

## AYURVEDIC PERSPECTIVE TOWARDS EPIDEMIC W.S.R. TO COVID-2019 AS JANAPADODHWAMSA

Snehal S. Bhele<sup>1</sup>, Nita Mahalle<sup>2</sup>

<sup>1</sup>Lecturer, Dept. of Kayachikitsa, <sup>2</sup>Asso. Professor, Dept. of Rognidana-Vikruti Vidnyana, Yashwantarao Chavan Ayurved Medical College, Aurangabad, Maharashtra, India

Email: [snehalbhele.sb@gmail.com](mailto:snehalbhele.sb@gmail.com)

### ABSTRACT

World is passing through several viral epidemics affecting respiratory system since last twenty years. It includes SARS-CoV 2002-2003, H1N1 Influenza 2009, MERS-CoV 2012 to the recent COVID-2019. As there are no definitive therapeutic measures available for these, supportive and preventive measures are the only weapons to combat such situation<sup>1</sup>. It should include boosting and strengthening immune system of those prone to the diseases and healthy persons as well. In Ayurvedic literature with history of 1000s of years, there are references of *Janapadodhwamsa*. It causes death of people in the affected area causing massive destruction. Preventive and therapeutic measures described for *Janapadodhwamsa* can prove beneficial in preventing or treating viral epidemics like COVID-19 affecting respiratory systems mainly.

**Keywords-** *Janapadodhwamsa*, Epidemic, Preventive measures, COVID-19.

### INTRODUCTION

In *Charak Samhita*, one of *Bruhat-trayeas*, *Acharya Charak* has devoted a separate chapter in *Vimana Sthana* named “*Janapadodhwamsa Vimaniyam Adhyaya*”. It includes detailed description of aetiology, transmission, preparedness, preventive and therapeutic aspects for *Janapadodhwamsa*<sup>2</sup>.

Similar description is available in chapter *Ritucharyam* in *Sushrut Sutrasthana*. *Acharya Sushruta* has defined *Aupasargika* diseases in *Kushtha Nidana Adhyaya* in *Nidana-sthana*. It includes namely- *Kushtha* (Skin diseases), *Jwara* (Fever), *Shosha* (Emaciation especially due to communicable diseases like Tuberculosis or HIV-AIDS), *Netra-abhishyanda*

(Conjunctivitis). These are said to be transmitted by intimate-sexual contacts, simple body touch, and inhalation or by droplets or by sharing food- cloths- jewelleryes- cosmetics-beddings<sup>3</sup>. *Charakacharya* in his *Jwara-Nidanadhyaya*, *Sushrutacharya* in his *Vedotpatti-adhyaya* and *Vagbhatacharya* in his *Jwara-Nidanadhyaya* accepts *Agantuja* factors as cause of disease which includes *Aghata* (physical or mechanical trauma), *Abishapa* (Curse), *Abhishanga* (Impaired mood, *Bhutabhishanga*- microorganisms, vectors) or *Abhichara* (Incantation possibly causing mood impairment) etc. From all these explanations we can relate micro-organism responsible for the epidemics that

