

The Impact of Pre-existing Conditions on Post-COVID Outcomes



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ABSTRACT

By witnessing the way COVID-19 has impacted the world since its uprising in 2019, our research group had begun to develop questions based on the concerns not only on how our population has been impacted so far but also on how the general population as a whole will be affected by the long-term impact of COVID-19 in the future. The purpose of our research to identify the impact of pre-existing conditions on post COVID-19 outcomes through literature search. As the research progresses, we found that pre-existing conditions such as autoimmune disease, diabetes, hypertension, overweight/obesity, cardiovascular diseases, chronic illness, pregnancy, as well as demographic characteristics has significant immediate and long-term impacts of COVID-19. The impacts of COVID-19 ranged from severe symptoms, increase number of deaths to physical and mental health impacts. It also impacted the education during and after. The research helped spread awareness on how to understand and properly take precautions and appropriate measures when it comes to protecting oneself and others from COVID-19.

INTRODUCTION

Throughout the course of human history, diseases have plagued the globe incessantly, from the Bubonic Plague in the fourteenth century to the Spanish Flu in the early twentieth century. However, no pandemic or plague has inflicted such a profound impact as the novel COVID-19 pandemic of the twenty-first century. Rapid transmission of disease, unpredictable disease patterns, and varying degrees of severity in afflicted patients caused the scientific research community to dedicate every resource and effort into developing a vaccine during the height of the pandemic. Resultantly, minimal research was performed on the lasting residual effects during recovery from COVID-19. As the amount of research into this topic continually increases, this study utilizes literature from a range of peer-reviewed health journals and case studies to provide an overview of the lasting effects of COVID-19 on patients recovering from acute infection. This analysis will explore a variety of impacts that COVID-19 has inflicted on the individual patient to the state of modern health care in its entirety.

MATERIALS AND METHODS

The study evaluated trends using historical data, beginning with the COVID-19 outbreak in 2019 until now.

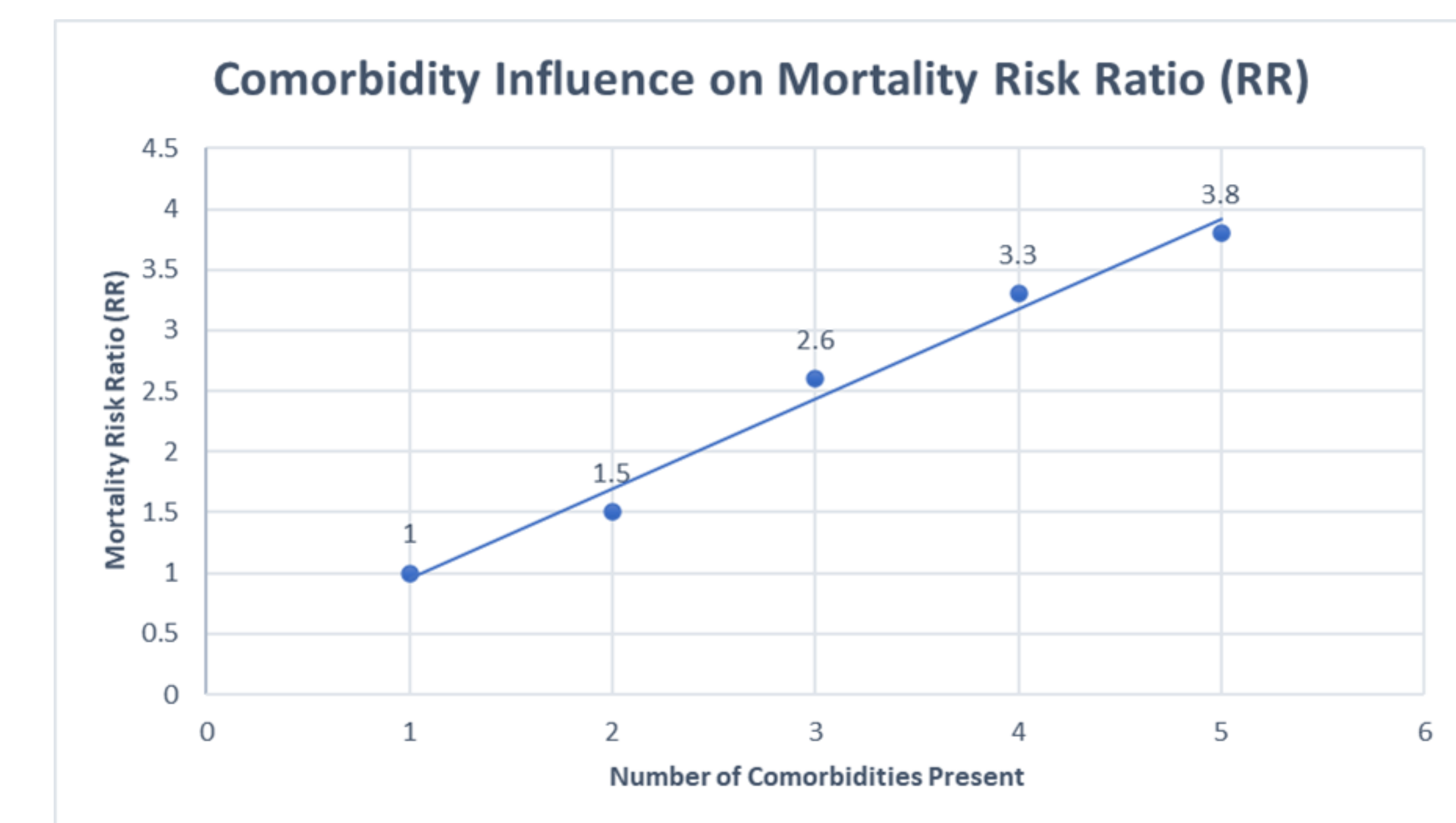
- Using fifteen peer-reviewed journal articles containing multidisciplinary
- Including criteria was
 - patients requiring hospitalization.
 - patients with autoimmune diseases or pre-existing health conditions
 - patients suffering from inauspicious social, cognitive, and neurological.
 - influence on patient's mental, psychological, and cognitive stability
 - impact on education
- Studies were executed with a focus on patient survivability after hospital admission and subsequent discharge to evaluate and analyze the cognitive effects and severity of post-COVID-19 diagnosis more appropriately.
- The study enabled researchers to understand the demands of patients more comprehensively with comorbidities in their recovery from post-acute COVID-19 infection.

