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AYURVEDIC VIEW ON INFECTIOUS DISEASES W.S.R. TO PREVENTIVE AND THERAPEUTIC MANAGEMENT FOR COVID-19: A REVIEW

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ABSTRACT
As a result of the corona epidemic, researchers all across the world are striving to develop a specific therapy. However, no clear specific therapy has been discovered to yet, and we are now pursuing procedures with symptomatic care. Ayurveda is an old medicinal discipline with a highly detailed literature on illnesses, causation, clinical aspects, and therapy. The primary goal of the study is to evaluate various treatment options for COVID-19 pandemic patients. To offer proper direction in the prevention of COVID-19, we employed knowledge of the ancient classics and historical literature on human treatment guidelines mentioned in Ayurveda classics, for prevention and treatment of communicable illnesses. A complete assessment of literature, Samhitas (Ayurvedic Classics), and research publications published between January and June 2020 by PubMed, Google Scholar, WHO, and the Ministry of AYUSH was conducted. Experts' perspectives have also been cited. Individuals with reduced immunity are more likely to get COVID-19, thus the herbal Rasayana (Rejuvenating) medication, which has been shown to have immunomodulatory effect, is also included in the trial. Ayurvedic medicines that may aid in the prevention of COVID-19 progression have also been reviewed. Indian herbs are commonly used in the manufacture of Ayurvedic medications or formulations, as well as in the form of beverages, to treat a variety of respiratory problems such as cough, cold, and flu. Hence, these drugs are formulated by using active parts of the plants, which are used for preventing and treating the COVID-19. These formulations are immunity modulators and they prevent the spread of the virus, by intruding at a different stage of virus multiplication in the infected person.

KEYWORDS: Agantuja Vikar, Ayurveda, Bhutabhisanga, COVID-19, Janpadodhwamsa, Preventive Measures, Ritusandhi, Yamadamshtra.

INTRODUCTION
The world is currently seeing the emergence of the incomprehensible COVID-19 sickness. The Coronavirus epidemic began in Wuhan, China, in December 2019. Covid19 is an illness caused by Novel Corona Virus2, also known as SARS CoV-2.[1-3] The first incidence of COVID-19 in India was reported on January 30, 2020, in Kerala State, among Chinese travellers.[4] For thousands of years, Ayurvedic ideas, beliefs, and research have been used to heal ailments and care for people. COVID-19 may be tough to grasp due to the dispersed epidemiological notion, but once they are linked together, we may gain a clearer picture of the pandemic sickness. On March 11, 2020, WHO labelled it a pandemic. COVID-19 has the following symptoms:

Fever, high grade Cough– Ineffective, Breathing difficulties, a runny nose, gastrointestinal issues (diarrhea/nausea), and headache. The onset of symptoms occurs within 2–14 days following viral exposure.[4] Jwara (fever) is mentioned as the principal ailment in Ayurvedic Classics. The COVID-19 symptoms may be connected to the characteristics of Sannipatika Jwara (a form of fever) mentioned in Ayurvedic classics. However, it best resembles the symptoms described for Sama Sannipatikajwara in serious instances of COVID-19 (A type of fever). It falls under the category of Janpadodhwamsavikara (Epidemic illnesses) and is classified as Bhutabhisanga Agantuja Vikara (External cause of microorganisms).[5] According to Ayurveda Samhitas, the therapy for Janpadodhwamsa (pandemic) includes Langhana (fasting), Langhanapachana (fasting with digestive medications), and doshaavasechana (removing vitiated humour from the body).[6]

Langhana
The production of Aam (residual undigested food) is essential for the initiation of Jwara. Langhana is the

initial therapy for Jwara and rasapradoshajvyadhi (food essence disorders). Langhana pacifies vitiated doshas while also stimulating Jatharagni (digestive fire), which aids the body in achieving laghutva (lightness) and a pleasant appetite.

Langhanapachana

In the combat of Langhana, one can gradually increase the ahar (diet) based on aharashakti (capacity of food consumption) and the status of Agni (digestive fire). This is known as Hinamatrabhojan (eating less than hunger). As a result, Pachandravyas (medication that boost digestive capacity) sustain ahar digestion, but Agni does not increase. Pachana medications enhance the digestive power since they are prevalent in Agni and Vayu mahabhoota (the basic 5 elements). A single medicine or combination of Pachaniya Mahakashaya (Ayurvedic formulation) is effective for Pachana karma. Deepaniya Mahakashay (Ayurvedic formulation) dravyas have both the quality of Deepan (raising hunger) and Pachana (increasing digestion), hence certain deepandravyas do both.