we are now suffering as- *Agantuja Hetu*. According to WHO, different kinds of viral diseases can emerge and represent as serious public health issues in the form of epidemic or even pandemic. In recent past several viral epidemics are noted in the form of SARS-CoV 2002-2003, H1N1 Influenza 2009, MERS-CoV 2012. Of these diseases, SARS and MERS are caused by viruses belonging to a large family of single-stranded RNA viruses named Corona viruses. These viruses can cross species barrier and can cause illness ranging from the common cold to more severe diseases such as SARS and MERS. These viruses have probably originated from bats infecting other mammalian hosts/animal species like camels, cattle, cats, and then to humans<sup>4</sup>. The recent strain of corona virus causing respiratory disease is named as “novel corona virus” and the disease caused as “Corona virus disease-2019”, abbreviated as “COVID-19”. As clinical manifestation of the disease is Pneumonia in most of the cases, it was first named as “Pneumonia of unknown origin”<sup>5</sup>. The disease was first detected and reported in Wuhan, China and now spreading over 100 countries with increasing incidence in the world<sup>6</sup>. In India the first case was detected and reported on 30<sup>th</sup> January 2020 in Kerala and, in Maharashtra, in the city of Pune with incidence in two cases. Incidence of the disease is about a total of 360 of which 319 are Indians and 41 foreign nationals from 23 states and union territories including 23 discharged/cured, 1 migrated and 7 reported deaths on 22 March 2020 and is seen increasing every passing day<sup>7</sup>. As, at present, the therapeutic strategies to deal with the infection are only supportive, prevention is the only best way to contain the disease<sup>8</sup>. In parallel, finding possible treatment option from all the medicinal disciplinaries, is the need of the time. Thus, it can be suggested that the preventive and therapeutic measures described for *Janapadodhwamsa* can be implemented for the recent epidemic or pandemic. So

here is an attempt to understand etio-pathogenesis of COVID-19 in terms of Ayurvedic concepts.

## Review of literature

### *Janapadodhwamsa*

1. Causes of epidemics: According to *Charakacharya* the epidemics are caused due to elements shared in-common by the humans like- *Vayu* (Air), *Jala* (Water), *Desha* (Area), *Kala* (Elapse of time). When one, few or all of these elements are deranged it causes epidemic<sup>9</sup>. “*Pradnyaparadha*” (doing mistakes/ miss-behave/ miss-chief knowing its hazards) is said to be the root cause for all epidemics. It is then said to lead for “*Adharma*” or “*Asat-karma*” (not following physical-mental-verbal ethics)<sup>10</sup>. It can also be caused by “*Apavitrata*” (griminess, miss-behave), *Rakshasgana* (Microorganisms) or empowered *Bhutagana* (Bacteria/Viruses). Equal importance is given to mental stability and “*Abhishaapa*” (Curse or its negativity) as the cause of epidemics<sup>11</sup>. It is described as the epidemic is the responsibility of the ruler of the Country, City or Corporation. Further it is responsibility of people behaving un-ethically under that authority or the` businesspersons concerning the area. It eventually occurs due to deregulations in the seasons, substandard rainfalls, altered wind flows, substandard lands, completely dried ponds and less potent drugs. It is then said to be transmitted by touchable or edible materials (direct or indirect transmission) leading to destructions in the communities<sup>12</sup>. In *Vatakalakaliya Adhyaya*, *Acharya Charaka* has considered *Vikruta Vayu* as responsible for alterations in normal environment or seasons, earthquake, formation of huge sea waves, and epidemics in animals and humans<sup>13</sup>.
2. Features of altered elements<sup>14</sup>  
Following are the enlisted characteristics of altered commonly shared elements-

Common Characters	Altered features
<i>Vikruta Vayu</i>	Altered characteristics for the season. eg- cold in summer; Reduced or Increased velocity of wind for the season, Extreme rough wind, Extreme cold or hot, Excessive humid or dry weather; Cyclones, Air with awful smell, steams, grit, dust, smoke or fumes.
<i>Vikruta Jala</i>	Awful odour; altered colour or taste or touch; increased viscosity; dried ponds; ponds left by aquatic birds; ponds with reduced or dead aquatic animals.
<i>Vikruta Desha</i>	Altered colour, smell, taste or touch; Increased humidity, Excess snakes, Wild animals; mosquitoes; mites; flies, mice; owls; crematoriums containing vultures, Jackal; animals wandering uncontrolled; peoples not following ethics- spreading rumours; meteor shower; lightening; earthquake; lunar halos.
<i>Vikruta Kala</i>	Seasons with substandard or altered or extreme characteristics.

