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Post COVID unani management: A review

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Abstract

COVID-19 may develop the risk of long-term health problems as complications in which body system and organs like brain, lungs, heart, liver, kidneys and skin can be affected by thrombo-embolism and virus toxicity, but scientists aren't sure yet whether the virus harms the organ directly or if it happens for another reason. There may also be long term sequelae of adverse events that develop in the course of COVID-19 and its treatment. These complications are likely to place an additional medical, psychological and economic burden on the patients and if not managed properly it could lead to decreased productivity, disability and morbidity for the long term.

In view of Unani medicine, post COVID complications reflected due to *Su-e-Mizaj Har wa Yabis* (hot and dry ill temperament) of the organ, can be corrected by *Ta'deel* (moderation) through certain Unani principles. Present paper deals with a review on post COVID Unani management which can be adopted by specific measures for specific complications and by achieving general measures particularly *Asbab-e-Sittah Zaruriyah* (six essential factors) for maintenance and promotion of health.

Keywords: COVID-19, unani medicine, stroke, thrombo-embolism, antiviral, *Asbab-e-Sittah Zaruriyah*

Introduction

The novel coronavirus disease 2019 (COVID-19) caused by the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) has become a major global concern. Within 7 months it has spread around the world like wildfire. It was first reported in China in December 2019 and has resulted in an ongoing pandemic of devastating impact [1]. Patient with severe manifestations of COVID-19 often progresses to acute respiratory distress syndrome (ARDS) which may cause permanent scarring of lung tissue resulting in respiratory problems that persist long after recovery [2]. COVID-19 infection is also associated with high rates of extra-pulmonary complications that may continue to incur morbidity and delayed mortality in survivors. These include cardiac injury, acute ischemic or haemorrhagic stroke, neurological deficits, acute kidney injury and liver injury. The thromboembolic complications of COVID-19 such as pulmonary embolism, stroke and other manifestations can cause a wide range of permanent organ damage. There may be long term sequelae of adverse events that develop in the course of COVID-19 and its treatment [3]. Even if the patient recovers physically, they are vulnerable to long lasting mental health problems and long term psychological distress can develop in more than half of the patients who survive critical illness [4]. At present, the vaccine development for COVID-19 is undergoing and the everyday new target is being identified with the development of new drugs and also most of the drugs are undergoing clinical trials. The development of the vaccine is unsure as there are always changes in sequences and it may take many years to develop [5]. In this regard, Indian traditional medicine might play an important role in protecting the public health and well-being of the post COVID-19 recovery patients. A single plant may contain various phytochemical constituents which can be further utilized alone or in combination with other compounds to produce a desired pharmacological effect. Most antiviral medicinal plants have shown to be effective in inhibiting the growth of viral infections [6].

As there is no specific vaccine or treatment available to cure the disease or minimize the adverse effect of the drugs and complications of COVID-19, Unani system of medicine can play an important role in the management of COVID-19 disease by minimizing the adverse effects of the drugs and its complications. Unani system is holistic which considers the whole personality of an individual rather than a reductionistic approach. Unani system also provides preventive, curative and rehabilitative health care. There are various Unani single drugs, compound formulations, specific diets, food items and regimens which can be helpful to manage the burden of this global pandemic.

Hence in this review authors have attempted to highlight the possible Unani treatment to minimize the adverse effect of the drugs and to prevent the post COVID-19 complications.

Methodology

A manual survey of classical Unani literature was conducted to collect the information on prevention and management of epidemics. In addition, articles were retrieved using Pub Med, Research gate and Science Direct with the search name Unani Medicine, *Waba* (epidemic), Coronavirus disease, acute respiratory distress syndrome (ARDS), Antiviral and Anti-inflammatory.

COVID-19 Complications

According to WHO, COVID-19 may increase the risk of long-term health problems as complications in which body system and organ can be affected by thrombo-embolism and virus toxicity, but scientists are not sure yet whether the virus harms the organ like the brain, heart, liver, kidneys or if it happens for another reason^[7, 8]. According to the Unani concept, the post COVID complication may be developed by *Su-e-Mizaj Har wa Yabis* (hot and dry ill temperament) of the organ, caused by the SARS-CoV-2^[9]. Harmful effects of COVID-19 are discussed below^[7, 8].

