

## A REVIEW ON MODE OF ACTION OF NASYA KARMA

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Article Received on 19/01/2021

Article Revised on 09/02/2021

Article Accepted on 02/03/2021

### ABSTRACT

Nasya karma is a therapeutic procedure where the powdered durgs or sneha dravya; processed with different drugs; is administered through nose. It is particularly useful in the treatment of diseases occurring in the organs situated above the clavicle. Nasa (nose) being the pathway of shira (head), the drugs administered through nasal route reaches to brain and acts on higher centers of brain controlling different neurological, endocrinal and circulatory functions and thus showing local as well as systemic effects. According to Ayurveda any drug administered through this route strikes shringataka marma and is conveyed to vessels supplying netra, shrotra, kantha etc. and eliminates vitiated doshas. Hence an effort has been made through this review work to find out the probable mode of action of Nasya karma as an alternative route of drug administration for local and systemic action.

**KEYWORDS:** Nasya, Nasa, Shira, Urddhva-jatru, Ayurveda.

### INTRODUCTION

Nasal route of drug administration is the most effective treatment of local nasal disorders as well as the diseases to the organ above the clavicle. According to Charaka and Astanga-Hridaya nasa is the pathway of shira<sup>[1]</sup> and Nasya or nasal route of drug administration is effective in diseases of supra-clavicular organs. The origine of the word 'Nasya' is from 'Nasa' Dhatu, which means gati or movement; mainly movement to shira through nasa towards the internal structures. The procedure by which the powdered durgs or sneha dravya processed with different drugs is administered through nostrils, is called 'Nasya'.<sup>[2],[3]</sup> It is also called as Navana, Nastakarma, Shirovirechana, Murdhavirechana etc.<sup>[4]</sup> The Nasya therapy get across to entire shira<sup>[5]</sup> and cure diseases; affecting them either by pacifying or by eliminating dosha accumulated in these parts.<sup>[6]</sup> Daily practice of Nasya therapy leads to pacifying diseases in supra-clavicular organs; sense organs become strong, pleasant, cleansed; mouth emits pleasant smell and it also prevent premature wrinkles, discoloured patches on face etc.<sup>[7]</sup> Knowledge of Nasa and Shiras is important in the discussion of mode of action of Nasya.

### Shira

Shira (head) is one of the vital organs of human body. Being situated at the top of the human body, it is also termed as 'Uttamanga' where all Indriyas (sense organs) and prana are located.<sup>[8]</sup> According to Ayurvedic concept Shira is related with indriya, indriyavaha srotas,

pranavaha srotas. Indriyavaha srotas is a mechanism through which the sensation generated in sense organ is conveyed to karmendriya or organ of action to execute physiological functions of various kind.

### Nasa

Nasa is the adhishtan of jnyanendriya. Nasa shows predominance of prithvi mahabhuta. It therefore perceives smell(gandha). According to charaka Nasa praman is 4 anguli. Nasaputa pramana is 11/3 anguli as inner breadth and 2 anguli as external breadth. Nasa contains tarunasthi, 2 bahya srotas, 3 asthis, 2 peshis. It contains 24 Siras (6 Vata vahini + 6 pitta vahini + 6 kapha vahini + 6 Rakta vahini) and 2 dhamanis for smell sensation, it is also known as gandhavahi dhamani.<sup>[9]</sup> In modern view Nasal route runs from nasal vestibule to nasopharynx which has a depth of approximately 12-15 cm. Surface area of nasal cavity is about 180 cm<sup>2</sup> and it has total volume about 16-19 ml. Nasal route is divided into 3 functional zone-

1. Vestibular region- It is lined by skin containing hair, hair follicles and sebaceous glands.
2. Respiratory Region- It constitutes the rest of the nasal cavity. It is lined by pink respiratory mucosa which is formed by the ciliated columnar epithelium. It is continuous with the mucosa of the sinuses, nasopharynx and Eustachian tubes.
3. Olfactory Region- It constitutes Upper one-third of lateral wall (up to superior concha), corresponding part of the nasal septum and the roof of nasal cavity

form the olfactory region. It is lined by the yellow olfactory neuro-epithelium having bipolar sensory cells.