These are serially powerful in succession in causing damage or hazards<sup>15</sup>. *Acharya Sushruta* has considered derangements in seasons as '*Rutu vyapata*' with its root cause as Adharma. Or, it may be produced in healthy seasons by potent micro-organism which goes on destroying affected areas. Sometimes, it can be transmitted in people by contaminated air due to toxic flowers, contaminated houses, individuals, women-in cases of sexually transmitted diseases, beddings, mattresses, vehicles, jewellery etc. It is said to spread irrespective of the health condition of population producing cough, dyspnoea, vomiting, rhinitis, headache or fever<sup>16</sup>.

### 5. Clinical manifestations

As the names of viral epidemic diseases now a day's, suggests respiratory system derangement, it can be compared with *Pranavaha Stotasa Dushti* as<sup>17</sup>-

*Atisrushta Shwasa* (tachypnoea), *Atibaddha Shwasa* (restricted respiratory movements or bradypnoea), *Kupita Shwasa* (dyspnoea), *Alpalpa Shwasana* (Hypoxia), *Bhikshna Shwasa* (respiratory distress), *Sashabda Shwasa* (stridor), *Sashula Shwasa* (painful breathing), *Uchavasantam* (Shallow breathing).

According to Ayurveda, it can be due to consumption of *Pranavaha Stotasa Dushti Hetu* producing *Stroto-vaigunya* (structural or functional heterogeneity) in it, such as<sup>18</sup>

*Kshaya*-Generalised debility due to any cause or local injury in *Pranavaha strotasa* organs-*Hridaya* and *Mahastrotasa* including Heart, Pharynx, Lungs and all other respiratory organs.

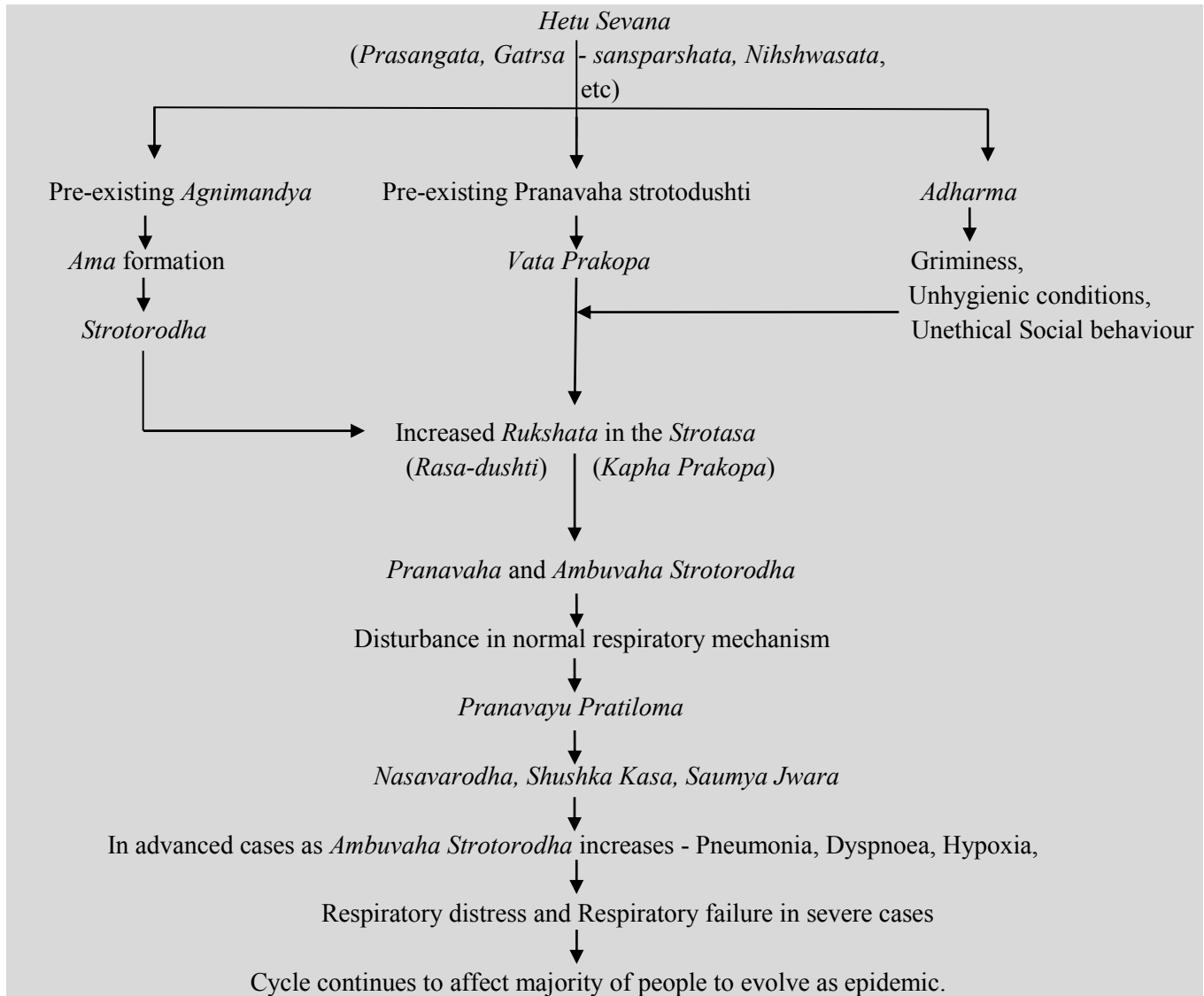
*Sandharan*- *Sharirik* or *Manasik Vega Vidharana*, *Raukshya*- Dryness in *Pranavaha strotasa*.

