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Role of NDDS in COVID-19

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ABSTRACT

The global healthcare sector has been dealing with a situation known as a novel severe acute respiratory syndrome (SARS-CoV-2) since the end of 2019. Covid-19 is an acronym for Covid-19 (Coronavirus Disease- 2019). The virus originated in bats and is rapidly spreading from its origin in Wuhan, Hubei province, China since December 2019. It causes a respiratory infection that includes cold, sneezing, coughing, and pneumonia. The disease is transmitted by inhalation or contact with infected droplets. The symptoms are usually fever, cough, sore throat, breathlessness, fatigue, malaise among others. The disease is mild in most people; in some, it may progress to pneumonia, acute respiratory distress syndrome (ARDS) and multi organ dysfunction. Many people are asymptomatic. Diagnosis is by detection of the virus in respiratory secretions by special molecular tests. The computerized tomographic chest scan is usually abnormal even in those with no symptoms or mild disease. Prevention involves home isolation of suspected cases and those with mild illnesses and strict infection control measures at hospitals that include contact and droplet precautions. The virus spreads faster than its two ancestors the SARS-CoV and Middle East respiratory syndrome coronavirus (MERS-CoV) but has lower fatality. Treatment is essentially supportive; role of antiviral agents is yet to be established. Therefore, in these tough times, most challenges with drug delivery, such as low water solubility and poor bioavailability, can be solved using NDDS. Nanotechnology has proven its role in medicine to deliver the drug at the target site with minimal side effects. Remdesivir has shown glimpses of how to fight the virus, but as of now we are far from victory.

Keywords: SARS-CoV, Covid 19, Diagnosis, Treatment, NDDS, Bioavailability

