Systematic review and meta-analysis of knowledge, attitudes, and practices regarding COVID-19 among chronic disease patients: A global perspective

Sotoodeh Jahromi Abdolreza, Jokar Mohammad, Sharifiv Nader, Zahernasab Amir Ehsan, Kariminezhad Negin, Rahmanian Vahid

Abstract

Background: Chronic health conditions were significantly correlated with an increased clinical severity of coronavirus 2019 (COVID-19) and a heightened risk of COVID-19 mortality. This study aims to determine global knowledge, attitudes, and practices (Knowledge Abuse Profile) of the patients with chronic diseases toward COVID-19.

Methods: The study was initiated in December 2019 and extended until April 2023, during which an extensive search for relevant English-language literature was conducted as part of this systematic review and meta-analysis. Google Scholar, Scopus, PubMed/MEDLINE, Science Direct, Web of Science, EMBASE, Springer, and ProQuest were utilized for the search. The quality of included studies was assessed using a quality rating checklist created by Joanna Briggs Institute for cross-sectional research. In the STATA software version 14, inverse variance and Cochran Q statistics were used for statistical analysis to assess heterogeneity among the studies. The Dersimonian and Liard random-effects models were applied in cases where heterogeneity existed.

Results: A total of 23 studies involving 14,587 patients contributed to this meta-analysis. These studies comprised 21 studies focused on knowledge, with 6864 participants, 12 studies on attitudes involving 3597 patients, and 12 on practices, encompassing 4126 patients. The pooled estimates for sufficient knowledge, positive attitudes, and COVID-19 preventive behaviors among chronic disease patients were determined as 48.2% (95% confidence interval [95% CI]: 33.9%–62.5%), 60.8% (95% CI: 46.8%–74.8%), and 58.3% (95% CI: 39.5%–77.0%), respectively. Over the years, there was a consistent decrease in adequate knowledge, positive attitudes, and COVID-19 preventive behaviors among the population. Specifically, regarding knowledge, the rates declined from 50.2% in 2020 to 49.7% in 2021 and dropped to 45.1%. Similarly, the percentage of individuals with a positive attitude fell, decreasing from 64.1% in 2020 to 60.3% in 2021 and dropping to 57.9% in 2022. Furthermore, COVID-19 preventive behaviors showed fluctuations, with the rates recorded at 63.7% in 2020, increasing to 75.4% in 2021, and then decreasing to 47% in 2022, in line with the publication dates of included studies.

Conclusion: The findings of meta-analysis show a significant decrease in the levels of knowledge, attitudes, and adherence to preventative interventions for COVID-19 among individuals with chronic diseases. The findings emphasize the need for targeted interventions, and ongoing education to address this trend.