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Review Article

Prevention of COVID-19 Through Optimization of *Tabi'at*: A Unani Medicine's Perspective

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Abstract

Background: Unani System of Medicine (USM) is one of the traditional systems of medicine practiced in India and the Indian subcontinent. It is a holistic system of health care based on inceptive principles applied by *Hippocrates*, *Galen*, and *Ibn-e-Sina*, the founders of present-day medicine. USM encompasses a distinct way of looking at the human body and it considers health to be the result of natural dynamic harmonious balance within the body. USM also recognizes the presence of inherent wisdom which is responsible for controlling all physiological functions, maintenance of health, restoration of health, and self-healing. This intrinsic ability of the body to restore health and the mechanism that activates the body's healing process is called *Tabi'at/physis*. The ultimate goal of prevention of disease can be obtained by optimization of *tabi'at/physis*, increasing the host defense. It can be achieved through the implication of *asbab-e-sitta zarooriyah* which includes some Unani Regimenal Therapies also, fostering change in lifestyle habits resulting in good health.

Aims: In this raging pandemic all the therapeutic strategies are based on destroying the agent, breaking the means of transmission and immunization. Although we are leaving behind a huge gap in maintaining the host defense even though it has a crucial role in disease dynamics. In this paper, we have attempted to highlight the concept of *tabi'at/Physis* and its optimization to prevent this disease and its transmission.

Methods: The authors had gone through classical Unani medical textbooks books related to the concept of *tabi'at*, *asbab-e-sitta zarooriyah*, and various modalities that help in health promotion and host defense. Important Unani medicine textbooks like *Al Qanoon*, *Kamilus Sana'at*, *Kitab-al- Hawi*, *Al-asbab wa Alamat*, *Moalijat Buqratiya*, *Firdausul Hikmat* and *Kitabul Mansuri* in addition to other published literature on the concerned subject was also reviewed for further clarification on the topic.

Keywords: Unani System of Medicine, *Tabi'at (physis)*, Host defense & *Asbab-e- Sitta zarooriyah*.

1. Introduction

The COVID-19 pandemic has swayed the world into an unprecedented health/ medical crisis for the human population right now, with an increasingly huge amount of cases around the globe. As well the emergence of Novel SARS-CoV-2 variants and the dimensions of pandemic require an urgent harnessing of all knowledge systems available globally. Until an assured remedy is acquired, prevention remains the mainstay. Breaking the chain of transmission involves reducing the viral load in our surroundings curtailing the modes of transmission and increasing host defense in susceptible individuals/hosts.

USM whose foundation goes back to thousands of years relying on the healing wisdom of many cultures, including Greek, Roman, Persian, Arab and Indian believes that man is intimately interconnected with his nature/ surroundings and can be understood only by reference to the whole. In those times epidemics and infectious diseases were dealt with by

adopting those strategies which empower the *tabi'at* enabling it to restore homeostasis and removal of the causative agent from the body through its defense system called *quwwate mudabbairae badan* (immune system). In other words, *Tabi'at* is the intrinsic ability of the human body to preserve health and heal itself. It does whatever is necessary to ensure that an ideal balance or homeostasis is maintained within the cells, tissues, organs, and the entire body. It is the power of the body that maintains and regulates the constancy and stability to function at its best at every point of time, even at time when the body is attacked by new infectious agents and in times of epidemics so that an optimum level of health can be sustained.

When we talk of increasing host defense through Unani Medicine's perspective, optimization of *tabi'at* is of great importance. It means to strengthen our body's defense mechanism before getting attacked, rather than wiping out the agent or its modes of transmission; both of which have

been difficult to achieve in dealing with COVID-19. In such a scenario, increasing host defense can be of tremendous use. This optimization of *tabi'at* can be achieved through lifestyle modifications (modulations in *asbab-e-sitta zarooriyah*), the use of immune-modulating diet and drugs, and specific interventions (*tadbeer-e-tablet*). They are the key to optimizing the functioning of *tabi'at* to combat COVID 19.

2. “Waba” (Epidemics) and infectious Diseases: Unani Medicine's Perspective

The term '*waba*' is used to explain epidemics and pandemics collectively for diseases that are spreading in a large geographical area¹. According to the doctrine of the Unani System of Medicine, epidemics occur when *ajsam-e-khabitha* (contagion) contaminates air and water. It is also evident in classical literature that the spread of epidemics occurs through the air, water, and soil or altogether. In context to this, Unani physicians promoted preventive measures such as personal hygiene, abstinence from travel, and isolation of the ill people to stop further spread of the disease.

