

## A REVIEW ON JANAPADODDHVAMSA WITH SPECIAL REFERENCE TO COVID-19

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**ABSTRACT**

Covid-19 is new pandemic diseases caused by virus known as Corona virus known as SARS-CoV-2. Common signs of infection include respiratory symptoms, fever, cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death. It is communicable diseases. In Ayurvedic literatures the communicable diseases are mentioned under the *Janapadoddhvamsa* and *Aupasargik Rogas*. Its causative agents, method of prevention has been clearly explained. To manage *Janapadoddhvamsa* it is advised to include the usage of *Rasayana* therapy, *Panchkarma* procedures, *Sadvrit Paalan* (code of right conducts) and *Aachara Rasyana* i.e behavioural therapy, Dhupan Karma (Fumigation) and Vaad Chikitsa (Sound therapy). An effort has been made to find possible ayurvedic comparison to current outbreak COVID-19. It can be classified under *Pranavaha Srotasa* (respiratory system) diseases based on the particular signs and symptoms and the system involved. Also aims to provide information among the *Rasayana Aushadi* which can be in cooperated in day to day life as immunomodulator along with *Vyadhi Hara Chikitsa*. So effort is made to compile the knowledge of *Janapadoddhvamsa* so that it should be applied for bettering the human life and may provide answer to the challenge of COVID-19.

**KEYWORDS:** COVID-19, Corona virus, *Janapadoddhvamsa*, *Rasayana*, *Panchkarma*, *Ayurveda*.**INTRODUCTION**

Covid-19 is new pandemic diseases caused by virus known as Corona virus known as SARS-CoV-2. Coronaviruses are a large family of viruses that usually cause mild to moderate upper-respiratory tract illnesses, like the common cold, shortness of breath. However, in 21st century three times coronavirus outbreaks have emerged from animal reservoirs to cause global transmission concerns. Most of corona virus circulate among animals including pigs, camels, bats and cats. Sometimes those viruses jump to humans called a spillover event. Seven coronaviruses are known to cause human disease, four of which are mild and three of the coronaviruses can have more serious outcomes in people, and those diseases are SARS (severe acute respiratory syndrome) which emerged in late 2002 and disappeared by 2004; MERS (Middle East respiratory syndrome), which emerged in 2012 and remains in circulation in camels; and COVID-19, which emerged in December 2019 from China and a global effort is under way to contain its spread.<sup>[1]</sup> COVID-19 belongs to communicable diseases. The factors responsible for such kind of diseases are known as epidemiological triad. Environment, agent and host forms the epidemiological triad for such kind of diseases. In Ayurvedic literatures

the communicable diseases are mentioned under the *Janapadoddhvamsa*. *Janapadoddhvamsa* is “*Janpadanaam Uddhvansanam Marken Tatr Tayanaam Bahunaam Manvanaam Marnen Iteyartham*”.<sup>[2]</sup> where communicable diseases are mentioned under which an outbreak occurs that effects an entire country or the whole world and several death occurs.

**Ayurvedic concept of Janapadoddhvamsa  
Charaka Samhita Vimana Sthana Chapter-3**

*Janapadoddhvamsa* literally means destruction or demolition of communities. In Ayurvedic literatures like *Sushruta* and *Charaka*, communicable diseases are recorded as *Aupasargika Roga* and *Janapadoddhvamsa* respectively.

In *Charaka Samhita Vimana Sthana* chapter three following information are mentioned related to *Janapadoddhvamsa*.

**Location of Sambhasha (Discussion)**

In summer weather, forest area near the banks of Ganga at *Kampilya*, capital city of *Panchala* region (i.e today *Kampilya* is Farokhabad district in UP of India), which was the residence of the *Dwijia* (elite of the twice born

communities like brahmins). In this place *Punarvasu Atreya* speak to his disciple *Agnivesha*.