*Vyayama*- Excessive physical exercise, *Kshudhita*- State of hunger (not followed by food ingestion)

Severe *Stroto-dushti* in *Strotasa* other than *Pranavaha strotasa*. *Stroto-avrodha* or *Vibandha* and injury of any cause to pharynx or chest.

Probable *Samprapti* of epidemic diseases<sup>19</sup>

According to *Ayurveda*, *Agnimandya* and pre-existing *Strotovaigunya* plays important role for any disease production. But according to *Sushrutacharya*, these conditions are not necessary to be present for disease production during an epidemic. Though, it can be seen affecting with more severity in persons with pre-existing comorbidities. Pathogenesis of these respiratory syndromes can be assumed to progress further as that mentioned by *Charakacharya* for the disease *Shwasa* in *Chikitsathana Adhyaya* 17. *Vata-Kapha Dosha Prakopa*, and *Prana-Anna* and *Udakavaha Strotorodha* plays important role in disease production and its progression with *Rasa Dushti* as well (Dr. Jayaram P. et.al.2018. p.314). *Poorvaroopa* of such pathologies are- *Aanaha*, *Parshwashula*, *Hritpeeda*, *Pratiloma Pranavayu* with symptoms ranging from mild dyspnoea to hypoxia. It may further worsen to respiratory failure leading to death. All these events can be schematically represented as follows-



### 3. Preparedness<sup>20</sup>

*Acharya Charaka* has told to utilize all the herbs in their best potency for preparing medicines, their storage before onset of the epidemic.

#### During the epidemic-

Not spreading rumours or talking only the truth, helping each other, following personal and social ethics and maintaining hygiene, leaving the affected area and shifting into safe environment, keeping abstinence, promoting mental health and relieving stress by means of hearing or telling theological stories<sup>21</sup>.

Similar references are found in *Sushruta Samhita*.

#### 4. Therapeutic measures

*Panchakarma* is described as the main therapeutic and preventive measure in both *Janapadodhwamsaniya Vimanadhyaya* and *Vatakalakaliya Adhyaya* in *Charakasamhita*.

