

Novel Corona Virus (Covid-19): Management through Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy

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ABSTRACT

COVID-19 pandemic has become a global health crisis. Mild infection has high recovery rate, while in severe cases can be fatal. There is no specific medication or vaccine and treatment is based on supportive care only. At this critical period of limited therapeutic options; Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy can play a significant role in the management of COVID -19 infection. This paper briefs on the epidemiology, the concept of health and lists the possible preventive and therapeutic options available AYUSH systems of medicine. The guidelines mentioned here are in addition to the standard treatment guidelines of ICMR, Ministry of Health and Family Welfare, Government of India. Research studies may be recommended to evaluate the efficacy of AYUSH systems of medicine in positively influencing the clinical course in those who developed COVID-19 in terms of reduction in severity and duration of signs and symptoms, duration of hospital stay, onset of complications, requirement of life support, and mortality.

Keywords: Covid-19, Epidemiology, Ayurveda, Yoga & Naturopathy, Unani, Siddha, Homoeopathy

INTRODUCTION

The novel corona virus termed as COVID-19 belongs to the *Corona viridae* family of viruses and consists of a core of genetic material surrounded with an envelope of protein spikes which gives the appearance of a crown. Corona viruses cause diseases ranging from the common cold to Severe Acute Respiratory Syndrome (SARS) and

the Middle East respiratory syndrome (MERS). Lung pathology found in CT scan of patients suffering from COVID 19 is similar to other corona viruses like SARS and MERS that caused outbreaks earlier [1].

The first case of COVID-19 was found in Wuhan, China in December 2019 [2].

COVID-19 cases have now been diagnosed in 216 territories in 6 continents across the globe. The World Health Organization (WHO) declared the novel corona virus (COVID-19) outbreak a global pandemic on March 11, 2020 [3]. The number of confirmed cases of COVID-19 globally are 13,616,593 including 5,85,727 deaths as per updated WHO Situation report on 17th July 2020 [4]. Social distancing and use of mask has become mandatory in present scenario globally [5]. In India the total number of COVID-19 cases is 1038716 which include active cases of 358692, Cured/Discharged/Migrated cases of 653751 and deaths of 26273. Maharashtra is the most infected state with 292589 cases, followed by Tamil Nadu with 160907 cases and Delhi with 120107 cases [5].

Standard hygiene practices are recommended to protect against infection and further spread. These include covering your nose and mouth when coughing or sneezing with medical mask, tissue or flexed elbow. Avoiding close contact with those who are unwell, appropriate use of mask and personal protective equipment especially in health care setting, washing hands regularly with soap and water or alcohol based hand rub and disclosing about travel history. However it is pertinent to mention that currently there is no specific medication and vaccine to protect against the virus and the treatment is based on supportive care. Therefore, apart from following standard hygiene practices, prevention of the spread of virus has become a necessity. Moreover, evidence suggests that comorbidities affect the severity and recovery of the Covid infection. The beneficial effects of AYUSH system of medicines in non-communicable diseases are known to improve the quality of life. At this critical period of limited therapeutic options; AYUSH systems of medicine can play a

significant role as immune modulators and for symptomatic treatment of COVID -19 infection with an ultimate aim to save the people [6,7].

This paper briefs on the epidemiology, and the possible preventive and therapeutic options available in AYUSH systems of medicine.

CONCEPT OF EPIDEMIC DISEASES Ayurveda

Ayurveda, the most ancient system of medicine in India is considered to be more than 3000 years old. It is a science of life and most of its basic principles are still relevant. In Charaka Samhita, one of the foremost classical texts of Ayurveda, Acharya Charaka has described a concept of Janapadodhwamsa that is comparable with concept of epidemic diseases. Factors which are common for all the people of a country are Vayu (air), Jala (water), Desha (habitat) and Kala (seasons)", either of the aforesaid four factors gets vitiated leading to mass annihilation of the habitants of the country [8]. These diseases can be considered as either airborne, waterborne infectious or diseases occurring due to soil contamination or conditions arising due to weather or seasonal hazards. Further, Acharya Sushruta described about certain Infectious and Contagious diseases (*Sansargaja and Upsragaja vyadhis*) and the mode of transmission of these diseases from person to person [9]. In view of above, according to Ayurveda, COVID-19 pandemic can clearly be considered as Janapadodhwamsa Vikara.

