INTERNATIONAL JOURNAL OF UNANI AND INTEGRATIVE MEDICINE

E-ISSN: 2616-4558
P-ISSN: 2616-454X
www.unanijournal.com
IJUIM 2024; 8(3): 177-184
Impact Factor (RJIF): 6.3
Peer Reviewed Journal
Received: 02-05-2024
Accepted: 05-10-2024

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Health insights on Covid-19: A review from the Unani perspective

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DOI: https://doi.org/10.33545/2616454X.2024.v8.i3c.395

Abstract
The Corona Virus Disease 2019 (COVID 19) pandemic caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). It is highly contagious that originated from Wuhan, Hubei province, China. The virus has now spread to several countries across the globe and has become a major threat to health and lives of people. It primarily affects the respiratory system and particularly the lungs. The pathogenesis of COVID 19 starts with the bonding of the virus to Angiotensin- Converting Enzyme 2 (ACE2) receptors expressed in many tissues in the body, and the triggered excessive immune response plays a critical role in the course of the disease. Fever, dry cough, dyspnea, fatigue and sore throat are the foremost clinical manifestations of COVID 19. This review aims to focus on the concept of COVID 19 in the perspective of Unani and Allopathic medical systems and to collect information on management COVID 19 in the perspective of Unani and Allopathic medical systems. In this review report we collect details from Unani classical books and databases like PubMed, Research gate, Google Scholar, Science Direct and the Journal articles, reports and government documents of Epidemiology Unit/ Ministry of Health-Sri Lanka, CCRUM-India, Ministry of Ayush, World Health Organization (WHO) and some Unani keywords were used to find the concept of COVID 19.A total of 30 Papers published during 2019-2020 were collected and were subjected to screening. The title, abstract and key words of each paper were checked for relevance, and 25 papers were found suitable for my study.
There is no definite therapeutic drug or vaccine available for COVID 19. Unani system of medicine is one of the traditional systems of medicine. The Corona Virus Disease 2019 (Covid-19) is not mentioned in Unani literature. But, according to the symptoms of covid-19 are mostly related to the condition called *Nazla e Wabaiya* (epidemic influenza), a type of *Amraz e Waba* (Epidemic disease).

Keywords: SARS-CoV-2, Corona Virus, Epidemiology, Nazla *e Wabaiya, Humma e waba and Amraz e Waba.*

Introduction
WHO and Epidemiology Unit, Ministry of Health, Sri Lanka reported that the novel coronavirus an infectious disease ("COVID-19") was first identified in December 2019 in Wuhan City the capital of Hubei Province in China. As the number of cases increase the disease has been shifting from Wuhan region in China to other regions and the outbreak continues to spread across the world. Early cases suggestive of a continuous common source, potentially at Huanan Seafood Wholesale Market, and later cases suggestive of a propagated source as the virus began to be transmitted from human to human [1, 2].
WHO reported that On January 2020, the Chinese authorities confirmed that they had isolated a new virus from the corona virus family? On 30 January 2020, WHO Director - General declared the outbreak as a "public health emergency of international concern". On 11th February 2020 this disease was named as "COVID 19" by WHO. On 11th March 2020, COVID 19 was characterized as a pandemic. Later it was named as Severe Acute Respiratory Syndrome Corona Virus 2 (SARS CoV 2) by the International Committee of Taxonomy of Viruses (ICTV) [2].
According to the reports of Epidemiology Unit, Ministry of Health Sri Lanka, With the first confirmed case of Coronavirus reported from Sri Lanka on 27th January 2020, Sri Lanka has experienced for the first wave of Covid-19; Whom was a patient of Chinese national who came to Sri Lanka as a tourist for 2 weeks. Then the number of infections increased in mid-March. Gradually the first wave was becoming quiet, and it was reported that the totally affected cases were 3, 396 with just 13 deaths [1]. Epidemiology Unit, Ministry of Health, Sri Lanka and WHO reported that Sri Lanka has been experiencing the second wave COVID-19 since October 4th, 2020, to date. It has been reported that it has the mutation associated

with high transmissibility. Also, the virus is more virulent than the virus which caused the first wave [1, 2].

Hassan *et al*, reported that the causative agent SARS CoV-2 is a beta corona virus. It is an enveloped RNA virus that is diversely found in humans and wildlife. They are known to infect mainly the respiratory system and other systems [3]. Tizaoui *et al*, reported that the virus uses different transmission routes, target cells and tissues with Angiotensin- Converting Enzyme-2 (ACE-2) protein, which makes it contagious [4]. Moazzam *et al*, reported that fever, dry cough, sore throat, pneumonia, septic shock and ground-glass opacities in the lungs are the foremost clinical manifestation of COVID 19.

Immunocompromised patients are at high risk for COVID 19 infection and may lead to death [5]. Mirzaie *et al*, reported that treatment of COVID 19 is primarily supportive and the role of antiviral agents are yet to be established. However, at present there are anti COVID 19 drugs and vaccine are in the development stage in various countries. So, emphasis is given on preventive measures and symptomatic treatment. [6]. The government of Sri Lanka has implemented a sequence of control measures including nationwide curfew, inter district travel restriction, and lockdown of high-risk villages to reduce the growth rate of the COVID-19 pandemic.

