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Review Article

ROLE OF AYURVEDA BASED DIET & LIFESTYLE IN PREVENTION & MANAGEMENT OF COVID-19

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ABSTRACT

Coronavirus disease-2019 (COVID-19) was declared a pandemic by the World Health Organization (WHO) on March 11, 2020. It was subsequently determined that COVID-19 is caused by the virus SARS-CoV-2. SARS-CoV-2, from the family *Coronaviridae*. As of 17th May 2021, over 160 million people are infected with the virus and more than three million deaths worldwide. Situation involving the destruction or death of a population spread over a small locality, a country, a part of world or even the entire world is termed as *Janpadodhvamsa* in Ayurveda. Ayurveda pays particular attention to the host and recommends measures for a healthy lifestyle rather than the mere prescription of medicine. Hence, here we make a compelling information regarding the diet and lifestyle advised in Ayurveda for fever can help the patients of COVID 19 to recover from the disease speedy without further complication of disease.

INTRODUCTION-

Natural calamities of high magnitude such as floods, famine, cyclone or even diseases like plague, cholera, COVID – 19 etc. leads to effect on large scale population. Situation involving the destruction or death of a population spread over a small locality, a country, a part of world or even the entire world is termed as *Janpadodhvamsa*.ⁱ

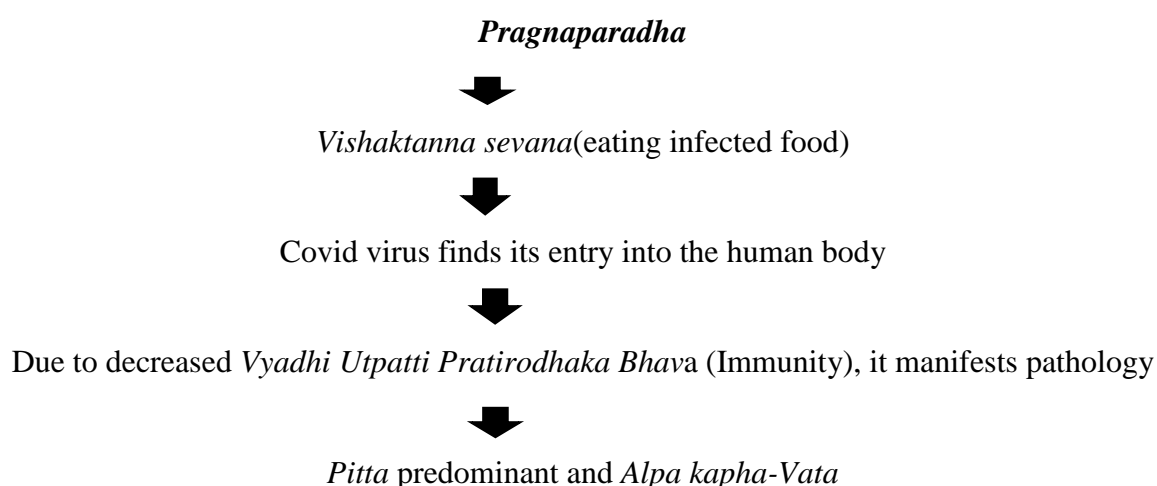
Coronavirus disease-2019 (COVID-19) was declared a pandemic by the World Health Organization (WHO) on March 11, 2020.ⁱⁱ As of 17th May 2021, over 160 million people are infected with the virus and more than three million deaths worldwide. Unfortunately, these numbers are still on the rise. When this disease first broke out in Wuhan (China), it was initially identified as pneumonia which cause was unknown but, in few months, it spread to the whole world. Many intellectuals connected to the Huanan seafood wholesale market. It was subsequently determined that COVID-19 is caused by the virus SARS-CoV-2. SARS-CoV-2, from the family *Coronaviridae*, and is a 96% identical match at the whole-genome level to a bat coronavirus.^{iii iv v} The strain of the disease that affected humans evolved to become transmissible by human-to-human contact.^{vi} In April 2020, the acting Head of Biodiversity at the United Nations said that countries could avoid pandemics by eliminating wildlife markets that trade live and dead wild animals for human consumption.^{vii}