Yoga and Naturopathy

Yoga helps in the maintenance of physical, psycho-physiological and emotional health while Naturopathy is a system of lifestyle medicine as it focuses on adopting healthy lifestyle. Yoga and naturopathy focuses in the origin of health than the symptoms of disease. The risk factors like sedentary life,

unhealthy eating habits and psychological stress play a significant role initiating the disease process. Lowered vitality, abnormal composition in blood and lymph and toxemia are the root causes of diseases which disrupts the homeostasis of the body altering the balance and coordination between various system of the body like neuro-endocrine system, autonomic nervous system, and endocrine system.

Innate immunity aims to keep viruses, bacteria, and other pathogens away or limit their ability to spread and move throughout the body [9]. Psychological stress has become a potential factor both in susceptibility and clinical manifestations of the diseases [10] and yoga was recommended in conditions where psychological stress plays significant role in the prognosis of the disease¹¹. Naturopathic immune boosting diet, intermittent fasting, regular Yoga as per recommended protocol, Neti kriyas, and mindfulness meditation is recommended as general immunity booster and prevention of infectious diseases. Further, it may help in faster recovery from viral infections in those already infected [11].

Unani

Wabaiya Amraz (Epidemics) According to the Unani concept, it has been characterized under the heading of an epidemical fever (*Humma Wabaiya*), the manifestations are comparable or look like that of present COVID-19 virus and different strains, fever, having a foul smell, high pitch breath, breathlessness, polydipsia, dry tongue, sickness, loss of hunger, stomach pain, anxiety, and uneasiness, sleep deprivation, weakness, pink skin rashes which in some cases rise rapidly yet evaporate gradually, mouth ulceration, and so forth individuals who carry on with a dull life, hyper sexuality and weak immunity are progressively inclined to the viral contamination [12].

Siddha

Siddha system is one of the ancient systems of medicine in the world developed within the Dravidian culture, which is of Pre-vedic period. The four steps of epidemic prevention mentioned in ancient siddha texts are very similar to the ones followed at present times. These include [13,14]:

- 1) **Notification:** A bundle of stem of Neem and Tulsi was placed over the main entrance of house where people were suffering from epidemic disease. This was the way how people would get notified about an illness and the same would be shared to the concerned authorities.
- 2) **Isolation:** The patient was isolated in home or a different room provided with only one helper in case of emergency.
- 3) **Quarantine:** If a disease spreads in a village in order to prevent the spread of disease to neighbouring places, the residents of the affected village were not allowed to leave the village for any reason and entry from other villages was restricted.
- 4) **Disinfection:** Our Ancestors used natural disinfectants like neem leaves fumigation and sprinkled turmeric water around the house and premises which are proved as effective against germs.

Homoeopathy

Homoeopathy has three approaches to manage a prevailing epidemic. The first approach is giving constitutional medicine. Constitutional treatment is given after examining the constitution, diathesis, temperament and predispositions of the patient [12].

Thus, prescribing a constitutional medicine is an individualized approach that removes the susceptibility of the individual to be affected by acute miasms.

The second approach is Genus Epidemicus. Homoeopaths ascertain the genus epidemicus after closely observing the totality of signs and symptoms of several cases and constructing the characteristic picture of prevailing epidemic as mentioned by Dr. Hahnemann in aphorism 101 and 102 of the Organon of Medicine. Homoeopathy emphasises that each epidemic is different and not be treated with same genus epidemicus since all of them that broke out at different times and were different from each other. Thus, he mandated we make thorough study of symptomatic presentation of each epidemic [15].

Dr. Hahnemann promoted Belladonna as genus epidemicus for Scarlet Fever [16] in 1801 and Aconite as specific preventive for the next Scarlatina epidemic in 1808 in Germany. Due to successful prophylactic treatment of these two scarlet fever epidemics, Homoeopathy gained lot of popularity. In the year 1808, Dr Hahnemann described individualizing aspects of these two epidemics of scarlet fever [17]. Homoeopathic treatment was able to significantly reduce the mortality among patients during Spanish Flu pandemic in 1918 [18].

The third approach is prescribing Nosodes. Nosodes prepared as per the homoeopathic principles from disease products and used as prophylactic in infectious diseases and non-infectious diseases, and therefore have a potential for being epidemic preventive [19]. Research studies have shown that homoeoprophylaxis by nosode nosoLEP was effective against leptospirosis in Cuba in 2007-08, and use of nosode malaria Off 200 as mass prophylaxis in high risk villages of some parts of India resulted in significant malaria incidence during high transmission season [20, 21]. Challenges in successfully employing nosodes of various ailments include harmonized method of nosode preparation acceptable

to all the homoeopathic pharmacopoeias across the globe and safety studies [22].

