

**AYURVEDIC APPROACH AS AN ADJUVANT THERAPY IN THE  
MANAGEMENT OF GHRANA NASHA IN COVID -19 PATIENTS****W.S.R ANOSMIA – A REVIEW****Supriya A. Bhandare<sup>1\*</sup> and Nilakshi S. Pradhan<sup>2</sup>**

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**ABSTRACT**

SARS Covid -19 virus is characterized by the symptoms like fever, cough, breathlessness, Anosmia which is a clinical manifestation observe in the patients. It may be found in the patient in both ways i.e symptomatic and asymptomatic .SARS Virus may cause olfactory dysfunction in active phase as well as in post viral cases. SARS Virus affects the olfactory Nerve Cells which is resulting into loss of smell after infection i.e Anosmia. When 20 to 30% of nerve cells get damage. People have reported that they lost their sense of smell .This comprehensive study has proven the remarkable efficacy of therapies like *Rasayana*, *Swedana*, *Nasya*, *Dhoopana* especially on the symptom Anosmia which is profound in Covid- 19. In *Samhitas* like *Charaka*,

the pandemic disease is explained as *Janapadodhwansa Vyadhis* (Epidemic). In *Ayurvedic* classics *Acharyas* have explained importance of the *Janapadodhwansa Vyadhi* which occurs due to violation of the normal routine regime. They have also explained the causes, symptoms, treatment of the mentioned *Vyadhi* (Disease) which is resemble with Covid 19 Disease.

**KEYWORDS:**– Covid 19, Anosmia, *Nasya*, *Dhoopana*, *Swedana*, *Rasayana*.

## INTRODUCTION

The Pandemic disease Corona Virus (SARS COV 2) is a acute respiratory disease characterized by symptoms which is fatal to human beings. Covid -19 caused by a Virus SARS-COV-2. 1<sup>st</sup> Time it was reported in December 2019 in Wuhan, China.

On 30<sup>th</sup> January, 2020 WHO recognized COVID -19 as a public health emergency of international concern and later it was declared a pandemic on 11<sup>th</sup> March 2020. The SARS - COV -2 virus spreads mainly from infected person to healthy person who is in close contact with infected person. SARS COV 2 is spread through the respiratory droplet, contact and fecal- oral route. Viral replication primarily presumed to occur in the mucosal epithelium of the upper respiratory tract i.e nasal cavity and pharynx, with its further multiplication in lower respiratory tract and gastrointestinal mucosa. ACE2 is broadly manifested in the nasal mucosa, bronchus, lungs, esophagus, kidney, stomach, bladder, ileum and these human organ are vulnerable to SARS-COV 2.

Corona virus not only affects the physical health as well as affect mental health of an individual.

As soon as the Covid -19 Virus enters in human body, after specific incubation period it mainly shows symptoms like -

- Runny nose
- Sore throat
- Cough
- Anosmia
- Bodyache
- Headache
- High grade fever
- Malaise

SARS Virus causes olfactory dysfunction i.e it affects the olfactory nerve cells resulting into loss of smell after infection.

About 5.1% of the patients who were diagnosed with COVID-19 had Anosmia.<sup>[1]</sup>

The COVID -19 pandemic has had a vast impact on the economy as well as the health care system all over the world.

In traditional *Ayurveda* texts like *Charaka Samhita*, the pandemic disease is explained as *Janapadodhwansa Vyadhis*. *Acharya Sushruta* mentioned the symptoms like cough, headache, breathing difficulty in this disease which resembles with clinical features of COVID -19.

*Acharya Dalhana* also mentioned the symptoms like Anosmia, cough and catarrh will occur after the entry of contaminated air through the nasal openings which is again similar to typical clinical features of Covid -19.

### **Physiology of olfaction<sup>[2]</sup>**

The olfactory epithelium is the part of a nasal epithelium which is sensitive to smell and confined to nasal mucosa of the olfactory area. Smelling sensation is developed mainly from the stimulation of receptors in the yellow brown olfactory mucosa that lines the surface of the superior turbinate and the upper third of nasal septum. The olfactory area is formed by the superior nasal concha, the upper part of septum and the floor of nose.

