Abstract

The Impact of Comorbidities on COVID-19 Severity and Mortality in Egypt

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Abstract

Background: Older persons and people of any age with certain underlying comorbidities such as diabetes mellitus, cardiovascular disease, lung disease, kidney disease, liver disease, and cancer are at a higher risk of severe disease course and death if they become infected with COVID-19. Identifying at-risk groups and risk factors for COVID-19 severity and mortality is important for guiding the efficient and appropriate prevention and management of patients with COVID-19.

Objective: This study aimed at describing the demographics and epidemiologic characteristics of confirmed COVID-19 cases in Egypt and determining the impact of different comorbidities on patients' outcomes.

Methods: The data of all confirmed COVID-19 patients admitted to 408 governmental hospitals all over Egypt from February to May 2020 were collected retrospectively from the National Egyptian Disease Surveillance System. The cases were confirmed using RT-PCR.

Results: Overall, 28,415 patients (55% male and 45% female) were identified. Their median age was 44 years. Of those, 743 (2.6%) were admitted to ICU, 408 (1.4%) required ventilator, and 1045 (3.7%) died. Of the 21,617 (76.1%) patients with completed data, 4687 (21.7%) had comorbidities. Overall, 11.8% had diabetes, 5.3% cardiovascular disease, and 4.3% chronic obstructive pulmonary disease. Those who had 1 comorbidity were more likely to die (odds ratio 2.83), were admitted to ICU (odds ratio 6.36), and needed a ventilator (odds ratio 5.95) compared to patients with no comorbidities. Having multiple comorbidities increased the risk of mortality (odds ratio 3.53), ICU admission (odds ratio 8.62), and requiring a ventilator (odds ratio 9.06).

Conclusions: COVID-19 patients with comorbidities had a higher risk of disease severity and mortality. Multiple comorbidities further increase the risk to a higher extent. All necessary precautions should be taken for patients with comorbidities to avoid COVID-19 infection in order to prevent the worst prognosis.

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KEYWORDS

COVID-19; comorbidities; mortality; severe outcome; public health surveillance.

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