RISK FACTORS FOR MORTALITY IN PATIENTS WITH COVID-19: A SYSTEMATIC REVIEW

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ABSTRACT

Background: SARS-CoV-2, a new strain of the coronavirus, caused a global outbreak of fatal acute pneumonia. Globally, WHO has recorded 709,511 deaths from COVID-19, and the number is increasing. This study aimed to determine the risk factors for mortality in COVID-19 patients.

Subjects and Method: A systematic review was conducted by searching for articles from ScienceDirect, PubMed, SpringerLink, Scopus, and Google Scholar databases. The inclusion criteria were open access, English-language, and full-text articles published in journals between 20019 and 2020. The keywords were (*Coronavirus Disease 2019 AND clinical characteristics AND epidemiological characteristics AND comorbidities*) OR (*COVID-19 AND clinical characteristics AND epidemiological characteristics AND comorbidities*). A total of eight articles was reviewed to answer the research question. The data were analyzed by PRISMA flow chart.

Results: Based on the reports from China and Korea, a total of 1,314 (100%) COVID-19 patients who died was aged ≥ 60 years with comorbidity, in which 845 (64%) were male patients. Before the death of patients, the increase D-dimer level of $\geq 1 \mu\text{g} / \text{mL}$ and Sequential Organ Failure Assessment (SOFA) score of ≥ 4 were reported. It indicated the occurrence of multi-organ failure and Acute Respiratory Distress Syndrome (ARDS). Most of the comorbidities were hypertension, diabetes mellitus, and cardiovascular diseases.

Conclusion: Risk factors for mortality in COVID-19 patients include age at ≥ 60 years, male, and presence of comorbidity. The clinical features are D-dimer levels $\geq 1 \mu\text{g} / \text{mL}$, high SOFA score (≥ 4), and ARDS. Comprehensive efforts are needed to identify risk factors early and conduct effective treatment timely to reduce the mortality of COVID-19 patients.

Keywords: SARS-CoV-2, COVID-19, risk factors, mortality, comorbidity

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