

# Preventive and Therapeutic Approaches towards Pandemic Infectious Diseases: An Ayurveda Review Based on Current Scenario

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## REVIEW ARTICLE

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### ABSTRACT

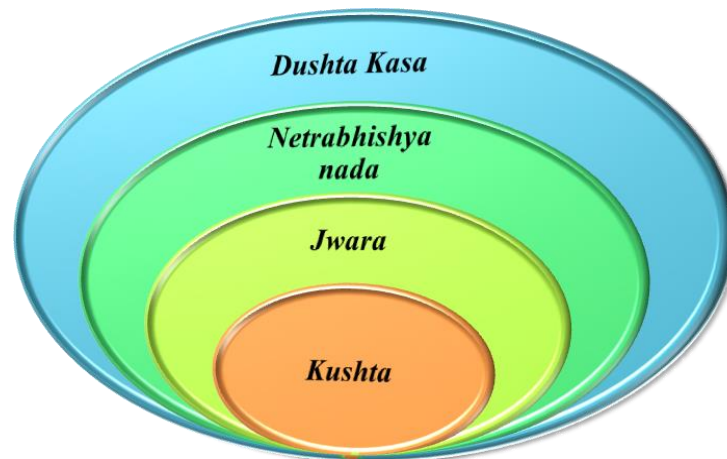
The evolution of human civilization witnessed health related consequences of many incurable diseases. The medical science developed gradually and combated effectively against such types of fatal diseases, but incurable or pandemic outbreak scarred whole world time by time. The whole world currently fighting against pandemic disease and in this situation the human civilization not only facing healthcare but economic burden also. The Ayurveda system described such pandemic conditions as consequences of *Sankramak Roga* and Ayurveda philosopher believe that pandemic condition arises due to the vitiation of *Jala, Vayu & Doshas*, etc. Ayurveda *Samhita* mentioned role of *Krimi* in the development of infectious disease and when such infection occurs in very short period of time on large scale then it becomes pandemic. Ayurveda suggested *Nidaan Parivarjana, Panchakarma, Rasayana* therapy and lifestyle modification for the management of such conditions.

**Keywords:** Ayurveda, Pandemic, *Krimi, Janpadodhwansa, Sankramak Roga*, Preventive, Therapeutic.

### 1. Introduction

*Roga* as per ayurveda considered as vitiated state of *Doshas* due to the accumulation of causative factors leading to the alteration in physiological state of body. Ayurveda emphasizes *Sankramak roga* as a disease which transmitted form one person to another

through various mode of transmission. Ayurveda literature also mentioned role of specific infectious agent in the pathogenesis of *Sankramak roga*. These diseases not only transmitted from person to person, but also from animal to person and animal to animal. (1-3)



**Figure 1.** Common *Sankramak Roga* as per Ayurveda

The environmental contamination especially air and water, etc. play vital role towards the transmission of such disease from one person to another.

Pathologically *Sankramak roga* involve vitiation of *Doshas*, deprived state of *Dhatu*, imbalance in *Agni* and obstruction in *Srotas*. The major *Sankramak Roga* as per Ayurveda depicted in **Figure 1** which transmitted from one person to another.

Ayurveda mentioned *Sankramak roga* as *Aupasargik Rogas* which occurs due to the degenerative state of *Doshas & Dhatus*. As per Ayurveda it is believed that when *Bala* get diminished then *Krimi* causes pathological manifestation of *Sankramak Roga*. *Sankramak Roga* transmit from one person to another when risk factors such as disturbed pattern of living regimen (*Vihara*), stress, pollution, *Anidra* and presence of infectious agents, etc. get accumulated.

Ayurveda suggested conduction of disciplinary lifestyle, uses of herbal remedies, internal purification, uses of classical Ayurveda formulation and *Yoga*, etc. as preventive and therapeutic measures of *Sankramak Roga*.

