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REVIEW ARTICLE

Ayurvedic perspective on COVID- 19

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ABSTRACT:

COVID-19 is a viral infectious disease which has been created critical situation all over the world. According to Ayurvedic perspective the disease can be correlated with Sannipatik Jwara Janapad Udhwansa Vyadhi.

Keywords: Ayurveda, COVID-19, Janapad Udhwansa Vyadhi.

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INTRODUCTION

The present Pandemic of COVID-19 has brought the so-called human activity to a standstill, and has forced the entire world to seek very seriously for its cause, mechanisms of pathogenesis and its solution. Ayurveda being one of the oldest surviving Medical Tradition, has a key role to play in this crucial situation.

Epidemics have not been new to India. Ayurveda being in the fore front of health care of those times, has recorded its valuable experiences of epidemics & termed them as Janapadodhwamsa [1, Vimana Sthana 3/1e4] or Maraka [2, Sutra Sthana 6/19]. It has vividly described their mechanism of Causation (Nidana), factors affecting severity and actions complicating illnesses, their management and prevention.¹

Current available evidence for COVID-19 suggests that the causative virus (SARS-CoV-2) has a zoonotic source closely related to bat-origin SARS-like corona virus but lab creation is being investigated. It is an enveloped RNA beta corona virus related to the Severe Acute Respiratory Syndrome (SARS) virus, and the virus has been shown to use the angiotensin-converting enzyme 2 (ACE2) receptor for cell entry.² The persons infected by the novel corona virus are the

main source of infection. Direct person-to-person transmission occurs through close contact mostly in closed indoor spaces, mainly through respiratory droplets that are released when the infected person coughs, sneezes, or talks. These droplets may also land on surfaces, where the virus remains viable. Infection can also occur if a person touches an infected surface and then touches his or her eyes, nose, or mouth.³

The median incubation period is 5.1 days (range 2–14 days). The precise interval during which an individual with COVID-19 is infectious is uncertain. As per the current evidence, the period of infectivity starts 2 days prior to onset of symptoms and lasts up to 8 days, the virus has a Basic Reproduction Number or R₀ of 2–2.5 and serial interval of 4–5 day. The extent and role played by pre-clinical/asymptomatic infections in transmission still remain under investigation. Clinical features include fever, cough, other upper respiratory symptoms, myalgia, diarrhea, loss of taste and smell, fatigue and dyspnea.

Symptoms of COVID-19 can be classified into three stages as per severity. According to Ayurveda, these symptoms can be correlated with the disease Sannipatik Jwara.⁴

COVID-19	Sannipatik Jwara
Stage 1- Fever, Cough, Myalgia	Jwara, Kaas, Angamarda
Stage 2- Pneumonia, Shortness of breath, Sputum production	Shwaas, Rakta-pittakaphashthivan
Stage 3- Respiratory failure, Septic shock, Multi organ failure	Jwara, Dhatuspaaak

In the initial stages of the disease, the action of Novel Coronavirus is seen limited to mucous membrane of Respiratory tract. Hence symptoms such as Cough, Sore throat, are seen. As the virus fixes its roots deep into the body, it attacks on Red Blood cells in the blood. Its Glycoproteins form a bond with heme portion of Hemoglobin. During this process, iron ions are released free in the blood. Without iron, hemoglobin has no capacity to carry oxygen. Thus oxygen saturation in the blood rapidly decreases. This Hypoxia results in Multi organ failure. The above pathology indicates impaired functioning of blood. According to Ayurveda, this happens due to aggravated pitta. In stage 3 of the disease, Pitta is aggravated up to uncontrollable extent. Pitta is always associated with rakta Dhatus there is Ashraya – Ashrayee relation between them. This aggravated Pitta vitiates Rakta Dhatus. Due to Drava and Ushna Gunas of Pitta, process of Rakta Dhatuspaaak is initiated. Thus functions of Rakta Dhatus become abnormal.⁵

The Current Pandemic Can Be Grouped under Aagantuja Jwara

Ayurveda categorizes diseases and treatment in terms of Doshas vitiated (Dushyas), Prakriti of the individual (Body constitution), Adhishthana of disease (Target organ of disease). However, the treatment of a disease includes much more aspects like Roga marga (Pathway of disease), Kala (Time/Season of disease manifested).

Doshas Involved– Vata, Pitta

Since the disease produces dryness (Dry Cough) and shortness of breath, it can be considered that vitiation of Vata dosha is present. The presence of high-grade fever annotates vitiation of pitta dosha.

Roga Marga– Abhyantara

Since the disease involves phupusa (lungs), the pathway of the disease can be considered as internal.

Adhishtana– Phupusa

The target organ for the disease manifestation is phupusa or lungs.

Type of Vyadhi– Agantuja Jwara

This is caused by Virus (Foreign body).

