

A review of mode of action of *Nasya Karma*

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ABSTRACT

Nose is one among the Panchadnaanendriya, whose functions are not only limited to olfaction and respiration but also considered as a pathway for drug administration. So the drug administered through nose as *Nasya* reaches to the brain and eliminates the morbid *Doshas* responsible for producing the disease. Present article shows, actual drug administered in nose how it will probably act on vital points located in brain and also how it will act on organs related to these points. e.g. in *Ashtanga Samgraha* it is explained that *Nasa* being the entry to *Shira*, the drug administered through nostril reaches *Shringataka* a *Sira Marma* by *Nasastrotas* and spreads in the Brain reaches at a junction place of *Netra*, *Shrotra*, *Kantha*, *Siramukhas* (opening of the vessels) etc. and remove or detach the morbid *Doshas* present above supraclavicular region and expel them from The *Uttamanga*.

Keywords: *Nasya*, *Dnanendriya*, *Shringatakamaram*, *Doshas*

INTRODUCTION

Nasya is one of the *Panchakarma* mentioned in *Ayurveda*. It is a process wherein the drug herbalized oil or liquid medicine is administered through the nostrils. Since nose is the gateway of the head¹, the therapy is highly effective in curing a number of diseases pertaining to the head, if it is performed systematically. The therapy cleanses and opens the channels of the head, thereby improving the process of oxygenation (*Prana*), which has a direct influence on the functioning of brain². Drug administered through nose mainly acts on olfactory receptors present in superior concha. This therapy is beneficial if done on a regular basis. It keeps the eyes, nose and ear healthy & it also prevents the early graying of hair and bear. Our classical texts have been mentioned various types of *Nasya* according to different aspects

like depending upon drug used, functions, dose etc. Time and dose of drug for administration are important things.

Types of Nasya: A} ACCORDING TO FUNCTIONS

1. *VirechanNasya* (Cleansing *nasya*): Usually strong drugs are used in the *Virechananasya karma*. It is also called as *Shirovirechananasya*. In *Virechan Nasya*, forms of drug used are near the nostril. *VirechanaNasya* is mainly used to treat *Kapha* type of diseases such as headaches, heaviness in the head, cold, nasal congestion, inflammation of the nasal mucosa, sinusitis, loss of smell, sticky eyes and hoarseness of voice due to sticky *Kapha*. Chronic diseases such as cervical lymph adenitis and tumors can also be treated by *Pradhaman Nasya*⁴. Some skin diseases like ring worm infestation, itching, blebs are easily treated by this type of *Nasya karma*. Epilepsy, drowsiness, Parkinsonism, greed and lust can be effectively treated by the therapy. Powders such as *Brahmi* are used in this therapy *Kwatha*, *Choorna*, *Swarasa*, *Sneha*, *Madhu*, *Saindhva*, *Aasava*, *Pitta*, *Mootra*³ etc. These are mixed with the *Shirovirechana* drugs. *Choorna* create Vegas simply by keeping it.

2} *SnehanaNasya* / *BrihmanaNasya* (Nutrition *Nasya*): In this type form of *Nasya* drug used is *Sneha* i.e. *Shatavari ghee*, medicated milk, *niryas*, *mamsa rasa* etc. This treatment is mainly given in *Vata* type of disorders. It is beneficial to cure migraine headache, hemicranias, and dryness of voice, constriction of the eyes, defects of the vision, toothache, earache, tinnitus, and difficulty in

speech, nervousness, anxiety, fear, dizziness and emptiness⁵. Negative thoughts can be banished by undergoing this treatment. In case of the person is suffering from bursitis, stiffness in the neck, frozen shoulders, dry sinuses and loss of sense of smell, dry nose, *BruhanaNasya* would be the best bet. It imparts strength to Neck, Shoulder, and Chest⁶

3} *Shaman Nasya* (Sedative *Nasya*): In this type of *Nasya*, form of the drugs used are *Sneha*, *Swarasa*, *Ksheera*, *Udaka*, *Kwath*, *tail* etc. *Shaman Nasya* is used according to *Dosha* which is aggravated in the human body. It is mainly administered to treat *Pittaj* & *Raktaj*-type disorders such as thinning of hair, conjunctivitis, ringing in the ears, premature wrinkles, premature graying of hairs, hair fall, blackish discoloration of face, psoriasis of scalp, bleeding from nose etc⁷.