It should be followed by consumption of *Rasayana*, and proper medication especially that strengthening respiratory or circulatory system<sup>22</sup>. Treatment of *Pranavaha Strotasa* diseases should be done by using *Kapha-Vatahara*, *Ushna*, *Vatanulomana* drugs, food or drinks as described in *Hikka-Shwasa Chikitsa Adhyaya* in *Charaka Samhita*<sup>23</sup>.

#### Epidemics

According to WHO, water, sanitation, food and air quality are vital elements in the transmission of com-

municable diseases and in the spread of diseases prone to cause epidemics. Outbreaks of such communicable diseases can be caused by a new or modified pathogen, a natural toxin or initially undetected release of a chemical agent or over-exposure to ionizing radiation<sup>24</sup>. Viral epidemics caused by SARS, H1N1, MERS and novel COVID-2019 are of types of modified pathogens affecting animals primarily and spreading to humans<sup>25</sup>. Transmission of Novel corona virus causing COVID-2019 is linked to direct exposure to

seafood market to presume animal to human spread. Subsequent transmission from human to human is noted through aerosol transmission with respiratory droplets from infected person<sup>26</sup>. Incubation period is noted as 3-7 days to 2 weeks<sup>27</sup>.

Clinical features<sup>28</sup> -

Clinical features of COVID 19 varies from asymptomatic or pauci-symptomatic to respiratory failure. Stages of the disease according to Chinese CDC report are as follows-

Stages	Symptoms
Mild – Non pneumonia Mild pneumonia	Mild Fever, Dry Cough, Sore throat, Nasal congestion, Malaise, Headache, Muscle pain.
Severe- Dyspnoea Tachypnoea Low blood Oxygen saturation	Cough, Dyspnoea, Tachypnoea,
Critical- Respiratory failure Septic shock Multiple organ dysfunction or failure.	Severe dyspnoea, Respiratory distress, Tachypnoea, Hypoxia. Fever- May or may not be present
Laboratory examinations	Normal or decreased WBCs, decreased lymphocyte count, Increased values of liver enzymes, LDL, muscle proteins, CRP
In critical patients	Increased D-dimer, High amylase, Coagulation disorders etc.
Accidental histopathology	Oedema, Proteinaceous exudates, Vascular congestion, Inflammatory cluster of fibrinoid material, Multinucleated giant cells, Hyperplasia of pneumocytes.

## DISCUSSION

Depending on symptomatic correlation we can consider causes of *Janapadodhwamsa* for COVID-2019 outbreak. As, such viral epidemics are seen affecting respiratory system mainly and based on symptoms produced, these can be considered *Vata* and *Kapha Dosh* *Pradhana* getting worse by derangement of *Pitta Dosh* in the form of *Agnimandya* with its origin from *Urdhva-Amashaya*. In addition to it, it is seen worsening with *Vridhdhavastha* or *Vatapradhana avastha*. Measures such as following personal and community hygiene are the major weapons to break and contain the epidemic. Treatment like Panchakarma therapies and that of *Pranavaha Strotasa Dushti* by *Vata-Kaphahara* dugs, *Ushna-Vatanulomana* drugs, *Deepana-Pachana* drugs can be considered

helpful for such viral epidemics in strengthening *Pra-navaha strotasa* and boosting over all immunity. It may further stand as the subject of evaluation for further studies relating this.

## CONCLUSION

COVID-19 outbreak can be considered as *Janapadodhwamsa*. Viral epidemics spreading now days can be considered as *Pranavaha Strotasa Dushti* with predominant *Vata* and *Kapha Dosh*s. It affects severely in those with pre-existing respiratory and circulatory co-morbidities. Preventive measures in terms of containing the spread can serve as the best way to combat the epidemic. Use of Ayurvedic *Vata-Kaphahara*, *Ushna*, *Vatanulomana* medications and

Panchakarma therapies can be used to strengthen respiratory system and boosting immune system.

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