



Vital Role of Medicinal Plant and Vitamin D in the Treatment of Covid19 and other infectious diseases.

Authors, MuhammadAizaz<sup>1</sup>,Ihteshamul Haq<sup>2</sup>, Fazli Zahir<sup>3</sup>, Habib Ullah<sup>4</sup>.

Collage of Life Sciences China Agriculture University<sup>1</sup>  
Graduate School of Biotechnology and Oriental Medicine  
Kyunghee University Suwon South Korea<sup>2</sup>

Department of Allied Health Science Iqra National University  
Peshawar kpk pakistan<sup>3</sup>

Department of Pathology Khyber Teaching Hospital Peshawar  
kpk Pakistan<sup>4</sup>

Corresponding Author Muhammad Aizaz

**Abstract**

The first COVID-19 test was held in Wuhan, Chinese, at the end of December 2019 and was rapidly spread in China and then rapidly spread to 209 different countries as a result of this experiment. COVID-19 deeply affected world trade and killed around the world estimated at 7.7 million people. In this review article we will examine how vitamin D can control the corona in the future, as well as the extent to which certain antiviral plants will affect the corona.

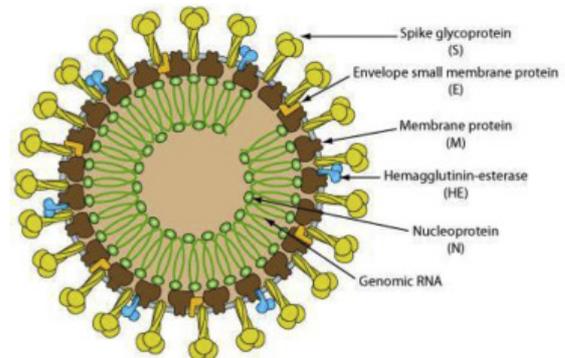
**Keywords.** Vitamin D, Antiviral plants, Precautions

**Introduction**

Wuhan Health Committee, Hubei Province of China, warned the Chinese CDC against the WHO and the National Health Commission, on 31st December 2019, about different cases of pneumonia, from unknown etiology. The symptoms of these patients were showed fever, dyspnea, dry cough, anradiological problem, glassy opacity and lungs bilaterally. Further, the public health office got more information, and reach to that result, that these 27 cases have been caused because of "Huainan Seafood Market wholesale that trades live bat species, rats, pangolins and sneak peeks was launched more quickly in the Wuhan area, which is the fleshpot of a pandemic, and Wuhan was one of China's top five most famous cities in 2018 with 11.08 million inhabitants in 2018, with Wuhan being home to the highest density in population and proximity to the market selling live animals. Initially, the lack of contentment because of inability, the history had been traced of the early Patients that contributed rapidly spread in Wuhan. Finally, this "pneumonia" disease was announced in the WHO '30 January 2020 and '11 March 2020' to begin with a second outbreak, which the World Health Organization has confirmed to be the pandemic of "corona virus" because of the worldwide logarithmic increase of cases (COVID-19). [2]

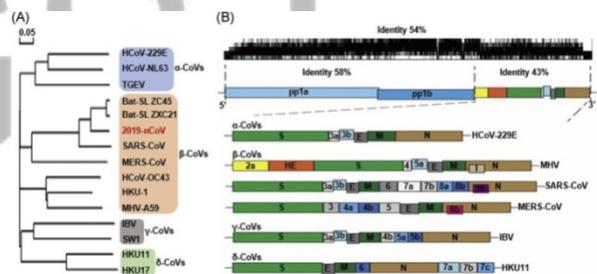
**The Composition of covid-19**

COVID-19 is a single - strand globularshapedRNA binds to the nucleoprotein inside the capsule containing the matrix protein.The coat has band-formed projections of glycoprotein. Most coronaviruses also have a hem protein called agglutinin-esterase (HE). [3] Fig 1



