- Copyright - Il Pensiero Scientifico Editore downloaded by IP 18.97.9.173 Sun, 08 Nov 2026, 05:29:35

Covid-19 and gender. Biological, psychological and social aspects

University Center for the Study of Gender Medicine of the University of Ferrara GMC-UNIFE

Webinar May 20, 2020

On May 20, 2020, the GMC-UNIFE (Center for the Study of Gender Medicine, University of Ferrara) proposed the webinar *Covid-19 and gender. Biological, psychological and social aspects*. The gender medicine approach suggests that medical and biological studies report disaggregated data by sex and consider sex, gender and age differences for the appropriateness of prevention, treatment and patient care, as well as in all aspects of life. All these issues proved to be extremely topical and important also during the Covid-19 pandemic. At the end of the first wave, in May 2020, data on cases and victims highlighted a prevalence of male deaths, particularly among the elderly. This trend deserves both scientific and social attention: any changes in the trends – and in their underlying reasons – may be crucial to better understand the biological mechanisms of the infection and the course of the disease. Furthermore, the lockdown implemented in response to the spread of the pandemic, and its consequences, caused and exacerbated several troublesome physical, psychological and social effects, thus confirming the urgent attention sex and gender deserve, both in health and illness. From the history of pandemics to the importance of mental health, from the epidemiological data to the risk of suicide, from the role of doctors and health workers to the generation of violent behaviors, from human genetics to the development of drugs: the webinar addressed several pandemic-associated issues, always from the perspective of gender medicine.

The webinar was attended by over 300 people, representing more than twenty universities and dozens of healthcare companies, several associations, as well as the population concerned. The feedback confirmed that the deliberately interdisciplinary content of the event was grasped and appreciated by a broad spectrum of medical health professionals, pharmacologists, nurses, psychologists, and many others.

Tiziana Bellini, Director of GMC-UNIFE, opened the conference recalling how – on the occasion of previous pandemics (in particular Ebola and Zika) – 99% of the scientific publications had completely ignored the gender issue.[1] To help avoid the recurrence of this risk, the Center proposed the webinar *Covid-19 and gender. Biological, psychological and social aspects* – an unprecedented opportunity for interdisciplinary exchange.

A review of the most updated reports on Covid-19 by WHO, UN and EIGE,[2-5] allowed psychologist and sociologist Fulvia Signani, Vice-Director of GMC-UNIFE, to outline some psychosocial issues that the "tyranny of the Covid-19 emergency"[1] is highlighting: a regression of the rights of equality for men and women, which had been taken for granted, a shared underestimation of the social welfare role played by women in an emergency (including the role of elderly women as grandmothers), to whom – particularly in this period – the care of children, elderly and disabled and the performance of the new, burdensome and very delicate tasks (such as the cleaning and repeated sanitization of living environments) has been entrusted almost exclusively. This situation often results in fatigue, stress and depression. With the lockdown, several typical female tasks which usually constitute a substantial (albeit hidden and fragile) informal and fundamental financial support for a family – such as domestic-help and baby-sitting – have suddenly disappeared. This represents a significant poverty risk factor, both for the present and for the coming years. Finally, with regard to the precautionary measures to counteract the spread of the pandemic, it is a fact that 70% of healthcare professionals and over 90% of the service personnel in healthcare-related activities (cleaning, laundry, catering etc.) are women, who are therefore numerically more exposed to the virus.

After a brief discussion on pandemics in history and prehistory, and their possible causes, Barbara Bramanti – a physical and molecular anthropologist, member of GMC-UNIFE, and an expert on past plagues – addressed the hormonal and genomic differences between the sexes in response to epidemic-prone infectious diseases. Already in 2007,[6] the WHO had suggested to collect epidemic data disaggregated by sex, in order to more easily identify phenomena induced by cultural and biological behaviors in response to infections. There is no doubt that infectious diseases have a different incidence, course and lethality in each sex.[7] SARS-CoV-2 also seems not to be an exception to the general rule, to the detriment of the male sex. An attempt was made to explain what might be the biological mechanisms underlying the epidemiology data of Covid-19 disaggregated by sex, as proposed in a recent article.[8]

Lamberto Manzoli, professor of Public Health and Head of Medical Department of the University of Ferrara, and member of the GMC-UNIFE, summarized the epidemiological data of the Covid-19 pandemic, which highlights – as is now known – a higher number of infections in women, with a higher lethality index in men. He also presented the first results of an ongoing epidemiological research on 2,000 cases, aimed at identifying the most appropriate clinical pathway, and

- Copyright - Il Pensiero Scientifico Editore downloaded by IP 18.97.9.173 Sun, 08 Nov 2026, 05:29:35

recalled that this disease is still largely unknown, and that the optimal pathways for diagnosis and treatment are still missing.

