

## SCOPE OF UNANI MEDICINE IN THE PROPHYLAXIS AND MANAGEMENT OF COVID-19

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### ABSTRACT

Coronavirus disease (COVID-19) is an acute infectious disease caused by infection with a novel coronavirus SARS-CoV-2. The disease severity can range from mild to developing into critical with pneumonia and even life-threatening complications such as Acute Respiratory Distress Syndrome (ARDS), shock, or multi-organ system dysfunction. The clinical picture of *Nazla-e-Wabaiya* is almost similar to that of Covid-19 like body ache, sore throat, nasal irritation, burning sensation in eyes sneezing, cough, and fever. As per the Unani scholars, the prophylaxis and management include various single and compound drugs to be used orally. They also prescribed various drugs as disinfectants to be used for fumigation, incense, and spray. Ibn Sina advised that houses should be sanitized daily by spraying *Arq Gulab* (*Rosa damascene*), *Arq Bed Sada* (*Salix caprea*), or *Arq Nilofer* (*Nymphaea alba*) and recommended *Bukhoor* (incense) of *Sa'ad Kufi* (*Cyperusrotundus*), *Habb-ul-Aas* (*Myrtuscommunis*), *Kundur* (*Boswelliaserrata*), and Sandalwood (*Santalum spp.*). For the treatment of *Nazla-e-Wabaiya*, the decoction (*Joshanda*) of *Unnab*, *Sapistan*, and *Behidana* along with *Sharbat Banafsha* have been recommended by many eminent Unani scholars. They have also recommended using various types of *Khamiras* like *Khamira Gaozaban*, *Khamira Abresham SheeraUnnabWala*, *Khamira Marwareed* to improve general health and immunity.

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### INTRODUCTION

Coronavirus disease (COVID-19) is an acute infectious disease caused by infection with a novel coronavirus SARS-CoV-2, first detected in Wuhan, China, in December 2019.<sup>1,2</sup> Subsequently it has spread worldwide and become a pandemic disease. The SARS-CoV-2 virus is primarily transmitted from person to person through respiratory droplets (sneezing and coughing) and contact routes. Contact transmission may occur when a subject touches a surface or object contaminated with the virus and subsequently touch their mouth, nose, or eyes.<sup>3</sup> Following an incubation period of 2–14 days (average-5 days), COVID-19 usually presents with fever and upper respiratory symptoms, especially dry cough and often dyspnoea; asymptomatic courses and certain other symptoms, like myalgia, fatigue, headache, diarrhoea, etc. can also occur.<sup>3,4</sup> The disease severity can range from mild to developing into critical with pneumonia and even life-threatening complications

such as Acute Respiratory Distress Syndrome (ARDS), shock, or multi-organ system dysfunction. It typically starts with mild symptoms that can progress to more severe courses after about 5–7 days.<sup>5,6</sup>

At the moment, the therapeutic strategies to deal with the SARS-CoV-2 infection are only supportive and there is no effective drug or vaccine approved for the treatment of this infection.

Therefore, intensive research is urgently needed to identify potential therapeutic and preventive strategies for the newly emerged SARS-CoV-2.

Unani medicine is an important traditional system of medicine officially recognized by India under the Ministry of AYUSH. This system of medicine offers a large number of single and compound time tested medicines which have been used for the treatment of various types of respiratory pathology including

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epidemic influenza (*Nazla-e-Wabaiya*). These drugs can be tested through randomized controlled clinical trials for the prevention and management of SARS-CoV-2 infection.

