

# Possible special needs for mental online support in female and male health care workers during the COVID-19

To the Editor,

In their article Wu and colleagues,<sup>1</sup> similarly to other authors,<sup>2,3</sup> present the effects of stress on medical staff during the coronavirus disease 2019 (COVID-19) pandemic as an unprecedented challenge for all communities. Their observation is within current literature trends, which identify seven population subgroups affected by the psychosocial consequences of the COVID-19: general population affected by restrictive measures, people subjected to quarantine, positive for the virus (isolated/hospitalized), health care personnel, relatives of persons who died, and mentally ill patients.<sup>2</sup>

Knowledge about the COVID-19 increases over time. However, the proportion of COVID-19 cases in health care workers is still very high (up to 20%).<sup>4</sup> Medical staff is still mobilizing to work with patients infected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). At the same time they often feel verbal social support but also feel social stigma and a huge stress due to developing the COVID-19 and spreading it.<sup>2-4</sup> In some countries they still learn to wear protective clothing from the internet pages, are supplied with equipment that does not fully meet the requirements or is rarely tested for coronavirus.<sup>4,5</sup>

Generally, perceived stress and insufficient coping behavior contribute significantly to higher mortality rates in a dose-response pattern.<sup>6</sup> Although robust evidence suggests that chronic stress plays a significant role in the onset of severe psychiatric conditions such as major depressive disorder, bipolar disorder, and posttraumatic stress disorder,<sup>7</sup> perceived stress is more strongly associated with death than mental health conditions per se.<sup>6</sup> On the other hand, mental health conditions are associated with multimorbidity, influence the quality of life worldwide, and are linked to a wide range of adverse health outcomes such as higher risk of cardiovascular events, metabolic syndrome, and death.<sup>6</sup> A possible explanation of stress-related harm includes deregulation of stress-related activation of neuroendocrine hypothalamic-pituitary-adrenal (HPA) axis, subsequent rise in cortisol levels and deregulation of immune/inflammatory system.<sup>6</sup> As corticosteroids can activate latent viruses,<sup>8</sup> they can potentially increase the spread of viruses. Hyperactivated HPA axis increases also levels of catecholamines (noradrenaline and adrenaline) that can block the activity of macrophages—critical for virus clearance.<sup>8</sup> Other explanations may include stress-related undesirable health behaviors such as a sedentary lifestyle or substance abuse/dependence,

which might affect the prognosis of mental and somatic diseases.<sup>6</sup> Neurologic manifestations of SARS-CoV-2 infection such as anosmia, ageusia, ataxia and seizures, and the presence of viral-like particles in brain and capillary endothelium suggest that the virus may be neurotropic<sup>9</sup> and these brain changes can potentially affect further stress tolerance.

The truism is that medical health workers who are well, best serve their patients.<sup>2</sup> Another truism is that there is “no health without mental health.”<sup>10</sup> Coronavirus appears to pose a particular threat to men.<sup>5</sup> The death rate among men seems to be 50% higher than among women,<sup>11</sup> which might be the result of the fact that men smoke more cigarettes than women. Smokers made up 26% of those that ended up in intensive care or died due to the COVID-19.<sup>12</sup> Stress is generally a modifiable health risk factor and possibly associated with lifestyle choices.<sup>7</sup> Currently, males and females have difficulty coping with a stressful COVID-19 situation.<sup>7</sup> However, one study based on the Chinese population found that being female, at risk of contact with COVID-19 patients and living in rural areas, are the most common risk factors for insomnia, anxiety, obsessive-compulsive symptoms, and depression in medical health workers during the COVID-19,<sup>3</sup> which also are stress-related conditions.

To keep health care workers safe during the COVID-19 pandemic, resources to support them in expediting the implementation of telemedicine need to be designed.<sup>2</sup> Such online and by phone support are easily provided in the field of psychology, psychiatry, and psychotherapy.<sup>2</sup> As Wu and colleagues<sup>1</sup> suggested the public should be concerned about the stress in medical staffs and possible crisis intervention strategies, but a special mental help service need to be dedicated to female health care workers, living in rural areas, and being at risk of contact with COVID-19.<sup>3</sup> Support for male health care workers should additionally include smoking cessation help. There is also a need to conduct research to clarify the role of stress in COVID-19 complications in male and female medical staff.

## CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

## AUTHOR CONTRIBUTIONS

NW designed and wrote the manuscript.

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