Olfactory mucous membrane – The olfactory receptors are located in a small specialized portion of the nasal mucosa which is called the olfactory area. The olfactory epithelium is composed of mainly two types of cells. These are supporting cell (sustentacular cells) And receptor cell. There is third type of cell which is called the basal cell.

The receptor cells are bipolar neuron. They function both as receptor and ganglion cells. Dendrites arises from superior pole and the axon arises from the deeper pole of the fusiform receptor.

Olfactory Bulb – In olfactory bulb there are a large number of nerve cells called granules intermingled in an interlacement of nerve fibrils, mitral cells and tufted cell with their dendrites and axon forming the layer of olfactory glomeruli.

### **Role of nasal mucosal immunity<sup>[3]</sup>**

Nasal mucosa rich in goblet cells, secretory glands both mucous and serous.

Their secretions forms a continuous sheet called mucous blanket.

Mucous blanket consist of –

1. Mucous layer
2. Serous layer

Nasal secretions also contain an enzyme called Muramidase (lysozyme) which kills bacteria and viruses.

Immunoglobins IgA and IgM are also present in nasal secretions and provides Immunity against upper respiratory tract infections.

### **The main symptom of COVID-19 - Anosmia<sup>[4]</sup>**

Loss of sense of smell is known as Anosmia. It occurs due to abnormalities of olfactory bulbs or nerves.

During inflammation of nasal mucosa there is temporary loss of smell.

According to Ayurveda Anosmia considered as *Ghrananasha*. Anosmia has been considered as a disorder which lacks of smell and devoid of another fragrances.

### ***Grana nasha***

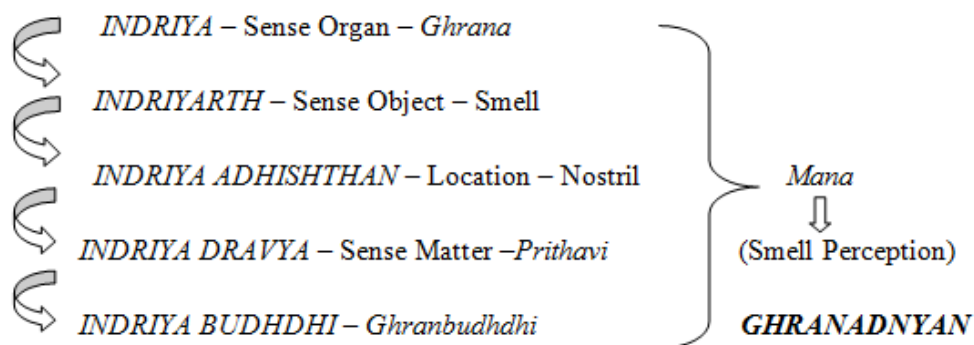
#### **Pathophysiology**

Visual, Auditory, olfactory, Gustatory and Tactile are the five sense organs.

Five matters of sense organ are<sup>[5]</sup>

1. *Akash*
2. *Vayu*
3. *Tejas*
4. *Aap*
5. *Prithvi*

And location of these five organs are eye, nose, ear, tongue and skin. The sense organs are capable in perceiving their objects only when they are supported by mind. Sense perception are produced by the contact of sense organ, sense object, mind and self. In case of the sense organs along with the mind having been deranged due to excessive negative and perverted conjunction with their sense objects, the respective sense perception gets disturbed. Again with their balanced use when all this returns to normalcy, it promotes the respective sense perception.<sup>[6]</sup>

**Ghranadnyan**

The following *Doshas*, *Siras* and *Strotas* vitiate in the *grana nasha*

**Dosha**

1. *Pranvayu*
2. *Udanvayu*
3. *Sadhak Pitta*
4. *Tarpak kapha*

**SIRA – 24****Strotas dushti**

1. *Pranvaha*
2. *Majjavaha*

**Samprapti**

The virus SARS –COV 2 enters through nostrils and binds the epithelial cells present in nasal mucosa and starts replicating.



Virus causes the *dushti* of *Pranavayu*, *Sadhakapitta*, *Udanavayu* and *Tarpaka Kapha* and 24 *Siras*. The aggravated *doshas* reaches to *Aamashaya* and deranged the functions of *Agni*.