Zakariya Razi (865–925 CE) in his book *Kitabul Mansoori* considered that most epidemics occur during the autumn season when the previous summer season was humid which is a favorable climate for infection². Accordingly, it was believed that change in temperature and humidity makes people more susceptible to respiratory infections. *Razi* in the 15th volume of his treatise *Kitab al-Hawi* also connected the links between patients of epidemics and any place, food, drink, or travel history, etc³. Facilitating the view, *Ibn-e-Sina* (980–1035 CE) stated that epidemics spread from one person to another, and from one place to another. The 13th-century Persian scholar *Najeebuddin Samarqandi* (d. 1222 CE) specifically wrote about epidemic influenza in his treatise *Al-Asbab wa Alamat*. In the translated version of the book, published by the name of *Sharah Asbab*, the disease is mentioned by the name of *Nazla-e-Wabaiya* (epidemic influenza) characterized by fever, sneezing, sore throat, nasal irritation, and malaise along with cough, diarrhea, and delirium and complications include pleurisy and pneumonia⁴.

3. Concept of Tabi'at

The term *tabi'at* is derived from the Arabic word '*taba*' which implies four meanings viz temperament or constitution of humans (*mizaj-e-insani*), structural composition (*haiat tarkibiyah*), administrative power (*quwat mudabbirah badan*), and lastly movement of pneuma (*harkat-e-nafs*)⁵.

Tabi'at is considered a supreme power that is responsible for all bodily functions and also restoring health when compromised. It is the automaticity of the human body which gets enabled whenever in need to protect us from any damage. So we can develop host defense in such situations just by optimizing the *tabi'at* that is already working to keep ourselves healthy.

Tabi'at is defined by different Unani physicians in different ways, though *Hippocrates* was the first person to present a comprehensive view about *tabi'at*:

1. According to *Hippocrates* "*tabi'at* is the administrative power which works for the amelioration of human body involuntarily and unconsciously and it is also the source of motion and rest⁶."
2. *Galen* referred the word *tabi'at* to *quwat-e-mudabbirah badan*⁷.

3. *Rabban Tabri* in his treatise *Firdausul Hikmat* regarded *tabi'at* as the administrative power of the body which executes all functions of the human body with the help of a variety of diverse powers⁸.
4. According to *Razi*, *tabi'at* is solely responsible for the performance of all physiological functions which includes but is not restricted to homeostasis, growth, development, reproduction, and body defense⁶.
5. *Ibn-e-Sina* said that the *tabi'at* is the capacity that resists the disease and makes a defensive line against the pathogen until it overcomes the disease⁹.

In modern times too, *Guyton* has explained the automaticity of the body and restoring health capacity of the human body, as follows, which is similar to the concept of *tabi'at*:

"The body is a composition of about 100 trillion cells arranged into different functional structures, some of which are called organs. Each functional structure contributes its share to the maintenance of homeostatic conditions in the internal environment. As long as normal conditions are maintained in this internal environment, the body continues to live and function properly. Each cell and organ benefits from homeostasis, and in turn, each cell contributes its share toward the maintenance of homeostasis. This contemporary interplay provides continuous automaticity of the body until one or more functional systems lose their ability to contribute their share of function. When this happens, all the cells of the body suffer. Extreme dysfunction leads to death; moderate dysfunction leads to sickness."¹⁰

This innate ability of the human body to self-restore is referred to as *tabi'at* in USM and its optimization is monumental to avail healthy life. If *Tabi'at* is at an optimum level, then a man does not suffer from disease easily and if it weakens, a man becomes prone to disease¹¹.

Umoor-e-tabiya are the principles that are closely related and derived from *tabi'at*. These are seven natural and basic components of the human body that are responsible for the sustenance of human existence. These are *Arkan* (Elements), *Mizaj* (Temperament), *Akhlaat* (Humours), *A'za* (Organs), *Arwah* (Vital forces), *Quwa* (Faculties), and *Afal* (Functions). All these *umoor-e-tabiyah* are attributed to *tabi'at* and for the optimum functioning of the body, all the above-mentioned components should be present and work in coordination with each other. The loss of any one of these basic components or alteration in their physical state could lead to disease or even death. It is highly essential to examine all these factors to reach the correct diagnosis and consequently the correct line of treatment. *Tabi'at* prepares the body to fight against the disease and maintains the equilibrium of four body *akhlaat* (humours) along with all *umoor-e-tabiyah*¹².

