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Comorbidity and its impact on 1590 patients with COVID-19 in China: a nationwide analysis

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The presence and number of comorbidities predict clinical outcomes of COVID-19<http://bit.ly/3b9ibw5>

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ABSTRACT

Background: The coronavirus disease 2019 (COVID-19) outbreak is evolving rapidly worldwide.

Objective: To evaluate the risk of serious adverse outcomes in patients with COVID-19 by stratifying the comorbidity status.

Methods: We analysed data from 1590 laboratory confirmed hospitalised patients from 575 hospitals in 31 provinces/autonomous regions/provincial municipalities across mainland China between 11 December 2019 and 31 January 2020. We analysed the composite end-points, which consisted of admission to an intensive care unit, invasive ventilation or death. The risk of reaching the composite end-points was compared according to the presence and number of comorbidities.

Results: The mean age was 48.9 years and 686 (42.7%) patients were female. Severe cases accounted for 16.0% of the study population. 131 (8.2%) patients reached the composite end-points. 399 (25.1%) reported having at least one comorbidity. The most prevalent comorbidity was hypertension (16.9%), followed by diabetes (8.2%). 130 (8.2%) patients reported having two or more comorbidities. After adjusting for age and smoking status, COPD (HR (95% CI) 2.681 (1.424–5.048)), diabetes (1.59 (1.03–2.45)), hypertension (1.58 (1.07–2.32)) and malignancy (3.50 (1.60–7.64)) were risk factors of reaching the composite end-points. The hazard ratio (95% CI) was 1.79 (1.16–2.77) among patients with at least one comorbidity and 2.59 (1.61–4.17) among patients with two or more comorbidities.

Conclusion: Among laboratory confirmed cases of COVID-19, patients with any comorbidity yielded poorer clinical outcomes than those without. A greater number of comorbidities also correlated with poorer clinical outcomes.