Then vitiated *Doshas* along with *Rasa* and *Ama* moves upwards, and obstructs respiratory channels, *Urdhwajatrugat pradesha* (upper clavicular diseases) and thus causes the *Dushti* of *Pranvaha Strotas* and *Majjavaha Strotas*. Also disturbs the sense of perception of organs

results into



Anosmia

## AIM AND OBJECTIVE

- To explore the Ayurvedic management of *Ghrana Nasha* in COVID -19 patients w.s.r Anosmia.
- To provide further scope for study to explore the *Ayurvedic* management of *Ghrana Nasha* in COVID -19 patients w.s.r Anosmia.

## MATERIAL AND METHODS

*Ayurvedic* data and information collected from *Ayurvedic Samhitas*, modern text books and also online search was done.

### *Ayurvedic* management in COVID -19 for anosmia

1. **Swedan (Steam therapy):** It is *poorva karma* of *panchakarma*. *Swedana* (steam therapy) means by which sweating produced in the body. This can be done either by using fire or without fire. The purpose is to bring the *Doshas* from the *Shakhas* (extremities) to the *Koshtha* (stomach)<sup>[7]</sup>
2. **Nasya (Administration of drug through nasal cavity):** *Nasya* is a method of administration of the medicated oils, *Churna* (Mixture of powder of *Ayurvedic* medicine), and juice through the nose into the head. It is also called as *Shirovirechana* i.e purification.<sup>[8]</sup>
3. **Dhoopana (Fumigation):** *Dhoopana* means smoke of *Ayurvedic* drugs which is inhaled by nasal cavity.
4. **Rasayana (Rejuvenative tonic):** *Rasayana* is a promotive therapy. *Rasayana* promotes strength and immunity.

### Function of *rasayana*

1. One attains longevity of life
2. Improved mental and intellectual competence
3. Optimization of strength of body and motor / sense organ (Indriyas)<sup>[9]</sup>
4. Physical and mental health improvement
5. Proper balanced and production of all the *Sharira Dhatus* (Body tissues).

### *Swedana - Bashpa sweda* (Steam inhalation)

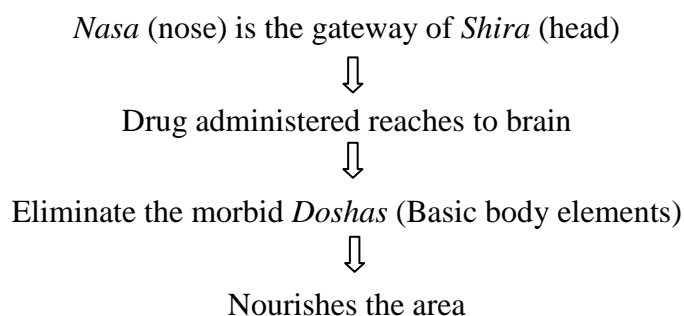
*Swedana* therapy is beneficial to mitigate disease alone or in the combination of other therapies. The main function achieved by *Swedana* is rise in temperature, which is responsible for –

1. Increases the blood flow In the affected area making available in increased supply of oxygen, nutrient, antibodies WBCs and thereby reduces inflammation.
2. Stimulation of neural receptors in the skin or tissues.<sup>[10]</sup>

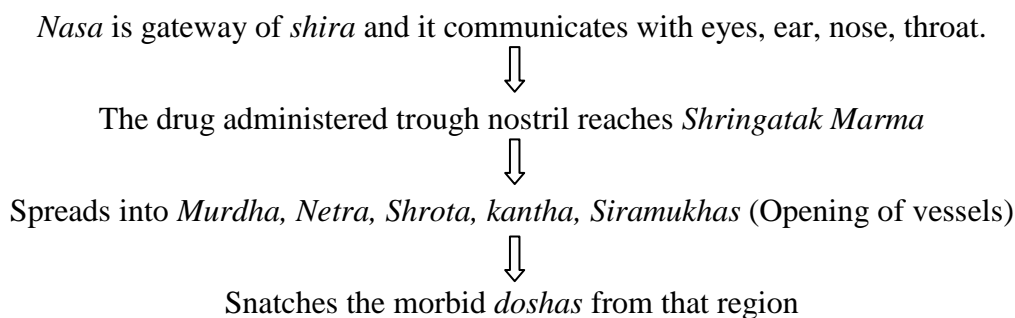
### Nasya

*Nasya Karma* simply means nasal administration of drugs or a means of delivering drugs preferentially to the brain to avail an overall effect on the body.