Methodology

COVID 19 is a current critical public health issue. So, there are no direct details in the classical books. But there are indirect details in classical books. In this review report we collect details from Unani classical books and databases like PubMed, Research gate, Google Scholar, Science Direct and the Journal articles, reports and government documents of Epidemiology Unit/ Ministry of Health-Sri Lanka, CCRUM-India, Ministry of Ayush, World Health Organization (WHO) and some Unani keywords were used to find the concept of COVID 19. A total of 30 Papers published during 2019-2020 were collected and were subjected to screening. The title, abstract and key words of each paper were checked for relevance, and 25 papers were found suitable for my study.

Results and Discussion

Etiopathogenesis of Covid-19 in Unani and Allopathic Perspectives

Yang *et al*, reported that Corona viruses belong to the family of *coronaviridae*. This family further divided into four genera: alpha, beta, gamma and delta CoVs. Alpha and beta corona viruses originate from bats and predominantly infect mammals, while gamma and delta coronaviruses originate from birds and are capable of infecting birds and mammal species [7].

Ahmed *et al*, reported that several human coronaviruses like HCoV- 229E, HCoV- NL63, HCoV HKU1 & HCoV OC43 tend to cause mild respiratory diseases and MERS and SARS CoV causes severe respiratory syndromes [8].

Fadaka *et al*, reported that SARS CoV 2 is a seventh-generation beta corona virus. It is spherical shape with its size ranging from 60- 140 nm in diameter. It consists of envelop and single stranded positive sense RNA genome, different types of proteins and lipid layer [9].

Kakodkar *et al*, Fadaka *et al*, Ahmed *et al*, and Yang *et al*, reported that Proteins are nucleocapsid proteins, envelop proteins, membrane proteins and spike proteins. Nucleocapsid proteins are heavily phosphorylated, and they help to bind and pack viral genome and regulate RNA synthesis during viral replication. Envelop proteins are smallest of the structural proteins and they are vital for virus production and maturation and also facilitate in the release of the virus. Membrane proteins are most abundant, and they are involving in organizing viral assembly. Spike proteins are large and heavily glycosylated transmembrane proteins give appearance of crown. So, these viruses are called as coronaviruses. These spike proteins consist two subunit, S1& S2 [7, 8, 9, 10].

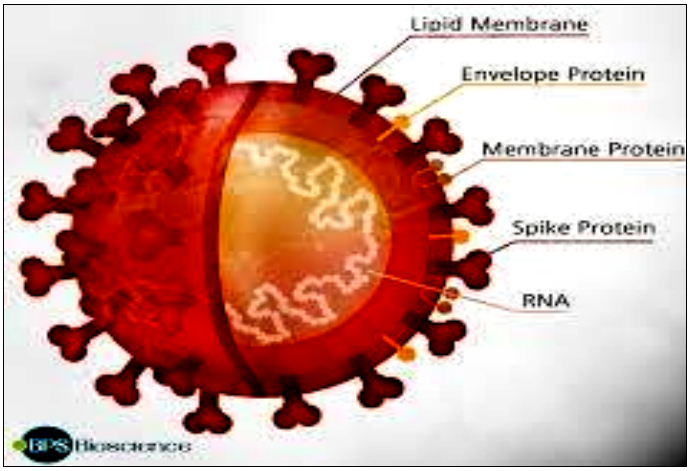

Fig 1: Structure of SARS CoV-2

Etiopathogenesis of Covid 19

According to the WHO reports that severe acute respiratory syndrome (SARS) Coronavirus (CoV)-2-related (SARS-CoV-2), which is responsible for the COVID-19 pandemic [2]. Moazzam *et al*, reported that it is a type of beta-CoV. The life cycle of SARS-CoV-2 is divided into four stages: (i) entry of the virus, (ii) protein expression, (iii) transcription, and (iv) release of the virus from the cell [5].

According to the reports of WHO and Epidemiology Unit, Sri Lanka reports that the virus enters the respiratory system, when the droplets are inhaled, touching the eyes, buccal or nasal cavity with a contaminated hand [1, 2].

Kordzadeh-Kermani *et al*, reported that SARS-CoV-2 binds to their target cells through Angiotensin-Converting

Enzyme-2 (ACE2). ACE2 is a protein, which is highly expressed on multiple human cells mainly type II alveolar cells (AT2), upper respiratory tract epithelial cells, small intestine enterocytes, myocardial cells, proximal tubule cells of the kidneys as well as urothelial cells of the bladder [11].

