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Commentary

Clinical characteristics of COVID-19 in developing countries of western pacific: Low case-fatality rate unraveled

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The COVID-19 pandemic has spread around the world, resulting in 44•89 million confirmed cases and 1•18 million death as of October 30th, 2020 [1]. Understanding the clinical characteristics of COVID-19 can help clinicians to predict the disease progression and implement potential intervention strategies.

Since December 2019, global efforts have expedited to explore the clinical characteristics of COVID-19 and risk factors associated with death. Early researches from mainland China have unraveled that the clinical symptoms (i.e. fever, cough, dyspnea) and laboratory test results of COVID-19 patients are similar with those in severe acute respiratory syndrome [2,3]. However, around 50% of patients are afebrile and a subgroup of symptomatic patients do not show radiologic abnormalities on admission [4]. Heterogeneous clinical manifestations have also been found in patients from Europe [5] and the US [6]. More strikingly, the fatality rate varied (ranging from 1•4% to >40%) between developing countries [2–4,7] and developed countries [5,6,8]. A latest report shows a higher fatality rate in Europe (22•90%) and America (22•23%) compared with that in Asia (12•65%) [9]. Therefore, addressing the impact of the patient characteristics on the clinical outcomes will shed light on the targets of disease prevention and control in developing countries where health-care resource is limited.

In *The Lancet Regional Health – Western Pacific*, Xin Ci Wong and colleagues conducted the first and largest national study to explore the clinical characteristics of 5889 COVID-19 patients between February and May 2020 from 18 hospitals of Malaysia [9]. More than 90% of patients have minor symptoms and laboratory abnormalities (including lymphopenia, elevated C-reactive protein and lactate dehydrogenase levels), and 3•3% of patients admitted to the intensive care unit. These findings reassure that most patients with mild diseases will not develop into severe or critical symptoms. More than 70% of patients are afebrile on admission, reaffirming that fever alone is not a reliable symptom to identify COVID-19 patients. Nucleic acid testing, when combined with immunoglobin assays, might more accurately diagnose COVID-19 among the patients who have atypical clinical manifestations. The combination of chest computed tomographic findings, clinical symptoms, and laboratory test help clinicians to predict the risks of developing into severe illnesses for COVID-19 patients.

Unlike previous studies [4,6,7], most patients in Wong's study are healthy before the infection, which might partially explain the low fatality rate (1.2%) in this study. The other reason of the low COVID-19 fatality rate in Malaysia is the early disease management implemented in the country. In Malaysia, COVID-19 patients are enforced to stay in hospitals, which helps to monitor the symptoms of the patients and to block the transmission chains in the community. Timely admission to the hospital and sufficient health care resource supplies have been shown to correlate significantly with the clinical outcomes of COVID-19 in Wuhan, China [10]. The current study has reaffirmed the public health benefits of imple-

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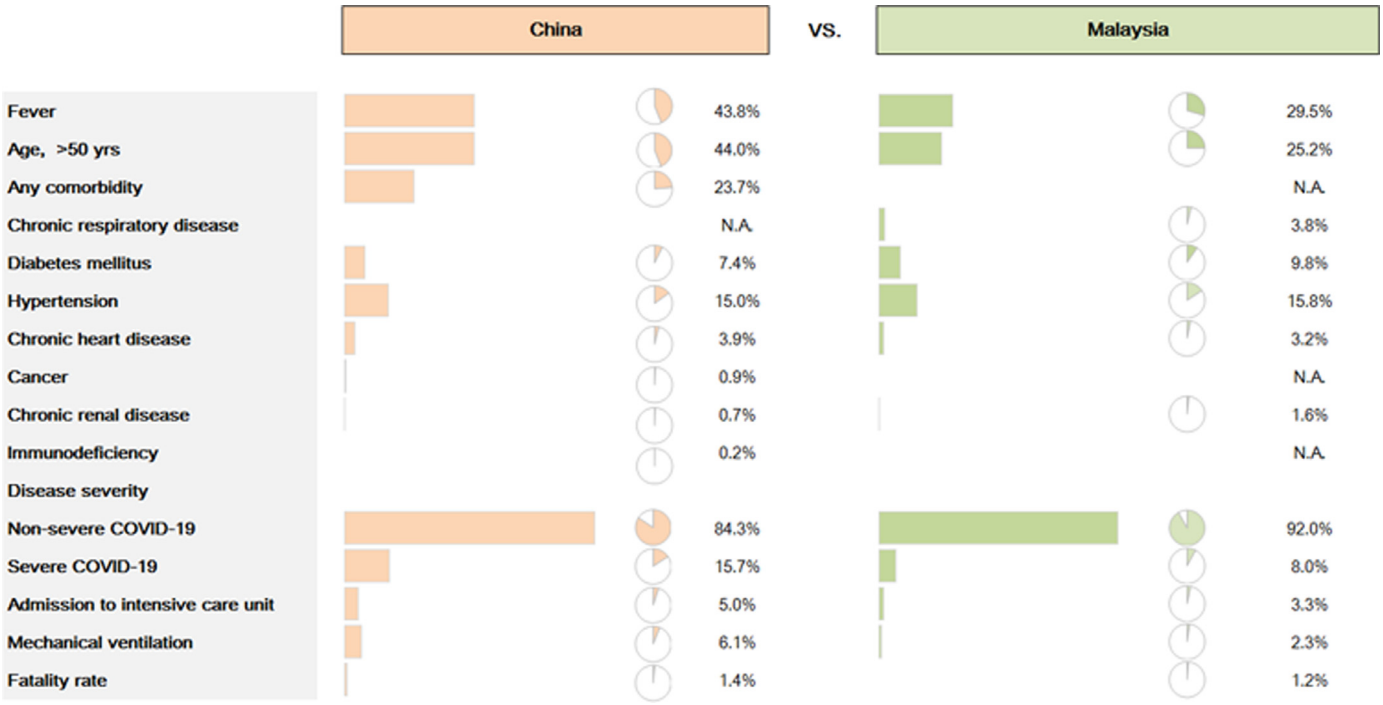

Fig. 1. A summary of the clinical characteristics of COVID-19 between patients in Malaysia and mainland China
COVID-19: Coronavirus disease 2019
Reference from mainland China: Guan WJ, et al. *N Engl J Med*. 2020;382(18):1708–1720.

menting early disease management policies in developing countries such as Malaysia.

Notwithstanding the above-mentioned major achievements, there remain several caveats that should be addressed. Determining the clinical courses of severe cases would be informative but has been hampered by the incompleteness of electronic database. Exploration of the risk factors of severe illness was prone to the bias associated with selective inclusion of the clinical variables or, alternatively, over-fitting of the regression model. Whether the patients included in the current study were under-representative of the whole Malaysian population remained unclear, because children and the elderly patients have not been included in the analysis.

Despite the different population characteristics, findings from this Malaysian study have echoed those from mainland China (Fig. 1), highlighting the need to early identify patients at risk of developing severe or critical illness and proactively manage the confirmed cases to prevent from rapid disease progression. These measures will safeguard the successful outbreak control in developing countries of the Western Pacific region.

Declaration of Competing Interest

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Author's contribution

X. Y. Z., W. J. G., and N. S. Z. drafted and critically reviewed the manuscript. All authors have approved for the final submission.

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