#### **A brief overview of Unani system of medicine**

The Unani system of medicine, as its name suggests, originated in ancient Yunan- ancient Greece. This system is based on the philosophy of *Akhlāt* (humours) and *Mizaj* (temperament) as proposed by Greek physician Hippocrates (460–370 BC) and Roman physician Galen (129–210 CE). The Greeks had adopted initial concepts of medicine from Egypt and Mesopotamia and systematized them. Thereafter, Galen, the famous Roman physician stabilized the concepts and foundations of Unani medicine. In the middle ages, Unani medicine traveled to the Arab world Central Asian countries and part of Europe.<sup>7</sup> Many Arab and Persian physicians, such as Rhazes (Al-Razi), Avicenna (Ibn-e-Sina), Al-Zahrawi, and Ibn Nafis constructed an imposing edifice on the foundation of Galen and Hippocrates and through many scientific experiments and contributions of them, the Unani medicine was developed into an elaborate medical science.<sup>8,9,10</sup> In India, the Unani system of Medicine came from Arab and Iran in 7<sup>th</sup> century CE where its real development and patronage took place during the Mughal period.<sup>11</sup> The Unani system is a comprehensive medical system, which meticulously deals with the various states of health and disease. It provides promotive, preventive, curative and rehabilitative healthcare.<sup>7</sup>

#### **Coronavirus disease in the perspective of Unani Medicine**

The outbreak of Covid-19 is not the first epidemic or pandemic, many such respiratory tract infection outbreaks have occurred in the past like Spanish flu pandemic 1918-20, Severe Acute Respiratory Syndrome (SARS) outbreak-2003, “Swine Flu” or H1N1-2009 Pandemic and MERS-2012, etc.<sup>1,12</sup> Major epidemics of influenza also occurred throughout the nineteenth century, particularly during the winter months. In general, fatality rates were low but during the first influenza pandemic between 1889 and 1892, known as the 'Russian flu' because of its origin in St. Petersburg, over 300,000 people in Europe died from the disease.<sup>13</sup>

The ancient scholars of Unani medicine have described epidemic influenza-like disease- *Nazla-e-Wabaiya*. The clinical picture of *Nazla-e-Wabaiya* is more or less similar to that of Covid-19 as described by various eminent Unani scholars. *Nazla-e-Wabaiya* is associated with body ache, sore throat, nasal irritation, burning

sensation in eyes sneezing, cough, and fever. Unexplained general weakness is an early feature of *Nazla-e-Wabaiya* and the disease is often complicated by pneumonia and pleurisy.<sup>14</sup>

The very eminent scholar of Unani medicine Ibn Sina (Avicenna 980-1037 AD) in his famous medical treatise *Al Qanoon Fil Tibb* has described a type of catarrh as *Nazla-e-Haar* that has special clinical manifestations as redness of eye and face, running nose, burning sensation in nose and throat, fever, headache, dry cough, body ache, breathing difficulties nasal stuffiness, and losing the sense of smell.<sup>15</sup> The clinical picture of *Nazla-e-Haar* is quite similar to that of *Nazla-e-Wabaiya* and so to Covid-19.

In *Kitabul Mukhtarat fit Tib* written by *Ibn Hubl Baghdadi* and in *Sharah al asbabwalalamat* written by *Nafees bin Iwaz Kirmani* (Explanation of *Al-Asbabwal-Alamat'* written by *Najeebuddin Samarqandi*) both 13<sup>th</sup> century's medical treatises, there is a description of a type of fever, named *Humma-e-Wabaiya* which affects a large number of population due to the infected/toxic changes in the quality of air/environment<sup>16,17</sup>

According to *Ibn Hubl Baghdadi*, *Humma-e-Wabaiya* causes an increase in the temperature of the human heart consequently the humours (*Akhlāt*) present in the cardiac cavity become infected (*Muta'ffin*). Through blood circulation, the infected humours from the heart reach every organ of the body causing bad and malignant fever which is called *Humma-e-Wabaiya*. *Baghdadi* described the clinical feature of *Humma-e-Wabaiya* as irritation, difficulty in breathing, foul smelling breathe, oral thrush, vomiting, foul smelling loose stools with, headache and body ache etc.<sup>16</sup>

In the translated version of *Sharah'Al-Asbabwal-Alamat'* (*Tarjuma-e-Kabir*), the clinical features of *Nazla-e-Wabaiya* (Epidemic influenza) are described under the chapter “*Anaf al-Anza*” (*Influenza*) as body ache, sore throat, nasal irritation, burning sensation in eyes sneezing and cough and fever. It is also mentioned that unexplained general weakness is an early feature of *Nazla-e-Wabaiya* and the disease is often complicated by pneumonia and pleurisy.<sup>18</sup>