B} ACCORDING TO QUANTITY OF DRUG USED

1} *Marshya Nasya* (Ghee or Oil *Nasya*)⁸: This type of *Marshya Nasya karma* makes use of ghee/oil. The therapy is administered for a particular reason, which may not be disease, but a condition of uneasiness arising from particular diseases.

Contraindications: *Marsha nasya* is contraindicated before the age of 7 years & after age of 80 yrs.

Quantity of the unctuous medicine in *Marsha Nasya*⁹:

- *Uttamamaatra* ----- 10 bindu,
- *Madhyamamaatra* ----- 8 bindu,
- *Hrswamaatra* ----- 6 bindu

2} *Pratimarshya* (Daily Oil *Nasya*)¹⁰:- This type of therapy is administered by dipping the clean little finger in ghee or oil and inserting into each nostril. After inserting the clean finger (dipped in ghee or oil) into the nostril, the nasal passage is lubricated and given a gentle massage. By doing this, the deep nasal tissues are opened up. By doing *Pratimarshya* on a regular basis, stress can be released to a great extent. Generally it can be given in weak persons, in old age, child, in delicate persons, timid persons etc. It can be administered in unseasonable time. It is also given in persons who had injury to chest, dryness of oral cavity. *Pratimarsha* can be administered in unseasonable time, inauspicious day and rainy season and also from birth to death.

CONTRAINDICATIONS¹¹:

Pratimarsha Nasya cannot be given in chronic catarrh, Worm infestation and diseases of head involving multiple doshas, One who drank alcohol (*madyapeeta*), Weakness of the hearing organ and when Doshas are in highly aggravated state.

Dose of *Pratimarshanasya* medicine: *Taila* is the best *Sneha* (unctuous substance) for the daily use as head is the main seat of *Kapha Dosh*. Administering the *Pratimarsha nasya* daily gives us the effect same as that of *Marsha nasya*, but they are not the same.

Dose¹²: 1 – 2 *bindu*.

C} Different types of the Nasya karma depending on the preparation of the drug:

1} *Avapeeda nasya*¹³ : -*Virechana* or *Shamana nasya*: Where the paste of the drug is squeezed into the nostril is called *Avapeeda nasya*. It is indicated in Vitiation of *Kapha* and *Meda*, A person who is unconscious due to snake bite. If person is weak i. e. *Ksheena purusha* and *Raktapitta rogi* - drugs like *Sharkara*, *Ikshurasa*, Milk, Ghee and *Mamsa rasa* are used for the *Avapeedan nasya*. In case of *Krishna*, *durbala*, *bheeru*, *sukumara*, *stree*, - the unctuous substance processed with *Shirovirechana* drugs or the *kalka* of the *Shirovirechana* drug are used for the *Avapeeda nasya*.

2} *Pradhamananasya*¹⁴ : *Sushruta* stated that, *Shirovirechana* drug is powdered and sprayed into the nasal orifice with the help of a tube. *Pradhamananasya* is indicated in cases of derangement of the mind (*chetanavikriti*), worm infestation (*krimi*), and poisoning (*vishapeedita*). Dose of *Pradhamana Nasya*: The quantity of powder required to reach the throat when blown through a 6 *angula* long pipe is the quantity for *Pradhamananasya*. This can be repeated multiple times depending on the intensity of the drug snuffed in nasal passage¹⁵.

3} *Navana Nasya*¹⁵: Decoctions and medicated oils are used for *Nasya*. This type of therapy is used in *Vata-Pitta* or *Kapha-Pitta* disorders. The main purpose of all *Nasyas* is to expel the *Kapha Dosh* from the head. So all *Nasyas* are called as *Virechana Nasya*.

The unctuous substance used for *Nasya* according to the *Doshas*¹⁶:

- In *Vatakaphaj –Thaila*
- In *kevalavata – Vasaa*
- In *pitta – Ghee*
- In *vaata pitta –Majja*

Contraindications for *Nasya*¹⁷ : After taking food, unctuous substance, alcohol, water *nasya* is contraindicated. If there is *Garavisha* in his body, After taken and want to take head bath, after bloodletting, who has urge for passing urine, stools etc, who is suffering from injuries, Immediately after *vamana, virechana, basti* , In Pregnant lady, First 45days after delivery, in Acute coryza, In Breathing difficulty, cough, in Amenorrhea, on inauspicious day *nasya karma* is contra indicated.

Mode of action:

Modern anatomical and physiological aspect of Nose¹⁸ : The nose is connected through vascular system, nerve plexus of olfactory nerve and ophthalmic and maxillary branches of trigeminal nerves to the brain.