Ayurveda pays particular attention to the host and recommends measures for a healthy lifestyle rather than the mere prescription of medicine. Charaka Samhita, the classic of Ayurveda, describes epidemic management and defines immunity as the ability to prevent disease and arrest its progress to maintain homeostasis. The concept of building strength of mind and body to cope with various stressors, including infection, is a cornerstone of Ayurveda practice. Similar to innate and acquired immunity, the Ayurveda concept of immunity (Bala or strength) is classified as natural (Sahaja), chronobiologic (Kalaja), and acquired (*Yuktikrita*). The holistic approach of Ayurveda toward promoting health (*Swasthavritta*) includes personalized interventions based on host and environmental factors.

Derivation and definition of ‘Janpadodhvamsa’:-

The word *Janpadodhvamsa* comprises of two words, ‘*Janpada*’- living in the country & ‘*Udhvamsa*’ or destruction.^{viii} The situation that leads to destruction of community is called *Janpadodhvamsa*.

Chart- 1: Relation between covid-19 and Janpadodhvamsa



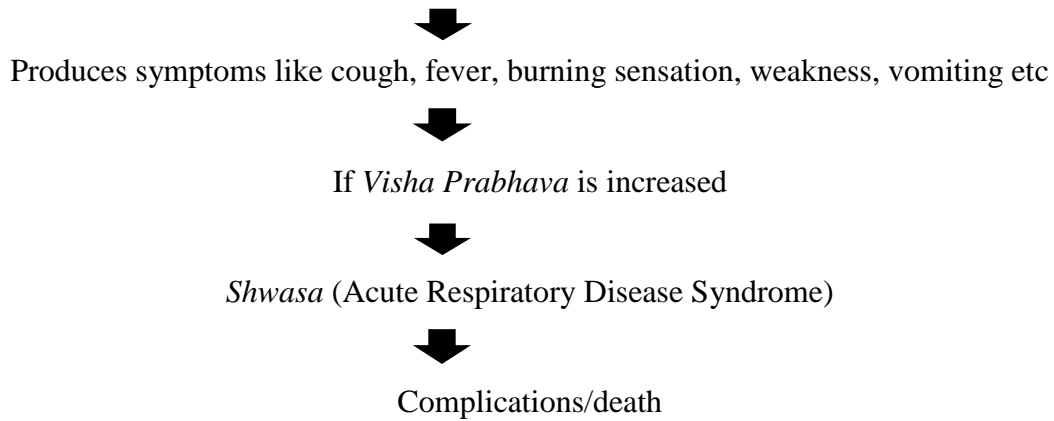
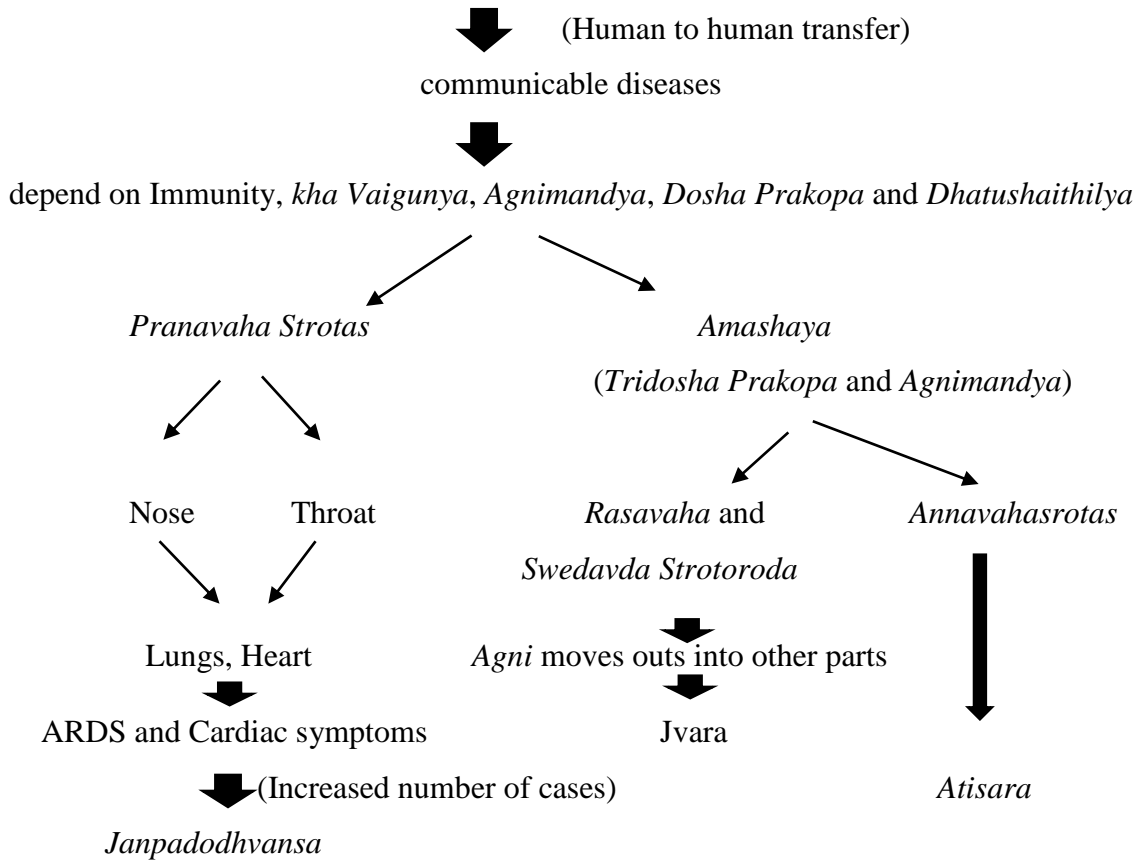