Moazzam *et al*, and Kakodkar *et al*, reported that envelope-based spike protein (S protein) on SARS Cov-2 is the principal determinant of virulence. This protein controls the specific tissue affinity or tissue tropism, infectivity, and species diversity. It has two types of domains: i) S1 domain and ii) S2 domain. The S1 domain of this protein is responsible for receptor binding, whereas the S2 domain is crucial for cell membrane fusion. The S protein is cleaved at the S2 site, present just adjacent to fusion peptide by host protease TMPRSS2. This event causes permanent structural change to facilitate viral entry into susceptible cell [5, 10]

Singh *et al*, reported that after the viral entry, the RNA genome of the virus is released in the cytoplasm and then undergoes translation, followed by transcription, through which the virus continues to replicate. After the formation of viral proteins by translation, these new proteins are inserted into the endoplasmic reticulum or Golgi apparatus. When viral RNA is combined with the proteins, the nucleocapsid is formed. Finally, the newly formed viruses enclosed in the vesicles are released by exocytosis. By the process of exocytosis, the new virions are escaped out from the diseased cell and can contaminate various organs like liver, kidney, intestines, T lymphocytes etc., as well as the respiratory system [12].

Ozturk *et al*, reported that if the immune system is not activated, the virus reproduces faster. If the immune system is clearly activated, it causes a cytokine storm and induces a multisystemic effect. (See Figure 2). The active host immune reaction, including innate and adaptive immune to SARS-CoV-2, is essential for controlling and resolving viral infection. Both innate and adaptive immune cells are synergistically involved in the antiviral response during infection [13].

Nafisha *et al*, reported that viral entry and cellular infection trigger the immune response of the host cell, and the inflammatory cascade is initiated by antigen-presenting cells (APC). The process starts with APC performing 2 functions: (1) presentation of the foreign antigen to CD4 + -T-helper (Th1) cells and (2) release of interleukin-12 to further stimulate Th1 cell. Th1 cells stimulate CD8 + -T-killer (Tk) cells that will target the cells containing foreign antigen. In addition, activated Th1 cells stimulate B cells to produce antigen specific antibodies [14]. Jin *et al*, reported that the inflammatory process can accelerate the apoptosis of lymphocytes while stimulating the synthesis of neutrophils. This irregular response given by the immune system and immunological abnormality may result in conditions leading to death. Rajendran *et al* reported that for the SARS-CoV-2 infection, antibody-dependent enhancement (ADE) is considered to be one of the potential underlying mechanisms as in some cases of other viral infections [15].

Ozturk *et al*, reported that interaction of FcR with the virus-anti-S protein neutralizing antibodies (anti- S-IgG) complex may catalyze both inflammatory responses and persistent viral replication in the lungs [13].

According to the statement of Jin *et al*, cytokine storm is an extreme and severe reaction (hyperreaction) given by the immune system, where large amounts of cytokines are rapidly released into the systemic circulation. Exuberant inflammatory responses occur during the clinical course of the SARS-CoV-2 infection, which subsequently results in uncontrolled pulmonary inflammation. This is probably the leading cause of case fatality [15].

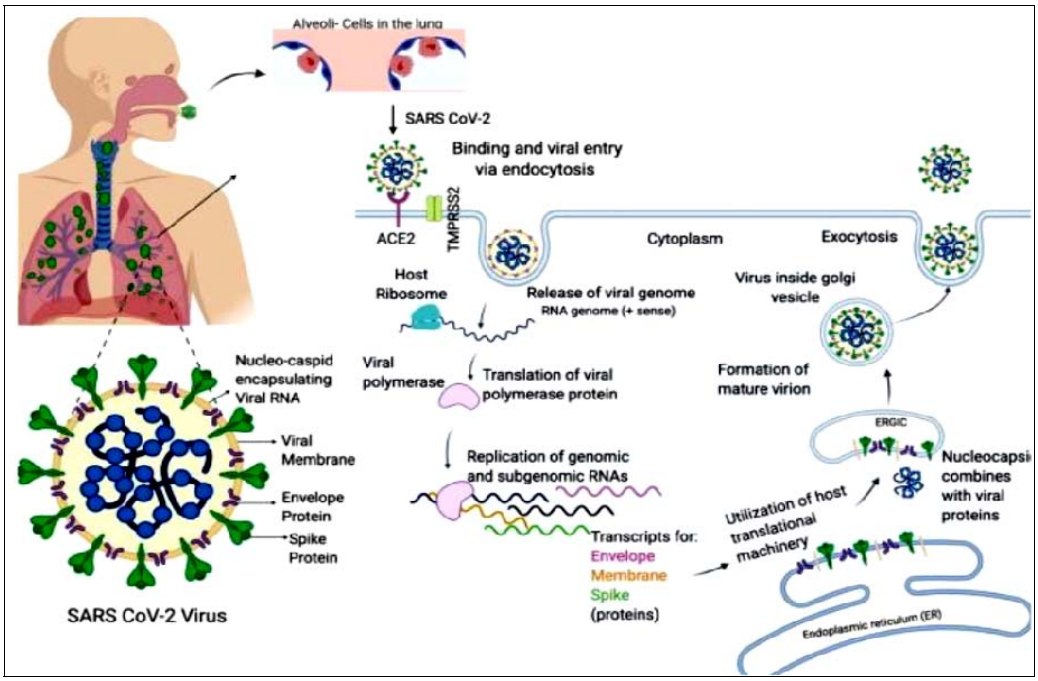

Fig 2: The critical steps of pathogenesis of the SARS-CoV-2 infection

Unani Concept of covid-19

According to the Unani concept, there is no direct description in Unani system of medicine about coronavirus in general and in particular coronavirus disease 2019 (COVID-19). Nikhat S & Fazil M, reported that Persian scholar *Najeebuddin Samarqandi* said it can be explained under the heading of *Humma-e-Wabaiya* (Epidemic fever) and *Nazla-e-Wabaiya* (Epidemic influenza), a type of *Amraz*