1. Lungs
 - Damage to lung tissue, restrictive lung failure
2. Heart
 - Damage to cardiac muscle, heart failure
3. Liver
 - Damage to hepatocytes, hepatic failure
4. Kidney
 - Damage to renal tissue, renal failure
5. Brain and nervous system
 - Loss of sense of smell (anosmia)
 - Loss of vision
 - Loss of hearing
 - Loss of memory and concentration
 - Stroke
 - Epileptic fits
 - Stress, anxiety, depression
 - Sleep disturbances
6. Musculoskeletal system
 - Pain in joints and muscles
 - Fatigue
 - Multisystem inflammatory syndrome in children
7. Skin
 - Gangrene

Post COVID Unani Management

Complicated serious illness associated with COVID-19 should be managed by allopathic medicines. Besides, with these drugs, Unani medicine can be used to improve organ function, minimize the adverse effects of allopathic drugs, and to modulate and enhance the immune system. The management of post COVID -19 complications are categorized into two measures; specific and general.

Specific Measures: It is adopted for specific complications,

as discussed below;

Damage of the lung and restrictive lung failure can be treated with *muhallil-e-warm* (anti-inflammatory), *munaffis wa mukhrij-e-balgham* (expectorant & mucolytic), *mufatteh-e-urooq-e-khashna* (bronchodilator) and *muqavvi-e-riya* (pulmonary tonic) properties having drugs like Gul-e-Banafsha (*Viola odorata* flower), Sapistan (*Cordia latifolia* fruit), Tukhm-e-Khatmi (*Althaea officinalis* seed), Tukhm-e-Khubbazi (*Malva sylvestris* seed), Irsa (*Iris ensata* root), Katan (*Linum usitatissimum* seed), Aslus-soos (*Glycyrrhiza glabra* root), Zoofa (*Hyssopus officinalis*), Khayar-e-Shambar (*Casia fistula* pulp) in the form of *Joshanda* (decoction), Sharbat Banafsha, Sharbat Zoofa Murakkab, Lauq Sapistan, Lauq Sapistan Khayar Shambari, Lauq Katan, Khameera Gaozaban Sada, and Arq Gaozaban^[10, 12]. Cardiac muscle damage and heart failure can be managed by *mufattit-e-takhassur-ud-dam* (thrombolytic), *mufattit-e-shaham* (lipolytic) and *muqavvi-e-qalb* (cardio-protective) properties having drugs such as Khameera Abresham Sada, Khameera Abresham Hakeem Arshad Wala, Dawa-ul-Misk Motadil, Arq Zeera, Tiryaaq Arba, Sikanjabeen Lemoni, Sikanjabeen Bazuri and Habb e Muqil^[10, 12].

Damage of the liver cells and hepatic failure can be controlled by *muhallil-e-warm* (anti-inflammatory), *mufatteh-e-sudud* (de-obstruent), *muqavvi-e-kabid* (hepato-protective), *mus'hil-e-safra* (bile purgative) and *mudirr-e-baul* (diuretics) activities possessing drugs like Majun Dabeedul Ward, Dawa-ul-Kurkum Kabir, Sharbat-e-Deenar, Sharbat Bazuri Motadil, Arq-e-Mako, Arq-e-Kasni, Arq-e-Brinjasif and Arq-e-Afsanteen^[10, 12].

Damage of the kidney tissue and renal failure can be managed with *mudirr-e-baul* (diuretics), *muqavvi-e-kulyah* (nephro-protective) properties owning medicines like Qurs Kaknaj, Jawarish Zaruooni, Dawa-ul-Kurkum Kabir and Sharbat Bazuri Motadil^[12, 13].

