantovani  
alessandro.mantovani@univr.it

<sup>1</sup> Section of Endocrinology, Diabetes and Metabolism, Department of Medicine, University and Azienda Ospedaliera Universitaria Integrata of Verona, Piazzale Stefani, 1, 37126 Verona, Italy

<sup>2</sup> Section of General Medicine, Hypertension and Liver Unit, University and Azienda Ospedaliera Universitaria Integrata of Verona, Verona, Italy

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## Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

## References

- Cai H (2020) Sex difference and smoking predisposition in patients with COVID-19. *Lancet Respir Med*. [https://doi.org/10.1016/S2213-2600\(20\)30117-X](https://doi.org/10.1016/S2213-2600(20)30117-X)
- Chen N, Zhou M, Dong X et al (2020) Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *Lancet* 395:507–513
- Wenham C, Smith J, Morgan R, on behalf of the Gender and COVID-19 Working Group (2020) COVID-19: the gendered impacts of the outbreak. *Lancet*. [https://doi.org/10.1016/S0140-6736\(20\)30526-2](https://doi.org/10.1016/S0140-6736(20)30526-2)
- Whitley H, Lindsey W (2009) Sex-based differences in drug activity. *Am Fam Phys* 80:1254–1258

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