RESULTS

- The literature reviews found pre-existing conditions which increase post COVID-19 negative health outcomes such as:
 - Autoimmune disease, diabetes, cardiovascular disease, and hypertension (Chang et al. 2023).
 - The impact COVID-19 on education and social groups because of social distancing and school closures:
 - 190 countries forced over 90% of students to partake in distance learning education,
 - 1.6 billion students being deprived of social interaction of in-person school.
 - children were unable to access nutrition, immunization, mental health, and psychosocial support and protection (Reuge et al., 2021).
 - 53% of children aged 10 years old experienced in a virtual resulted in above-average high school dropout rates (Education Commission, 2021).
 - gender, poverty, disability, ethnolinguistic status, and other social economic conditions also adversely affected students' education, further denying students a better education (Reuge et al., 2021).
 - 90% of students resulting in school closures worldwide.

RESULTS

Results from the data further show in this study that the odds ratio for patients with hypertension, diabetes mellitus, and cardiovascular disease poses a severe threat regarding preexisting health issues in Covid-19 patients (Nandy et al., 2020). The results indicate a considerable influence of hypertension as a comorbidity on severe residual symptoms in COVID-19 patients, as well as those with cardiovascular disease and diabetes mellitus.



Lastly, cohort studies showed that the results for lasting effects of acute COVID-19 infections suggested that patients with cognitive impairments had a lower probability of returning to work and higher probabilities of poor mental health, lowered physical abilities, and limitations in performing daily activities (Frontera et al., 2021). However, Henneghan et al. (2022) completed a similar study, where highly educated patients between the ages of 22 and 65 years old with a positive COVID-19 diagnosis revealed cognitive impairment in 40% of subjects after cognitive functionality tests during their hospitalization (Henneghan et al., 2022).

CONCLUSIONS

The study examined how COVID-19 affects people with pre-existing health conditions and identified those most at risk of post-diagnosis repercussions. The study focused on COVID-19 survivors, hospitalized patients, people with autoimmune diseases or pre-existing health conditions, and those who were socially, cognitively, and neurologically affected by the virus. Importantly, COVID-19 patients with autoimmune disease, cardiovascular disease, and other comorbidities were at substantial risk of suffering residual complications. COVID-19 has hurt social group education and resultantly, children were unable to access vital nutrition, immunization, mental health, and psychological support and protection programs. Furthermore, patients with hypertension, diabetes mellitus, and cardiovascular disease have serious pre-existing health concerns. Finally, cohort studies found that patients with cognitive impairments were less likely to return to work and more likely to have poor mental health, lower physical abilities, and difficulty performing daily activities.