3.1. Tabi'at and Immunity

According to *Hippocrates*, there is a special ability hidden in every individual called the defensive mechanism of the body or *Tabi'at Muddabirah-e-Badan*. In the Unani system of medicine, it is considered as a healing mechanism of *tabi'at* others are also considered as an ability of the human body until the word immunity was coined. The modern word "immunity" derives from the Latin *immunis*, meaning exemption from military service, tax payments, or other public services¹³.

The first clinical description of immunity that arose from a specific disease-causing organism is probably *Kitab fi al-jadari wa-al-hasbah* (A Treatise on Smallpox and Measles), written by *Zakariya Razi* in the 9th century. In the treatise,

Zakariya Razi describes the clinical presentation of smallpox and measles and goes on to indicate that exposure to these specific agents confers lasting immunity (although he does not use this term)¹³. The first scientist who developed a full theory of immunity was Ilya Mechnikov after he revealed phagocytosis in 1882. With Louis Pasteur's germ theory of disease, the fledgling science of immunology began to explain how the micro-organism caused disease, and how, following infection, the human body gained the ability to resist further infections¹⁴.

4. Optimization of *Tabi'at*

Breaking the chain of transmission involves reducing the viral load in our surroundings, curtailing the modes of transmission, and increasing host defense in susceptible individuals/hosts. In the case of Covid-19 where it is difficult to restrict the mutating virus or its spread, increasing host defense is the best bet. In USM, increasing host defenses is accomplished by optimization of *Tabi'at*. This optimization of *Tabi'at* can be achieved through lifestyle modifications (modulations in *asbab-e-sitta zarooriyah*), the use of immunomodulating diets and drugs, and specific interventions (*tadbeer-e-tabiat*). They are the key to optimizing the functioning of *tabi'at* and are discussed as under.

4.1 Therapeutic modalities to strengthen the host defense

Drawing on the Unani Medicine classics, contemporary scientific studies, and experiential knowledge on similar clinical settings, here we propose a pragmatic plan for intervention in this scenario.

I). *Ilaj bit Tadbeer* (Unani Regimenal Therapies)

Ilaj bit Tadbeer means treatment through *Tadbeer* meaning a regimen i.e. a systemic plan of diet, therapy, or medication for treatment as well as maintenance of general health. This is done through modulation or modification in *Asbaab-e-Sitta Zarooriya*, the six essential factors. These six essentials are: *Hawae Muheet* Surrounding air and other environmental factors), *Makool wa Mashroob* (Food and Beverages), *Harkat wa Sukoon Badani* (Movement of the body and Rest), *Harkat wa Sukoon Nafsan* (Psychological factors), *Naum wa Yaqzah* (Sleep and Wakefulness), and *Ehtibas wa Istifragh* (Retention and Evacuation of healthy and morbid matter respectively). Each of these six factors has an impact on *umoor-e-tabiiyah*, the seven structural and physiological components of the human body, thus altering the health status of an individual. In, *Ilaj bil Tadbeer* we modulate the lifestyle dietary habits, and habitat of an individual and also advise specific procedures for the treatment according to the disease. These procedures are meant for the *Istifragh* i.e. removal of morbid matters from the body gradually restoring normal health. Some of the procedures are *hijamah* (cupping), *riyazat* (exercise), *hammam* (Turkish bath) and *dalak* (massage), etc¹⁵.

II). *Ilaj bil Ghiza*

As a specialized form of treatment, *Ilaj bil Ghiza* has long been practiced since the period of *Hippocrates*, *Galen*, *Razi*, *Ibn-e-Sina*, etc. Unani physicians were completely aware of the importance of food and drink in the treatment of diseases. The *Ilaj bil Ghiza* plays a vital role in the prevention and treatment of several body ailments. It minimizes the duration of actual treatment and also improves the tolerance of drugs by little modification in diets. This form of treatment is widely acceptable, accessible and above all affordable to patients with almost negligible adverse reactions.

In USM, *Ghiza* is considered as a substance which after being administered into the body undergoes *Istihala* (metabolism), becomes a part of the different organs of, the human body and provide *Badal ma Yatahallul* (replenishment).

