Concept of airborne infectious diseases in Ayurveda

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ABSTRACT

Currently the world is dealing with the infection of COVID-19 which has recently been declared as Pandemic by WHO. The quick spread everywhere throughout the world has raised worries about the chance of transmission of the infection from individual to individual. The present study is aimed to review the information available about COVID19 and similar diseases in Ayurveda literature such as CharakaSamhita, SushrutaSamhita, AstangaHrudayaand various research studies related to the topic. Ayurveda an antiquated clinical science has unmistakably depicted Aupsargikarogas (Communicable diseases), their mode of transmission, cause, cure and prevention too. Janapadodhwamsa, the diseases which affect a major part of population and its four causative factors such as pollution of Vayu(Air) and Jala (Water) along with the changes in Kala(Time) and Desha(Region) explained in Ayurveda. With respect to treatment, Ayurveda advocates prevention as the first step and then cure of diseases, through Nidana Parivarjana (Avoidance of causes), Shodhan (Bio purification) and Shaman (Curative and Palliative care). With the help of Panchakarma (Five bio purificatory therapies)and Rasayana (Rejuvenation therapy), these diseases can be prevented well. Ayurveda can be helpful to reduce the morbidity and mortality. The current review portrays how Ayurveda can assist with combatting the developing challenges of communicable infections.

INTRODUCTION

State of health is never an issue until somebody becomes extremely ill that it hampers day to day chores and activities. And when such a condition occurs at a mass level, it becomes as similar to the current situation of pandemic COVID19. On account of ill-advised eating routine, absence of daily exercise, stress, less nutritive nature of food grains and global warming, wellbeing status of people has gotten poor, and they are getting inclined to contagious infections. Infectious airborne diseases have been making a caution impacts all-round the globe and presently Corona Virus Disease (COVID-19) has been pronounced pandemic in most piece
of the world. The Epidemic of COVID-19 started in China and immediately spread to different nations and turned into a significant health issue. Coronavirus are among the primary human and animal pathogens. (Mcintosh et al., 2020). The COVID-19 epidemic began in China and quickly spread to other countries and became a major health problem (Qiao, 2020). What are the risks of COVID-19 infection; The Lancet). The specific method of infection transmission has not yet been resolved. Yet, the scientists found that the infection spreads through respiratory droplets like influenza, and air safety measures are essential because of the lacking of data here (Organization, 2020).

Ayurveda, however, is an antiquated life science notice about such diseased conditions. A point by point section on Janapadodhwans (Acharya, 2014) in CharakSamhita clarifies epidemic disease with its etiological causes. There is a better depiction on the method of transfer of infection In SushrutSamhita. They said Aupasargikrogas Sharma (2005) (Communicable diseases). AcharyaSusruta in kustha (a group of skin infection) depicts that the disease like Jwar (fever or pyrexia), kustha (disease of the skin), Sasha (tuberculosis), Netrabhushyand (Conjunctivitis) are infectious and spreads or happening direct contact or by utilization of tainted objects (SushrutaSamhitaNiryansagar Publication 1941). GatraSansparshat (direct contact), Prasnagat (all forms contact), Saha-shayyasant (resting together), Sahabhajanat (eating together), Vastra-malya-anulepanat (sharing and utilizing of different garments, adornments, ointments), prompts infection like Jwara (Fever), Kustha, Netrabhisheyanda (Conjunctivitis) Shosha (Tuberculosis). In this way, the sickness spread from individual to individual. This portrays Aupasargic Rogas that it is an infectious disease or disease spreads through contacts. Charak Samhita depicts the action of Udak (Water), Vayu(Air), Kala (Time), Desha(Soil and Area) are the components liable for Janapadodhwans (Epidemic). Description of AcharyaCharaka mainly refers to the infectious diseases and describes disarranged physical, natural and chemical elements in the event of sickness (Charak Vimansthan 3/6).

From these references, we come to realize that in old time there were such plagues too. A definite routine for such sicknesses is additionally portrayed in CharakSamhita as utilization of Panchakarma and Rasayana.

Methodology
For the current examination, the primary source of data is the ancient classical literature of Ayurveda, and past investigations led on the comparative subject at various colleges, universities and other places of research. The information available on the internet is also incorporated in the study. Abstract and the title and of every Published article were studied separately utilizing particular catchphrases by scientists, the relevant articles are gathered, and their outcomes were summed up and mentioned.

Mode of Transmission
The spread of Coronavirus can occur in the following manners:
1. Not covering the mouth while Coughing and sneezing can scatter droplets into the air.
2. Touching or shaking hands with an individual who has the infection can pass the infection between people.
3. Making contact with a surface or article that has the infection and afterwards contacting the eyes, nose or mouth.