### Collection of herbs before onset of *Janapadoddhvamsa* (Epidemic / Pandemic)

Acharaya *Punarvasu Atreya* has addressed his disciple collect the medicinal herbs before they lose their rasa, veerya, vipaka and prabhava because due to abnormal conditions of the stars, the planets, the Moon, the Sun, the wind, the fire and the directions there is going to be a derangement of seasons. Chakrapani defines dearrangement of season as the character that must be seen in particular season will not be present and term it as *Ritu vaikarik* for example in spring and summer season there will be extreme rain, hail. As a result of this abnormality, the earth will fail to produce herbs possessing good qualities of Rasa (taste), Veerya (potency), Vipaka (metabolism of diet and drugs) and Prabhava (specific attribute). If drugs are collected before there will be no difficulty to face *Janapasodhvansa Vyadhi* and we can benefit those who seek us and also those whom we seek to help.

### Query and Explanation

After properly collection of drug *Agnivesha* ask question to *Acharaya Punarvasu Atreya* that “How does the

simultaneous destruction of communities or *Janapadoddhvamsa* take place by the incidence of only single disease, in spite of individuals who differ from one another in their constitution (*Prakriti*), diet (*Aahara*), physique (*Deha*), vitality (*Bala*), habits (*Satmaya*), psychic make up (*Satva*), and age (*Vaya*)?”.

Acharaya *Punarvasu Atreya* explained to *Agnivesha* that although a community may be dissimilar with respect to the constitution and other characteristics of its individuals but here are some common factors which often get adversely affected, resulting in outbreak of diseases having similar symptoms that destroy communities i.e *Samanya Tat Vaigunyaat Samankala Samanalinghacha Vyadhyorabhinirvrittamana Janapadam Udwasayati*.<sup>[3]</sup> The common factors which affect mass population are *Vayu* (air), *Udaka* (water), *Desha* (land) and *Kala* (season).

**Table 1: Characteristics of Dushit (polluted) *Vayu* (air), *Udaka* (water), *Desha* (land) and *Kala* (season).**

<i>Vayu</i> (air)	<i>Udaka</i> (water)	<i>Desha</i> (land)	<i>Kala</i> (season)
Air that is not in conformity with the season	Water abnormal in smell.	Land having abnormal colour, odour, taste and touch	Kaal is called as abnormal if it exhibit excessive or deficient characteristics.
Totally calm or violently blowing ( <i>Atistimitam aticalam</i> )	Water abnormal in color.	Excessively damp land	Like early rains, too little rain, excessively hot summers or cold winters etc
Exceedingly rough air	Water abnormal in touch.	Land having abundance of serpents, beasts, mosquitoes, locusts, flies etc	
Intensely cold air	Water abnormal in taste.	Land where people's virtues like religion, truth, modesty, custom, character have either declined or been given up	
Intensely hot air	Water having excessive stickiness	Wind is smoky,	
Excessive dry air	Water source devoid of aquatic animals	General atmosphere is of constant confusion	
Excessively humid air	Water source devoid of birds	Herds of animals and flocks of birds of various kinds are always in a state of panic and pain	
Winds blowing in opposite direction	Drying up water reservoir without pleasantness	Where the water reservoirs always alter and are over-flowing	
Violently spinning	Devoid of normal attributes	Stars are frequently covered by dry, coppery, ruddy and grey clouds	
Associated with unwholesome odour, moisture, sand, dust and smoke			

### ***Janapadoddhvamsakara Bhava (Most dangerous Bhava)***

Impairment of *Vayu* (air), *Udaka* (water), *Desha* (land) and *Kala* (season) are more lethal in their increasing order. *Kala* impairment is most dangerous. The wise man should know that "*Gariya Param Iti*" water is more important than air, land is more important than water and *Kaal* is yet more important than *Desha* by virtue of their degree of indispensability.

### **General treatment of Janapadoddhvamsa**

***Yesham Na Mrityusaamanayam Saamnyam Na Ch Karmnaam |***

***Karm Panchavidham Teshaam Beshjam Parmuchyate ||***

***Rasayanaam Vividhch Upyogha Shashyte |***

***Shashyte Dehvritisch Beshhaje purvamudhytrite ||***

One does not suffer from these diseases even if all 4 vitiated factors are at work if people are assured with proper medicaments which are already collected and processed. Use of Panchakarma, proper administration of Rasayana therapies is advised in the effective management of *Janapadoddhvamsa* (communicable diseases). The herbs used for the medicine preparation should be collected prior to the onset of diseases in that particular area.