MANAGEMENT OF COVID-19

Ayurveda

As mentioned above, in Ayurveda there is comprehensible description of epidemics and pandemics (Janapadodhwamsa) alongwith its management and this makes Ayurvedic intervention even more pertinent in today's scenario. For the management of Janapadodhwamsa in Ayurveda, it is mentioned that collection of potent medicines should be done and if required, Panchakarma (Bio-purification) therapies and Rasayana (immuno-modulatory drugs) should be prescribed to the persons in the risk areas, so as to improve the immunity and thus making the risk of infection low [23].

Sanjeev Rastogi *et al* [24] in their article proposed a pragmatic strategy of Ayurvedic intervention (with rationale) for Covid-19 outbreak in India. Further, AYUSH ministry released some guidelines entitled "Ayurveda's immunity boosting measures for self-care during the COVID-19 crisis" [25] with view to contain the spread of COVID-19. The advisory was based on the experiences and knowledge of 16 eminent vaidyas from across the country.

Management of epidemics in Ayurveda includes use of potent medicines along with use of herbs and food which increases Bala (Immunity). According to Ayurveda, disease is the resultant of imbalanced Dosha and Dushya which happen due to ksheena vyadhikshamatva (Low Immunity). So, to get rid of this disease, we should use those dravyas which are useful to improve the immune system [26]

'Rasayana' is one of the branches of Ashtanga Ayurveda wherein various formulations have been described for rejuvenation, immunity enhancement, to

delay aging process. Such preparations are considered to be immuno-modulators, which may be either disease specific or for general wellness [27]. Rasayanas are believed to have antioxidant, anti-stress, immunity booster & modulator effect [28].

Some formulations that may be used are -

- 1) Broad-spectrum anti-virals activity of herbs viz. *Ocimum sanctum*, *Zingiber officinale*, *T. cordifolia*, *Andrographis paniculata*, *Glycyrrhiza glabra*, Triphala and Trikatu has been reported and decoction of combination of these herbs is recommended [29].
- 2) Mass prophylaxis use of Brahma Rasayana [30], Chyavanprasha or Amrit Bhallataka [31] Rasayana can be useful as these Rasayana are generally prescribed for respiratory diseases and strengthening of respiratory tract. The following three herbs have proven antioxidant properties -

GUDUCHI (*Tinospora cordifolia*) [32]: Antioxidant property of Guduchi leaves extracts has been proved experimentally. It protects the cells by alleviating the oxidation process and hence prevents the degeneration and damage due to free oxygen radicals. In some studies, it has been observed that it decreases the IgM and increase in Hb which is responsible for more oxygen carrying capacity.

AMALAKI (*Embelica officinalis*) [32]: Amalaki having the supreme place amongst anti-ageing drugs and considered as the one of the best dravya for Rasayana Effect. It constitutes an anti-oxidant, Vitamin C, Tannin and Gallic Acid.

It has low molecular weight hydrolysable Tannins which act as the best anti-oxidant herb. A study suggested that Amalaki shown immuno-stimulant activity and moderate cytoprotective activity along with antipyretic and analgesic activities.

HARIDRA (*Curcuma longa*) [32]: *Curcuma longa* (Haridra) commonly known as turmeric, is a common ingredient in spices and act as a health supplement. The key constituent curcuminoids, are potent anti-inflammatory agents. It acts as immune modulator by playing a wide role in immune cell type's proliferation and hence cellular response. It also acts as anti-inflammatory, anti-oxidant and chemo-preventive. Its polysaccharide content enhances the host defence mechanisms and therefore may be very beneficial in Covid-19 (Janapadodhwansa).

- Dhoopana (Fumigation) is one modality of disinfecting rooms and environment described in Ayurveda. Several drugs that are generally used for fumigation are guggulu resin, Indian mustard seeds, garlic (*Allium sativum*) peel, turmeric (*Curcuma longa*) powder, Hing, Ajwain (*Trachyspermum ammi*) seeds, Devdaru and Loban (resin of *Styrax benzoin* and *Boswellia*). It may prove to be a useful tactic for disinfection [33].

Yoga & Naturopathy

Naturopathic diet- According to Naturopathy, Food is medicine and fasting is detoxification method for detoxification and restoration of health. Naturopathy recommends proper hydration, intake of fresh citrus juices, vegetable soups, probiotic foods like buttermilk or yoghurt to improve the gut flora, use of jaggery and honey as sweeteners, liberal use of spices like turmeric, cinnamom, cloves, jeera and others. Preparation of foods using less oil, inclusion of fibre rich fruits and vegetables, use of millets and legumes for good amount of protein intake and foods rich in zinc and selenium for their anti oxidant effects like dry fruits like cashews, almonds, pumpkin seeds are also to be included. They help in blood purification and stimulation of digestion,

and also reduce phlegm causing tendency [34].

