## [ EDITORIAL ]

## Great Psychological Distress Induced by COVID-19 on Healthcare Workers in Japan

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Key words: pandemic, COVID-19, health care worker, psychological distress

(Intern Med 60: 2711-2712, 2021) (DOI: 10.2169/internalmedicine.8014-21)

An outbreak of novel coronavirus disease 2019 (COVID-19) hit Wuhan, Hubei, China in December 2019. COVID-19 spread quickly and globally, becoming a pandemic. At nearly one and a half years since the outbreak, several variants have emerged and are still running rampant in a number of areas. The only silver lining of this dark cloud is that the number of infected people is decreasing in countries where the prevalence of COVID-19 vaccination is high. However, the marked influence of not only the symptoms of COVID-19 itself, such as pneumonia, but also the psychological effects should be noted.

Pandemics caused by not just COVID-19 but other severe coronaviruses, such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS), have reportedly had psychological effects on patients themselves (1). While most patients generally recover without experiencing mental illness in SARS and MERS, delirium has been reported in a significant proportion of COVID-19 patients in the acute stage. These findings remind clinicians of the possibility of depression, anxiety, fatigue, post-traumatic stress disorder, and rarer neuropsychiatric syndromes in the longer term (1).

A 2021 study in 62,354 patients diagnosed with COVID-19 using the electronic health record network in the United States assessed whether or not COVID-19 was associated with increased rates of subsequent psychiatric diagnoses and whether or not patients with a history of psychiatric illness were at an increased risk of being diagnosed with COVID-19 (2). The study found that survivors of COVID-19 appeared to be at an increased risk of psychiatric sequelae, although further prospective cohort studies were needed; in addition, a psychiatric diagnosis was suggested to be an independent risk factor for COVID-19 (2).

I would now like to discuss the impact of this unprecedented pandemic situation regarding the phenomenon of social isolation. The COVID-19 pandemic has caused substan-

tial social isolation of people not affected by the disease, especially the elderly. The mental and physical health of older people have been negatively affected by the social distancing encouraged during the COVID-19 pandemic, with the main reported outcomes including anxiety, depression, a poor sleep quality and physical inactivity during the isolation period (3).

In Japan, it was reported that anxiety and depressive symptoms were predominantly exacerbated by such social isolation in patients with Parkinson's disease (4). Of note, however, several interventions (e.g., self-guided therapy and remotely delivered interventions via telephone or video call) have been shown to prevent the various symptoms that result from these social isolations (5, 6).

Many countries have reported on the psychological burden experienced by healthcare workers (HCWs) who are actually in direct or indirect contact with COVID-19 patients during the pandemic (7, 8). A study conducted at a frontline hospital in Tokyo, Japan, found that more than 40% of nurses and more than 30% of radiological technologists and pharmacists met the criteria for burnout. The explanation for the higher prevalence of burnout among nonphysicians could be due to the fact that these job categories have lower dimensions of control in comparison to physicians (9). The manuscript by Ishikawa et al., "Psychological effects on health care workers during the COVID-19 outbreak: a single-center study at a tertiary hospital in Tokyo, Japan," (10) focuses on psychological distress experienced by HCWs. They found that women, non-physicians, those living alone, and younger individuals had significantly higher levels of psychological distress than their counterparts. In addition, they showed that four factors could be extracted as independent GHQ-12-related factors: the lack of a strong motivation and drive to help, the burden incurred by the change in the quality of work, the lack of understanding about virus infectivity, and the sense of responsibility. Interestingly, in China, 25.1% of subjects were found to have psychological distress according to the GHQ-12 score (11). Psychological distress may vary depending on a country's culture.

I hope that the burden on HCWs will be eased by overcoming these factors known to be liable to cause psychological distress, as determined by Ishikawa's study. I also hope that these findings will be useful for preventing psychiatric symptoms in the event of another pandemic in the future.

The author states that he has no Conflict of Interest (COI).

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