Kala– Time of Vyadhi– in Indian Context– Summer

Most of the cases started by the end of February and the beginning of March, i.e., end of Shishira ritu and

beginning of Vasanta ritu. The period was Ritusandhi, i.e., junction period of two ritus, where it is said that the time is apt for the occurrence of any disease as the immunity of individuals would have reduced. Accordingly, considering the prakriti of the individual, roga and rogi bala, kala and adhisthana of roga the treatment of different type of jwara is to be decided. Since the COVID is vatapittaja vyadhi.⁶

1. Kirata– Swertia chirata– Gentianaceae:

The anti-pyretic activity of kirata shows that both the crude and purified extracts significantly inhibited cell proliferation and induced apoptosis. It may cure infectious diseases, tonsilitis, bronchitis, pneumonia, whooping cough, acute enteritis, gastritis, urethritis, nephritis, tuberculosis, gall bladder infection, influenza and high blood pressure. Besides, the anti-helminthic, hypoglycemic and antipyretic antifungal and antibacterial properties there are amarogenin (most bitter compound), swerchirin, swertiamarin and other active principles of the herb. The plant also has hypoglycaemic property and hence should be administered carefully.⁷

A study by Bhargava et al⁷ reported the anti-pyretic activity of kirata by studying Antipyretic Potential of *Swertia chirata* Buch Ham. Root Extract. They reported that the antipyretic effect of the extract was comparable to that of paracetamol (150 mg kg⁻¹ body weight, p. o.), a standard antipyretic agent.

2. Amrita– Tinospora cordifolia– Menispermaceae

The antipyretic activity of amrita is very well known and documented. However, its anti-pyretic activity is studied by Upadhyaya et al⁸ reported that traditionally *T. cordifolia* is known for its jwarahara activity (antipyretic activity). The water-soluble fraction of 95% ethanolic extract of *T. cordifolia* plant has shown significant antipyretic activity. In another experimental study, antipyretic effects have been reported in the hexane-and chloroform-soluble portions of *T. cordifolia* stems. Various studies show remarkable anti-infective and antipyretic properties of *T. cordifolia*. Pre-treatment with *T. cordifolia* was shown to impart protection against mortality induced by intra-abdominal sepsis following coecal ligation in rats and significantly reduced mortality from induced by *Escherichia coli* –induced peritonitis in mice.

3. Katu rohini– Picrorhiza kurroa– Plantaginaceae

A study by Masood et al⁹ documented that the plant is considered as an important medicinal plant which is mostly used in the traditional medicinal system for

asthma, jaundice, fever, malaria, snake bite, and liver disorders. Different pharmacological activities of *P. kurroa* include anti-microbial, anti-oxidant, anti-bacterial, anti-mutagenic, cardio-protective, hepatoprotective, anti-malarial, anti-diabetic, anti-inflammatory, anti-cancer, anti-ulcer, and nephro-protective activities were recorded from this plant. A study by Krupashree et al¹⁰ reported that the study demonstrates antioxidant and protective effects of *Picrorhiza kurroa* against oxidative damage of macromolecules such as DNA, protein, and lipids.

4. Musta– *Cyperus rotundus*– Cyperaceae

A review by Nagarajan et al¹¹ suggested that both *Aconitum heterophyllum* and *Cyperus rotundus* are reported to possess anti-inflammatory, antipyretic, antibacterial and antidiarrheal properties, while anti-inflammatory and antibacterial activities are attributed to *C. scariosus*.

5. Vasa– *Adhatoda vasica*– Acanthacea

A potential drug with highly used in Kasa (Cough), Swasa (Respiratory distress/Asthma/Bronchitis) is reviewed by Ankit Gupta and P. K. Prajapati¹² and reported that Highly significant ($P < 0.001$) results on Shwasakashtata (Difficulty in respiration) were found in all the test drug groups except in Vasa Ghrita, which was only significant ($P < 0.05$). The effect on Kasa (Cough) was also highly significant ($P < 0.001$) in all groups, whereas it was insignificant (>0.10) in the Vasa Ghrita (Medicated ghee prepared with Vasa group).

Ayurveda and public health

Acharya Sushruta has depicted different modes of communicable disease transmission while explaining the treatment model for Kushta roga (type of skin disease) in his classical treatise *Sushruta Samhita*. He says through excess of all forms of contact (Prasanga), physical contact (Gatrasamsparsat), expelled air (Nihsvasat), eating with others in the same plate (Saha bhojanata), sharing a bed (Sahashayyasanat), using clothes, garlands or ornaments of infected individuals (Vastra malaanuepanat) infectious diseases spread from person to person.¹³

Owing to the reference and evidencing the current scenario, it can be said that role of Ayurveda in maintaining Public Health is highly influential. The very aim of Ayurveda is treating the diseased and protecting the health of the healthy i.e., Protecting the health of healthy and reducing the ailment of diseased. The aim of Ayurveda and Public health seems to be in line with each other. Integrating the age-old practice of Ayurveda with modern problems provides a better alternative for the problem.¹⁴

Conclusion

COVID-19 is a viral infectious disease which has been created critical situation all over the world.

According to Ayurvedic perspective the disease can be correlated with Sannipatik Jwara Janapad Udhwansa Vyadhi. By following the diet, regime and medications advised for Sannipatik Jwara in Ayurveda, the disease COVID-19 can be prevented and cured. Medicines like Lakshmivilas Rasa, Suvarna Sutshekhar rasa, Sitopaladi Churnacan cure the disease. Use of emergency medicines like HemgarbhaPottali Rasa can save life of critical patients.

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