e waba Epidemic disease). The symptoms of *Nazla- e-Wabaiya* and *Humma-e-Wabaiya* mimic with the symptoms of COVID-19. *Waba* means putrefaction [16].

Alam *et al* stated According to the *Avicenna's* Medicine book, there are 3 major prerequisites for an epidemic. 1. Presence of infectious agent, 2. Presence of susceptible person, 3. Favorable environment. (See Figure 2). The predisposing and environmental causes will share an agent to affect health status. The environmental cause is the most common cause of an epidemic or pandemic [17].

Avicenna in canon of medicine described Changes in air are either in its composition or qualities. The change in composition happens when one of its components becomes excessive or rare, and this induces epidemics due to the putrefaction in the air. Air with high humidity is conducive to epidemics and putrefaction. Seasonal variations mainly end of the summer and beginning of the autumn increases epidemics because *tabi'at* will fluctuate. Finally, it gives rise to abnormal temperament of *Rooh* (Sprit). Air may affect the health of any person, and it depends on the intensity of contamination. Mainly those people are susceptible to those who have a weak immune system i.e. older and children, accumulation of waste humors and widening of skin pores [18].

These change leads *soo e mizaj sada* or *maada*. If is less virulence, it leads to *soo e mizaj sada.* If virulence is high, it leads to *soo e mizaj maada*. Unani scholars had described etiological factors for *Amraz-e-Waba.*

Avicenna in canon of medicine described that the changes that occur in the air are similar to those of which occur in water, which is why the quality of the air changes to hot or cold and the constituents or temperament of air changes. Due to these changes, changes in color and taste and putrefaction are produced. When the air is "pure", it is not infected, it becomes infected when "impure vapors" blend (combine) with it and turn the air into poor quality air. The reason for this change generally is that when the wind travels from one place to another, it brings along infected air [18].

Ibn- Sina described that when changes occur in the air the troubles are get created in the body, when the air gets putrefied the humors also become putrefied. This putrefaction starts in the humor of the heart. And certain *ajsam-i-khabitha* (bad substances) can migrate from the diseased to healthy persons and may cause diseases [19].

Zakariya Razi (865-925 CE) stated in his book *Kitab Al Mansoori* (Book dedicated to Caliph Mansoor), most epidemics spread in the autumn season, especially if the preceding summer season was humid, and the wind is still. The fourth chapter of *Al-Mansoori* discuss about infectious diseases which are more common in rainy season [20].

Khan SH, & Rahman AK reported that an eminent Unani physician *Galen* (129-200 CE) postulated that certain diseases caused by pollutants tend to be carried by wind and hence, do disseminate faster; these enters into human body through respiratory route.

According to *Jalinoos* (Latinized as Galen, 131-199 CE), 'a physician should always keep an eye on changes of weather and air.

During the 14th-century plague pandemic, Spanish scholar *IbnKhatima* (1364-1369 CE) mentioned in his treatise "*Tahsilgaraḍal-qasid fitafsil al-maraḍ al wafid* (succeeding in clarifying pest disease) that 'I have observed that a person who comes in close contact with a patient of plague will start suffering from the same symptoms" [21].

These are proved that ancient scholars of Unani medicine had excellent knowledge about disease transmission.

Nikhat S, Fazil M, reported that Ibn Hubal Baghdadi (1121-1213 CE) mentioned in his treatise *Kitab al-Mukhtarat-fil-Tib* (The Book on Choice of Medicine), if southern winds are replaced by northern winds, then catarrhal illnesses will occur in abundance. Because, as stated by *Razi* in the 15th volume of his treatise *Kitab al-Hawi* (The Comprehensive Book of Medicine), southern winds are warmer while the northern winds are colder, and this change of temperature makes people more susceptible to respiratory infections. *IbnSina* (980-1035 CE) stated that epidemics spread from one person to other and one city to another 'like a message'. *Zakariya Razi* (865-925 CE) stressed this fact and stated that there will always be something common in patients of epidemics, whether a place, food, drink or travel history. During the 14th-century plague pandemic, Arabian scholar *Ibn Khatib* (1313-1374 CE) stressed that 'most of the people who come in contact with a plague victim will die. In the same context, he stated the disease spreads through clothes, utensils and jewellery thus stressing on transmission through fomites. In the same vein, this statement stresses on social distancing and isolation, two important aspects of prevention in the current pandemic [16].

