

**MECHANISM OF NASYA: AN OVERVIEW**

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**ABSTRACT**

Speed and accuracy are the prime demands of modern era. To cope with this situation everybody have to face hectic, competitive and stressful life. People cannot pay attention to their physical and mental health. Irregular food habits, suppression of natural urges, lack of proper sleep and less time for relaxation are being part of our life, which enhances incidences of many diseases mainly having psychosomatic origin are increasing due to urbanization, high industrial growth, deforestation at a drastic speed. Nose is a sense organ which performs two functions i.e olfactory and respiratory. Due to its direct contact with external environment it is exposed to lot of microorganisms & pollutants present in the atmosphere. Due to the

increased environmental pollution and busy life, rhinitis is a common disease in this present era. Ayurveda has its own unique principles in understanding a disease by its preventive and therapeutic viewpoints. So that 'Nasya' being prime therapy for maintaining the health of 'Urdhvajatru', because the only Karma, which finds a place in simple references like 'Dinacharya' and the most sophisticated places like Panchakarma. Out of all Karmas, Nasya Karma is the best therapy for Urdhvajatrugata Rogas and specially NasagataRogas, according to all Ayurvedic scholars and ancient literatures Without Nasya karma it is not possible to eliminate the vitiated Doshas, which are situated in Shirah or Nasa Pradesh.

**INTRODUCTION**

Urbanization is closely linked to modernization, industrialization and the sociological process of rationalization. More than half of the world's population is now urbanized but India is still

largely a rural country. 65 to 70% of the population still lives in villages. When the benefits of living an urban versus rural life are compared the things come to mind are better education, job opportunities, infrastructure medical facilities i.e. the factors that contribute to a better standard of living. But just like the saying that there are two sides to a coin, urban life has its own share of problems too, be it the lack of open spaces, pollution, increased cost of living, hectic and stressful lives that urban people lead<sup>9</sup>. These make the urban people vulnerable to many medical problems like obesity, infertility, depression,

Ayurveda has its own unique principles in understanding a disease by its preventive and therapeutic viewpoints. This may be the fact due to which this science is persisting through centuries beginning from time immemorial. The disease as per Ayurveda is a status of disturbance in the homeostasis of Tridosha. Ayurveda getting enormous importance in global scenario may be because of this holistic approach towards a positive living style. Absence of this view is the lacuna of modern science though they are progressing to an unimaginable level. Every day new diseases are emerging and good quality therapeutics is being invented. The reductionism in the field of medicine made the physician to forget the man as a whole. Incorporation of newly developed sophisticated technologies resulted in the manipulation of human body even in nano levels (nano technology) but the question of life as a whole is still persisting. This trend contributed to a good number of poisonous therapies and drugs and grave diseases.

So that 'Nasya' being prime therapy for maintaining the health of 'Urdhvajatru', because the only Karma, which finds a place in simple references like 'Dinacharya' and the most sophisticated places like Panchakarma. Out of all Karmas, Nasya Karma is the best therapy for Urdhvajatrugata Rogas and specially Nasagata Rogas, according to all Ayurvedic scholars and ancient literatures (Ch. Chi. 30/294; Ch. Si. 9/93; Su. Chi. 40/23). Without Nasya karma it is not possible to eliminate the vitiated Doshas, which are situated in Shirah or Nasa Pradesh. Because in maximum Urdhvajatrugata Rogas medicated oil is used. The reason is that it not only protects the nasal mucosa from foreign bodies but also potentiates immunity to Nasa Pradesh as well as Urdhvajatru. Nose is the organ, which performs two functions that is olfactory and respiratory (B. D. Chaurasiya, Vol. 3/193). Due to its direct contact with external environment, it is exposed to lot of microorganisms and pollutants present in the atmosphere. Due to increased environmental pollution and busy life, Rhinitis is a common disease in this present era.

### Etymology

The word Nasya is derived from 'NASA' Dhatu which conveys a meaning of 'GATI'. Here the Gati is towards the nose, Nasal accessories and to head proper.