Improvement of mucosal Immunity-A duration of upper respiratory tract infection with SARS COV2 was observed to be reduced with nasal irrigation (jalaneti) and gargling with warm saline water or neem water. Chewing of ginger, drinking of kashayam and lemon water with jaggery or honey helps to boost immunity, reduce phlegm formation tendency and gives symptomatic relief. Regular yoga practices result in alleviating allergies, improvement in Salivary beta defensin2 thereby enhancing the mucosal immunity. Intermittent fasting at regular intervals which is an important component of naturopathy for detoxifying the body, reduce oxidative stress and is also recommended [35-41].

Recommended yogic practices-SuksmaVyayama/loosening exercises with breath awareness followed by standing asanas like Tadasana, Trikonasana, ArdhaChakrāsana, PadaHatasana, sitting asanas like Sasakāsana, Ushtrasana, Vakrasana, mandukasana, asanas in supine position like Pawanamuktāsana, Utthanapadāsana, ArdhaHalāsana, setubandasana, asanas in prone position like Bhujangasana, ardha Shalabhāsana, shalabhasana, Makarāsana, Pranayama like Nadishodhana, Ujjayi, Bhramari, kapalabhati, meditation and practice of Jalaneti Sutrāneti are recommended to boost immunity and stress management.

Unani System of Medicine

Arq Ajeeb [42-43]: It is a Unani formulation consisting of plant extracts of *Mentha arvensis* Linn, seeds extract of *Trachyspermum ammi* Linn and Camphor. It is reputed for its beneficial effects in the treatment of *Nazla Wabai* (Epidemic flu), diarrhea and cholera.

Tiryāq Arba [44], Ibn Sina described that the healthy persons who utilize *Tiryāq* will not suffer by any kind of infectious disease as it promotes strengthening the *Rooh* and health maintenance [45]. According to Ismail Jurjani mentioned in his book *Zakheera khawarzaam Shahi*; use of *Tiryāq* during epidemics is beneficial as it strengthens heart, keeps the faculties strong and prevents sepsis [46]. Jalinoos mentioned his opinion that the healthy persons who used *Tiryāq* as prophylactic drug did not get affected from epidemic and infectious diseases [47].

Habbe Mubarak, National Formulary of Unani Medicine (NFUM) published by Government of India, Ministry of AYUSH indicated this formulation for *Humma-e-Ajamiya* (Malarial fever) and *Dafe Tap* (antipyretic) [48]. Ingredients of this formulation as per NFUM and Qarabadeene Sarkari Unani part II; *Kaifal* (*Myrica esculenta* 1 part and *Maghze karanjwa* (*Caesalpinia bonducella* 2 parts) [49].

Laoq Sapista, Laoq is Arabic word for Licking. The components of this medication is Sapistan (*Cordia dichotoma*, *C. latifolia* natural product), and subsequently the medication is Laoq Sapistan. This Unani formulation is used in the treatment of *Nazla* (catarrh), *Sual-e-Muzmin* (chronic cough), respiratory ailments and having properties *Munaffis* (expectorant). It reduces inflammation of the pharynx (sore throat), tonsils and the voice box from overuse, irritation or infection [50]. It exhibits significant antibacterial activity and is used to treat upper respiratory tract infections [51].

Habbe Bukhar, It is compound drug of formulation and useful in viral as well as bacterial fever. It works as an anti-pyretic. In Unani terminology it is beneficial in all kinds of *balghami* (Phelgum), *safrawi* (Bile) & *murakkab bukhar* (Compound

Fever). It is suggested as an antipyretic to lower the body temperature for clinical management of *Humma-e-Hadda* [52].

Habbe surfa, Habb-e-Surfa is a solid preparation (pill) main ingredient *Asl-us-Soos* (*Glycyrrhiza glabra*) and *Maghz-e-Tukhm-e-Kaddu Shireen* (*Cucurbita moschata* Duche), it is having *Musakkin-e-Sual* (Cough relaxant) property and therapeutically used for *Sual* (Bronchitis).

Sharbat Sadr, Sharbat Sadr is effective syrup for influenza, bronchitis and lung/respiratory tract maladies. It assists with soothing side effects of a wide range of influenza, rash and bronchitis. Sharbat Sadr is additionally an immunity supporter medication that expands insusceptibility and help secure against any popular infections [53].

Habbe Hindi Zeeqi, indicated for asthma, pneumonia and chronic bronchitis.