Along with this *Satyabhuta* (Truthfulness), *Bhooote Daya* (compassion for living beings), *Dana* (charity), *Bali* (sacrifices), *Devatarchana* (prayer to the gods), *Sadvritta Anuvritti* (good deeds), protection of the self by *Mantra* etc are very effective, *Shivanaamupsevnam* (devotion towards God), "*Sevanam brahmcharyasya tathev bhramchaarinaam*" service to those observing *brahmacharya* (celibacy) and following it, *Samkatha Dharmshastranam* (discussion on religious scriptures), *Samkatha Maharishinaam* (befriending great sages), *Jeetatmananam* (who have self-control), *Dharmika* (who follow religion), who are *Savika* and who are learned people. These therapies, which when adopted during spread of communicable diseases (*Janapadoddhvamsa*), can easily save lives of individuals provided the epidemics can easily save the lives of individuals provided the death of the individuals is not pre-determined (*Yesham Na Mrityu Saamnyamiti*).

### **Causes for the vitiation of Janapadoddhvamsa factors**

***"Tasyamoolam Adharmah Tanmoolam Vaa Asat Karma Purvakrit Karma Tyoryoni Pragyapradha"***

The root cause of vitiation of all the factors is *Adharma* (unrighteousness) and the source of this is *Pragyapradha* (intellectual error). When the rulers of countries, cities etc. govern the people irresponsibly and do not take the right path and lead to sins then people of that countries, cities, community and traders deviate from their duties as well and propagate such sinful act further. Their sinful acts causes the goodness to disappear. Because of the disappearance of right acts, even the Gods desert the people living in such places. This causes seasons of such

countries to be impaired. There is no rain at that country in time, or never at all, or abnormal rain occurs; the air does not blow properly, excessive summer or raise in temperature at that region or particular country. The water reservoirs dry and medicines lose their true properties. "*Sprishya abhyavaaharya Doshaat*" As a result of infectious contact or ingestion of polluted food and water the whole community suffers lead to morbidity.

### **Adharma - the cause of war and destruction**

Those people who suffers with excessive *Lobha* (greed), *Krodha* (anger), *Moha* (attachment), and disregard the weak may start fighting among themselves with weapons and attack either the enemies or get attacked by enemies. "*Aatamswanpar Upaghatayeti*" It leads to attack by own blood relations too. Sinful acts lead to affliction by demons, varieties of other creatures and curse of sages.

### **The decrease of life span in each Yuga**

***"Praagapi Cha Adharmadrite Na Asubho Utpatir Anyato Abhut"***

From the beginning calamities never resulted from any factor other than *Adharma* (unrighteousness). With the passage of each *Yuga*, *Dharma* gets reduced by a quarter, with similar reduction in the qualities of living beings, finally leading to dissolution of the universe. After completion of one hundred years in each *Yuga* there is loss of one year in life span of living beings in respective age.

### **Shusruta Samhita Nidana Sthana Chapter - 5**

*Acharaya Shusruta (The Father of Surgery) has explained Aupasargik Rogas. Anupasargika* diseases are communicable diseases that spread through direct contact or contaminated objects of patient.

***"Parsangaat gaatrasansparshaat Nishvaasaat Sah Bhojnaat |***

***Sahsayya Aasana Ch Api Vastramaalya Anulepnaat ||"***

By physical contact, expired air, eating with others by sharing plates, sharing bed, clothes and cosmetics spread the communicable diseases from one person to other person. Here according to *Acharaya Dalhana Prasangaat* means excessively and frequently if these activities are performed.