### Definition

Following are some well known definitions of Nasya from different classics of Ayurveda.

“नासा हि शिरसो द्वारं॥” (अ.ह.सु २०/१)

“द्वारं हि शिरसो नासा तेन तद् व्याप्य हन्तितान्॥” (च.सि९/८८)

As per charak and vagbhat, nasa is gateway of shira. The drug administered through nose as nasya reaches to brain and eliminates morbid doshas responsible for disease.

“घ्राणश्रोत्रजिह्वासन्तर्पणीनां सिराणां मध्ये सिरासन्निपातः शृंगाटकानि॥” (सु.शा ६/२८)

As per sushrut 'shringataka marma' is sira marma present in middle of confluence of siras supplying nourishment to nose, ears, eyes, tongue. Nasya is one of panchakarma mentioned in ayurveda. Nasya karma is a therapeutic procedure where drugs are administered through nose in specific manner to cure different systemic disorder. As nose is gateway of head the therapy cleanses and opens channels of head thereby improving process of oxygenation(prana) which has direct influence on functioning of brain. Nasa is considered as one among the panchaganandriya whose function not only limited to olfaction and respiration but also considered as pathway for drug administration, since it is described as gateway to the shira.

### History of Nasaya

#### Rigveda

Although it is very difficult to say that the procedure of Nasya karma therapy was in practice during Vedic period, but the few Mantras of Rigveda indirectly refer towards the Karmas which are included under Panchakarma measures. There is a Mantra of Rigveda, in which eradication of Roga from the routes of Nasa (Nostrils), Chibuka (Chin), Shira (Head), Karna (Ear) & Rasana (Tongue) are mentioned (Ri.V. 10-16-4). Thus one can think that the references of eradication of disease from the above mentioned routes most probably refer Towards Nasa (nose) or Shirovirechana. *Krishna Yajurveda*. The term Nasya Karma has been used many times in *Krishna Yajurveda*, *Satapatha Brahmana* & *Upanishada*.

**Ramayana**

A reference regarding the use of “Sanjivani” for Nasya karma is available in Valmiki Ramayana when Lakshmana became unconscious drug was blown by Sushana vaidhya to make him conscious.

**Bauddha Kala**

In Buddha period there are some stories (Jataka stories) about the famous vaidya “Jeevaka”. He has utilized several times Nasya Karma such as –

1. He prescribed medicated Ghrita for the treatment of Shirah shool in the form of Nasya Karma to the wife of Shreshthi of Sakela Nagar.
2. Jeevaka gave Virechana to Lord Buddha when he was suffering. He gave him Aushadha by Nasya for Virechana in the total dose of three Utpala Hasta.

**Vinaya Pitika**

The book Vinaya-Pitika states that the use of one Utpala Hasta of Nasya (it was sufficient for 10 Virechana).

**Ayurvedic classics**

The subject of nasyakarma therapy is elaborately described in Charaka Samhita, Sushruta Samhita and Ashtanga Hridaya. The specification in the Nasyakarma had reached to such an extent of perfection that it was also being used as one of the methods, for changing the fetal sex (Ch.Sha.8/19).

**Classification of Nasya**

Nasya is classified in various ways by different ancient acharyas. Though, each Classification has its own salient features and done with different angles, ultimately all the Procedures are almost same.

Classifications of Nasya according to different acharyas are as below.

**Charaka’s Classification of Nasya****According to method of administration (Cha.Si.9/89-92)**

Nasya, Nayan, Aavapidana, Dhmapana, Dhuma, Pratimarsha  
Snehana Shodhana Shodhana Stambhana Snehana Virechana  
Prayogika Sneihika Vairechanika

**Suitable Time for Administration of Nasya**

According to Acharya Charaka, generally nasya should be administered in pravrit, sharada and vasanta rutu. However, in emergency, it can be given in any season by

Providing artificial conditions of the above mentioned seasons; for example, in summer nasya should be given in cold places and in cold season it should be given in hot places.