Sign and Symptoms
As indicated by the Center for Disease Control and Prevention (CDC) in people, the manifestations of the Coronavirus are like those of flu and flu-like ailment in common.

Symptoms include cough, fever, sore throat, headache, body aches, fatigue and chills (Deshpande and Parwe, 2020).
The most widely recognized reason for death is respiratory failure, different reasons for death are pneumonia (leads to sepsis), high fever (leads to neurological issues), lack of hydration (from excessive vomiting and loose bowels) and electrolyte imbalance.

Casualties are more probable in young and the old. (http://www.india.com/news/india/swine-flu-h1n1-sings-symptoms-diagnosis-and-prevention-of-the-deadly-h1n1-virus-285968/). Accessed on 2015-07-23).

Correlation of Symptoms of Abhinyasa Jwara with COVID-19 has been described in Table 1.

According to Ayurveda
Spread from human beings to human beings due to
1. Gatra-samsparsat (body contact)
2. Nishshwasat(Infected expired air)
3. Saha-bhojanat(Eating with others in the same plate)
4. Saha-shayyasant (Sleeping or resting together)
6. Vastra-malya-anulepanat(Sharing and utilizing Clothes, Cosmetics and Ornaments) (Sharma, 2008a).
**Vata Shlaishmajajwara** (Correlated with NIPAH virus infection)

In NIPAH infection contamination, which was first distinguished in 1999 after an episode in Malaysia that resulted in the death of more than 100 individuals. The destructive Nipah infection, which is transmitted by bats, pigs and at times infected individuals, is bound to be transmitted from individual to individual when the contaminated patient is more aged, male and additionally has breathing problems, as indicated by an investigation co-led by researchers at the Johns Hopkins Bloomberg School of Public Health (Nikolay et al., 2019).

In the earlier phase in Nipah, the *Vata* and *Kapha* doshas are aggravated. In the description of *Vata Shlaishmajajwara*, *Sushruta* includes Moderate fever, Early respiratory systems, Rigidity, Joint pains, More of sleep, Feeling of heaviness, headache are the features of *Vata Shlaisha Jwara*. It can be correlated with the observed symptoms Fever, Headache and General malaise in earlier Stage of Nipah virus as described in Table 2 (Garg, 2019).

**Ideal Ayurvedic Management**

*Ojas* (Vital essences of energy) is the result of a sound digestive system, which helps the body for opposing disease. Low level of ojas is the absence of insusceptibility at the physical level and lack of mental quality at the psychic level. By enhancing our body immunity and strengthening the *Ojas*, we can prevent the spread of the virus.

The treatment is divided into the following steps

**Nidana Parivarjana**

As per *Ayurveda*, dietary and daily habits assumes a significant role in any infection. If the Digestive capacity of yours is typical, your immune system will stay useful, and along these lines, no infectious disease can overrule you. So one ought to follow the perfect dietary routine during seasons like rainy and winter whenever the greatest possibilities are there for viral diseases.

**Fumigation** *(Dhupana)* for environmental purification - with of *Neem* (*Azadirachta indica* Linn), *Sarsapa* (*Brassaciajunceae* L.Czern), *Raal* (*Odolation*Guggalu (*Commiphora Mukul*)

**Dhumapana (Herbal smoking)** with *Lavanga* (*Syzygiumaromaticum*), *Maricha* (*Piper nigrum*), *Ela* (*Elettiaarcardinomum*), *Eranda* (*Ricinuscommunis*) *Mula*, *Chitrakamula* (*Plumbago zeylanica*), *Aragwadha* (*Cassia fistula*) and *Goghrita*.

**Steam Inhalation** With *Jeevandhara*, *Neelgiri oil*.

**Kavala /Gandusha** (Gargling with medicated liquids) Gargling with Oil prepared with *Padmaka*, *Sarjaras*, *Rakta* *Chandana* (*Pterocorus santalins*), *Priyangu* (*Aglaiaelaeagnoidea*), *Madhu*, *Sharkara*, *Draaksha* (*Vitis vinifera*), *Yashtimadhu* (*Glycyrhrhiza glabra*).

**Achaman , Dantadhavan** Maintain oral hygiene. Sleeping during the day time should be avoided. Oil rub with oil having warm quality is advantageous. In the early morning drink a glass of water with two teaspoons of honey.

**ShamanChikitsa** (Pacifying / Palliative treatment)

**Some useful Ayurvedic Preparations**

*Sitopaladi Churna*, *Naradviya Laximiras*, *Classical Chyavanprash*, *Haridra Khanda*, *Talisadi Churna*, *Khadiradi Gutika*, *Lavangadi Gutika*, *Chandramritarasa*, *Shwasas KutharaRasa* (*Shah and Krishnamurthy, 2013*).