Doshaavasechana

Shodhan (purification) treatment purges the body of vitiated doshas. According to Vagbhata (an old Ayurvedic physician), the Doshas should be eradicated from the body's closest path. Because this sickness affects the Pranavaha Strotasa (respiratory system), the murdha (crown) is the Pranava Vayu's Moolasthana (seat). As Sushruta suggests, Nasya (nasal insufflations) is the best treatment for Urdhavajatrugatavyadhi (head and neck disorders) (ancient Ayurveda physician). One of the key causes of this sickness may be a failure to adhere to Rutucharya (seasonal regimen). However, the transitioning pattern may seem monotonous; *Rutucharya* controls the great pattern.

The intricate character of seasons is generated by the earth's, sun's, moon's, and human existence. When the southerly phase shifts to the northerly phase and when the northerly phase switches to the southerly phase, these are the two most critical transitional moments. Yama is the lord who obtains ailments during this era, and the phase is known as Yamadamshtra.[7] Ritusandhi refers to the previous seven days of the current season as well as the first seven days of the next season (seasonal junction). During this time, the suggested regimen for the current season should be changed on a regular basis, and the regimen for the upcoming season should be gradually adopted. If this shift of regimen takes place all of a sudden, the disease may arise which are similar to the diseases generated due to the intake of unsuitable diet.[8]

The choice of medicinal herbs or formulations for COVID-19 Unexposed Asymptomatic

Ayurvedic formulations such as Bramhi Rasayana, Chyawanprasha avaleha or Amrita Bhallatak[9], Agastya Rasayana, Dashmool Rasayana[10], and herbs such as Ashwagandha (*Withania Somnifera*), Guduchi (*Tinospora cordifolia*)[11], and Amalaki (*Emblica officinalis*)[12] can be utilised.

Exposed Asymptomatic (Quarantined)

Herbs such as Guduchi, Shunthi (*Gingiber Officinalis*), Haridra (*Curcuma Longa*), and Triphala, Trikatu, Sanjeevanivati, Chitrakadivati, Sudarshanghanavati, Guduchi vati, Chyawanprasha avaleha (Ayurvedic preparations)

Mild symptoms

This can be treated with Ayurvedic preparations such as Pippali Rasayana Gojivantyadi Kwath, Kantakari Avaleha, Chi-trakadi Vati, Vyaghriharitaki, Dashmool Kadha Talisadi, Sitopaladichurna, and medications such as Ardrak (*Gingiber officinalis*)[11], Tulsi.[10]

Moderate to Severe (Hypoxemia and Dyspnoea Phase)

Guduchi vati/Samshamani Vati, NityaRasayana, Vyaghri-Haritaki, Kushmanda Avaleha, Agastya haritaki, Bilvadigutika, Siddhamakardhwaj, Talisadi Churna, Arogyawardhini, Pippali Rasayana, Laghumalini Vasant, Sanjeevanivati, Trib The AYUSH Ministry (Ayurveda, Siddha, Homeopathy, Yoga and Naturopathy, Unani) of India issued an advisory in which it suggests consuming Kwath (herbal tea/decoction) containing Tulsi (*Oscimum sanctum*), Dalchini (*Cinnamomum verum*), Kalimirch (*Piper nigrum*), Shunthi, and Munakka (*Vitis Vinifera*) for self-care Furthermore, drinking of turmeric milk is advised; to make it, mix half a teaspoon of turmeric powder in 150 ml hot milk once or twice a day.[15] Jwarahara (antipyretic), Kasahara (anti-cough), Aamhara (digestives), Tridoshahara (pacifying humour), Swasahara (breathlessness relief), Pratishyahara (anti-cold), Rasayana (rejuvenating), Deepaniya (appetite boosters), and Krimighna are some of the medications available here (anti helminths).

