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Prevalence and mortality of lung comorbidities among patients with COVID-19: A systematic review and meta-analysis

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COVID-19 infections are seen across all age groups, but they have shown to have a predisposition for the elderly and those with underlying comorbidities. Patients with severe COVID-19 infections and comorbidities are more prone to respiratory distress syndrome, mechanical ventilator use, and ultimately succumb to these complications. Little evidence exists of the prevalence of underlying lung comorbidities among COVID-19 patients and associated mortality. We performed a systematic review of the literature including PubMed (Medline), Embase (Ovid), Google Scholar, and Cochrane Library. The last date for our search was April 29, 2020. We included all original research articles on COVID-19 and calculated prevalence of chronic lung disease patients among COVID-19 patients using random effects model. Further, we assessed for mortality rates among COVID-19 patients associated with these lung comorbidities. The authors identified 29 articles that reported prevalence of chronic lung conditions among COVID-19 patients. Among those, 26 were from China and 3 from the United States. The pooled prevalence of lung comorbidities including asthma, chronic obstructive pulmonary disease (COPD), and lung cancer was 3% (95% confidence interval [CI] = 0%–14%), 2.2% (95% CI = 0.02%–0.03%), and 2.1% (95% CI = 0.00%–0.21%), respectively. Mortality rates associated with these comorbidities was 30% (41/137) for COPD and 19% (7/37) for lung cancer respectively. No mortality rates were reported for patients with asthma. This study offers latest evidence of prevalence of chronic lung conditions among patients with COVID-19. Asthma, followed by COPD and lung cancer, was the most common lung comorbidity associated with COVID-19, while the higher mortality rate was found in COPD. Future studies are needed to assess other lung comorbidities and associated mortality among patients diagnosed with COVID-19.

Biography

Mohammed has completed his Bachelor at the age of 25 years from Prince Sultan Military College of Health Sciences, Saudi Arabia, Damma and currently he is completing his MSc degree at University of Glasgow in critical care of medicine program in Queen Elizabeth University Hospital. He is a lecturer at Prince Sultan Military College of Health Sciences, Saudi Arabia. He has published recently published a paper titled Prevalence and mortality of lung comorbidities among patients with COVID-19: A systematic review and meta-analysis in Lung of India Journal.

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