Loss of sense of smell can be corrected with *Muqavvi-e-Asaab* (neuro-protective) and *Muqavvi-e-Dimagh* (encephalo-protective) activities presenting drugs like Qurs Kushta Marjan Jawahar and Khameera Gaozaban Jawahar wala. Loss of vision can be corrected by Sharbat Amla, Murabba Amla, Majun Barhami, Arq Mundi and Kohlul Jawahar due to *Muqavvi-e-Basar* (optic protective) activity. Hearing loss can be rectified by *Muqavvi-e-Asaab* (neuro-protective) and *Muqavvi-e-Dimagh* (encephalo-protective) activities involving drugs like Roghan Sama'at Kusha, Qurs Kushta Marjan Jawahar, Khameera Gaozaban Ambari. Memory and concentration loss can be treated by *Muqavvi-e-Dimagh* (encephalo-protective) and *Muqavvi-e-Asaab* (neuro-protective) properties formulations; Qurs Kushta Marjan Jawahar, Khameera Gaozaban Khas, Itrifal Muqawwi Dimagh, Majun Barhami and Majun Nisyan. Strokes can be managed by *Munziji-e-Balgham* (phlegm concoctive), *Mus'hil-e-Balgham* (phlegm purgative), *Muqavvi-e-Asaab* (neuro-protective), *Muharrik-e-Asaab* (neuro-stimulant) activities involving medicines. Only Maul Asl (honey water) should be given during the first 7 days of treatment. *Nuskha Munziji* (concoctive formulations) should be used for the next 14 days. Then *Nuskha Mus'hil* (purgative formulations) along with *Tabreed* (cooling) 2-3 times should be utilized. Thereafter Majun Jograraj Gogul, Majun Ser Alvi Khan, Majun Azaraqi, Habb-e-Azaraqi, Qurs Ikseer Falij, Roghan Qust and Roghan Malkangni should be used. Epileptic fits can be treated by *Dafey-e-Tashannuj* (antispasmodic) and *Muqavvi-e-Asaab* (neuro-

protective) activities owning medicines; Qurs Uood Saleb, Habb-e-Jadwar, Habb-e-Sera, Khameera Gaozaban Jadwar Uood Saleb Wala, Majun Zabeeb. Stress, anxiety and depression can be corrected by anxiolytic and *Dafey-e-Sauda* properties attributing drugs; KhameeraGaozaban Jawahar Wala, Iksir-e-Shifa, Jawarish Shahi, Sharbat Ahmad Shahi, Majun Najjah, RoghanLaboobSab'aa. Insomnia can be treated by *Munavvim wa Musakkin* (tranquilizer & sedative) drugs like Iksir-e-Shifa and Roghan Laboob Sab'aa [12, 14].

Pain in joints and muscles can be relieved by *muhallil-e-warm* (anti-inflammatory) and *musakkin-e-alam* (analgesic) drugs; Habb-e-Suranjan, Majun Suranjan, Habb-e-Asgand, Roghan Baboona, Roghan Surkh. Fatigue can be managed by Dawaul Misk Motadil, Halwa Gheekewar; as general tonic. Multisystem inflammatory syndrome can be resolved by *muhallil-e-warm* (anti-inflammatory) drugs including Majun Dabeedul Ward, Arq Mako, ArqKasni, Arq Brinjasif [12, 13].

Gangrene can be treated with *muhallil-e-warm* (anti-inflammatory), *musaffi-e-dam* (blood purifier), *mundamil-e-qurooh* (wound healer) medicines including, Sharbat Banafsha, Arq Murakkab Musaffi and Marham Safed Kafoori [15].

General Measures [16].

- Use face mask
- Maintain social distancing
- Frequent sanitize/wash the hands with soap and water
- Avoid touching the eyes, nose and mouth
- Isolation of suspected cases with immediate medical care
- Take regular medication as advised for COVID-19
- Self-health monitoring: body temperature, blood pressure, sugar, pulse oximetry.
- If cough/sore throat persists, do gargle with salt soluble lukewarm water, and steam inhalation of plain water.
- Use of immune enhancing medicines as directed by AYUSH advisory. Some medicine illustrated as Kalonji, Zafran, Giloy, Asgand, Neem, Haldi, Darchini, Zanjabeel, Berg-e-Gaozaban, Tiryqaq-e-Wabayi, Khameera Marwareed [17, 18].
- Adopt *Asbab-e-Sitta Zaruriya* (six essential factors) to maintain health, as follows [19, 20].