Razi quoted that "good nutrition, adequate rest, happiness and appropriate treatment are the pillars for healing the body". He also emphasized that, "whenever possible, treatment of the diseases should be done by diets, not only by drugs"³. *Ibn-e-Sina* quotes that "stomach is the house of diseases and diet is the head of healing".

It is well known that malnutrition is the most common cause of immunodeficiency and that nutrition plays a significant role in immunomodulation. This is because, proper functioning of the immune system requires an adequate supply of nutrients and involves a variety of biological activities including cell growth, energy metabolism, formation of proteins and antioxidants etc. Both deficiency and excess of nutrients adversely affect the various components of the immune system^{16,17,18}.

III). *Ilaj bil Dawa/ pharmacotherapy*

Unani physicians have strongly recommended improving the body immunity and strengthening the *Tabi'at* for restoration of health and management of diseases. (USM stresses the use of plant based single and compound formulations). Drugs used in USM are of plant, animal & mineral origin and display a wide range of pharmacological properties. Unani Medicines exhibit various ethno-pharmacological activities such as immunomodulation, neuro-stimulation, anti-ageing, antioxidants, anti-infective and anti-rheumatic etc^{19,20}.

Most of the drugs used in the manner to promote physical and mental health and also to improve defense mechanism of body and increase longevity. For this purpose of increasing host defense and optimization of *tabi'at* following categories can be useful;

- a) Immunomodulators
- b) *Tiryaaqat*
- c) *Muqawwiyat*

a) Immunomodulators

Modulation of the immune system denotes to any change in the immune response that can involve induction, expression, amplification or inhibition of any part or phase of the immune response. Thus, immune modulator is a substance used for its effect on the immune system. There are generally of two type's immune modulators; immune suppressants and immune stimulators²¹. Unani drugs are known to possess immune modulatory properties and generally act by stimulating both specific and nonspecific immunity²². Unani medicine employs a holistic approach to the prevention of disease, and Unani herbal medicines are a source of many components with a high therapeutic value. Globally, many studies have been conducted on immune modulator herbs and have revealed unique active constituents that activate the innate immune system through the stimulation of macrophages and lymphocytes, and modulation of the cytokine profile, which leads to a state of alertness with a subsequent reduction in the incidence of infection. Immune modulatory constituents with herbal origins are termed as phytochemicals, including flavonoids, glycosides, polysaccharides, terpenoids, essential oils, various bitters, and alkaloids; all these compounds exert vital, multidimensional effects²³. These immune modulator herbs make *tabi'at* to more effectively combat with the diseases and accelerates healing process²⁴.

List of immunomodulator herbs

S.No.	Unani Name	Botanical Name	Part Used
1.	<i>Asgand</i>	<i>Withania somnifera</i>	Root ^{25,26,27}
2.	<i>Gilo</i>	<i>Tinospora cordifolia</i>	Stem & root ^{28,29,30,31}
3.	<i>Elwa</i>	<i>Aloe vera</i>	Leaves ^{32,33}
4.	<i>Amla</i>	<i>Emblica officinalis</i>	Fruit ^{29,34}
5.	<i>Rehan (Tulsi)</i>	<i>Ocimum sanctum</i>	Leaves ^{35,36}
6.	<i>Kalonji</i>	<i>Nigella sativa</i>	Seeds ^{37,38,39}
7.	<i>Neelofer</i>	<i>Nelumbo nucifera</i>	Rhizome, seeds ^{30,40}
8.	<i>Aslussus</i>	<i>Glycyrrhiza glabra</i>	Bark and root ^{41,42}
9.	<i>Fowah</i>	<i>Rubia cordifolia</i>	Leaves ^{43,44}
10.	<i>Filfil daraz</i>	<i>Piper longum</i>	Fruit and leaves ^{45,46}
11.	<i>Darchini</i>	<i>Cinnamomum zeylanicum</i>	Bark ^{47,48}
12.	<i>Halelao</i>	<i>Terminalia chebula</i>	Fruits ^{49,50}

(b) Tiryaqat

Tiryaq is a compound formulation that is used in USM and is being prescribed from centuries with great reputation to boost immunity so that one should have the inner strength to fight epidemics^{51,52}. *Tiryaq wabai* is a well-documented and well-known drug in USM for its wide use for prophylaxis during epidemics of cholera, plague and other epidemic diseases. *Tiryaq wabai* was used by *Ibn-e-Sina* and *Galen* in healthy persons as well as in patients during epidemics^{53,54}. Scientific reports are encouraging regarding its immune modulating, and antioxidant activity or related pharmacological actions and therapeutic effects of the ingredients of *Tiryaq wabai* which consists of three ingredients *Sibr* (*Aloe barbadensis*), *Zaafraan* (*Crocus sativus*) and *Mur* (*Commiphora myrrh*) in the ratio of 2:1:1⁵⁴. Antioxidant and immune-stimulating effect of *sibr*, *mur* and *zaafraan* has already been established in animal models^{55,56,57,58,59}.