Khan SH, & Rahman AK stated that Persian scholar *Najeebuddin Samarqandi* mentioned about *Nazla-e-Wabaiya* (epidemic influenza) and *Humma Wabaiya* (epidemic fever) characterized by fever, sneezing, sore throat, nasal irritation and malaise and may also suffer from cough, diarrhea, and delirium. Pleurisy and pneumonia, if present, worsens the prognosis [21].

According to the review of Ahmed, *Ahmed Rabban Tabari* (838-870 CE) stated that people who have excess waste material in their body are usually affected with *Humma wabaiya*. The dominance of temperature exists in *Humma-e-Wabaiya* and in *Nazla-e-wabaiya* the influence of catarrh symptoms present much than it [22].

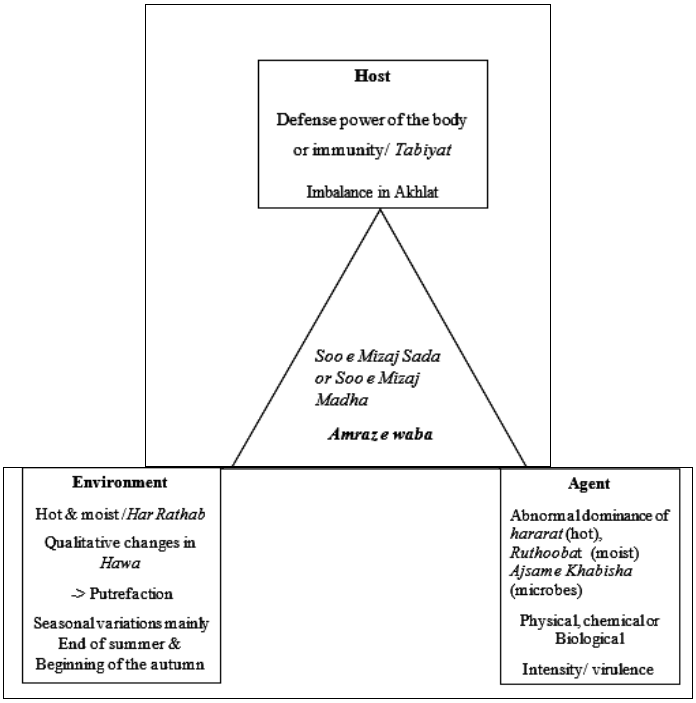

Fig 3: Epidemiological triangle according to the Unani concept

Epidemiology of Covid-19 (Global Picture and In Sri lanka)

When we completed this report in mid-December (December 15, 2020), WHO reported that the pandemic had affected 218 countries and territories, infected 73, 810, 843 people and caused 1, 641, 173 deaths. The United States of America reported highest number of cases (16, 725, 973), followed by India (9, 932, 547), Brazil (6, 970, 034) and Russia (2, 682, 866) [2].

Epidemiology Unit, Ministry of Health, Sri Lanka reports that Sri Lanka has been experiencing the second wave COVID-19 since October 4th 2020 to date. 2nd wave of corona virus has shown the highest number of cases in the island's Western Province. The cases of 2nd wave have been attributed to two clusters, the garment factory in Minuwangoda and in a fish market at Peliyagoda and the number of affected cases were increased gradually. At the time of preparing this report in middle of December 2020, the pandemic has affected 34115 patients, 9134 active case, and 154 deaths in Sri Lanka [1].

Tizaoui *et al*, stated that the infection sources embrace patients, virus carriers, and infected animals. The most route of SARS-CoV-2 transmission is through respiratory droplets are inhaled or touching the eyes, buccal cavity and nasal cavity with a contaminated hand [4]. Jin *et al*, reported that COVID-19 patients produce droplets which temporarily stay in the air within a radius of 2- 6 m, or get deposited on surfaces or the ground for varying period through coughing, sneezing, talking, and so on. This can cause infections in vulnerable persons particularly [15].

Kakodkar *et al*, stated that the latent period lasts 1-14 days, mostly 3-7 days. People aged ≥ 60 years, the population with pre-existing diabetes, cardiovascular disease, chronic respiratory disease, cancer, renal, and hepatic dysfunction, infants, children, and Pregnant women are at higher risk for the infection of severe COVID-19 [10].

