

## Latest updates on COVID-2019: A changing paradigm shift

Dear Editor,

We read with great interest the recent article written by Sun et al<sup>1</sup> with regards to the coronavirus disease 2019 (COVID-19) outbreak and its latest updates. Through this letter, we would like to mention a few additional comments that we believe would be beneficial for our readers.

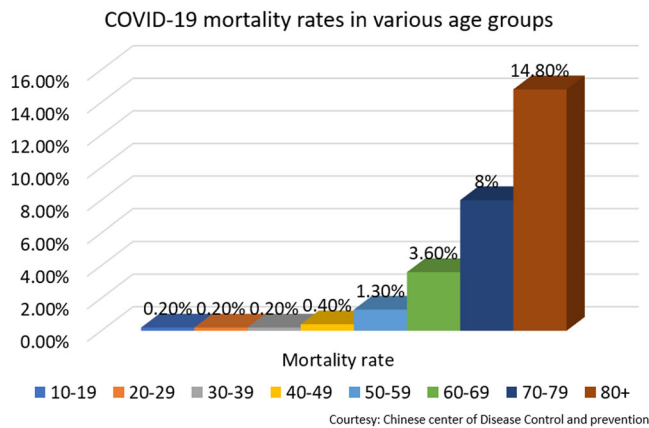
Sun et al<sup>1</sup> rightly mentioned that old patients and patients with multiple comorbidities are more likely to have disease progression at a faster rate with higher mortality rates. A recent data published by the Chinese Center for Disease Control and Prevention (CDC) mentioned that the older patients more than 80 years had a very high mortality rate (14.8% vs 0.2%) as compared with the younger population (between 10-39 years; Figure 1). Also, Sun et al<sup>1</sup> mentioned about the variation in the reported mortality rate by various studies.<sup>2-6</sup> This could be due to multiple reasons: (a) the sickness profile of the patients presenting to a particular Medical Center; (b) age of the patient and previous health comorbidities; (c) health care resources available in the Medical Center to manage the complicated patients; (d) the level of critical care unit in the hospital and the individual expertise of the intensivists to manage complex COVID-19 patients with ARDS. Apart from this, few other concerns raised recently by the researchers are that there is a high possibility that asymptomatic patients or mildly sick COVID-2019 cases are not coming to the hospital. Contrarily, there is also a possibility that very sick patients might be dying in the community before reaching to the hospital.<sup>5-7</sup>

Sun et al<sup>1</sup> also mentioned the laboratory findings and imaging characteristics in patients suffering from COVID-2019. Wu et al<sup>8</sup> in their study recently reported ground-glass opacities (91%), consolidation (63%), and interlobular subtle thickening (59%) in their 80-patient data. They also calculated the degree of pulmonary inflammation and found that the pulmonary inflammation index (PII) significantly correlated with procalcitonin levels, lymphocyte and monocyte count, and CRP levels. This suggests

that the patients who had worse pulmonary inflammation are also likely to have more deranged laboratory findings and complications. Another study on the CT imaging findings was done by Berheim et al<sup>9</sup> on 121 COVID-2019 disease patients. They found that patients who presented early, that is, within 48 hours of symptom onset, 56% of them had a normal CT. They also did a follow-up imaging, which showed that the CT findings became more frequent and worse when compared with the baseline imaging as the time interval progressed from the initial onset of symptoms. The most common lung lobes involved were right lower lobe and left lower lobe in 65% and 63% patients, respectively. Similarly, Wu et al<sup>8</sup> found the dorsal segment of the right lower lobe (86%) and a posterior basal segment of the right lower lobe (85%) as the most common segment involved.<sup>9</sup>

Sun et al<sup>1</sup> also mentioned about the pathogenesis of 2019-nCoV and the role of ACE2 receptors in lung damage. As mentioned by them, Asians have higher levels of ACE2 expression and are more susceptible to SARS-CoV-2 as compared to Whites/African Americans. Based on these characteristics, it would be interesting to compare the patients from different ethnicity for the difference in intensity of sickness, duration of hospital stay, requirement of ICU level of care, and mortality outcomes. In general, immunocompromised individuals like patients with cancer, human immunodeficiency virus-positive cases are more prone to opportunistic infections and acquiring a SARS-CoV-2 infection is likely to worsen the situation.<sup>10</sup>

With regard to the treatment, many antiviral agents are in various phases of clinical trials, namely Darunavir/Cobicistat (Gov Identifier: NCT04252274), Lopinavir/Ritonavir (Gov Identifier: NCT04261907). Recently, National Institutes of Health initiated a clinical trial ([ClinicalTrials.gov](https://clinicaltrials.gov), NCT 04280705) at the University of Nebraska, Omaha, to evaluate the effectiveness and safety of remdesivir in hospitalized adults diagnosed with COVID-19 (Figure 2). Similarly, many other trials have been