### Types and subtypes of Nasya<sup>[10]</sup>

1. Snehana nasya

2. Shiro virechana Nasya

Subtypes- i) Shirovirechana ii) Pratimarsha iii) Avapeeda

iv) Pradhamana v) Nasya<sup>[11]</sup>

### Based on dose (matra) Nasya is of 2 types

1. Marsh nasya 2. Pratimarsha nasya

Snehana nasya

It is performed for strengthening neck, shoulder and chest.<sup>[12]</sup>

Snehana nasya drug accordance to dosha

Khapha-vata vitiation - Taila

Vata vitiation - Vasa

Pitta vitiation - Ghrita

Vata-pitta vitiation - Majja

### Time of Administration<sup>[13]</sup>

kaphaja- morning

Pittaja- afternoon,

vataja-evening

### Dose Snehan Nasya<sup>[14]</sup>

Nasya may be given repeatedly at the interval of 1 day, 2 days, 7 days, 21 days depending on the condition of the patient and the diseases.

### Dose of Shiro Virechana Nasya<sup>[15]</sup>

Prathama matra- 4 drops

Dwitiya matra- 6 drops

Trutiya matra- 8 drops

### MODE OF ACTION OF NASYA

#### Ayurvedic view

Nasa being gateway of shira<sup>[16]</sup>, any drug administered through this route strikes shringataka marma and is conveyed to vessels supplying netra, shrotra, kantha etc. There by eliminates vitiated doshas which are accumulated there.<sup>[17]</sup>

#### Modern view

The nose is connected through vascular system, nerve plexus of olfactory nerve and trigeminal nerves to the brain.

#### 1. Neurological pathway

Neurological pathway is concerned with olfactory stimuli. the peripheral olfactory nerves are chemoreceptor in nature. The olfactory nerves are connected with the limbic system which is the higher centers of brain. The limbic system consists of-hypothalamus, epitheliums, anterior thalamic nuclei, parts of basal ganglia and amygdaloidal complex. So, the drugs administered through nose get conveyed to entire limbic

system which execute action on regulation of endocrine system function and nervous system function. Hypothalamus is also connected with anterior lobe of pituitary gland through portal vessels, it also conveys the chemical message to the higher centers. Epitheliums consist of pineal gland and habenular nuclei which is a part of endocrine system<sup>[18]</sup>, it is also called as body's biological clock. Sub thalamus nuclei communicate with the basal ganglia and it helps to control body movement. So, drugs administered through nose enter into the systemic circulation and intracranial region by vascular pathway.

#### 2. Vascular pathway

Vascular path way is another way or route through which blood directly strikes or conveyed to vessels supplying nasal venous blood into the facial vein, and the inferior ophthalmic vein. The facial vein has no valves so it freely communicates with the intracranial circulation and the deep facial vein communicates through the pterygoid plexus with the venous sinus.<sup>[19]</sup> The blood from nasal veins reaches to venous sinuses of the brain is more likely in head lowering position due to gravity. So, absorption of drug through nasal route by conveyed to intracranial organ is a point of consideration.

### CONCLUSION

In Ayurveda nasa is considered as pathway of shira which is further considered as uttamanga or one of the most vital organs. In Nasya karma, which is considered as the best shodhan therapy for diseases related to Urdhahajatu, the drugs administered through nasa reaches above the supraclavicular region by following certain neural and vascular pathway and removes all the morbid doshas present at the site of action. In modern point of view, drugs administered through nose can influence the limbic system. These can also be conveyed to systemic circulation and intracranial region and execute action. So nasal route of drug administration can be considered as one of the alternative routes of drug administration for local, systemic and central nervous system action.

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