Habbe Asgand Habbe Asgand is advised to given as a rejuvenating tonic, anti-inflammatory agent, aphrodisiac and an immunity boosting formulation. Habbe asgand increases the count of white blood cells and prepares the body to produce antigens against various infections and boosts brain function and lowers blood sugar, fight symptoms of anxiety and depression.

Siddha

As immunity enhancers Korai kizhangu karpam, Thoothuvelai Karpam can be given along with sugar, Kovaikkai vatrak, Manathakkali vatrak, Nelli vatrak taken along with regular food, Musumusukkai adai can be prepared by grinding its leaves with boiled rice flour and can be taken as food. Inji Vadagam 1-2 tables can be taken. Seenthil [54], Thiripala, Vallarai, Amukkara Chooranam [55], Urai Mathirai (for children), Nellikai Ilagam can be taken under doctor

advice.

Oil bath (Ennai muzhukku) with Thulasithailakarpam can also be done. For the prevention for fever and respiratory illness medicine like *KabaSura Kudineer/ Nilavembu Kudineer* [56], *Seenthil Chooranam*, *Nellikai Ilagam* were given as directed by physician. Research has proven that *Kabasura Kudineer* can be effective against the ongoing pandemic.

Symptomatically, for Cough Vasantha Kusumakaram, Nellikai Ilagam, Adathodai Manapagu, KabaSura Kudineer, for Sore Throat-Thalisathi Vadagam, KabaSura Kudineer, Adathodai Nei, in high Fever- Nilavembu/KabaSura Kudineer, Bramananda Bairavam Adathodai Manapagu Thirithoda Mathirai and in difficulty in Breathing medicine like Nilavembu/Kaba Sura Kudineer, Seenthil Chooranam, Pachai Karpoora Mathirai, Swasa Kudori Mathirai, Thippili Rasayanam are prescribed by doctors.

Siddha external therapies and external medicines are recommended symptomatically to enhance immune system. Betel leaf fomentation over the chest is advised, Nasiyam with Thumbai poo, Thulasi leave juice for Sore throat and Nasal obstruction, Neerkovai Mathirai are given for headache, Pugai with Kandangathiri Pugai, Manjal Kombu Pugai done for rhinitis, nasal obstruction. Varmam points like Adapa Kalam, Thivalai Kalam, Mudichu Varmam, Sakthi Varmam, Kavuli Kalam, and other energizing Varmam points were stimulated to enhance immunity and prevent fever and respiratory illness [57].

Environmental Sanitation: Herbal fumigation can be done every evening with Sambrani (*Styrax benzoin*), Kungiliyam (*Shorea robusta*), Vembu (*Azadirachta indica*) and Manjal (*Curcuma longa*).

Homoeopathy

Homoeopathic medicine Arsenic album 30, daily once empty stomach for three days and dose to be repeated after one month in the same manner till the novel corona virus infection is prevalent in the community. The recommendation to use Arsenicum album 30 as the genus epidemicus was given unanimously by the Scientific Advisory Board (SAB) on 29th January, 2020 after studying the symptoms available from patients suffering from COVID-19 in China, the special organ affinity of Arsenic album for respiratory system, and coverage of all stages of COVID-19 disease. The SAB also considered the immunological response Arsenic Album generated in previously reported study [58]. Further, in the two prospective multi-centric studies conducted in India during 2009-2010 on Influenza like Illnesses, Arsenic Album was indicated in maximum number of cases. The first of these studies were conducted on n=1126 confirmed cases of 2009 pandemic of A/H1N1 influenza or swine flu; while the second study was conducted in n=447 cases of ILI in the nine units and institutes of CCRH [59, 60].

Multi-Pronged Approach of AYUSH Systems of Medicine

Generally speaking, the interplay between the pathogen's virulence and host's immunology is what drives the clinical presentation. AYUSH systems of Medicine can be used as Immunity enhancers in general population, as Prophylactic, for symptomatic treatment and for long term psychological effects of social isolation associated with COVID 19.

CONCLUSION

Apart from recommended standard hygiene practices, following social distancing, isolation and the use of face mask have become necessary to prevent the spread of COVID-19 infection. These

mandatory norms in new normal situation is triggering stress which may play a significant role in the down regulation of the immune responses which may result in higher risk of susceptibility to infection and also affects the clinical manifestation of the disease. AYUSH system of medicine can play a significant role for immunity boosting, prophylactic and adjuvant treatment in this scenario. They are cost effective with negligible side effects. Research studies may be recommended to evaluate the efficacy of AYUSH systems of medicine in positively influencing the clinical course in those who developed COVID-19 in terms of reduction in severity of signs and symptoms, duration of hospital stay, requirement of life support, onset of complications and mortality.

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