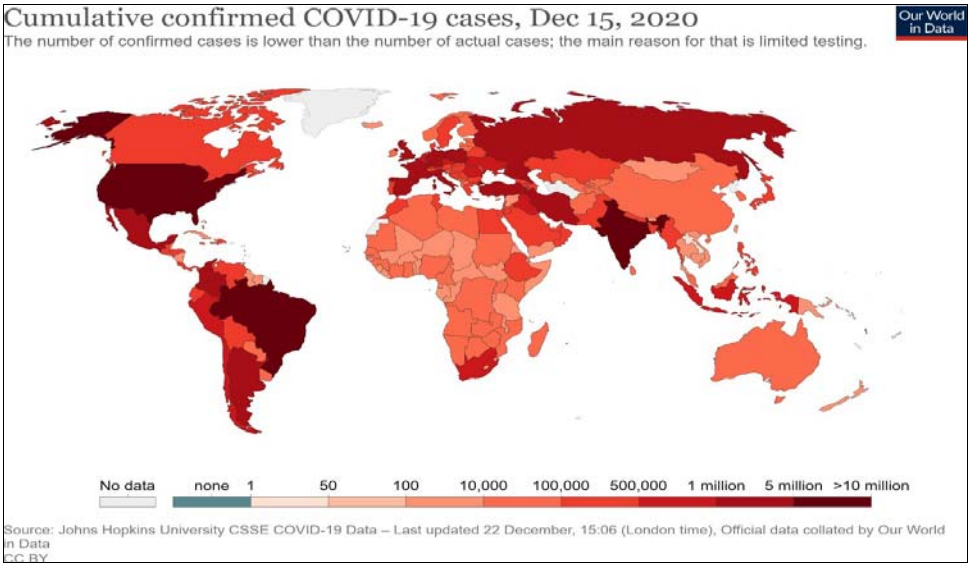

Fig 4: World map represents the geographical distribution of COVID- 19 outbreaks.