### **DISCUSSION**

Acharya Charaka has divided the etiological factors into two different categories i.e *Niyata Hetu* and *Aniyata Hetu*. The *Niyata Hetu* are factors that affect commonly to all the individuals in a particular-community and include the harmful effects of sun, moon, stars, and planets such as floods, cyclones, landslides, earthquakes, and tsunami. *Aniyata Hetu* are factors that include *Pragyaparadha* (terrorism, War etc.), *Shastra Prabhavaja* (nuclear weapons, advanced weapons like bio-weapons), *Abhisyangaja* (effects of pathogens, evil forces and unhygienic condition)

and Abhishapaja (curse). These factors may affect the entire community and cause communicable disease known as Janapadoddhvamsa Rogas.<sup>[4]</sup> Charaka describes three different methods in management of conditions tend to produce disease i.e Apakarshana, Prakriti Vighata and Nidaana Parivarjana.<sup>[5]</sup> Acharya Sushruta defined Nidaana Parivarjana Chikitsa as: "Samkshepatah Kriyayogo Nidana Parivarjanam." Avoiding the causative factors, which are responsible for causation of disease, it is the primary step to prevent pathogenesis. In ayurvedic literature it is clearly mentioned that manifestation of a disease there should be involvement of Srotas (body channels) and its vitiation as part of Samprapti (pathogenesis). Its treatment involves Samprapti Vighatana (pathogenesis breakdown). Rasayana therapy act at Srotas level will prove effective in management of Janapadoddhvamsa. If we go through the symptoms of COVID-19, it the diseases related to Pranavaha Srotasa (respiratory system). It is cleared by the above mention description by Charaka and Shusruta Samhita that COVID-19 is consider as Janapadoddhvamsa. Today Adharma i.e sins are increasing all over the world, that we all known within ourselves. This COVID-19 is also human self-made disaster due to our own sins. As told earlier to prevent Janapadoddhvamsa, the usage of Rasayana therapy, Panchkarama procedures, Sadvrit Palan (code of right conducts) and Aachara Rasyana i.e behavioural therapy should be used.

#### Rasayana therapy

Rasayana comes under *Swasthya Urjaskara Chikitsa* (rejuvenating therapy). As it act at the level of Dhatus (tissues) in a *Swastha* person administration of Rasayana Aushadies proves to be very effective in prevention of any diseases. Rasayana Aushad- with special reference with the Pranavaha Srotasa are available.

*Pippali Rasayana (Piper longum Rasayana)* Ch.Chi.1-3/32-34 -

1. For rejuvenation one should take five, eight, seven or ten *Pippali* i.e *Piper longum* fruits, along with honey and *ghee* for one year. If *Alpa Kapha* (Mild) then 5, if *Madhyama Kapha* (Moderate) then 7,8 and if *Ugra Kapha* (Severe) the 10 *Pippali* should be used for one year.
2. *Pippali* should be impregnated (*Bhavit*) seven times with *Kimshuka Kshara* i.e *Butea monosperma Kshara* (*Kshara* is a caustic, alkaline in nature obtained from the ashes of medicinal plants) and fried with cow-*ghee*. Three such impregnated *Pippali* is mixed with cow *ghee* and honey is taken in the morning two times one before food and second time after food by a person who desires to be rejuvenated.

Note: *Pippali (Piper longum)*, *Kshara* (caustic), *Lavana* (salt) alone excessive use for long time is said to be harmful but here *Pippali* is used along with *Madhu* (honey), *Ghrit*.

- *Agastya Haritaki Rasayana Ch.Chi.18/58-62*

- *Chyavanaprasa Rasayanam Ch.Chi.1.1/63-74*

#### Panchkarama procedures

Different type of *Panchkarma* procedures should be indicated for purification of body.

#### Sadvrit palan (Code of right conduct)

These codes are very important in the prevention of disease and promotion of health. Some codes of conduct that are fruitful to avoid COVID-19.

1. Always follow a routine of hair cutting, nail cutting and shaving atleast three times in a fortnight.<sup>[6]</sup>
2. Have a bath once or twice daily, as the season may be.<sup>[7]</sup>
3. One should not take food without wearing precious stones in hand, without taking bath and with torn apparel. Don't eat food without washing hands, mouth, feet and face. Do not eat food in an improper place, a crowded place.<sup>[8]</sup>
4. Do not eliminate sputum, flatus, faeces and urine in front of the wind, fire, water, the moon, the sun and the teachers.<sup>[9]</sup>
5. Everyone should pay respect to the Gods, Cows, Teachers (preceptors) elderly people and those who have accomplished spiritual perfection.<sup>[9]</sup>
6. Always covered mouth by hand during coughing and sneezing.<sup>[10]</sup>
7. One should not abandon relatives, affectionate who have helped in times of difficulty and who know the deep secrets of the family.<sup>[10]</sup>