Renowned Unani Physician *Hakim Ajmal Khan* in his book '*Haziq*' presented a comprehensive description about etiopathogenesis, clinical features and complications of *Nazla-e-Wabaiya* as under:

*Nazla-e-Wabaiya* is caused by an infectious agent that enters the body through inhaled air and often occurs as an epidemic in places with cold and humid weather and

rapidly spreads in many areas as a pandemic. The disease usually occurs in winters and mostly affects the children and elderly and turns out fatal for many patients. The clinical features of *Nazla-e-Wabaiya* include fever with or without chills and rigor, myalgia and body ache, headache, sore throat, eye pain heaviness and tightness in the chest, dry cough, breathlessness, loss of taste, diarrhoea, and excessive general weakness. Mild cases without any other associated disease usually recover within one week. But, in severe cases, the nasopharyngeal inflammation and infection may descend to the lungs resulting in *Zatur Riya* (pneumonia) which is associated with a severe cough. The occurrence of the disease as an epidemic (*Waba*) and fever are the diagnostic characteristics of *Nazla-e-Wabaiya*.<sup>14</sup>

The clinical picture of *Nazla-e-Wabiya/Humma-e-Wabaiya* as observed by eminent Unani scholars seems to be similar to that of Covid-19, where the most common symptoms include fever, dry cough, dyspnoea, chest pain, fatigue, and myalgia. Less common symptoms include headache, dizziness, abdominal pain, diarrhoea, nausea, and vomiting.<sup>19</sup>

#### Prevention of epidemics and pandemics in Unani Classical Texts

In Unani medicine, various general and specific preventive measures have been recommended to prevent epidemic diseases and pandemics. The primary method to prevent the incidence of disease during pandemics is to move from the focus of the disease to healthy regions. At this time of coronavirus pandemic too, the first step that the World Health Organization took towards declining the coronavirus positive infection curve was to emphasize employing the method of quarantine. *Ibn Sina* was the first who gave the concept of quarantine in *Al Qanoon Fit Tib*; he discussed that a 40 days period of isolation is essential to check the spread of contiguous diseases.<sup>20</sup>

*Lisan Al-Din Ibn Al-Khatib* (1313-1374 CE), in his treatise on the plague, stated that the existence of contagion is established by experience, investigation, the evidence of the senses, and trustworthy reports. He considered that contaminated air is one of the main causes for the spread of the infection (plague).<sup>21</sup>

*Zakariya Razi* had an understanding of the prevention of epidemics by advocating the methods of quarantine; he advised to stop public transportation and avoid overcrowding during the time of epidemics.<sup>22</sup>

#### Prevention of *Nazla-e-Wabaiya* in Unani Medicine

The primary course of action during epidemics of *Nazla-e-Wabaiya* as recommended by ancient Unani scholars is

to stay in a properly ventilated place, avoid excessive food and constipation. It is also advised to maintain good hygienic practices, frequent use of tea, and supplementation of a nutritious diet to improve immunity. The patients of *Nazla-e-Wabaiya* should be kept in self-quarantine in closed environments such as the house and to correct the internal environment as advocated by Razi to prevent epidemic diseases.<sup>22</sup> Sleeping in a prone position should be encouraged to avoid the entry of nasal secretions in the throat and lungs.<sup>23</sup> *Ibn Sina* advised that houses should be sanitized daily by spraying *Arq Gulab* (*Rosa damascene*), *Arq Bed Sada* (*Salix caprea*), or *Arq Nilofer* (*Nymphaea alba*). For removal of moisture from the living places, he recommended the use of *Bukhoor* (incense) of *Sa'adKufi* (*Cyperus rotundus*), *Habb-ul-Aas* (*Myrtus communis*), *Kundur* (*Boswellia serrata*), and Sandalwood (*Santalum spp.*) *Avicenna* also introduced the use of vinegar as a restraint of polluted air.<sup>20</sup>