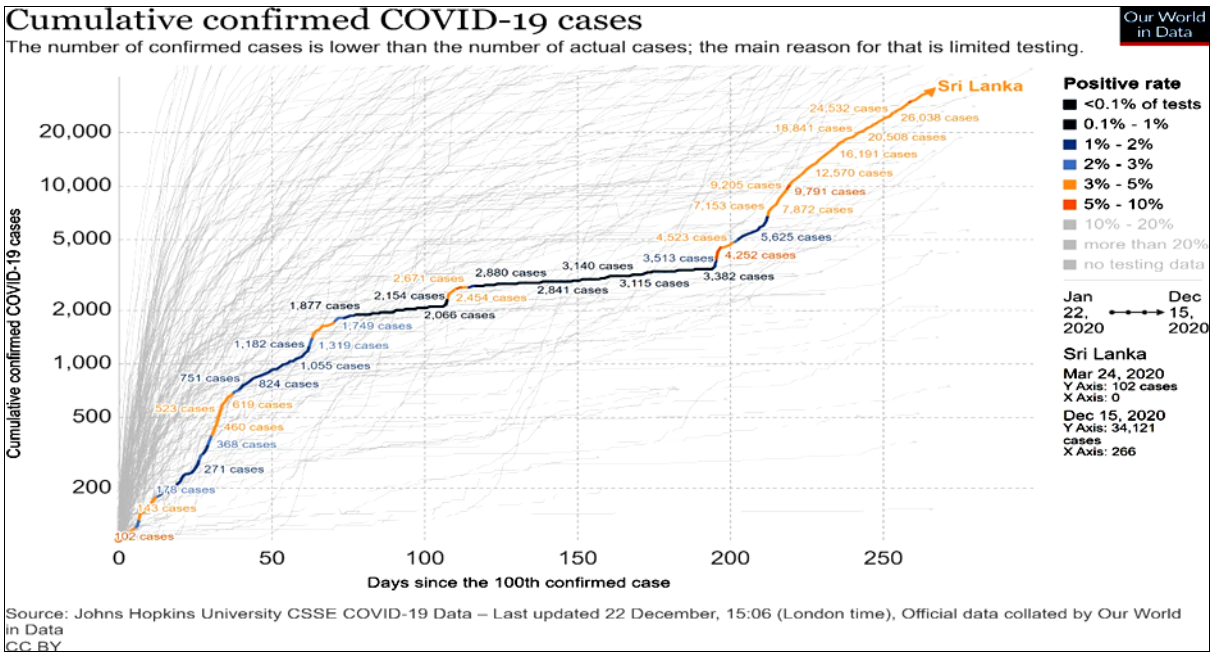

Fig 5: Cumulative confirmed cases in Sri Lanka

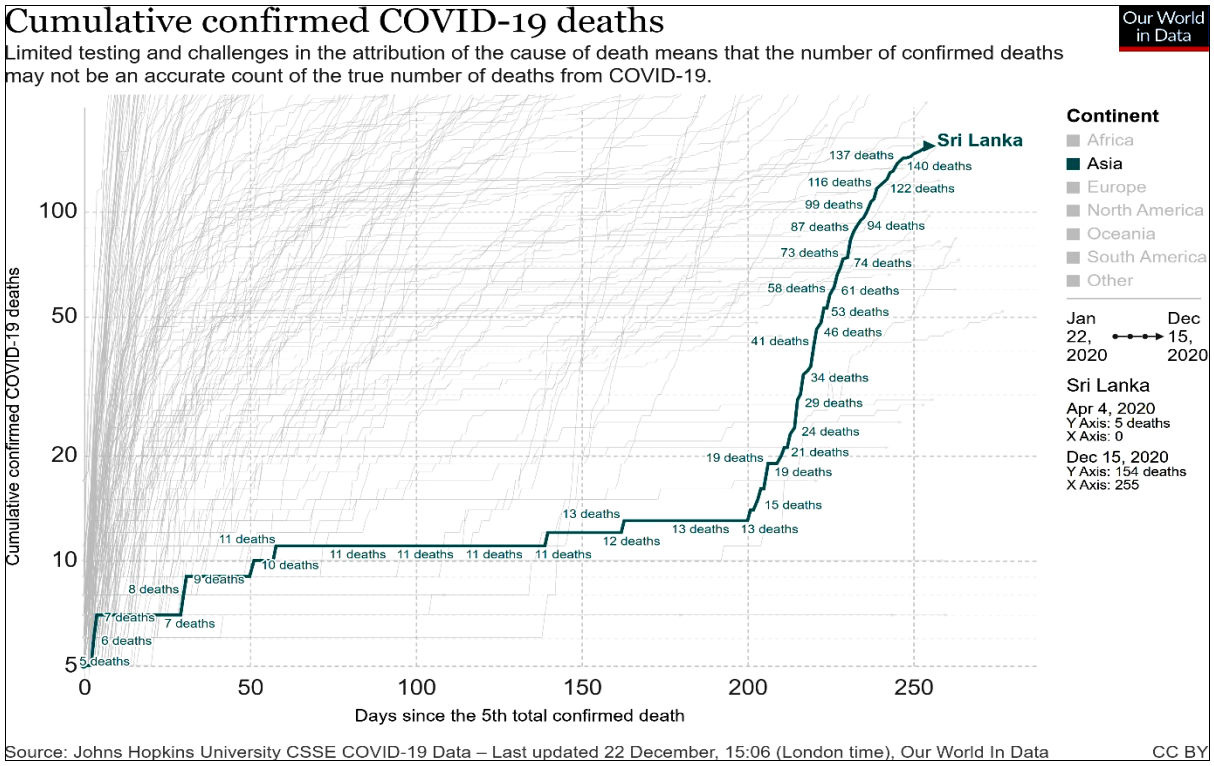

Fig 6: Cumulative confirmed deaths

Clinical picture of Covid-19

According to the guidelines of Epidemiology Unit, Ministry of Health Sri Lanka SARS CoV- 2 infection may present with mild, moderate, or severe illness. According to the WHO report, the most common symptoms are fever, dry cough and fatigue. Other symptoms that are less common and may affect some patients include: Loss of taste or smell, Nasal congestion, Conjunctivitis (also known as red eyes), Sore throat, Headache, Muscle or joint pain, Different types of skin rash, Nausea or vomiting, Diarrhea, Chills or dizziness. Symptoms of severe COVID-19 disease include: Shortness of breath, Loss of appetite, Confusion, Persistent pain or pressure in the chest, High temperature (above 38 °C). Other less common symptoms are: Irritability, Confusion, Reduced consciousness (sometimes associated with seizures), Anxiety, Depression, Sleep disorders. More severe and rare neurological complications such as strokes, brain inflammation, delirium and nerve damage. According to the guidelines of epidemiology unit, Ministry of Health, Sri Lanka, 80% cases are mild, 15% cases are severe and 3-5 % are critical. Approximately 10-15 % of mild or moderate cases become severe and approximately 15- 20 % of severe become critical [1, 2].

Recently, Cascella *et al*, reported that patients with severe

disease present with severe pneumonia. acute respiratory distress syndrome (ARDS), sepsis, or septic shock. The acute respiratory distress syndrome is suggestive of a serious new onset respiratory failure. Different forms of ARDS are distinguished based on the degree of hypoxia. The reference parameter is the PaO2/FiO2 or P/F ratio. Mild ARDS: 200 mmHg < PaO2/FiO2 ≤ 300 mmHg. In not-ventilated patients or in those managed through non-invasive ventilation (NIV) by using positive end-expiratory pressure (PEEP) or a continuous positive airway pressure (CPAP) ≥ 5 cmH2O. Moderate ARDS: 100 mmHg < PaO2/FiO2 ≤ 200 mmHg. Severe ARDS: PaO2/FiO2 ≤ 100 mmHg [23].

Recently, Tu *et al*, reported that the common clinical manifestations of 2019-nCoV infection included fever (88.7%), cough (67.8%), fatigue (38.1%), sputum production (33.7%), shortness of breath (18.7%), sore throat (13.9%), and headache (13.6%) [24].

Management of Covid-19

Currently, disease prevention and control, supportive care, and close monitoring are the essential management of COVID 19. According to the WHO report that preventive strategies are maintain at least a 1-metre distance, wearing a mask and the appropriate use, storage and cleaning or disposal are essential to make masks as effective as possible, avoid the 3Cs: spaces that are closed, crowded or involve close contact. Regularly and thoroughly clean hands with an alcohol-based hand rub or wash them with soap and water, avoid touching your eyes, nose and mouth, cover the mouth and nose with bent elbow or tissue when cough or sneeze, and clean and disinfect surfaces frequently especially those which are regularly touched, such as door handles, faucets and phone screens [2].