#### According to *charaka*<sup>[11]</sup>



#### According to *ashtang sangraha*<sup>[12]</sup>



### Drug action in Nasya by two ways

**Vascular path** –In nasal cavity the sub mucosa is rich vascularized. High blood flow promotes rapid absorption. The drug absorption is rapid due to high permeability of nasal epithelium. During *Poorvakarma* (preparation for *Panchkarma*), *Abhayanga* (Body oiling) and *Mrudu Sweda* causes vasodilatation and increased blood circulation which is helpful in drug absorption.

**Neural path** –The delivery of drug from nose to CNS may occur via olfactory neuro epithelium and according to the study this may involve paracellular, transcellular and neural transport.

***Vacha taila nasya***

Administration of *Pratimarsha Nasya* (Instillation of 2 drops of medicine in nostrils) of *Vacha Taila*, it strengthens the mucous membrane, olfactory nerve and the respiratory tract. The dose is 2 drops.

**Table no. 1**

<b><i>Dravya</i></b>	<b><i>Rasa</i></b>	<b><i>Vipaka</i></b>	<b><i>Virya</i></b>	<b><i>Karmukta</i></b>
<i>Vacha</i> <sup>[13]</sup>	<i>Tikta, Katu Rasa</i>	<i>Katu</i>	<i>Ushna</i>	<i>kapha- VataShamak, Medhya</i>

***Dhoopana***

*Dhoopana* works on *Vata* and *Kapha Dosha*. Due to *Sukshma Guna* of drugs used for *Dhoopana*, it opens the smallest channels with *Ushna* and *Tikshna Guna*. It liquifies and eliminates the *Dosha* from their nearest route. However the gases form of medicine increases the bioavailability of it. The gases are absorbed in blood and greater surface area in lungs. By using the process of *Dhoopana* one can achieve its absorption at maximum level.

*Dhoopan Dravyas* – *Dalchini, Guggulu, Ajamoda(Ova), Vacha*

**Table no. 2**

<b><i>Dravya</i></b>	<b><i>Rasa</i></b>	<b><i>Vipaka</i></b>	<b><i>Virya</i></b>	<b><i>Karmukta</i></b>
<i>Dalchini</i> <sup>[14]</sup>	<i>Katu, Tikta, Madhur</i>	<i>Katu</i>	<i>Ushna</i>	<i>Vatapittahara</i>
<i>Guggul</i> <sup>[15]</sup>	<i>Tikta, Katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>Tridoshashara, Lekhana</i>
<i>Vacha</i>	<i>Tikta, Katu</i>	<i>Katu</i>	<i>Ushna</i>	<i>kapha- VataShamak, Medhya</i>
<i>Ajamoda</i> <sup>[16]</sup>	<i>Katu, Tikta</i>	<i>Katu</i>	<i>Ushna</i>	<i>Kaphavataghna</i>

***Rasayana******1. Guduchi ghanavati***

Content – *Guduchi* – *Tinospora cordifolia* act as a immunomodulatory.

**Table no. 3**

<b><i>Dravya</i></b>	<b><i>Rasa</i></b>	<b><i>Vipaka</i></b>	<b><i>Virya</i></b>	<b><i>Prabhav</i></b>
<i>Guduchi</i> <sup>[17]</sup>	<i>Tikta, kashaya</i>	<i>Madhura</i>	<i>Ushna</i>	<i>Tridoshashamak Medhya Rasayana</i>



2. The combination of *Ashwagandha*, *Shatavari*, *Vidari* also can be used as a *Rasayana* - Content – *Ashwagandha*, *Shatavari*, *Vidari*.