**Decoction**

Juice of leaves of *Tulsi* (*Ocimum sanctum*), *Ginger* (*Zingiber officinale*), *Guduchi* (*Tinospora cordifolia*) and *Guda* mix all these properly, and give twice or thrice a day (*Shukla, 2015*).

**Shodhan Chikitsa** (Purification Therapy)

In the procedures of *Panchakarma* like *SadavaVamanakarma*(*Emesis*)and *Nasyakarma*(*Trans-nasal medication*) are likewise helpful for all respiratory tract diseases. *Nasyu karma* (*Transnasal administration of medicinal preparations*) is indicated as a prime line of treatment in the management of all supraclavicular disease conditions in general, diseases of Nose in particular. It cleanses the nasal passages and sinuses, thereby relieves the symptoms.

**Rasayana Prayoga** (Immunity enhancers) like*Chavanprasha, Ashwagandha*

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**Abhinyasa Jwar**

It is mentioned as one among the thirteen types of *Sannipatajwar *(A type of Jwar which includes all three Doshavitiation)
Table 1: Correlation of Symptoms of Abhinyasa Jwara with COVID-19

| Sr. No. | Abhinyasa Jwara          | COVID-19          |
|---------|--------------------------|-------------------|
| 1       | Jwar (Fever)             | Fever             |
| 2       | Kasa (Cough)             | Cough             |
| 3       | Shushakantha (Dryness of the throat) | Sore throat | Difficulty in breathing |
| 4       | Shwasandi nigraha (Difficulty in breathing) | Difficulty in breathing | Shortness of breath |
| 5       | Atisar (Diarrhea)        | Diarrhoea         |
| 6       | Alpasangya (semiconscious state) | Semiconscious state |

Table 2: Comparative Sign and Symptoms of Vata Shleshmik jwar and Nipah virus in Earlier Stage

| Sr. No. | Niphas Virus                  | Vatashleshmikjwar |
|---------|-------------------------------|-------------------|
| 1       | Moderate temperature          | SantolMadhyavegascha (Moderate heating) |
| 2       | Sleepiness                    | Nidra (Sleepiness) |
| 3       | Malaise                       | Gaurav (Heaviness) |
| 4       | Headache                      | Shirogihi (Headache) |
| 5       | Early respiratory symptoms    | Pratishyay (Rhinitis) Kasa (Cough) |

Table 3: List of the plant which may prove useful to combat Viral Infection

| Sr. No. | Herbs       | Botanical name               | Properties                                         |
|---------|-------------|-----------------------------|----------------------------------------------------|
| 1. 1.   | Tulasi      | Ocimum santum               | Antimicrobial properties                           |
| 1. 2.   | Amalki      | Phyllantus emblica          | Anti-viral activity                                |
| 1. 3.   | Yashtimadhu | Glycycrrhiza glabra         | Anti-viral activity, Immune-modulating activities  |
| 1. 4.   | Guduchi     | Tinospora cordifolia        | Anti-pyretic, Anti-inflammatory activity           |
| 1. 5.   | Neem        | Azadiractha indica          | Anti-viral, Anti-bacterial property                |

Churna, Shatavari ghrita, Panchatikta ghrit, Indukanta ghrita, Amalki Rasayan (Shukla, 2015).

DaivaVyapashraya (Divine Therapy)
1. Mantra Prayog (Sound therapy)
2. Homa / Havan (Votive rituals)

Ayurveda believes in a global approach, so, treatment of mind is equally important to correct a physical illness. Faith therapy which adds confidence, hope, and positive attitude regarding the excellent prognosis of the disease, actually corrects the mindset and treatment become easier.

Discussion
A good number of Principles are found in the Classical text of Ayurveda, which can be compared with the concept of airborne Disease like COVID19.

In the process of theoretical analysis, the following concept was found relevant, such as the concept of causation of disease, cause of the epidemic, mode of communicable Diseases transmission, treatment, and natural history of Diseases (Nisargandha and Dadarao Parwe, 2020).

Anti-viral medications have been proved to be extremely powerful in the current research world.
CONCLUSIONS

The Covid19 is one among the dangerous as well as fatal epidemics which can be managed and prevented through Ayurveda. It is much similar to the Abhinyasa Jwara, including the factor of Pranavaha Sroto Dusti. The occurrence of any disease there is impairment of immunity. To keep up the wellbeing of health, it is important to keep them in harmony by embracing the right method of diet routine, seasonal bio-puriﬁcation, divine therapy and utilization of Rasayana. By following these methods, we can escape from this epidemic. The idea of immuno-stimulation through Ayurveda has been utilized effectively in the treatment of immunocompromised cases.

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Conflict of Interest

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