

Nutritional Value and Mental Health Improvements Before and After Covid 19 Immunization

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Abstract

Severe Acute Respiratory Syndrome is the root cause of bronchitis and other serious illnesses. COVID 19 is a severe example of SARS, which the world is now dealing with. Seafood market in Wuhan, China, in the year 2019 was where the COVID 19 was originally discovered. Eventually virus spread to other nations. In February of 2020, the WHO classified it as a pandemic and gave it the COVID 19 designation. SARS is an infectious illness that may infect anybody. It can cause headaches, fevers, sore throats, sinus issues including colds and coughs, and breathing difficulties. SARS may spread directly or indirectly through a variety of channels. This review article's main goal is to concentrate on the most recent research on COVID 19 and its key features, such as its diagnosis techniques, prevention, control, improvement of mental health, nutritional value before and after COVID 19, vaccination, and long-term effects, as well as its new strains in the second wave and the impact of its second wave on various sectors, including education institutions, anganwadis, PHCs, healthcare workers, agriculture, and other.

Keywords: Covid-19; Plasma therapy; Symptoms; Vaccination; Nutrition; Second wave impact

Introduction

The term "corona" is derived from a Latin word that meaning "CROWN." This is a member of the nidovirales family and coronaviridae subfamily. The coronaviridae, arteriviridae, mesoviridae, and roniviridae families make up the order nidovirales. Nidovirales are characterised by having extremely large RNA virus genomes, high levels of replication due to conserved genome organisation, unique enzymatic activity, and ribosomal frame shifting of nonstructural genes. It is split into 4 categories based on the genomic structure, including alpha, beta, gamma, and delta. It may cause human respiratory tract infections ranging from a simple cold to a severe respiratory distress syndrome, which is why the current new covid-19 a beta Cov is named severe acute respiratory syndrome. It has a zoonotic origin and spreads by droplet and contact transmission [1]. When an infected person exhibits non-specific symptoms, molecular techniques are needed for virology identification and confirmation. In 2019, Wuhan reported the first incidence, which eventually spread to other parts of the world and became pandemic. Alphacoronavirus and beta coronaviruses in the Covid-19 virus family frequently cause colds and other minor upper respiratory tract infections in people. Analysis of clinical specimens revealed the presence of SARS-CoV-2 RNA in a variety of bodily fluids from infectious patients, including faeces and frequently in multiple sites, even from asymptomatic patients, and sometimes for a long time, leading to super spreading events. This includes respiratory secretions, typically nasopharyngeal or oropharyngeal specimens. Fever, coughing, exhaustion, shortness of breath, pneumonia, and other respiratory symptoms are hallmarks of COVID-19, which frequently leads to mortality [2-4]. The disease's impact is worse in the elderly, and death can reach 10%. Lower respiratory tract illness has also been linked to the corona virus, usually in the elderly, young children, and people with underlying immunological disorders. The biochemical and molecular properties of covid-19, which exhibits a phenomenal growth in primary and continuous cell lines and is also classified as a young or aged animal body of human illnesses, make it the finest human corona virus among all others. About 30 kilobytes (kb) make up the genome of the corona virus, which typically comprises three classes of broadly sized protein virions that range in size from 90 to 120 nm. A helical nucleoplasmid will be encircled by a lipid bilayer, which offers the genome its first

layer of defence. The Covid virus is distinct from all other viruses due to its special traits. Simple viral protein activities include influencing viral pathogenesis, illness outcome, controlling virus host interactions, and fostering viral multiplication. Non-structural proteins are the main broad category of replication-encoding Corona virus proteins. Two-thirds of corona viruses have virus proteins that are necessary for digesting polypeptides, creating viral replication complexes, and effectively replicating the virus. Furthermore, it has recently been evident that the replicase protein encodes essential virulence factors, controls viral growth efficiency, but also directly interacts with host proteins to directly enhance pathogen processes and also contribute to the severity of illness. In the Chinese province of Guangdong in 2003, bats transmitted the disease to humans. Later in 2019 COVID-19, which is comparable to SARS and was similarly brought on by a coronavirus (CoV), was discovered in the wholesale market for seafood and wet animals in Wuhan, Hubei Province, China. Goats, sheep, and cows in China also have intermediate host reservoir species [5-7].

Pathophysiology

Every virus has recognisable spikes, and the Covid virus is no exception. The diameter of the spikes ranges from 60 to 140 nm or, alternatively, 9 to 12 nm. This virus's spikes have a solar look. It can infect a new host through a variety of suggestions and gene mutations. According to some research, covid-19 is stored in bats, but pangolins, an intermediary host, infect people. Its biggest viral genome, which ranges in size from 8.4 to 12 kDa, was encapsulated by positive single-stranded RNA [8,9]. Different terminals make up each viral genome. As far as we know, these viruses have two different sorts of terminals, such as 5 and 3. The primary genome that is responsible for replication

