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**Abstract.** COVID-19 is a severe infectious disease that has claimed >150,000 lives and infected millions in the United States thus far, especially the elderly population. Emerging evidence has shown the virus to cause hemorrhagic and immunologic responses, which impact all organs, including lungs, kidneys, and the brain, as well as extremities. SARS-CoV-2 also affects patients', families', and society's mental health at large. There is growing evidence of re-infection in some patients. The goal of this paper is to provide a comprehensive review of SARS-CoV-2-induced disease, its mechanism of infection, diagnostics, therapeutics, and treatment strategies, while also focusing on less attended aspects by previous studies, including nutritional support, psychological, and rehabilitation of the pandemic and its management. We performed a systematic review of >1,000 articles and included 425 references from online databases, including, PubMed, Google Scholar, and California Baptist University's library. COVID-19 patients go through acute respiratory distress syndrome, cytokine storm, acute hypercoagulable state, and autonomic dysfunction, which must be managed by a multidisciplinary team including nursing, nutrition, and rehabilitation. The elderly population and those who are suffering from Alzheimer's disease and dementia related illnesses seem to be at the higher risk. There are 28 vaccines under development, and new treatment strategies/protocols are being investigated. The future management for COVID-19 should include B-cell and T-cell immunotherapy in combination with emerging prophylaxis. The mental health and illness aspect of COVID-19 are among the most important side effects of this pandemic which requires a national plan for prevention, diagnosis and treatment.

**Keywords:** Alzheimer's disease, coronavirus, COVID-19, COVID-19 diagnostics, COVID-19 test, mental health, SARS-CoV-2, SARS-CoV-2 treatment, Remdesivir, Hydroxychloroquine, Avigan, Actemra, COVID-19 Nutrition, COVID-19 Rehabilitation, COVID-19 Clinical manifestations, COVID-19 Risk factors and comorbidities, COVID-19 Vaccines, COVID-19 immunotherapy, COVID-19 Natural Killer Cells and stem cell therapy, COVID-19 Janus Kinase Inhibitor 1 and 2, COVID-19 air filtration, Nanomedicine for COVID-19, COVID-19 mental disorders, COVID-19 domestic abuse, COVID-19 Alzheimer's Disease and dementia, COVID-19 complications, COVID-19 Screening, COVID-19 ophthalmology, COVID-19 Neurological implications, COVID-19 antiviral, COVID-19 Steroids, COVID-19 Convalescent plasma, COVID-19 anticoagulants, COVID-19 monoclonal antibodies

## INTRODUCTION

The report of the World Health Organization (WHO) states that the pandemic of SARS-CoV-2 has registered 15,785,641 confirmed cases globally and 640,016 deaths as of July 26, 2020 [1].

The first case of the Coronavirus Disease 2019 (COVID-19) was reported by Dr. Li Wenliang, an ophthalmologist in Wuhan China in December 2019. This respiratory disease presented similar symptoms to severe acute respiratory syndrome (SARS-CoV) in 2003. It was later named Severe Acute Respira-