(c) Muqawwiyat

A well-known Unani physician and scholar, *Rabban Tabri* in his treatise, *Firdausul Hikmat* has mentioned that, practically *tabi'at* is regarded as an administrative power of the body. The function of administration of the body is accomplished by *tabi'at* with the help of many powers called *quwa* of the

body like *quwat-e-tabiya* (Physical faculty), *quwat-e-haiwania* (Vital faculty) and *quwat-e-nafsania* (Nervous faculty). For this purpose they have mentioned various drugs under the headings of *muqawi aza raisa* (tonic for vital organs), *muqawi badan* (general body tonic), *muqawi asa'ab* (nervine tonic), *muqawi qalb* (cardiac tonic), *muqawi jigar* (liver tonic) etc^{8,60}.

In Unani classical literatures they have strongly recommend use of *Muqawiyat* and *Mufarihat* during illness and for prevention of disease^{4,61,62}. These drugs play paramount role in containing the epidemics. *Muqawiyat* are non-toxic substances that have the ability to improve and maintain the health of the human body when used regularly over a long period of time. They tone up the internal organs and improve the body functions^{4,61,63}.

Generally these drugs act on a particular organ but in general all vital organs are improved. Such as *Asgand* (*Withania somnifera*), *Jadwar* (*Delphinium denudatum*), *Zaafraan* (*Crocus sativus*), *Marwareed* (Pearl) etc^{4,61}.

Unani physicians have prescribed certain drugs that may be used as health protecting drugs during epidemics [64]. Some possible mechanisms by which action of some *Muqawiyat* and *Mufarihat* can be interpreted with modern aspects are as follows:

List of muqawwiyat

S.No.	Name	Scientific Name	Functions
1.	<i>Anjeer</i>	<i>Ficus carica</i>	Nourishment ^{65,66}
2.	<i>Ustukhudus</i>	<i>Levandula stoechas</i>	Anxiolytic ⁶⁷
3.	<i>Zaafraan</i>	<i>Crocus sativus</i>	Antioxidant ^{68,69,70}
4.	<i>Amla</i>	<i>Emblica officinalis</i>	Antioxidant ⁷¹ , Anti-aging ⁷²
5.	<i>Abresham</i>	<i>Bombyx mori cocoon</i>	Cardioprotection ^{73,74,75}
6.	<i>Marwareed</i>	Pearl	Immunopotentiating ^{76,77}
7.	<i>Makoh</i>	<i>Solanum nigrum</i>	Hepatoprotection ^{78,79}
8.	<i>Mastagi roomi</i>	<i>Pistacia lentiscus</i>	Hepatoprotective ^{80,81,82}
9.	<i>Sandal safed</i>	<i>Santalum album</i>	Anxiolytic, Cardioprotective ^{83,84}
10.	<i>Gaozaban</i>	<i>Borage officinalis</i>	Cardioprotective ^{85,86}

5. Conclusion

Holistic approach for treatment is core philosophy of Unani System of Medicine gives emphasis on treating the cause of disease as well as whole human being. The combination of philosophy and medicine was common at the time when the

relationship of health and diseases with nature became part of scientific thought under the doctrine of Hippocrates. The body has an innate ability to heal – referred to as *tabi'at* – and that life, health, and disease follow the state of *tabi'at*. In order to achieve health, we must treat all aspects of an individual, also that health is dependent on a healthy

lifestyle and on the health of the environment. USM do have a lot of potential on preventive aspect of the disease like viral infections and we can avail benefit from preventive strategies of USM.

As evidenced above, USM has legion of auspicious therapies for prevention of the COVID-19 and other epidemics as well. Therefore, pragmatic strategy proposed here for USM requires immediate implementation. It will facilitate learning, generate evidence and shall be a way forward.

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