**Figure**

The largest genomes (26.4–31.7 kb), including all the famous RNA viruses. In which the content of G + C is 32% to 43%. There are a small number of small ORFs between different genes and different coronavirus lineages in downstream of the nucleocapsid. The Viral genes have specific characteristics are found. It also contains a unique N-terminal fragment inside the spike protein. In all coronaviruses, the genes of proteins are in the order of 5% -3% order as S, E, M, and N.[4]Fig 2



**Figure 2**

The new coronavirus is shown in red in the phylogenetic tree of representative CoVs. B, The genome structure of four coronavirus genera: two long polypeptides 16 Pp1a and pp1b represented nonstructural proteins. S, E, M and N consist of the tube, ring, membrane and nucleocapsid of four structural proteins. Covid-19; coVs, coronavirus; Ah, blood sterase. Viral names: HKU, Hong Kong University-identified coronavirus, human coronavirus, the IBV, bronchitis-infective infection virus, MHV, hepatitis murine virus, TGEV, Gastroenteritis virus transmission. [5]

At least six ORFs in a typical CoVis present in its genome. The first OF (ORF1a / b) encoded 16 NSPs (nsp1-16) over a 2 third length of the entire genome, with the exception of the gamma coronaviruses containing nsp1. The formation of two polypeptides results in a large frameshift between ORF1a and ORF1b. Pp1a and pp1ab.Pp1a and pp1ab. These polypeptides are converted into chemotrypsin-like (3CLpro) or Main Proteases (Mpro), and 16 nsps into 1 or 2 papain-like proteases. The coVs are translated from the coVssgRNAs of all functional and vital protein.A one-third of the genome, close to 3'

terminal, is enveloped in four core protein spikes (S) membrane, (M) nucleocapsid (N) proteins (ORF 10, 11).[6] In addition, different CoVs are unique in these four major essential proteins. Protein structural and component. For example, HA protein proteins of 3a / b and 4a / b. These proteins perform important functions in genome restoration in addition to virus replication.[7] The membrane bilayer is spread Leaving the small NHD2 terminal region outside of the virus three times and a large COOH (cytoplasmic) terminal within the virus three times.[8] Spike protein (S) acts as a membrane to form glycoprotein peplomers. In fact, the biggest stimulus to neutralize antibodies is S-protein. There's also a biochemical relationship among envelope proteins that could theoretically establish the shape of coronary membranes. MS has an important role to play in the intracellular development of the virus parts without the need to grow them.[9]

### Variations among COVID-19, cold and influenza

Thousands and millions of viruses are responsible cold. Most of them are rhinoviruses and coronaviruses in the benign form. The virus is a benign form that plays a key role in causing cold. Cold and COVID-19 have symptoms in comparison with influenza-causing family influenza (Orthomyxovirus). Pyrexia (fever) is uncommon in colds, but both COVID-19 and influenza present this symptom.[23] In the common cold, the appearance of cough and tiredness is rare. During severe cold, Coryzal symptoms (influenza suffering) such as rhino-rhea and nasal congestion are prevalent, with flu and COVID-19 being rare. The Virus, respiratory system disease, has the same disease as the flu. The clinical diagnosis of these diseases is various, and this disease is recognized as pneumonia. In addition, both COVID-19, fluid-borne diseases transmit touch, gout and fomite (toys, clothes, books, etc., to convey these diseases). That's why, etiquettes respiratory and hand hygiene technique will be beneficial in preventing the disease spreading. Another factor, that spread this disease, that is the basic Reproductive Number (Ro). Therefore, a patient with COVID-19 will transmit 1.9 times more new contact with influenza than a patient with influenza. Flu Virus has a 1.3-rated Ro and SARS-cow-2 has a 2.3-rated Ro. In comparison, patients with COVID-19 (SARS-CoV-2 viruses) could become infectious as compared to SARS (the Cause of SACS-CoV-1), incubating (Disease initially starts up to the end of diseases) and often asymptomatic. [24]