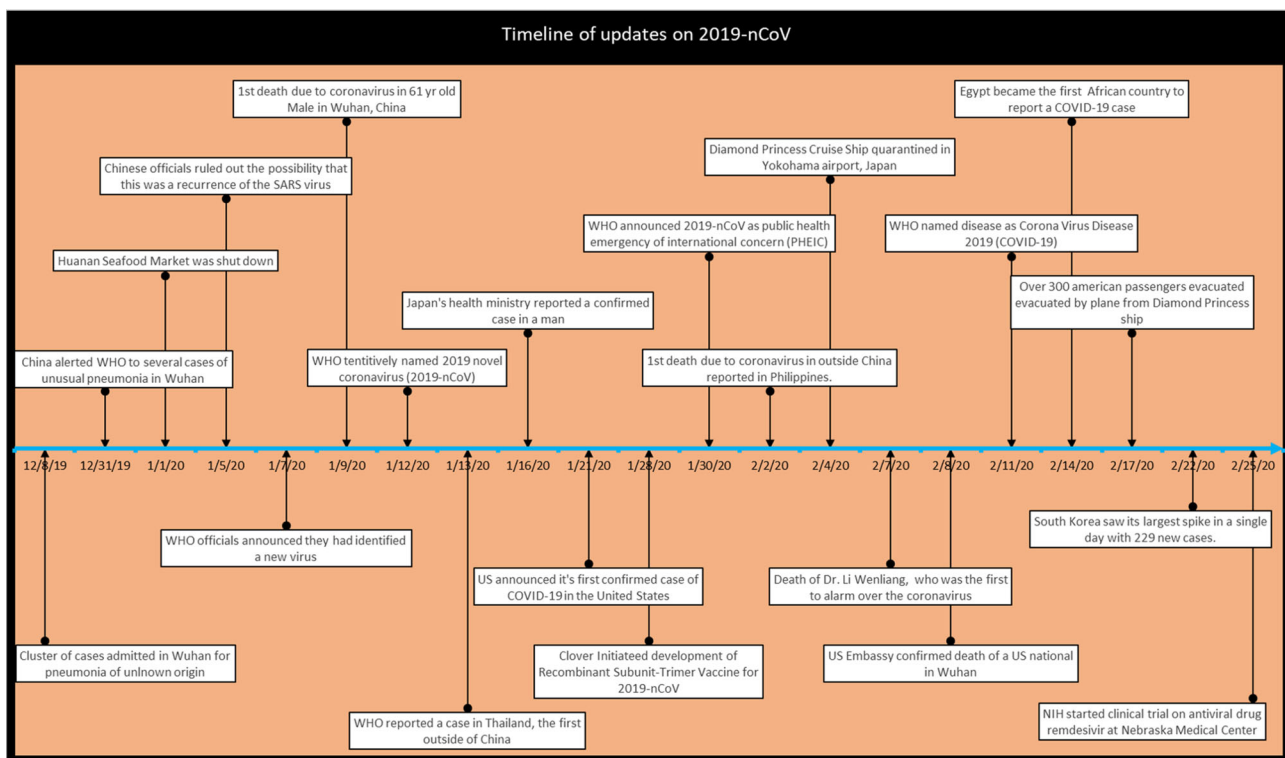


**FIGURE 1** Mortality rates as per various age groups. COVID-2019, coronavirus disease 2019

initiated to evaluate the complications of COVID-2019, psychosocial effects on the health care providers, newer diagnostic tools, and so forth ([ClinicalTrials.gov](https://www.clinicaltrials.gov)). Unfortunately, all these clinical trials would be helpful at a later date, when the

study is over, data are assimilated, and only then results will be analyzed. Hence, the only immediate and most effective strategy available is to follow the conventional infection control techniques and social hygiene practices. The World Health Organization (WHO) and the CDC has actively involved its members and is regularly addressing various aspects of this outbreak and issuing guidelines. Unfortunately, during this crisis time, many rumors are being spread with regard to the modes of transmission, treatment, and so forth, which could potentially create a panic amongst the general public. To provide the most scientific and the latest information, WHO has initiated a special web page “myth busters” in which many common rumors are busted with logical explanations.<sup>11</sup>

In conclusion, researchers, scientists, and treating physicians are relentlessly working with an attempt to decode the exact source of infection, modes of transmission, virus microbiological characteristics, most effective treatment strategy, and vaccine development. Currently, the situation with regard to SARS-CoV-2 is evolving dramatically and many latest updates are expected in the coming weeks.



**FIGURE 2** Timeline of updates on 2019-nCoV

## CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

## AUTHOR CONTRIBUTIONS

All authors have seen the manuscript and agree to the content and data. All the authors played a significant role in the paper.

## ETHICS STATEMENT

The article does not contain the participation of any human being and animal.

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