Following preventive measures can be taken

Brushing teeth with a herbal-based Neem (*Azadirachta indica*) toothpaste to maintain oral hygiene.[16-17] Bathing with Neem, Aloes, Karanj (*Pongamia Pinnata*), Nirgundi (*Vitex nirgundo*), and Gomutra (Cow Urine) Arka for Virus Treatment.[15] Gargling with kwath (decoction) consisting of Turmeric, Triphala, Shunti, Yashtimadhu, Tankan (Borax), and Saindhava (Rock Salt) is beneficial in producing an unfavourable contact surface for viruses at portal entrance, i.e. the Oropharynx and Nasopharynx. Nasya Karma (Medicated Oil) with Shadbindu Tail.[12] Drinking Tulsi, pepper, Shunthi, yashtimadhu, Guduchi Stem, Ashwagandha, Sariva (*Hamidesmus indicus*), Ela (*Elettaria cardamomum*) with lemon juice and jaggery generates an unfavourable contact surface for viruses at portal entrance, i.e. the oropharynx and nasopharynx.[18-20]

Sanitation, Social Distancing, Home Quarantine, and Personal Isolation must all be properly adhered to.

Bhumi Shuddhi (Land Purification): a sprinkle of Neem, Karanj, and Gomutra extracts to produce an unfavourable habitat for viruses.[15] Fumigation with Divyadhoop (essence sticks) in aerosol form at home, hospitals, and community places, or Lakshadi Dhoopa (Sushruta Kalpasthan.6/4) or Turmeric, garlic peel, Dried Neem leaves, Vacha (*Acorus calamus*), Sarjaras (*Shorea robusta*), added with ghee to create an unfavourable environment for viruses.[15]

Ahar

Pathya (Effective) Diet: A diet that is freshly cooked and served hot. Rice gruel/Ragi (*Eleusine coracana*)gruel– with Ginger or Yavaagu is a light diet (soup) Rice cooked with coriander, cumin, ginger, turmeric, and pepper. Yusha (soup) made with green gramme or other pulses and Krishna jeeraka (black cumin). Khichadi / Pongal / Daliya (cooked grains) with coriander, ginger, turmeric, and pepper are options. Vegetables – Katuand tikta rasa pradhana (spicy and bitter in taste)- Patola (*Trichosanthes dioica*), Brinjal, Tender radish, Punarnava (*Boerhaavia diffusa*) leaves, Tanduliya leaves (*Amaranthus viridis*), Sarshapa (*Brassica campestris*) leaves, Pudinaleaves (Menthe Ar Amalaki' (*Emblica officinale*) payasya/ Jam / Chutney with Pudina and coriander are excellent choices.[11] *Apathyaahar (inefficient diet): -Heavy, spicy, greasy or fried meals*, curd, cool beverages, head bath, mental tension, and exposure to fan/AC should be avoided at all costs. Ayurvedic Psychotherapy (Satwavajaya Chikitsa): The Doshas (humour) are divided into two categories: Shareerika (connected to the body) and Manasika (related to the mind). Manasika Dosha may not have a direct impact on illness manifestation, but it does have an indirect role in disease manifestation. For example, the relevant manasikadoshas are Jwara (fever), Kama (lust), Bhaya (fright), Soka (mourning), and Krodha (anger). Ayurveda defines three forms of diarrhoea: Atisara (diarrhoea), Bhayaja (fright and grief), and Shokaja (diarrhoea). To avoid such Manasika Dosha, it is vital to focus and regulate the Manas (mind) through Satvavajaya Chikitsa practises such as Dhyan (meditation), Pranayama (breathing exercises), yoga asana (stretching exercises), Sadvrittapalan (daily regime), and Achar- Rasayana (behavioural regime).[12-13]

DISCUSSION

In the current situation, it is clear that COVID-19 propagation is difficult to prevent. As a result, we must take a preventive approach to this condition. According to Ayurvedic texts or Samhitas, this should be avoided at an early stage. As a result, we must utilise medicinal formulations, Rasayana, to boost our immunity and ensure that even after being exposed to infectious illness microorganisms, the disease's manifestation may be avoided. The Ayush ministry recommends the majority of the formulations.[14]

Some formulations which are made from the vital ingredients used for COVID-19

Sudarshan Ghanavati or Sudarshan Churna

Ingredients: *Amalaki, Guduchi, Haritaki, Yashtimadhu, Haridra, Pippali, Trikatu Karya*(action): The formulation corrects the *Tridosha* imbalance and used in all types of *jwara.* Dose: 2vati twice a day, After Food with warm water It is used when all *doshas* are aggravated. (Used for maintaining Tridosha).[15]