Chart- 2: Mode of transmission and pathogenesis

Gatrasansparsha (skin to skin touch), *Nihashwasa*(exhaled air), *Sahabhojana* (sharing food), *Sahashaiya*(sleeping closely), *Asana* (sitting close to each other), *Vastra* (Sharing cloths), *Malya* (Sharing garlands) and *Anulepana* (Sharing paste of *Chandana* etc. on the body after bath)^{ix}



The Epidemiological Triad: -

The occurrence and manifestation of any disease, whether communicable or non-communicable, are determined by the interaction between the agent, the host and the environment, which together constitute the epidemiological triad.^x

Brief Overview of COVID-19-

- **Onset-** Sudden
- **Incubation period-** 2 to 14 days (after exposure)

- **Recovery period-** 2 to 8 weeks
- **Mode of transmission-** Human to Human
- **Symptoms-** fever, Common cold, Cough, Breathlessness, Fatigue, Loss of taste & smell, Body ache, Redness of eyes.
- **Complications-** Acute pneumonia, multiorgan involvement, Respiratory failure in adverse conditions.

Concept of Wholesome and Unwholesome diet-

In context to *Hita- Ahita* it is said that there is no substance which is absolutely suitable or unsuitable to an individual. A *Dravya* can be differentiated based on *Swabhava* (Nature) and *Samskara* (Process) like^{xi}-

- *Ekanta- Hita*
- *Ekanta- Ahita*
- *Hita- Ahita*

Ekanta- Hita represented to the substances which are always suitable to man since birth like Milk, Ghee, Water etc., *Ekanta- Ahita* is by *Dahana* (Burning), *Pachana* & *Marana* (Destroying) such as fire, caustic alkali and poison etc., *Hita- Ahita* indicates the substances which are suitable to *Vata* and unsuitable to *Pitta*. Various incompatible food (*Viruddhahara*) can be included in it.