#### Aachar Rasayana (behavioural therapy)

Acharaya Charaka in Chikitsa Sthana Chapter 1.4/30-37 describes Aachara Rasayana and said one who follows very optimistically all codes of conduct (Aachara Rasayana) need not take other Rasayanas and those who take other Rasayanas without following code of conduct do not receive the optimum results of Rasayanas. So it is need to follow Aachara Rasayana to get result even in epidemic diseases.

#### Some of conducts of Aachar Rasayana are as follows

Truthfulness, Freedom from anger, Non-indulgence in alcohol, Nonviolence, Calmness, Engaged in meditation, Cleanliness, Perseverance, Charitable, Religious, Respectful toward teachers, parents and elders, Using *ghee* regularly, Controlling the senses, Positive attitude, Self-control, Devoted to Vedic scriptures.

#### Dhupan Karma (Fumigation)

In ancient time and even today Yagya are done for the welfare of the mass population as it resulted in mass hygiene. It is also mentioned in Janapadoddhvamsa in Ayurvedic literatures. In Yajurveda ½ it is advocate that performing Havana twice everyday i.e. morning and evening to attain spiritual enlightenment, mental peace, purification of mind and the environment. In Kashyap Samhita Kalpa Sthana Chapter one i.e Dhoop Kalpa Adhayaya, page no 170, Raksoghana Dhupan is mentioned for protection from infections and Gana

Dhupan for all diseases originating from Bhuta (microbes). In Charaka and Sushruta Samhita different type of Dravyas i.e drugs are mentioned in different diseases that are used for Dhupan Karma. Like in Ch.Chi.3/176, 307-308, *Guggulu* (*Commiphora mukul*), *Nimba* (*Azadiracta indica*), *Vacha* (*Acorus Calamus*), *Kutha* (*Saussurea lappa*), *Haritaki* (*Terminalia chebula*), *Sarsapa* (*Brassica campestris*), *Yava* (*Hordeum vulgare*) with *Ghrita*. In *Sushruta Samhita Sutra Sthana* 19/24, 28 *Rakshoghna Dravya* are mentioned like *Sarsapa*, *Nimba*, *Lavana with Ghrita* fumigation with them to be done twice a day for 10 days. Microbes are destroyed by *Raksoghana* drugs.

#### Vaad Chikitsa (Sound therapy)

In *Sushruta Samhita Kalpa Sthana* Chapter-3/13-15, it is said that if food is contaminated with poison, then different symptoms arises due to that poison and to treat them apply different pastes on various types of instruments and produce sound from them.

“Taarah Sutaarh Ssurendargopha Sarvesch Tulya Kurvindhbaagh |  
Pitten Yukth Kapilanvayen Vaadya Parlepo Vihith Parshashth ||  
Vaadysya Shabden Hi Yaanti Vishani Ghoranyapi Yaani Santi ||

Equal parts of each of these contents Taar (Silver), Sutaar (Mercury), Suvana (Gold), Saariva and Kuruvind (A kind of Precious stone or Musta i.e cyperus) total of above four dravya, these should be mixed with Pitta of cow of Kapila Varna (color). This paste should be apply on sound producing instruments. As from the sound of instruments *Ghor Visha* will be destroyed.

#### AYUSH-64

Recent publication has brought attention to possible benefit of chloroquine, a drug used as anti-malarial drug, in the treatment of patients of SARS-CoV-2. (<https://doi.org/10.1016/j.antiviral.2020.104762>).

**AYUSH-64** is a formulation of simple combinations of the ghasatwas of *Katuka* (*Picrorhiza kurroa*), *Saptaparna* (*Alstonia scholaris*) and *Kiratatiktaka* (*Swertia chirata*) with the powder of *Kuberakshi* seeds (*Caesalpinia bonducella*). In clinical study observation it was found that the control group (chloroquine and primaquine) shows near cent percent efficacy during different clinical trials while **AYUSH-64** showed 72% to 90%. ([https://www.researchgate.net/publication/215575042\\_Effect\\_of\\_AYUSH-64\\_in\\_the\\_treatment\\_of\\_Malaria](https://www.researchgate.net/publication/215575042_Effect_of_AYUSH-64_in_the_treatment_of_Malaria)). So study on this combination should also be done and it may be fruitful.