In classics, suitable time schedule for nasya is mentioned as below

1. According to seasons (Ch. Si. 2/23) Vagbhata Grishma + Varsha Evening.
2. According to Doshaja Kaphaja Vikara Morning Vikara Pittaja Vikara Noon (Su. Chi. 40/24) Vataja Vikara Evening.
3. According to Sushruta (Su. Chi. 40/24).

In normal condition Empty stomach (at the time of meal).

Vataja Shiroroga, Hikka, Apatanaka, Manyastambha, Swarabhramsha, (Vagbhata) Daily morning and evening.

4 According to certain diseases (A. H. 20/16) (Sha. Utt. 8/3) Lalasrava, Supti, Pralapa, Putimukha; Ardita; Karnanadi, Trishna, Shiroroga, excessive Vitiated doshas etc. (Sha.) Can be administered in night also.

5 According to Panchkarma Schedule (A.S.) As a part of complete Panchkarma. After Basti karma.

**Classical Schedule of Nasya Karma**

Charaka

Charaka has not mentioned specific duration for the nasya therapy, but suggested to give according to the severity of disease. Schedule of nasya karma can be summarised as below :

**No Name of Acharya Durations (Days)**

- 1 Vagbhata 3,5,7,8
- 2 Bhoja 9
- 3 Sushruta Interval of 1, 2,7,21
- 4 Charaka According to disease.

### Dose of Nasya Drugs

The dose of nasya drugs depends upon the drug utilized for it and the variety of the therapy as well as Aturabala & Doshabala (Su. Chi. 40/28, 36). Acharya Charaka has not mentioned the dose of the nasya drugs. Sushruta and Vagbhata have described the dose in form of Bindus (Drops). Classically, one bindu means the drop, which is formed after dipping the two phalanges of Pradeshini (Index) finger. (A.H. Su. 20/9). The dose of nasya drugs according to different types of nasya can be summarised as under.

### No Type of Nasya Drops in each Nostril

#### *Hrasva Matra, Madhyama Matra, Uttama Matra*

1. Shamana Nasya 8 16 32
2. Shodhana Nasya (Su.Chi. 40) 4 6 8
3. Marsha Nasya (A.H.Su.27/9) 6 8 10
4. Avapida Nasya (Su.Chi.40) 2 2 2
5. Pratamarsha Nasya (Cha.Si.9/117) 2 2 2
6. Sneha Nasya (Su.Chi.40) 8 32 64

### DISCUSSION

#### Mechanism of Nasya Through Modern Anatomical And Physiological Studies

1) Neurological Pathway: First there is olfactory stimulus by drugs. Axons of bipolar olfactory receptors pierce through cribriform plate of ethmoid bone and reach olfactory bulb. Here axon synapses with dendrites of mitral cells. Axons of mitral cells leave olfactory bulb and form olfactory tract. Now olfactory tract enters into brain where it is divided into two pathways

- a) Medial olfactory area of brain- it consists of group of nuclei located in midbrain portions of brain immediately anterior to hypothalamus. Most conspicuous is septal nuclei. It receives connection from olfactory bulb, hippocampus, amygdala, hypothalamus, habenula, thalamus, cingulate gyrus and midbrain.
- b) Lateral olfactory area of brain- composed mainly prepyriform and pyriform cortex. Also cortical portion of amygdoloid nucleus.

### Functions

- 1) **Hippocampus:** Centre of emotions and long term memory.
- 2) **Amygdala:** It is involved in sense of smell so it receives input from olfactory bulb and cortex. Stria terminalis specifically bed nuclei (BNST) act as information pathway between

amygdale and hypothalamus as well as hypothalamus and pituitary gland. It is a part of limbic system responsible for emotions and motivation.

**3) Hypothalamus:** it links the nervous system to endocrine system via pituitary gland. Axons of hypothalamus extend to sympathetic and parasympathetic nuclei of brain stem and spinal cord. So through ANS responsible for cardiovascular regulation, regulation of body temperature and body water, uterine contractility, GIT regulation, feeding regulation.

