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Letter to the Editor

Interventions Are Urgently Implemented to Control the Epidemic in COVID-19 with Non-Severe and Non-Critical Outside of China

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Dear Editor-in-Chief

In Dec 2019, unknown cause pneumonia occurred and now known as severe acute respiratory syndrome coronavirus 2 (SARA-Cov-2) infection in Wuhan, Hubei Province, China (1). On Feb 11th, 2020, the novel coronavirus pneumonia was named Corona Virus Disease 2019 (COVID-19) by WHO, and COVID-19 can be characterized as a pandemic a month later. The COVID-19 caused clinical symptoms in patients including fever, dry cough, productive cough, dyspnea, myalgia, fatigue, normal or decreased leukocyte counts, and radiographic evidence of pneumonia (2), and a descriptive, cross-sectional, multicenter study showed that digestive symptoms are common in patients with COVID-19 (3). It could even cause patient death in severe cases.

In recent studies, we reviewed the clinical and epidemiological characteristics of COVID-19 in China, the median age of the majority of patients was 40 to 60 yr (4-6). Meanwhile, according to our national survey, about 80.9% patients were mild or moderate illness, and there was also a small proportion (1.2%) of patients were asymptomatic infection (7). The crude mortality rate of COVID-19 was 1.4% between 2.3% (4, 7), but without sufficient medical resources, the risk of mortality will increase significantly, such as in the early stages of Wuhan, Hubei Province. Therefore, non-severe and non-critical patients including mild or moderate illness, asymptomatic infection were very crucial for COVID-19 control in all over the world.

In our study, 30 patients were admitted to The First People's Hospital of Xiaoshan, Hangzhou and The First Hospital of Zhejiang Province.

The protocol for this study was approved by the Ethics Committee of Xiaoshan Center for Disease control and Prevention, and informed consent was obtained from all patients.

The median age was 44.5 yr (IQR 33.8-52.3) and 17 (56.7%) patients were female. At the time of study submission, all patients had been discharged and no patients died during the hospital. Overall, 27 (90.0%) patients were non-severe and non-critical illness, however, the median hospital stay was 16.0 d (IQR 12.5-20.5), and the median course of disease was 20.5 d (IQR 17.0-23.3).

The median duration of viral shedding was 20.0 d (IQR 17.0-24.0) in COVID-19 survivors (8), longer hospital stay and clinical course would significantly increase the burden of healthcare. Furthermore, hospitalization costs were collected from 21 patients in The First People's Hospital of Xiaoshan, Hangzhou, and all of them were non-severe and non-critical illness.

We found that the total median hospitalization costs were 792.2 USD (IQR 616.7-1205.5), and the median hospitalization day costs were 57.0 USD (IQR 44.2-72.4). Unfortunately, there were few studies focused on hospitalization costs of COVID-19, even fewer comparative or cost-effectiveness studies, we assumed that hospitalization costs were economical based on available data for this severe infectious disease. We reviewed previous studies and our current study, most patients including non-severe and non-critical illnesses were presented with obvious CT findings of ground-glass opacity (5, 6). This method could be used for rapid determination of COVID-19 in severe outbreaks, which was taken in Wuhan, Hubei Province, those cases were named "clinically diagnosed cases", then they could get chance for treatment and decrease case fatality.

Considerable countermeasures should be needed to effectively control the COVID-19 outbreak in all over the world, taking China's interventions and the successful experience of COVID-19 control into consideration (9), if possible, the local government could block outbound transportations and suspend public transit and ban vehicular traffic within the city or countryside.

Secondly, we should establish sufficient temporary hospitals, such as rebuilding gymnasium into a hospital, it's very important to achieve improvement in medical resources, in terms of control programs on COVID-19, emphasized should be paid on decreasing the panic of patients with non-severe and non-critical illness to the disease to get early hospitalization.

Last but not least, the government should make full use of Center for disease control and prevention (CDC), the role of CDC was to conduct epidemiological investigation and find out the close contacts of confirmed cases, centralized quarantine and home quarantine for 14 d. All in all, prevention and control strategies should be discussed and implemented to control the epidemic, especially in COVID-19 with non-severe and non-critical.

Competing interests

The authors declare no competing interests.

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