**Some other Rasayana Drugs** – The clinical evaluation should also be done on Rasayana drugs like *Amalaki* (*Emblica officinalis*), *Guduchi* (*Tinospora cordifolia*), *Ashwagandha* (*Withania somnifera*), *Yastimadhu* (*Glycyrrhiza glabra*), *Pippali* (*Piper longum*), *Sariva* (*Hemidesmus indicus*), *Kustha* (*Saussurea lappa*),

*Haridra* (*Curcuma longa*) and *Kulinjan* (*Alpinia galanga*) as an adjuvant therapy. Because on study it was revealed that these Rasayana compound was found to decrease cough (83%), fever (93%), with statistically highly significant ( $P < 0.001$ ). (<https://dx.doi.org/10.4103%2F0974-8520.100307>). These drugs may be effective in symptomatic treatment.

#### CONCLUSION

The main objective of *Ayurveda* is *Swasthasya Swasthya Rakshanam* i.e To maintain health of a healthy person. Prevention is best way to avoid COVID-19. As COVID-19 is *Aupsargik Vyadhi* (communicable diseases) and consider under *Janpadoddwamsa* so remedies that are told in *Janpadoddwanmsa* like *Rasayana* therapy, *Panchkarama* procedures, *Sadvrit Palan* (code of right conducts) and *Aachara Rasayana* i.e behavioural therapy, *Homa* (Yagya) should be tried as preventive measure. Although it is evident that most of the herbs not able to prove its efficacy on different viruses and microbes etc in experimental studies, but it is observed that these herbs act against disease and it may be clarified that the lack of technologies fails to prove the affectivity of herbal drug. Its not time to fight against each other that which science is best or not, we should think about humanity and do whatever is possible to avoid this circumstance. *Ayurvedic* literature mentioned todays situation so many years back and in *Janapadoddwansa* clearly indicate everything that is today happening all around the world and if they told its preventive measure at that time we must think about them measure also. Social distancing plays important role in inhibiting the spread of this diseases. So it should be maintained. I hope that it should be applied for upcoming challenges related to Covid-19.

#### REFERENCES

1. <https://www.niaid.nih.gov/diseases-conditions/coronaviruses>.
2. Preface Yadav Sharma, introduction by Prof. Banavari Lal Gour, 1st edition Charaka Samhita's Ayurveda Dipika's Ayusi hindi commentary Vimanasthana; Janapadodhwamsa vimana: Chapter, 2005; 3(4).
3. Yadavji Trikamji Acharya, 1st edition, Charaka Samhita by Agnivesha revised by Charaka and Dridabala, Commentary of Chakrapanidutta. Vimanasthana; Janapadodhwamsa vimanam: Chapter 3, Verse. 6.
4. Acharya YT. Editor. Charaka Samhita (Chakrapani on Ch. Vi. 3/2). Varanasi: Chowkhamba Surbharati, 2000.
5. Charaka Samhita Niryansagar press Ch. Vi, 7/28.
6. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Tripathi Brahmanand, Chaukhamba Surbharti Prakashan, Sutra Sthan, 2007; 5(99): 139.
7. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Tripathi Brahmanand,

- Chaukhamba Surbharti Prakashan, Sutra Sthan, 2007; 5(94): 137.
8. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Tripathi Brahmanand, Chaukhamba Surbharti Prakashan, Sutra Sthan, 2007; 8(20): 200.
  9. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Tripathi Brahmanand, Chaukhamba Surbharti Prakashan, Sutra Sthan, 2007; 8(25): 203.
  10. Charak Samhita with Charak Chandrika Hindi commentary, by Dr. Tripathi Brahmanand, Chaukhamba Surbharti Prakashan, Sutra Sthan, 2007; 8(19): 199.