### Samprapti

The *Krimi* of *Sankramak Roga* invade host cells when others etiological factors aggravated and *Bala* diminished. The biological system of host utilized by pathogens for their growth resulting *Dosha* and *Dhatu* vitiation, further aggravation of *Vayu* and vitiation of *Rasa* manifested symptoms of disease, however severity of disease depends upon *Prakriti* of diseased person.

- ✚ Symptoms like stiffness & pain occurs due to the *Vata Sanchaya*
- ✚ Rise in body temperature as consequences of *Pitta Sanchaya*
- ✚ Heaviness due to the *Kapha Sanchaya*

Currently whole world fighting against pandemic situation where large number of population get suffered at a time and Ayurveda literature also mentioned similar terminology for mass destruction as *Janpadodhwansa*. As per Ayurveda *Janpadodhwansa* (mass destruction) occurs

when *Jala*, *Vayu*, *Desha* and *Kala* found in their deranged state. (4,5)

## 2. General Overview on Current Pandemic

The current pandemic pathological condition occurs after the infection of “Severe Acute Respiratory Syndrome Corona Virus-2” (SARS-CoV-2). Fever, cough and breathing difficulty are major symptoms of disease, however tiredness, aches, sore throat, headache and loss of taste also observed sometimes. The immunity and health status of person play major role towards the disease severity. It is believed that elderly person suffering with hearts and lung’s problems are more susceptible than others. The disease can be transmitted from one to another person through following ways:

- ✚ Close contact with infected person
- ✚ Coughing and sneezing droplets of infected person
- ✚ Through surface when person touches infected surfaces
- ✚ Sharing eating objects with infected person

## 3. Current Pandemic and Ayurveda

It is believed that the pandemic infections currently affecting person if he/she possess diminished state of *Bala*, means specific internal constitution of body play major role towards the diseases susceptibility. Similarly Ayurveda mentioned concept of *Prakriti* as specific health status or constitution of an individual which merely depends upon predominant state of *Doshas*. The predominate state of *Doshas & Dhatus* may be varied person to person thus individuals differs from each other in terms of their *Prakriti* (internal constitution). Therefore some person gets affected easily with pandemic disease while others not get affected at a same time. Thus Ayurveda proposed that in current situation the physician must pay attention towards immunity and disease resistance power since preventive approaches can provides power to combat against pandemic situations. **Figure 2** depicted some specific preventive approaches of Ayurveda which helps to prevent prevalence of pandemic infectious diseases. (6)



**Figure 2.** Some specific preventive approaches of Ayurveda.

#### 4. Preventive Guideline

- One should use alcohol based hand sanitizer regularly
- Isolation of infected person to be encouraged
- One should avoid close contact with infected person
- Maintain hygienic condition and eat immunity booster
- Covering of mouth with appropriate mask
- Frequent washing of hands with soap
- Avoid touching of mouth, nose and eyes
- Social gatherings are to be avoided
- One should avoid unnecessary travelling especially to the affected area

The authorized agency of Indian system suggested uses of immune booster to enhance resistance against current pandemic infections. The authorities recommended putting focus on natural defense system that keep away from common cough & cold. Ayurvedic drug *Triphala* can be taken for this purpose along with other immune boosters. The gargling (*Gandusha*) along with disciplinary conduct of *Dinacharya* can also provide relief from current problem of throat infections. Good dietary habits, oral hygiene, exercise and rules of *Dinacharya* can reduce susceptibility against current pandemic infections thus one should follow suggestive regimen of life style as per ayurveda.

The uses of *Trikatu*, *Ashwagandha*, *Madhu yashti* & *Bhui amalki* enhances natural

immunity and boosts nutritional supply therefore empowered *Dhatu*s and provide resistance against common infections. The regular uses of such medicines enhance physical as well as mental strength of body thus recommended for preventive and therapeutic purposes.