According to the guidelines of Epidemiology Unit, Ministry of Health, Sri Lanka, and WHO report, report, Mild cases manage in an isolation area, monitoring of pulse, respiratory rate and saturation (minimum of twice a day or as clinically indicated), observe for evidence of deterioration, high risk patients may require more frequent monitoring (age more than 50 years/ diabetes/cardiovascular diseases/ other comorbidities), give anti-pyretic for fever and provide supportive therapy. Those with evidence of pneumonia manage in a designated ward/ area. Therapies for patients who have pneumonia with ARDS, Sepsis/ Septic shock and multi organ failure 1) Oxygen (maintain saturation>94%, via supplemental oxygen.) Use disposable, single use oxygen delivery devices (nasal prongs, simple nasal mask, venturi devices), 2) HFNO (High Flow Nasal Oxygen) - In those with respiratory failure, but unable to ventilate. Should be done with the health care personnel in PPE with N95 mask as this is an aerosol generating procedure, 3) NIV (Non- Invasive Ventilation) - In those with respiratory failure, but unable to ventilate. Should be done with the health care personnel in PPE with N95 mask as this is an aerosol generating procedure, 4) Identify patients co morbid conditions (IHD, DM, HT) and manage accordingly, and 5) IV fluids - use conservatively. Aggressive fluid resuscitation will worsen oxygenation [1, 2].

According to the review report of Nikhat *et al*, . In Unani system of Medicine recognizes the influence of surroundings and ecological conditions on the state of health of human beings. Apart from treating disease conditions, Unani Medicine lays down great emphasis on the prevention of disease and promotion of existing health through principles of six essential factors (*Asbabe-Sitta Zarooriyah*) of life. It also lays down great emphasis on the maintenance of a proper ecological balance and on keeping air, water and food free from all possible pollution and pathogens. As per Unani classical wisdom, improving immunity with immune boosters is one of the key approaches for prevention of disease and maintenance of health [16].

Razi had absolute idea of quarantine; he stated transportation of public must be stopped during epidemic of plague and also advised the people should not together in crowding places [20].

The fourth chapter of *Al-Mansoori* discuss about infectious diseases which advised the public to take fruits particularly apple, grapes, pomegranate, barley water and lemon frequently for prevention of infectious diseases [20].

Khan *et al*, stated that *Galen* (129-200 CE) postulated that general measures of isolation, quarantine, and distancing must be followed for prevention of epidemic infection. *Razi's* advice of avoiding airflow from the patient to a healthy person is remarkable. For this purpose, the patient should face away from healthy people while coughing, sneezing or talking, as the virus may also be excreted through saliva. Sanitization of the environment should always be given special importance as it serves as the medium for lodging and dissemination of the virus [22].

According to the guidelines of Ministry of Ayush, India that several drugs have been prescribed by Unani scholars for spray, for application on curtains, as sanitizers on the body, and for fumigation. They also suggested healthy diet, avoiding starvation, avoiding meat and fish, staying hydrated and certain drugs have also been prescribed for the promotion of health [25].

Ismail Jurjani (1041-1136 CE) mentioned that use of *Tiryaqs* during epidemics strengthens the heart and keeps the body faculties strong.

Alam *et al*, reported that *Najeebuddin Samarqandi* described in his book "*Al-asbab wa Alamat*" to manage this situation by anti-inflammatory, immuno-modulatory and anti- pyretic drugs [17]. According to the guidelines of Ministry of Ayush, India that anti- viral drugs such are *Kalonji (Nigella sativa), Seer (Allium sativum), Zanjabeel (Zingiber officinale), Aslassus (Glycyrrhiza glabra), Afsanteen (Artemisia absinthium), Tukhm-e- Kasoos (Cuscuta reflexa), Khayarshamber (Cassia fistula)* and *etc.*And Immunity enhancers such as *Khameera Marwareed* and *Asgandh* [25].

Khan *et al*, review article reported that fumigation with *sandal* (*Santalum album* L.) and *camphor* is also advisable. Fumigation with herbs like *Qust, Kundur, Sandal, Kafoor* and *Sirka*. Drugs prescribed in Unani medicine for *Nazla-e-wabaiya* (epidemic influenza) /*Humma -e-Wabaiya* (epidemic fever) such as, Behidana, Elwa, Khaksi, Sapistan and etc [21].

Conflict of Interest

Not available

Financial Support

Not available

Conclusion

This study confirms that the COVID 19 is one of the serious public health issues which is affecting almost all countries.

In this review, summarized the epidemiology, etiopathogenesis, and management of Covid-19 in the perspective of Unani Medical system. The study reveals that certain therapeutic drugs in the Unani medical system care possessing clinical significance against COVID-19. Although, these therapies have shown certain therapeutic effects still COVID-19 remains a serious concern in Sri Lanka and all over the globe. During *Amraz-e-Waba*, social distancing, restriction of movement, use of disinfectants, and fumigation and use of vinegar, and anti-dotes are recommended as prophylaxis in Unani medical care. Therefore, it is need of time for us to conduct further clinical and pharmacological studies to authenticate the effectiveness and safety of mentioned Unani therapeutics.

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How to Cite This Article
AS Jereena and AM Muthalib. Health insights on Covid-19: A review from the Unani perspective. International Journal of Unani and Integrative Medicine. 2024;08(03):177-184.