Ayurveda Diet and Lifestyle Modification in COVID- 19-

Fever is the common symptom found in most of the infectious disease. The treatment of infectious disease mostly designed to target infectious agent and control of fever, if fever not treated properly can result in fatal complications and death in advance stage. Ayurveda advocates various diet and lifestyle strategies according to various stages of fever to eliminate the waste products produced as a result between fight of infectious agent and host immune system. It also helps to correct the metabolism and re-establish the functions of infected organ and immune system, which helps to prevent the re infection and post infection complications. Therefore, the diet and lifestyle modification recommended in Ayurved for *Jvara* (Fever) can help to patients of COVID 19 with fever to recover from infection effectively without any complications and prevent the further chances of re-infections of any kind.

The sequence of therapy for fever should be as *Langhana* (light diet or fasting), *Pachana* (digestive and metabolism improving drugs), *Bheshaja* (disease specific drug), and *Virechana* (purification of body).^{xii}

- **Langhana (Lightening therapy):** Initially *Langhana* (light diet or fasting) should be followed up to a period of 6 days.^{xiii}
- **Shadagapaneeya:** Patients suffering with fever should drink Luke warm medicated water (*Shadagapaneeya*) processed with medicinal herbs like *Musta* (*Cyperus rotundus* Linn.), *Parpata* (*Fumaria vaillantii* Loisel.), *Ushira* (*Vetiveria zizanioidis* Linn.), *Chandana* (*Santalum album* Linn.), *Udichya* (*Viola odorata* WILLD.), (*Zingiber officinale* Rosc.) which helps in reducing associated with thirst.^{xiv}

- **Shadangapaneeya Preparation:** *Shadangapaneeya* water is prepared by using equal proportion of above-mentioned medicines and water in 1:64 proportions and boiling it until half water remains.^{xv}
- After proper *Langhana* (fasting) food preparations like *Manda*, *Peya* or *Yavagu* should be used as a diet whenever the good appetite to kindle the Agni (metabolism).
- *Ksheera* (Milk) and *Sarpi* (Ghee) should be advised at the remission stage of disease having very mild fever due to weakness of body after considering the condition of the disease.^{xvi}
- **Manda preparation:** *Manda Kalpana* is prepared by using rice and water in 1:14 proportion. The rice is cooked in said proportion of water and then only water content of the prepared formulation is collected as Manda (watery portion of rice).^{xvii}
- **Peya preparation:** *Peya Kalpana* is prepared by using rice and water in 1:14 proportion. The rice is cooked in said proportion of water and then maximum watery content of the prepared formulation is collected with few grains of cooked rice is known as *Peya* (rice gruel).^{xviii}
- **Yavagu preparation:** *Yavagu Kalpana* is prepared by using rice and water in 1:6 proportion. It is a nearly thick or semisolid consistency. It is a thick rice gruel preparation.^{xix xx}
- *Ksheera* (Milk) and Ghee processed with herbs are recommended for terminal stage of fever (almost after remission of fever).
- **Use of Tikta Dravya:** Patients having strong appetite after having fasting or taking gruels like liquid and light diets, should take leaves and fruits of *Patola* (*Trichosanthes dioica* Roxb.), *Karavellaka* (*Momordia charantia* Linn.), *Patha* (*Cissampelos pareira* Linn.) and *Karkotaka* (*Luffa cylindrica* Linn.) as vegetables, which are wholesome for those suffering from fever

Table-1: List of medicated gruel for various conditions associated with fever

S.N.	Associated conditions with fever	Yavagu
1	Fever with loss of appetite	Yavagu processed with <i>Shunthi</i> (<i>Zingiber officinale</i> Rosc.) and <i>Pippali</i> (<i>Piper longum</i> Linn.)
		Yavagu prepared with <i>Vidaaryadi gana dravyas</i>
2.	Fever with diarrhoea	Yavagu processed with <i>Dadima</i> (<i>Punica granatum</i> Linn.) and honey.
		Yavagu processed with <i>Prishnaparni</i> (<i>Uria picta</i> Desv.), <i>Bala</i> (<i>Sida cordifolia</i> Linn.), <i>Utpala</i> (<i>Nymphaea stielata</i> Willd.), <i>Bilwa</i> (<i>Aegle marmelos</i> Corr.), <i>Shunthi</i> (<i>Zingiber officinale</i> Rosc.), <i>Dhanyaka</i> (<i>Coriandrum sativum</i> Linn.) with <i>Amla dravya</i> .

