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STORY

Health Care Workers Seek to Flatten COVID-19's 'Second Curve'—Their Rising Mental Anguish

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Healthcare workers wearing protective equipment standing in front of a hospital. Image by Shutterstock. Mexico, 2020.

When intensive care unit (ICU) nurse Núria Burló Arévalo first heard about the coronavirus outbreak in Wuhan, China, she never thought it would reach her small city of Tarragona, Spain, some 100 kilometers west of Barcelona. But 1 month ago, the virus hit her city hard. Within 1 week, her hospital went from having one case of COVID-19 to 14 seriously ill patients, including young people without any underlying conditions. Since March, 63 members of the hospital staff have been infected with coronavirus.

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Long hours, high risk of infection, and crushing uncertainty about how the pandemic will progress—and who will get the disease next—have led to high anxiety among health care workers at John XXIII University Hospital. “We’re in a warlike situation,” Burló Arévalo says. “You feel like you’re in a trench.”

She is far from alone. New surveys of doctors and nurses in China, Italy, and the United States suggest they are experiencing a plethora of mental health problems as COVID-19 continues its spread, including higher rates of stress, anxiety, depression, and insomnia.

As the case count spreads—2,475,723 infected and 169,151 dead by the latest count—Roy Perlis, a psychiatrist at Massachusetts General Hospital, says the burden on health care workers will rise. “We have to try to flatten this curve, but then there’s a second curve we’re going to have to flatten: the mental health consequences of the pandemic.”

Calculating anguish

Studies of past outbreaks reveal a toll on health care workers. During the severe acute respiratory syndrome (SARS) epidemic of 2003, 89% of 271 health care workers in Hong Kong reported negative psychological effects, including exhaustion and fear of social contact (https://journals.sagepub.com/doi/10.1177/070674370404900609). And for up to 2 years after the epidemic dwindled, health care workers in Toronto, another city hit hard by SARS, had significantly higher than normal levels of burnout, psychological distress, and post-traumatic stress (https://www.ncbi.nlm.nih.gov/pmc/articles/pmc3291360/).

Those data come as no surprise to Srijan Sen, a psychiatrist at the University of Michigan, Ann Arbor. He began a project monitoring the mental health of medical residents in Shanghai before the outbreak and found that 385 newly minted doctors at 12 hospitals reported average “mood scores” of 7.5 out of a scale of 10. When the virus struck, he could see its impact: One month after the virus started its march through China, that score had dropped to 6.5, and self-reported symptoms of depression and anxiety shot up significantly. That’s a strong contrast to last year’s cohort of young physicians, whose average mood score rose up to eight by the Chinese New Year. Those unpublished results suggest China’s doctors are facing a significant psychological burden, Sen says. “It’s stark how high the rates of anxiety, depression, distress [are], particularly in Wuhan.”

Another survey of 1257 health care workers in 34 hospitals across China found that by the early days of February, 72% had experienced symptoms of distress (https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2763229). And about half had symptoms of depression and anxiety, researchers reported last month in *JAMA Open Network*. More than one-third had insomnia. The main reason for distress at the start of the outbreak was the lack of personal protection equipment, says Shaohua Hu, a psychiatrist at the First Affiliated Hospital of the Zhejiang University School of Medicine who conducted the study.

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In a new preprint, posted on the server medRxiv today, researchers found similar mental health outcomes in 1379 health care workers working on the front lines in Italy. They found self-reported post-traumatic stress disorder symptoms in half of the participants (https://www.medrxiv.org/content/10.1101/2020.04.16.20067801v1), as well as severe depression or anxiety in about 20% of them. Female workers at the front lines were most affected, the study suggests, as well as people who had a colleague who died, was hospitalized, or in quarantine.

Fear of violence—from patients and their families—is also prevalent: Sen's students reported that such fears increased by an average factor of 2.4 per month after the current outbreak began. In Mexico, people on the street have thrown bleach and hot coffee (https://verne.elpais.com/verne/2020/04/13/mexico/1586810735_002679.html) into the faces and bodies of uniformed doctors and nurses. The reason? The attackers fear catching the disease from health care workers.

"Your soul gets torn"

"The mindset and attitude of fear is palpable in colleagues," says Tait Shanafelt, an oncologist and director of the Stanford Medicine WellMD Center, an institution dedicated to the well-being of medical professionals.

He organized eight listening sessions with 69 Stanford physicians, nurses, clinicians, residents, and fellows. What worried them the most, they said, was access to personal protective equipment. Also among their top fears: being exposed to the virus and infecting their friends, co-workers, and families.

Adding to the burden is the fear that their employers will not support them through the months—and possibly years—that will be needed to contain the outbreak. "This has just started," Burló Arévalo says. Already, her hospital has gone from having "appropriate" protective equipment to masks and gowns of questionable quality, she says. She and others worry that if they are infected, their child care, salaries, and other employer-provided support could shrivel.

In addition, they face the psychological cost of making life or death decisions driven by shortages of equipment and medicine. "You start to feel a mix of fear, sadness, and impotence," Burló Arévalo says. "Who am I to decide who gets to live and die?" She never imagined that she and her colleagues would have to decide who gets a ventilator, for example. "When you see that you have to leave people to die because the resources are not enough, your soul gets torn," she says.

She and others also feel for the patients' families, who are unable to visit. "The hardest moment is to see a person saying goodbye to their family through a tablet or cellphone without knowing if they're going to see them again," she says.

Flattening the second curve

Mending a torn soul isn't easy, Perlis says. Although mental health care is available at most hospitals and clinics, medical staff may not have the time or the energy to take advantage of such services. "Docs are not always very good at asking for help," Perlis says. "We want them to ask."

And real healing takes time. “Some of it we’ll see right away, [but] some of it may not become apparent for months, or even years,” Perlis says.

In the short term, Perlis says, treatment may include medication or talk therapy, and should be tailored to the individual. Events like 9/11 have taught researchers that certain interventions, such as forcing people to go over events and discuss their feelings, may be harmful for some people (https://psycnet.apa.org/doilanding?doi=10.1037%2fa0024806). Group therapy and other conversations should be voluntary, Perlis says.

Earlier this month, the American Medical Association released a set of resources (https://www.ama-assn.org/delivering-care/public-health/managing-mental-health-during-covid-19) for managing mental health symptoms of front-line workers during the pandemic. These urge the use of a meditation app and taking breaks from news and social media. It also calls on leaders to prioritize the medical staff’s mental well-being as much as their physical safety and to create an environment of open conversation.

It’s important for workers to first acknowledge the emotional and psychological toll that the crisis is taking, and for their managers to listen, Shanafelt says. That means reassuring workers that their concerns matter when making decisions on staffing measures or policies covering the use of protective equipment. He adds: “When things are the most unpredictable, the most uncertain, the most frightening, people need to know that their leader is with them and is going to respond to them, [and] is there to look out for them above all.”

When that doesn’t happen, employees might feel unsupported and quit. Medical staff at Burló Arévalo’s workplace have even discussed going on strike once the worst part of the pandemic is over, to demand better support and funding. “This crisis shows how valuable health care workers are, but that’s not always translated into job security and really good working conditions,” Sen says.

Although Burló Arévalo finds it hard some days to get out of bed and get to the hospital for her 12-hour shift, she says her experiences as an ICU nurse have helped her hold up. But if she or someone from her family gets COVID-19, that could change. “I try not to let sadness invade me. So far, I’m OK,” she says. “But I don’t know if I will be in a month.”