*Zakariya Razi* has prescribed several aromatic Unani drugs like *Sa'adKufi* (*Cyperus rotundus*), *Qust* (*Saussurea lappa*), *Hilteet* (*Ferula foetida*), *Ood* (*Aquilaria agallocha*) to fumigate and disinfect the dwellings.<sup>24</sup>

*Kafoor* (*Cinnamomum camphora*), *Mushk* (*Musk*), *Murr* (*Commiphora myrrh*), *Lobañ* (*Styrax benzoin*), *Izkhar* (*Cymbopogon jwarancusa*), *Waj* (*Acorus calamus*), *Tagar* (*Valeriana wallichii*) and *Safarjal* (*Cydonia oblonga*) have also been recommended for purification of air.<sup>25,26</sup>

For prophylaxis of epidemic diseases, Unani scholars also prescribed several drugs to augment the immunity (*Quwwat-e-Mudabbira Badan*) e.g. *Tiryaaq-e-Arba*, *Tiryaaq-e-Wabai*, *Tiryaaq-e-Farooq Khamira Marwareed*, *Khamira Abresham*, *Khamira Gaozaban* etc.<sup>27,28</sup>

#### Pharmacotherapy of *Nazla-e-Wabaiya* in Unani Medicine:

For the treatment of *Nazla-e-Wabaiya*, the decoction (*Joshanda*) of *Unnab*, *Sapistan* and *Behidana* along with *Sharbat Banafsha* have been recommended by eminent Unani scholars. They have also recommended using various types of *Khamiras* like *Khamira Gaozaban*, *Khamira Abresham Sheera Unnab Wala*, *Khamira Marwareed* to improve the general immunity.

*Hkm. Ajmal Khan* in his book 'Haziq' recommends the following treatment for *Nazla e Wabaiya* (epidemic influenza):<sup>14</sup>

1. Decoction (*Joshanda*) of *Behidana* (3 gm), *Unnab*(5 pcs.), *Sapistan* (9 pcs.) with *Sharbat Banafsha* (20 ml) twice daily (morning and evening)
2. *Khaksi* (5gm) is to be sprinkled over the above decoction if fever is present.
3. For the relief of headache and eye pain, *Pashoya* (foot bath) may be done by preparing decoction of *Gul-e-Banafsha* (10 gm), *Ikleelul Malik* (10 gm), *Gul-e-Baboona* (10 gm) *Marzanjosh* (10 gm) *Gul-e-Khatmi* (10 gm), *Berike Patte* (50 gm) in 10 litre water.
4. *Sharbat Ejaz* (20 ml) can be replaced by *Sharbat Banafshain* case of intense cough. Steam inhalation of *Arq Gaozaban* or plain water with *Laooq Sapistan* (10 gm) and *Laooq Motadil* (10gm) is also indicated for a severe cough.
5. In case of throat pain *Sharbat Toot Siyahis* to be added in the same prescription.
6. For improving general weakness *Khamira Gaozaban* (10 gm) wrapped in *Warq Nuqrah* (silver foil) or *Khamira Gaozaban Jawaharwala* is to be given. *Qairooti Arad-e-Krasna* (10 gm) after adding powdered *Zafran* (01 gm) and powdered *Elwa* (1 gm) is to be applied locally over the chest if chest pain is present along with the cough.
7. *Sharbat Mulayyin* (40 ml) is recommended if the patient complains of constipation.
8. Instead of drinking water, *Arq Mako* and *Arq Gaozaban* can be recommended.

## CONCLUSION

Coronavirus disease (COVID-19) is an acute infectious disease caused by infection with a novel coronavirus SARS-CoV-2. The clinical picture of *Nazla-e-Wabaiya* is more or less similar to that of Covid-19. Therefore, the prophylaxis and management advocated for *Nazla-e-Wabaiya* and *Humma-e-Wabaiya* may be advised for the prophylaxis of covid-19 and other respiratory epidemics. The treatment modalities of *Nazla-e-Wabaiya/ Humma-e-Wabaiya* may also be helpful in the management of mild to moderated cases of Covid-19 and should be scientifically validated through clinical trials.

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