1. NEUROLOGICAL PATHWAY: It is concerned with olfactory stimuli. The olfactory nerve differs from other cranial nerves in its close relation with the brain. The peripheral olfactory nerves are chemoreceptor in nature. The olfactory nerves are connected with the higher centers of brain i.e. limbic system, consisting mainly of amygdaloidal complex, hypothalamus, epitheliums, anterior thalamic nuclei parts of basal ganglia etc. so the drugs administered through nose stimulate the higher centers of brain which shows action on regulation of endocrine and nervous system functions. So Hypothalamus regulates: 1. a. Regulates contraction of smooth and cardiac muscles secretions of many glands . b. It is a major regulator of

visceral activities includes heart rate, movement of food through the gastrointestinal tract and contraction of bladder. 2. Regulation of hormone synthesis:- a) Responsible for integrating the functions of the endocrine system and the nervous system. b) It is known to have direct nerve connection with the posterior lobe of pituitary. c) In addition hypothalamus is connected with anterior lobe of pituitary through portal vessels which supply blood to the gland conveying chemical messages through inhibitory and releasing hormone. 3. Regulation of emotional and behavioral patterns: a) Together with limbic system participate in expression of rage, aggression, pain, pleasure and behavioral pattern relating to sexual arousal etc. b) Regulation of eating and drinking through the arcuate and paraventricular nuclei and thirst centre thus regulating osmotic pressure. 4. Regulates body temperature: 5. Regulation of circadian rhythm and states of consciousness 6. Effects of stimulating the amygdaloidal – same as hypothalamus. 7. Epitheliums consisting of pineal gland and habenular nuclei- Pineal gland is a part of endocrine system, secreting melatonin and also contributes to the setting of the body's biological clock. 8. Habenular nuclei – involved in olfaction, especially emotional responses to odors. 9. Sub thalamus – contain the sub thalamus nuclei and portions of the red nucleus and the substantianigra. These regions communicate with the basal ganglia help to control body movements. The drug administered even enters into the systemic circulation and also direct pooling into the intracranial region by vascular path.

2. DIFFUSION OF THE DRUG: Lipid soluble substances have greater affinity

for passive absorption through the cell walls of nasal mucosa. “The cilia of the olfactory cells and perhaps the portions of the body of the olfactory cells contain relatively large quantities of lipid materials.” Non- polar hydrophobic molecules diffuse through the lipid bilayer of the plasma membrane, into and out of cells. Such molecules include oxygen, carbon dioxide and nitrogen gases; fatty acids, steroids, and fat soluble vitamins. It is a route of absorption of some nutrients and excretion of waste by body cells which are lipid soluble. Further drug absorption can also be enhanced by local massage and fomentation.

VASCULAR PATH: Vascular path transportation is possible through the pooling of nasal venous blood into the facial vein, which naturally occurs, at the opposite entrance, the inferior ophthalmic vein also pool into the facial vein. “The facial vein has no valves. It communicates freely with the intracranial circulation, not only at its commencement but also by the supra orbital veins which are connected with the ophthalmic vein, a tributary of the deep facial vein, which communicates through the pterygoid plexus with the cavernous venous sinus.”¹⁹ Such a pooling of blood from nasal veins to venous sinuses of the brain is more likely to occur in head lowering position due to gravity, the absorption of drug into meninges and related intracranial organ is a point of consideration.

CONCLUSION

Nasya kala i.e. proper time and duration of drug administration is important factor. Age, *Dosh avastha*, *vyadhiavastha*, Form of drug used is also important factor in *Nasya karma*.

Keeping in the view of the above said facts, it can be concluded that either the essence of *Nasya* or *Nasyadravya* is reaching the brain and acting on important centers controlling different neurological, endocrine and circulatory functions and thus showing systemic effects. Following things should be considered in case of drug used. PH & osmolarity & concentration of drug used are important factors for absorption of drug through nasal passage. Bioavailability can be affected by concentration of drugs like Salt, honey etc. Various delivery systems affect the site of deposition, degree of absorption. Viscosity increases the contact time between nasal mucosa & drug, which enhances the potential of the drug action. In Mechanism of drug absorption, Transcellular passive diffusion, Drug diffuses through membrane. It is an active transport process. More suitable for lipophilic drug, *snehanasya* may absorb through this process. Para cellular passive diffusion- drug is transported between the cells and transcytosis by vesicle carrier. It is a suitable mechanism for hydrophilic drugs e.g. *avpeedak*, *dugdhs* & *kwathnasya*.

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