In the table below, we can see the virus family, Thevirus (diseases) and incubation period. Fig 3  
**Figure 3**

Virus Family	Virus (Disease)	Incubation of Period	References
Coronavirus	SARS-CoV2(COVID(19)	2-14 days	32
	SARS-CoV-1 (SARS)	2-7 days	33
	MERS-CoV(MERS)	5 days	34
Orthomyxovirus	H1N1 Influenza A (swine flu)	1-4 days	35
	Influenza A (Seasonal flu)	2 days	36

### Role of Vitamin D;

We are well aware of normal metabolism and the functions of vitamin D [10] Vitamin D has many mechanisms that reduce significantly the risk of microbial infections and death, and it is extremely important to play a part in reducing the risk of colds. The three components are: physical barrier, naturally occurring cell immunity and adaptive immunity.[11] In maintaining joints, gap joints and cross-joints (eg, E-cadherin), vitamin D plays an important rol. [12] Discussed on how viruses affect the growth of crossover integrity Virus and other microorgae infection's Infection.[13] Vitamin D is an immune modulator.[14] 1,25 (OH) suppresses the 2D3 reaction. By primarily suppressing the production of inflammatory cytokines through T helper cell type 1 IL-2 and interferon gamma (INFγ). [15] In addition, 1,25(OH)2D3 plays an important role in the production cytokines. By T helper type 2 cells which help to increase the indirect pressure of Th1 cells. A number of cell types are helpful in mediating operations. 1,25(OH)2D3 promotes T plays an important role in involving regulatory cells and so the inflammatory process can be prevented.[16] The concentrations of serum 25 (OH) Vitamin D decrease at age. [17] This can be M for COVID-19 when age increases the fatality rate (CFR). [18] Spending less time in the sun leads to a decrease in the production of vitamin D, which in turn leads to a decrease level in 7-dehydrocholesterol in our body.[19] Supplementation of vitamin D will also enhance the

expression of antioxidant genes (glutathione reductase and modifier subunit glutamate – cysteine ligase).[20]Enhanced glutathione the use of antifungal vitamin C removed. Enhanced glutathione Prevention and treatment of COVID-19 is recommended. [21] In addition, Dr Tom Frieden, a former Centre, proposed the use of vitamin D to control pandemic COVID-19.

(<https://www.foxnews.com/opinion/former-cdc-chief-tomfrieden-coronavirus-risk-may-be-reduced-with-vitamin-d>).

### **Role antiviral medical plants**

Here we will discuss about plants that are resistant to viruses. We extract Cyanovirin-N from Marine algae and it can prevent HIV effect. It inactivated irreversible HIV by maintaining transmission and cell cancellation in HIV cell fusion while maintaining a strong relationship with gp120. [25] The sulfate polysaccharide group extract from sea rivers has anti-HIV effects by interfering with the virus. [26] Baicalein purified from *Scutellaria baicalensis* Georgi, is a flavonoid compound, which shows anti-inflammatory and anti-HIV activities by inhibiting with HIV-1 entry in target CD4 cells. [27] Through *Phyllanthus amarus*, In vitro as well as in vivo, we can inhibit HIV replication. [28] The movement of acute infection and cell to cell transmission of HIV through olive leaves can also be stopped. [29] The *Aframomum melegueta* and *Bambusa vulgaris* tradition are used in the African tradition against smallpox and measles viruses. [30] According to the previous studies, *P. Americana*, *Mirabilis jalapa* and *Dianthus caryophyllus* protect themselves from the virus infection through the presence of RIPs in the plant. [31]