Monica Vichi, an epidemiologist-statistician at the National Institute of Health, drew attention to the risk of suicide associated with the Covid-19 pandemic crisis, both as a direct and indirect effect of the policies implemented to contain the spread of the infection and the economic crisis that will follow the healthcare one. She presented data showing that Italian males commit suicide three times more often than women, and are less resilient to critical events. She stressed the importance of developing targeted prevention policies, that should not be restricted to the healthcare sector only.

This invitation was accepted by David Lazzari, President of the National Council of the Order of Psychologists CNOP, who recalled the recent national campaign #lasalutepsicologicaèundiritto[9] ("mental health is a right"), emphasizing the need to recognize the mental health is as important as physical health. With reference to the UN document *Covid-19 and the need to act on mental health*,[10] he spoke about CNOP-INAIL's initiative *Covid-19 and stress management*, aimed at the psychological support of healthcare workers.[11,12] A dedicated CNOP survey revealed the psychological discomfort of Italians and their experiences during the lockdown. Even men are willing to admit their distress in an almost equal percentage compared to women, which is unusual in the domain of inner suffering.[11,12] The data collected also confirms an appreciation for the greater amount of time devoted to the family by both men and women.

Eloïse Longo, an anthropologist at the National Institute of Health, presented the latest data from the WHO survey on gender-based violence, inserting it in the Italian Covid-19 context. She identified forced cohabitation and isolation during lockdown as risk factors, although the initial data on the phenomenon was not yet reliable. She also pointed out that all the agencies dealing with violence report only data on violence acts by men against women (which are the majority), but not any data on women against men, as well as data on the violence against LGBT+ people.

Starting from the confirmed evidence of the significant sex differences in clinical severity and mortality of Covid-19, Michele Rubini, a geneticist and a member of the GMC-UNIFE, outlined the different biological hypotheses developed to explain such phenomenon. He focused on the genetic aspects involved in the viral infection process, and identified in the androgen-dependent TMPRSS2 protease[13], that cuts the Spike protein, allowing the coronavirus to merge with the cell and thus infect it, a model not only to explain gender differences, but also to formulate an innovative therapeutic hypothesis.

Finally, Flavia Franconi – one of the scientists who introduced the gender medicine approach in Italy and the conceiver of this webinar event, as a consulting member of GMC-UNIFE – recalled that this is a new disease, which developed no more than one year ago, and underlined the need for much more research – and, unfortunately, also much more clinical experience – in order to learn how to fight the virus.

References

1. Smith J. Overcoming the 'tyranny of the urgent': integrating gender into disease outbreak preparedness and response, Gen Dev. 2019;27(2):355-369.
2. WHO. Gender and Covid-19, Advocacy brief, May 6, 2020.
3. WHO. The impact of Covid-19 on women, Policy brief, April 9, 2020.
4. Mlambo-Ngcuka P, Albrectsen A-B. We cannot allow Covid-19 to reinforce the digital gender divide, UN-Women, May 6, 2020.
5. EIGE Gender impacts on health [Internet]. https://eige.europa.eu/covid-19-and-gender-equality/gender-impacts-health
6. World Health Organization. Addressing sex and gender in epidemic-prone infectious diseases, 2007.
7. Gemmati D, Varani K, Bramanti B et al. 'Bridging the gap': everything that could have been avoided if we had applied gender medicine, pharmacogenetics and personalized medicine in the gender-omics and sex-omics era. Int J Mol Sci. 2020;21:296.
8. Gemmati D, Bramanti B, Serino ML et al. Covid-19 and individual genetic susceptibility/receptivity: role of ACE1/ACE2 genes, immunity, inflammation and coagulation. Might the double x-chromosome in females be protective against SARS-CoV-2 compared to the single X-chromosome in males? Int J Mol Sci. 2020;21: 3474.
9. https://www.psy.it/lasalutepsicologicaeundiritto-2
10. https://d66rp9rxjwtwy.cloudfront.net/wp-content/uploads/2020/05/United-Nations-Covid-and-mental-health_ITA.pdf
11. https://www.psy.it/lasalutepsicologicaeundiritto-difendiamo-i-diritti-psicologici-dei-cittadini.html
12. https://www.psy.it/covid-19-e-gestione-dello-stress-al-via-liniziativa-per-il-supporto-psicologico-del-personale-sanitario.html
13. O'Loughlin R, Duberstein PR, Veazie PJ et al. Role of the gender-linked norm of toughness in the decision to engage in treatment for depression. Psychiatr Serv. 2011;62(7):740-6.