3.	Fever with pain in flanks, pain in lower abdomen, headache	<i>Yavagu</i> processed with <i>Gokshura</i> (<i>Tribulus terrestris</i> Linn.), <i>Kantakari</i> (<i>Solanum surattense</i> Burm. f.) and <i>Rakta shali</i> (<i>Oryza sativa</i> Linn.)
4.	Fever with constipation	<i>Yavagu</i> with <i>Pippali</i> (<i>Piper longum</i> Linn.) and <i>Amalaki</i> (<i>Emblica officinalis</i> Gaertn.) with <i>Ghrita</i>
		<i>Yavagu</i> processed with <i>Mridwika</i> (<i>Vitis vinifera</i> Linn.), <i>Pippalimoola</i> , <i>Chavya</i> (<i>Piper retrofractum</i> Vahl.), <i>Amalaki</i> (<i>Emblica officinalis</i> Gaertn.), <i>Shunthi</i> (<i>Zingiber officinale</i> Rosc.)
5.	Fever with loss of sleep and increased thirst	<i>Yavagu</i> prepared with <i>Shunthi</i> (<i>Zingiber officinale</i> Rosc.), <i>Amalaki</i> (<i>Emblica officinalis</i> Gaertn.) with <i>Ghrita</i> .

Lifestyle modification-

All India Institute of Ayurveda (AIIA, Delhi) published a booklet recently, named 'AYU SAMVAD' for lifestyle modification and diet management in COVID-19 management with collaboration of Ministry of AYUSH. Such points are given below-

- Wake up early in the morning.
- *Ushapana* (drink warm water as an individual capacity).
- Defecation and urination
- Cleansing face and oral cavity.
- Frequent gargling with warm water added with salt and *Haldi* (Turmeric).
- 2 drops of *Anutaila* in each nostril.
- Light physical exercise.

Table-2: Immunity boosting measures for self-care

Measures	Drugs	Spices in Diet
<i>Nasya</i>	<i>Chyawanaprasha</i>	<i>Haldi</i> (Turmeric)
Gargling	<i>AYUSH Kwatha</i>	<i>Jeeraka</i> (Cumin)
Steam inhalation	<i>Sanshamani Vati</i>	<i>Dhaniya</i> (Coriander)
Yoga	AYUSH-64	<i>Lahsun</i> (Garlic)
Golden Milk	<i>Anu Taila</i>	

Discussion & Conclusion-

Ahara supplies bio energy to the body. *Ahara* is one which is ingested, it includes food like Likable, Drinkable, Chewable & Bitable i.e., *Chaturvidha*^{xxi} & *Shadvidha*^{xxii}. Acharya Kashyapa considers *Ahara* as *Mahabhaishjya*^{xxiii} and *Arogyakara*^{xxiv}.

Corona viruses (CoV) are a large family virus that cause illness ranging from the common cold to more severe diseases with incubation period of 2-14 days having sign & symptoms like Tachypnea, decreased oxygen saturation, myalgia, loss of taste & smell, sore throat, fever and multiorgan involvement.

Mainly 3 steps have been covered in COVID management and principles i.e., preventing the virus entry to the body cells, stopping its replication if it gets inside the cells and reducing the damage that occurs to the body tissues. Uses of Ayurvedic prophylactic measures, symptomatic management and restoration through various *Rasayana* can help to overcome this pandemic.

Hence, this can be concluded that the diet and lifestyle advised in Ayurveda for fever can help the patients of COVID 19 to recover from the disease speedy without further complication of disease.