### **Role of Quarantine in pandemic and Precautions,**

It was measured in 1918 as an emergency disease to address the pandemic influenza, and it was found on three rollers from 1918-1919 to achieve some health response. The majority of scientists noted that this virus is caused by a bacterium. In 1892, Richard Pfeiffer saw *Haemophilus* (the germs that live in the blood) as influenza. [32] The second flu in the twentieth century, the "Asian flu" pandemic from 1957-58, was started in some countries and some took measures to control the disease in the first place. The WHO provides worldwide services to this new influenza (H2N2) since that virus spread across China in February 1957 and then across the world. It has also provided medications that are accessible externally for complication diseases since diagnosing flu (influenza) in 1933. When the pandemic started, schools in many countries were the first target. The vaccine was made at that time, but this was not accessible. [33] This virus began in Hong Kong for the first time in 1968 and was introduced into the USA in

1968. The disease was also critical, since there was no containment measured in the world since winter 1968 1969. The condition was critical. To control the onset and stress of this disease, quarantine and other health resources are beneficial and powerful. When approaches were discussed, which was uncontrollable and riots most regimes were widespread, they were political in every period. These tactics were increased and political, social and moral complications continued. [34]

### **Quarantine**

On the other side, quarantine was used to separate or under the limit the activities of those patients, who directly suffered this disease, they would be in observation, whether or not, they get the disease later. [35] Quarantine is a good measure that was beneficial to control the spreading of many diseases and animal infectious diseases e.g (SARS) from 2003 along with the 2009 swine influenza outbreak. [36] Quarantine is the best tool to control the disease. This measure of public health has been used more in the fourteenth-century in Italy in the boats in the port venic out of plague- infected had to stop and wait for the patients for 40 days before landing the passengers. [37] Quarantine was set up during the (SARS) starting in 2003 as an effective step. [38] Quarantine means to stop the movement of persons, who diagnosed with the infectious disease, but wasn't ill, they weren't infected or they were in the incubation period(4). The quarantine will be chosen or compulsory. If symptoms occurred, the patients should be isolated to treat the disease. Where the patient feels instantaneously detection of this disease, quarantining was successful in those situations. Contacts can be recorded and tracking in a period with the issuance of quarantine with voluntary compliance to this issuance.

### **Isolation**

'Isolation' means the separation of infected people from non-infected people from sick people who suffer from contagious diseases to help protect non-infected people. A negative pressure facility and the transmission by aerosols of diseases have been set up in an insulation chamber. Moreover, Droplets such as COVID-19 have without negative pressure rooms been achieved by disease management. The isolation of patients was effective when the disease was detected in the first stage of disease transmission. Influenza disease was transmitted prior to symptoms and symptoms, then isolation was too early to control and reduce transmission of the influenza pandemic. COVID-19 is longer than influenza incubation time. [39] When the patient was sick, the viral shedding was very strong. That's how it works. Long-term incubation allows more time to classify and isolate cases. This – n CoV 2019 incubation period was the average of five days. [40]

## Social Distancing

Social distance 'can be defined as "the reduced relationship between people in a community, between whom some people have been infectious but are not isolated or identified yet. Since people need the immediate provision of the breathable gout disease, the disease was overcome by social distancing was used in a place where cases of disease are not clear where the transmission of communities was considered to have happened. Distancing individuals and decreased transmission. [41] The perfect definition of this gap consists of closing all markets and closing schools or office premises along with the cancellation of meetings. Isolation is the separation of the non-infected from the infected sick with contagious diseases, which is normally performed in hospitals. A negative pressure facility was set up in an

## Discussion

The condition of the coronavirus is deteriorating day by day. If this continues, it could be catastrophic for human and human development. To control them, we should choose vitamin D in the future and a plot that offers resistance to the virus. If the body is deficient in vitamin D, the virus can easily attack the body. Therefore, we must maintain the amount of vitamin D in our body. If we choose a plant that has already shown resistance to this virus, it can control the virus to a great extent. Similarly, along with dangerous diseases, we should also take precautionary measures as it can control the disease to a great extent and prevent the spread of the disease to others.

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