The uses of *Gandus*, *Kawal* & *Nasya* with medicaments also suggested for clearing channels and enhancing respiratory activities. The cleaning of mouth by *Gandus* & *Kawal* prevents throat infections while *Nasya Karma* helps to relieve respiratory congestion. (7,8)

#### 5. Therapeutic Approaches

##### *Ayurveda Drugs*

*Rasayana* drugs recommended classically for the management of various disease including infectious diseases. These drugs help to balance *Doshas*, imparts soothing effect, protect body from disease and boost *Balya*. The *Ropana* and *Krimighna* properties of *Rasayana* drugs provide symptomatic as well as pathological relief from infectious diseases. The herbo-metallic preparations containing minerals and metals helps in strengthening disease resistance power thus prevent prevalence of pandemic infections. Ayurveda drugs contribute towards *Ojas* and boost process of tissue nourishment thus enhances natural immunity of body. The antioxidant, anabolic, anti-microbial and nutritive properties of *Rasayana* drugs offers remarkable benefits in common infections.

Ayurveda also believed that drugs having *Katu*, *Kashaaya*, *Kshraia* and *Ushna* properties

helps to reduce pathological progression of microbial infections. *Neem, Ginger, Guggulu, Amla, Guduchi, Pippali, Turmeric* and *Bhallatakasava*, etc. are some natural origin plants/herbs which can be used effectively for the prevention and treatment of infectious disease which mainly arises due to the viral infections.

*Neem* recommended classically for its antimicrobial action especially for topical purposes. Currently some poly-herbal formulations available in market containing *Neem* extract using for preventive purposes. It provides antiseptic property, offers anti-viral action and enhances disease resistant power.

*Guggulu* recommended curing fever associated with infections, it nourishes body, improves *Dhatus* quality, boosts immune system and reduces microbial load inside the body by enhancing leukocyte migration.

*Amla* possess enormous therapeutic property and claimed traditionally for fevers associated with microbial infections. It is well known for its antiviral property, improves overall physiological functioning and enhances immunity against common infectious diseases.

*Guduchi* provides remarkable antiviral action, cure many viral diseases including syphilis, urinary tract infections, throat infections and strengthen defense mechanism against common infections.

*Pippali* founds in many ayurveda formulations used for antimicrobial purposes. *Pippali* decreases microbial load in viral infections. It provides strength to the immune system of body thus enhances resistance against viral diseases.

*Turmeric* is one of the important drugs of natural origin used for anti-viral purpose. It helps in internal as well as topical infections. *Turmeric* not only relieves symptoms of infections but it also suppresses pathological progression of disease.

*Punarnava* boost internal immunity, treat viral infections since it alter immune response, modulates leukocyte migration and enhances process of lymphocytes proliferation.

**Probable Mode of Action of Ayurveda Drugs in Microbial Infections:**

Ayurveda drugs improves functioning of *Agni* by virtue of their *Rasa & Guna* thus balances metabolic activities, reduces toxins level from body and nourishes *Dhatus* therefore resist prevalence of microbial infections. *Vishaghna* action of ayurveda drugs pacifies vitiated *Doshas* and removed toxins from body. Ayurveda drugs purify *Rakta Dhātu* thus prevent pathological development of disease. The *Strotovishodhana* effect of Ayurveda drugs enhances transportations of antibodies by improving capacity of *Strotas* thus provide effective action against pathological microorganisms.

The uses of *Gandus, Kawal & Nasya* helps to clean oral cavity and throat. These techniques can be helpful to reduce susceptibility against infections and provides resistance against respiratory infections. *Gandus, Kawal & Nasya* relief sore throat and open up nasal or respiratory passages therefore offers beneficial effects in breathing difficulty. (9-11)

## 6. Conclusion

The current pandemic condition occurs due to the viral infection, associated with symptoms of fever, cough and breath shortness. Ayurveda recommended various preventive and therapeutic measures to combat against current situation. Some approaches of Ayurveda like; *Prakriti Vighata, Apakarshana* and *Nidaan Parivarjana* can help to control microbial diseases including pandemic infections. *Nidaan Parivarjana* means avoidance of disease causative factors and *Prakriti Vighata* means uses of medicinal approach to pacify vitiated elements of body, these approaches help to reduce prevalence of microbial disease. *Yoga, exercise* and *Panchakarma* therapy can also help to reduce susceptibility towards the *Sankramak Roga*.

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## Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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