REFERENCES-

- ⁱ Agnivesh revised by Dhridhabala Charaka Samhita, edited by Pt. Rajeshwaradatta Shastri, Pt. Yadunandana Upadhyaya, Pt. Ganga Sahaya Pandeya, Dr. Banarasi Das Gupta & Pt. Brahmashankaramishra Mishra, Reprint Edition, Varanasi, Chaukhambha Bharati Academy, Varanasi, 2014, Vimanasthana, 03/03; 691.
- ⁱⁱ Mitra P, Misra S, and Sharma P, COVID-19 pandemic in India: What lies ahead. Indian J Clin Biochem 2020; 1–3. [accessed on 8/6/2021]
- ⁱⁱⁱ Zhou P, Yang XL, Wang XG, et al., A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature 2020; 579(7798): 270–273. [accessed on 8/6/2021]
- ^{iv} Ng SL, Ong YS, Khaw KY, et al., Focused review: potential rare and atypical symptoms as indicator for targeted COVID-19 screening. Medicina (Kaunas) 2021; 57(2). [accessed on 8/6/2021]
- ^v Ser H-L, Tan LT-H, Law JW-F, et al., Genomic analysis of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) strains isolated in Malaysia. Prog Microbes Mol Biol 2020; 3(1). [accessed on 8/6/2021]
- ^{vi} Chan JF, Yuan S, Kok KH, et al., A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. Lancet 2020; 395(10223): 514–523. [accessed on 9/6/2021]
- ^{vii} <https://www.theguardian.com/world/2020/apr/06/ban-live-animal-markets-pandemics-unbiodiversity-chief-age-of-extinction> [accessed on 9/6/2021]
- ^{viii} M. Monier- Williams, Edited & Revised by Pandit Ishwar Chandra, Sanskrit - English Dictionary with special reference to cognate Indo- European languages, 2011, Parimal publication Delhi, Vol. 01, page 616.
- ^{ix} Sushruta Samhita, edited by Kaviraj Ambikadutta Shastri, Reprint Edition, Varanasi, Chaukhambha Sanskrit Sansthan, 2016, Nidanasthana 5/32-33; 325.
- ^x MC Gupta, BK Mahajan, Textbook of Preventive and Social Medicine, Jaypee, Ed. 2003, Chapter 02, page 12.
- ^{xi} Sushruta Samhita, edited by Kaviraj Ambikadutta Shastri, Reprint Edition, Varanasi, Chaukhambha Sanskrit Sansthan, 2014, Chikitsasthana 20/03-04; 107.

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- ^{xii} Bhavamishra, Bhavprakasha, edited by Bhisagratna Shri Brahmashankaramishra Shastri, Reprint Edition, Chaukhambha Sanskrit Bhavana, 2015, Madhyakhanda 01/24; 09.
- ^{xiii} Ibidem (1), Chikitsasthana 3/139; 131
- ^{xiv} Ibidem (1), Chikitsasthana. 3/145; 135.
- ^{xv} Dwivedi R (2010) Chakrapanidatta, Chakradatta, with Vaidyaprabha Hindi commentary by Dr. Indra dev Tripathi, Published by Chaukhambha Publications, Varanasi, Jvaraachikitsa 3/21, pp: 3.
- ^{xvi} Ibidem (1), Chikitsasthana 30/302, pp: 882.
- ^{xvii} Sharangadhar Samhita (2008) Anjananidana of Maharsi Agnivesa, annotated with Dipika, hindi commentary by Dr. Brahmanand Tripathi, Published by Chaukhambha Surbharati Prakashana, Varanasi, Madhyama Khanda 2/171, pp: 172.
- ^{xviii} Ibidem (11), Madhyam khanda 1/227; 541.
- ^{xix} Ibidem (16), Madhyama Khanda 2/164-165; 171.
- ^{xx} Ibidem (10), Sutrasthana 46/347; 271.
- ^{xxi} Ibidem (1), Sutrasthana 28/03; 568.
- ^{xxii} Vriddha Jeevaka Tantra revised by Kashyap Samhita, edited by P. V. Tewari, Varanasi, Reprint Edition, Chaukhambha Vishvabharati, 2008, Khilasthana 04/09; 468.
- ^{xxiii} Ibidem (21), Khilasthana 04/06; 468.
- ^{xxiv} Ibidem (21), Khilasthana 5/8-9; 485.