Chyawanprasha avaleha

Ingredients: *Yashtimadhu, Guduchi, Haritaki, Pippali, Amalaki, Brahmi, Gokshura, Dalchini. Karya*: Used as *Medhya, Balya, Rasayana.*

Dose: 10gm once before breakfast, pacifies *Vata pitta, Kapha.*[16]

Vyaghri Haritaki

Ingredients*: Haritaki, Guda, Shunthi, Marich, Pippali, Twak, Patra, Ela, Madhu, Nagkeshar*

Karya: Used in *Kasa, Swasa,* Hoarseness of voice, Loss of voice

Dose: 10gm twice daily before food with lukewarm Water Balances aggravated *Vata* and *pitta dosha*.

Talisadi Churna

Ingredients: *TalisPatra*, Black pepper, *Dalchini, Elaichi, Misri*

Medical Property: Antiviral, Bronchodilator, Antibacterial, Antimicrobial, Carminative

Karya: Used in Ashtama, cough, common cold, Chronic Bronchitis, Whooping cough

Dose-10gm twice before food with honey or lukewarm Water Pacifies aggravated *Vata* and *Kaphadosha* involved in *Kasa.*[16]

Arogya wardhinivati

Ingredients: *Parad, Gandhak, Loha, Bhasma, Abhrak Bhasma, Shiddha Shilajit, Shuddha Guggul, Katuki BhavanaDravya(Solvent for triturating): Neem Patraswarasa* (it is antiviral, due to which it reduces virus load virulence)

Indication: All types of *jwara*

Table 1: Drugs and their probable actions.

S. No.	*Drug*	*Karya*
	Guduchi (*Tinospora cordifolia*) *Jwarahara,*	*Aamhara*, Immunomodulation and Rejuvenation property) *Deepan Kasahara*
2.	*Haridra* (Curcuma Longa)	*Kaphaghna* (pacifying Kapha humour), *Vishamjwaraghna* (anti-fever), *Krimighna, Dhu-Panadravya* (Used for fumigation), *Rasayana*
3.	*Shunthi* (*Zingiber officinale*)	*Vatakaphahara* (pacifying *Vata* and *Kapha humour*), *Jwara-hara, Amapachana* used for gargling
4.	*Yashtimadhu*(*Glycyrrhiza glabra*)	*Jeevaniya* (Increasing life span), *swarabheda* (Better for throat)
5.	*Tulsi* (*Oscimum Sanctum*)	Immunomodulator, Antiviralagent, *Jwaraghna, Kasahara, Pratishyahara, Vishamajwarahara, Krimighna*
6.	*Amalaki* (*Emblica officinale*)	*Tridoshahara* (pacifying all humour), *Rasayana*
7.	*Vidanga* (Embeliaribes)	*Kaphavatahara, Krimighna*
8.	*Neem* (*Azadirachta indica*)	Antiviral
9.	*Pippali* (*Piper longum*)	*Vatakaphahara, Kasahara, Swasahara*, used as *Rasayana*
10	*Adrak* (*Zingiber officinale*)	*Agnimandya, Krimighna, Kasahara, Dhoopandravya*

CONCLUSION

The study's findings may result in a preventive plan for Ayurvedic physicians as well as individuals all over the globe by enhancing the body's intrinsic immunity to combat the coronavirus. This new strain of virus, which is causing a global pandemic and resulting in death, may be avoided by ensuring enough food intake, keeping sufficient hygiene, and practising social distance. Precautionary precautions can be implemented by offering instructions on how to prepare therapeutic medications such as Guduchi, Haridra, Shunthi, yashtimadhu, Tulsi, Amalaki, Vidanga, Neem, Pippali, and Adrakand Dalchini; keeping a safe distance from the sick individual is essential. To guard against the sickness, one should practise respiratory and personal sanitization. An individual should not move to the daily routine immediately after the recovery. To regulate agni, he should wait till he rejuvenates, regains vigour, and restores his Agnibala (digestive). The goal of Ayurveda is not to treat diseases, but rather to maintain an individual's health. As a result, a healthy person must adhere to the realistic strategy for illness management as part of disease prevention.

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