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by encoding protein is the 5 terminal. Five distinct proteins, including spike protein, which serves as a fusion and connection between the host cell membrane and the virus as well as between infected and uninfected cells, are present in the 3 terminal protein. They are capable of neutralising antibodies. The nature of the virus's envelope is described by the membrane protein, which is the most prevalent protein structure overall. The nucleocapsid protein helps with transcription and assembly and is a component of viral transcription. The smallest of the five proteins with a mysterious effect, the envelope protein is strongly produced during viral replication in the host-infected cells. The haemagglutinin esterase protein regulates host specificity and receptor interaction [10-13]. We are all aware with the COVID incident from 2003. Bats served as reservoirs for this virus, which was ubiquitous across birds and mammals and contributed to ecological variety as well as an evolutionary reservoir. Covid can cause a wide range of illnesses in animals (including pigs, dogs, hens, cats, and cows), including porcine epidemic diarrhoea, porcine hemagglutinating encephalomyelitis, murine hepatitis, and others. Alpha and beta covid viruses are the two forms of covid virus that now affect people and can cause severe acute respiratory syndrome. End of 2019 saw the first reports of cases in Wuhan [14,15]. The wholesale market in Huanan, where chicken, snakes, and other animals were sold, is where the virus first spread throughout China. Through a variety of transmission routes, including droplet transmission, airborne transmission, and object transfer, this virus may result in a respiratory illness. Droplet nuclei are droplets with a diameter greater than or equal to 5-10 m that are used in droplet transmission. This might happen if someone who is healthy comes into close contact with someone who is experiencing respiratory symptoms, and there's also a potential that the sense organs (eyes, mouth, and teeth) could be exposed to droplets. When an infected individual coughs or sneezes at a close proximity, transmission may easily happen through droplets. Inanimate things that are nearby sick people may transmit the disease. When we connect with infected individuals, transmission may take place directly or indirectly depending on whether we touch or utilise previously used things.

Diagnosis: Reverse transcription polymerase chain reaction-based respiratory sample analysis is the standard method for detecting the COVID-19 virus. We can identify viruses in a variety of samples, including swabs, sputum, pharyngeal swabs, and faeces, but not in human urine. Saliva may offer a less-protective alternate method of viral detection, but further research is required to establish this. The most effective technique for finding Covid virus in samples is an RT-PCR kit. Computed tomography, which provides comprehensive details about Covid-infected patients as peripheral lung distribution and other is the best alternative tool for viral testing.

Treatment: It takes five days for symptoms to appear, and an infection may take up to eleven and a half days to spread. Diabetes (17-34%), hypertension (48-57%), cardiovascular disease (21-28%), chronic lung, liver, and renal illnesses (4-10%, 3-13%) are some prevalent diseases seen in infected patients who are hospitalised. It may cause some instability in physiological functioning and stop or slow down the function of the heart, brain, lungs, liver, and kidneys. The majority of patients are treated in ICUs due to severity and hypoxemic respiratory failure. Respiratory failure in hospitalised patients can result in renal disease, shock, abnormalities of the liver, bleeding, and clotting. For the reduction of pulmonary oedema, vascular damage, and systemic inflammation in COVID patients, fluid management and vitamin C are advised. Moreover, oxygen treatment is necessary for the recovery of roughly 75% of hospitalised patients. Patients who do not react to oxygen therapy are given additional therapies such as heated high flow

oxygen delivered through a nasal canula and broad range antibiotics. Antiviral medications used to treat patients were not specifically created for COVID-19; instead, they were created for illnesses including HIV, Ebola, influenza, and others.

Discussion

Within a short period of time, Covid-19 turned into a serious global epidemic. Both the fatality and infection rates are rising as a result. Covid-19 is a mysterious disease about which no one is currently certain of all the specifics, and which regularly raises questions and presents difficulties for researchers. There are several studies being conducted on the vaccination to stop this. We should immediately take measures, such as donning a mask and other items, in light of multiple clinical trials. Personal cleanliness is crucial to stop the transmission of the Corona virus since, as we all know, there is no cure. One of the most well-known and beneficial methods for treatment against viruses, plasma therapy has significant drawbacks, according to many evaluations. The circumstances discussed in this article are used in plasma treatment. Donating plasma to help other patients who have healed from COVID-19 is one of my honest requests or suggestions. Although some businesses have created a vaccine for this virus, it simply produces antibodies or strengthens the immune system. It does nothing to stop viral infection. There are several instances where people who have had a vaccine are also affected by COVID-19, however the severity may be lower.

Conclusion

Finally, I would like to mention that there is no specific therapy for this illness, so please use caution and abide by all the safety recommendations made by the authorities. We are now observing the rapid gene replication and viral virulence. The public should be made aware of this pandemic by the government. The government should fund enough necessities for patient care. We can thank the government for introducing new programmes to help those affected by the pandemic. Please strive to eat a healthy diet since nutrition plays a crucial part in this epidemic. Future replication and variation development are possible, therefore please keep your surroundings clean and take precautions to protect yourself. People panic when their test results are positive, so try not to panic and seek therapy at home. Many private hospitals nowadays are gambling with patients lives. Sincere appeals to Covid-infected patients please avoid overusing oxygen.

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Conflict of Interest

Author declares no conflict of interest.

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