A. *Hawa-e-Muheet* (Atmospheric Air)

- To keep clean and pure atmosphere, there should be care proper personal and surroundings hygiene e.g. self, cloths, floor, room, house, street etc.
- Avoid smoking
- Destroy sputum in disinfectants solution

B. *Makulaat-o-Mashroobaat* (Foods and Drinks)

- The diet should be balanced and nutritive as macronutrients; protein, fats carbohydrates, as well as micronutrients; vitamins and minerals in appropriate quantity.
- Easily digestible, freshly cooked and soft diets should be preferred.
- Available seasonal fruits and citrus fruits such as grapes, lemon, orange, etc. should be used.
- Contaminated foods should be avoided
- Avoid fast foods, bakery foods made from *baisan* (gram flour) and *maida* (finely milled wheat flour) etc.

- Anjeer (*Ficus carica*), Khajoor (*Phoenix dactylifera*), Badam shireen (*Prunus dulcis*) and Asal (Honey) should be used.
- Drink adequate amount of normal fresh water.
- Use of hot or cold water according to *Mizaj* (temperament) of season and individuals.
- Avoid water drinking just after meals
- Avoid consumption of alcohol
- Contaminated water should be avoided
- Avoid tobacco chewing
- Use of *Aab-e-Nakhood* (black gram water), *Ma-ush-Shayeer* (barley water), *Ma-ul-Asal* (honey water)

C. *Harkat-o-Sukoon-e-Badani* (Physical Activity and Rest)

- Routine physical activity to be done according to the capacity of an individual
- Hard physical work to be avoided just after COVID till at least 7-15 days.
- Physically on rest till body power is restored completely
- Exercise / yoga / morning or evening walk as per tolerated
- Breathing exercise as advised by the physician

D. *Harkat o Sukoon-e-Nafsani* (Psychological Activity and Repose)

- Avoid hard mental work
- Be stress free
- Ignore negative emotion and thoughts
- Have positive emotion and thoughts

E. *Naum o Yaqzah* (sleep and wakefulness)

- Have adequate sleep (6-8 hours daily for an adult)
- Avoid excessive sleep and wakefulness

F. *I'tibaas wa Istifraagh* (retention and elimination)

- Retention and elimination of body substances should be balanced and normal
- Urine and bowel habits as well as menstrual flow should be proper to avoid *I'tibaas-e-GhairTab'yi* (abnormal retention)
- Haemostatic and hydrostatic system of the body should be normal to avoid *Istifraagh-e-GhairTab'yi* (abnormal elimination) like bleeding tendency; epistaxis, hematemesis, haemoptysis, haemorrhoid, profuse menstrual flow and water & electrolytes loss; diarrhoea, dysentery, vomiting, excessive urination

Conclusion

In the absence of a vaccine and any decisive treatment of COVID-19 and its complications, stress is being laid on the traditional medicine system for providing the necessary protection. These traditional medicines can be used as an adjuvant with allopathic medicines in COVID-19 patients with unstable clinical conditions or clinical deterioration or patients with comorbidities. Unani Medicines have several bioactive compounds such as phenol, saponins, flavonoids, alkaloids, essential oil, antioxidants, vitamins and minerals which can play a significant role in reducing the adverse effects of the drugs and to minimize post COVID complications. In addition to drug therapy, intake of certain food items, dietary modification, adoption of *Asbab-e-Sitta Zaruriya* (six essential factors) and certain regimens such

Riyazat (exercises) can reduce the disease burden and mortality rate of COVID-19.

This review has limitations as it doesn't include any direct evidence, hence prospective studies are needed to verify the efficacy and safety of these Unani Medicines in the patients with post COVID complications.

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