**4) Habenular nuclei:** mainly involves in olfaction.

**5) Thalamus:** consciousness, sleep and sensory interpretation.

**6) Cingulated gyrus:** part of limbic system involves with emotion, processing, learning, memory.

**7) Midbrain:** Vision, hearing, motor control, sleep/awake, arousal (alertness)

Thus olfactory stimulation leads to indirect stimulation of above areas of brain and its functions.

## **2) Vascular Pathway**

Kiesselbach's plexus or little's area which lies in septum drains directly into facial vein anteriorly and pterygoid plexus posteriorly. Moreover facial veins has deep connections with supraorbital and superior ophthalmic vein, pterygoid plexus, cavernous sinus and its drains directly into jugular vein.

## **3) Diffusion of Drugs**

Lipid soluble substances have greater affinity for passive absorption through cell wall of nasal mucosa. Cilia of olfactory cells and body of olfactory cells contain large lipid materials that are why lipid soluble substance causes marked stimulation of olfactory cells. Non-polar hydrophobic molecules diffuse through lipid layer of plasma membrane in and out of cells. Such molecule includes oxygen, carbon dioxide, nitrogen gases, fatty acids, steroids and fat soluble vitamins. It is route of absorption of some nutrients and excretion of waste by body cells which are lipid soluble.

Para cellular transfer of substance by passing through the intercellular space between cells i.e hydrophilic drug like kwath, avapedak etc.

Transcellular transfer of substance by passing through cell (apical and basolateral membrane) i.e lipids, lipophilic drugs like sneha.

#### **4) Drug Transfer Bypassing Blood Brain Barrier**

The transfer of drugs to brain from blood circulation is normally hindered by BBB which is virtually impermeable to passive diffusion. However drug transfer through olfactory nerve can bypass BBB and enter brain directly. Olfactory transfer into brain thought to occur by either slow transport inside olfactory nerve cells to olfactory bulb or by faster transfer along the perineural space surrounding olfactory nerve cells in CSF surrounding olfactory bulb and brain.

#### **Importance of Post Nasya Massage**

Post nasya massage, recommended by ancient acharya is as important as massage before nasya. The texts have recommended post nasya massage on the frontal, temporal, maxillary, mastoid and neck (manya) region. A comfortable massage on the above regions may help to subside the irritation of the somatic constriction due to heat stimulation and may also help in removing the slush created in these regions. According to Sushruta, manya is a marma existing in neck on either side of trachea (Su.Sha.6/29), which likely corresponds to the carotid sinus of neck on the bifurcation of common carotid artery. The receptors called baroreceptors are situated here and manipulation on it may have a buffering action on cerebral arterial pressure. Pressure applied on the baroreceptors is also found to normalize the deranged cerebral arterial pressure. On the basis of the foregoing discussion we can state that the procedures, postures and conducts explained for nasya karma are of vital importance in drug absorption and transportation.

#### **Benefits of Nasya**

- Patient who regularly observes Nasya karma does not become victim of disease of eyes, ears and nose.
- His hair and beard does not turn gray.
- His hair doesn't fall but instead grows fast.
- Diseases like common cold, migraine, headache, facial paralysis, etc, can be alleviated.
- The joints, sinus, tendons and bones of his cranium acquire great strength.
- His face becomes cheerful and plump and his voice becomes mellow, firm and stentorian.
- Strength of all sense organs increases greatly.

- He experiences the symptoms of old age later. (Ch. Si. 5/57-62).
- Diseases of the supra clavicular region are cured in the person who practices nasya.
- He gets clarity of senses, good smell of mouth and the strength of jaw, teeth, arms chest etc.
- He never suffers from the premature appearance of wrinkles, premature hair falling and vyanga.

## CONCLUSION

Keeping view of above said facts it can be concluded that nasya and nasya dravya absorbed through nasal mucosa reaching brain and acting on important centres controlling different neurological, endocrine, circulatory function and showing systemic effect.

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