

tory Syndrome Coronavirus 2 (SARS-CoV-2) [2]. COVID-19 affects every age group; however, the elderly are more prone to a severe symptom display and have a higher mortality rate. Even with the majority of affected people being under the age of 65 (83.2%), people over the age of 65 still stands for 79.5% of all COVID-19 related deaths in the United States (US) [3]. An average of 13.3% of people over the age of 65 have a proven neurological comorbidity, including dementia [4]. Although the elderly population is most severely affected by the illness, a new study has found a higher SARS-CoV-2 viral RNA load in young children's nasopharynx than what had previously been found in older children (>5 years old) and adults [5]. Young children might therefore be far more likely to spread the virus than the anticipated asymptomatic spreaders. In other words, individuals of all age groups are prone to both contracting and spreading the virus, even when mild or no symptoms are present [6].

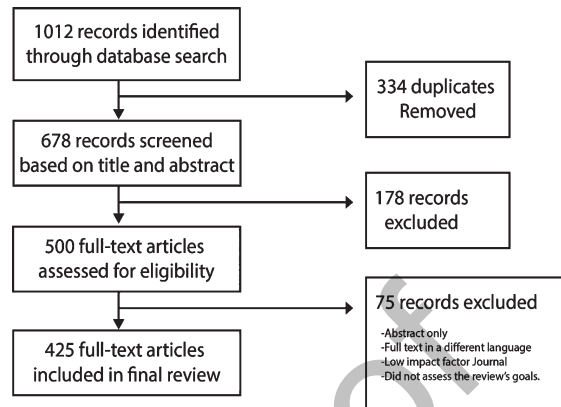
In recent months many papers have been published, criticized, discredited, and retracted. Thus, we believe this comprehensive review could update scientists about the state-of-the-science and technology and clarify any ambiguity about the current diagnostics and therapeutics strategies for COVID-19.

METHODOLOGY

As the COVID-19 pandemic surges worldwide, new information on the virus and its consequences are being published daily. We carried out a comprehensive review of available data to gather relevant information on the SARS-CoV-2 infection and organized it in a single article. Four primary investigators, VY, JB, JF, and SES, conducted searches for pertinent information published on the disease. In this paper, we focus on the virology, clinical features, risk factors and comorbidities, clinical manifestations, diagnosis, treatment, mental health, nutrition, rehabilitation, and general complications of COVID-19.

Search

Over 1,000 research articles, clinical studies, and news outlet sources with data and information about COVID-19 were assessed. Of the total number of articles, 425 individual records have been included in this review. No additional articles were retrieved after screening the references in both included reports and excluded reviews.



Databases used in the search for articles included PubMed, California Baptist University Library, ClinicalTrials.gov, Google Scholar, and multiple news sources. The search was restricted to articles about COVID-19 in English published between December 1, 2019 to August 4, 2020. We only considered articles for inclusion published in reputable journals with a high impact factor that pertained to the topic and investigational inquiries, as well as rigorous methodology.

Each article included was selected and reviewed by the 35 authors who then provided comments based on their area of expertise. Research papers were reviewed and critiqued independently; those not meeting the requirement for inclusion were excluded. Part of this data presented in this research paper is in development and not yet published, hence the need to convene a panel of COVID-19 treating specialists.

Keywords for the search included “COVID-19”, “Coronavirus”, “Novel Coronavirus Complications”, “COVID-19 Treatments, Epidemiology”, “SARS-CoV-2”, “COVID-19, mental health”, “COVID-19 neurology”, “ADRD”, “Alzheimer’s Disease”, “Long-term-care residents”, “COVID-19 renal”, “COVID-19 ophthalmology”, “COVID-19 rehabilitation”, “COVID-19 nutritional support”.

Articles on the origins of coronaviruses from the 1980s until the most recent ones were also included as additional background information for this article.

VIROLOGY OF COVID-19

Coronaviruses (CoVs) are enveloped, non-segmented, positive-sense, single-stranded, RNA viruses; belonging to the family *Coronaviridae*, broadly distributed in humans and other mammals [7].