Table no. 4

<i>Dravya</i>	<i>Rasa</i>	<i>Vipaka</i>	<i>Virya</i>	<i>Prabhav</i>
<i>Ashwagandha</i> <sup>[18]</sup>	<i>Madhura</i> , <i>Tikta</i> , <i>Kashaya</i>	<i>Madhura</i>	<i>Ushna</i>	<i>Balya</i> , <i>Brumhana</i> , <i>Rasayana</i>

<i>Dravya</i>	<i>Rasa</i>	<i>Vipaka</i>	<i>Virya</i>	<i>Prabhava</i>
<i>Shatavari</i> <sup>[19]</sup>	<i>Madhura</i> , <i>Tikta</i>	<i>Madhura</i>	<i>Shita</i>	<i>Rasayan</i> , <i>Balya</i>

<i>Dravya</i>	<i>Ras</i>	<i>Vipak</i>	<i>Virya</i>	<i>Prabhav</i>
<i>Vidari</i> <sup>[20]</sup>	<i>Madhur</i>	<i>Madhur</i>	<i>Shita</i>	<i>Vatapittashamak</i> , <i>Rasayan</i>

## DISCUSSION

The ongoing Pandemic of Covid 19 harms the health of population all over the world. Among the symptoms of COVID -19 such as fever, general weakness, headache. Anosmia is the one of the major symptom. Anosmia is a loss of sense of smell. It occurs due to abnormalities of olfactory bulbs and nerves. Nose is one of the most delicate organs in the body. The nasal cavities act as the gateway to the respiratory tract, where it filters and conditions the inspired air in its respiratory zone. The nasal mucosa serves many defensive functions like humidification and temperature regulation of inspired air, mucociliary clearance and nasal reflexes.

Nasal secretions also contain an enzyme called Muramidase (Lysozyme) which kills bacteria and viruses. Immunoglobins IgA and IgM are also present in nasal secretions and provides Immunity against upper respiratory tract infections.

Ayurveda has different therapies to battle against Covid -19. Ayurveda has potential to cure the Anosmia and to maintain the health by using therapies like *Rasayana*, *Swedana*, *Nasya*, *Dhoopana*. *Swedana* means the fomentation therapy, it is *Poorva Karma of Nasya*, by using this therapy sticky *Doshas* get dissolved and comes down to *Koshtha*. The nostrils is the easiest and closest opening for conveying the potency of medicines to the cranial cavity. Many of the nerves emanating from the head have their ends extended to inner nose. So the medicines administrated there can effectively spread their potency to the entire head and to some parts of the body either through these nerves directly or by other means by stimulating

them and producing their desired results. *Dhoopana* means smoke of *Ayurvedic* drugs which is inhaled by nasal cavity which helps to maintain our health during the outbreak of such pandemic by preventing spread of infection and by improving immunity. In *Dhoopana*, herbal drug and herbomineral or animal origin drugs are used. *Dhoopana Dravyas* has Antimicrobial, Antifungal and Anti viral properties. *Rasayana* is a therapy which is basically deals with the process like delaying ageing and curing of the disease. It is used as preventive measures in many diseases. Basically *Rasayana* acts as immunomodulator which is helpful in enhancing the immunity of body and strengthening the respiratory system.

Acharya Sushruta mentioned effect of *Rasayana* is better after *Shodhana karma* (efficient treatment to expel toxins out from the body) (here particularly after *Nasya* and *poorvakarma Swedana*).

*Ayurveda* has given more credibility to *Rasayana*, *Sweda*, *Nasya*, *Dhoopana* for Covid 19. If in the future the credibility of such therapeutics not proven, then more research can be done in given area with a small group of affected people for proving the efficacy of *Rasayana*, *Sweda*, *Nasya*, *Dhoopana* and to get a better treatment protocols for the Covid 19. Research work regarding ayurvedic management in Anosmia caused by Covid -19 infection is done and going on with the help of above mentioned therapeutic procedures along with *Vidhdha Karma*.

## CONCLUSION

Covid -19 is now being current pandemic affecting the normal lives of people through worldwide. As the Covid- 19 infection is highly contagious which have become troublesome due to the novel corona virus SARS COV -2 spreading through humans to humans via droplets. The main attributes of Covid- 19 are fever, general weakness, headache, Anosmia i.e loss of smell. Selecting Anosmia from above symptoms, which affects most of the people that diagnosed with Covid- 19. As we called this pandemic highly spreadable it have become a public interest throughout the *Vaidyas*. This pandemic gives *Ayurveda* a better platform to prove the efficacy of the therapeutic procedures and *Ayurvedic drugs*.

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