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RESEARCH ARTICLE

CRITICAL ANALYSIS OF NASYA KARMA IN SIROROGAS

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ABSTRACT

This article discusses the *Siroroga* concept of Ayurveda, the overall term describing diseases affecting the head, and places significant consideration on *Nasya karma* as a treatment intervention. *Nasya* has been invariably recognized by Ayurveda to be crucial in dealing with the conditions of the upper torso, because it involves the application of medicated drugs through the nasal passages, which reach the vital organ system of the head. Detailed classification of *Sirorogas* based on differences identified by various great Ayurvedic authorities like Charaka, Susruta, and Vagbhata based on *dosha* predominance and symptomatology. General presentation on procedure of Nasya karmas preparation, medication, post-treatment care, scope, and complications. Besides, the mechanism whereby *Nasya* acts is better elucidated by improving blood flow, through channels of lymphatics including CSF also by exciting systems like at neuro-endocrine, neuro-psychological and neuro-vascular level. This detailed study puts forth the concept of *Nasya karma* in the management of *Sirorogas* and reminds one to exercise cautious application in order to obtain the best therapeutic results.

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INTRODUCTION

Diseases affecting the head are known as Siroroga in Ayurveda. In a living being, the head is the seat for life and all the sense faculties. Therefore, it occupies the most important place among the vital organs of the body. According to Acharyas, The Shiras very much of importance as it is the principal organ or the most vital part of the body where all 'indriva' (sense organs) and prana which are life activities such as respiration are located. Being situated at the topmost level of the human body, it is also termed as 'Uttamanga' and hence shiras is one which must be protected and taken utmost care of. This implies that the proper treatments of sirorogas are very crucial for one's well-being and among the treatment of Sirorogas, Nasya karma is one of the most emphasized treatment protocol mentioned by different acharyas. Nasya karma is one among the unique treatment procedure in Panchakarma therapies which are known to be the eliminative therapies of the ayurvedic treatments. It is almost essential for all diseases above the neck (Urdhwajatru vikaras). But it's popularity is no less in diseases of lower body (Adhakaya) as well. Acharya Vagbhata has quoted that 'Nasa hi shirasso dwaram' [1] which means Nasa is the opening which is most convenient and has close-proximity for delivering the potency of medicines to the cranium where the brain is located.

The nose contains several types of nerve endings, including the olfactory nerve, trigeminal nerve, and facial nerve, which are responsible for a variety of functions.

Therefore, the medicines administered via nose are powerful enough to produce the intended effect by stimulating the nerve endings by its own potency all over the head and some parts of the trunk and lower parts of body as well.

MATERIALS AND METHODS

Classification of Sirorogas: Acharyas have classified Sirorogas based on various factors such as predominance of doshas, prognosis, symptoms, treatment principle and so on. According to Charaka, Sirorogas includes Nasaroga, Mukharoga, Netraroga, Karnaroga, Siro Bhrama, Arditavata, Sirah kampa, Galagraha, Manyasthambha, hanugraha, and Anyatovata; nevertheless Sirah soola is the main symptom.

Though Vagbhata included *Kapala roga*, other *Acharya* of Ayurveda have taken different types of headaches only under *Siroroga*. Classification according to different *Acharyas* are following:

Types of Siroroga according to Vagbhata [2] are the following

1.Vataja Siroroga

2. Pittaja Siroroga

3. Kaphaja Siroroga 5. Raktaja Siroroga 4. Sannipataja Siroroga 6.Krimija Siroroga

7. Ardhavabhedaka 9. Sankhaka 8. Suryavarta 10. Sirah Kampa

Kapala rogas:

11. Upasirshaka 13.Darunaka 15.Khalitya 17. Kapala Pitika

19. Kapala Vidradhi

12. Arumshika 14. Indraluptha 16. Palita

18. Kapala Arbuda

Charaka's classification of Siroroga^[3] are the following

Vataja Siroroga
 Sannipataja Sirorog

2. Pittaja Siroroga

3. Kaphaja Siroroga

4. Sannipataja Siroroga 5. Krimija Siroroga

Susruta's classification of Siroroga [4] are the following:

Vataja Siroroga
 Kaphaja Siroroga

2. Pittaja Siroroga4. Sannipataja Siroroga

5. Raktaja Siroroga

6. Kshayaja Siroroga

7. Krimija Siroroga 9.Anantavata 8.Suryavarta

9.Anamavata 11. Sankhaka 10. Ardhavabhedaka

PROCEDURE OF NASYA KARMA^[5]

Poorvakarma (preparatory procedures) preparation of the client: After evacuation of the bowel and bladder, the patient is asked to take a light diet. The patient may be subjected to nasya karma several minutes after the meals. Abhyantara snehapana is contraindicated prior to the administration of nasya karma. If it is essential then small dose of sneha should be given only for three days. After a rest of one day, nasya therapy is planned on the fifth day.

Massaging The Face And Anterior Neck

Patient is laid in supine position on the abhyanga table. Body is draped up to the neck. Physician is positioned at the head end of the table facing the foot end to carry out *abhyanga* and *svedana*. Face and neck of the patient is anointed with lukewarm oil. And then the face and the anterior neck are massaged by specific maneuvers. Forehead, eyebrows, nose, chin and maxillary area is massaged with the linear thumb movements. Temporal region and cheeks are massaged with the help of our palm in circular movements in both clockwise as well as anti-clockwise direction. Anterior of the neck is massaged by moving the flat of the palms from the base of the neck to the mandible

Svedana To The Face And Neck Following abhyanga in the same supine position of the patient, the face and neck is treated with svedana procedure. For this purpose a towel is soaked in boiling water, the water is squeezed out, the warm towel is then waved, touched and pressed on the face and anterior neck. As soon as the boiling water is squeezed out of the towel, the towel is too hot, and therefore it is waved holding it just above the face and neck. When it cools down a little, the heat is then applied to the face and neck by momentarily touching these areas with the warm towel. By doing so the towel becomes just warm, and now the heat is applied by moderately pressing the towel against face and neck. Thus, every part of the face and anterior neck is treated with svedana therapy.

When this sudation is complete the client is ready for administering the *nasya karma*. Alternatively, *nadi sveda* may be carried out for the sudation.

POSITIONING THE CLIENT FOR ADMINISTERING THE MEDICINE

The table used for the administration of the *nasya* will have facility for lowering the head portion. In the supine position, the head of the patients is bent backwards for about 45 degrees. If this facility is not there, the client is asked to lie down on the table in supine position with his head hanging from the head end of the table. In this position the head is bent backwards for about 45 degrees. Alternatively, a pillow may be placed just beneath the back to elevate the neck and chest, there by bending the head to 45°.

PRADHANA KARMA (PROCEDURE)

ADMINISTRATION OF THE MEDICINE

In case of navana, marsha, and pratimarsha nasya prescribed oil is taken in a metallic dropper, and then the therapist standing at the head end of the table elevates the tip of the patient's nose with the left thumb and then allows to drop the oil from the dropper in to each nostril one after the other. Alternatively the cotton swab soaked in oil is squeezed into the nostrils to drop the oil. After dropping the oil into one nostril, the other nostril is closed with a finger and the client is asked to take deep inhalation so that the medicine reaches deep inside the nose. The same is repeated in the other nostril after the administration of the oil. In navana, marsha and pratimarsha nasya the oil is dropped into the nostrils in prescribed dose. In avapida nasya the herbal paste taken in a cloth piece is squeezed to extract the juice and is made to fall into the nostrils. Or else the juice is extracted into the metal dropper and is then dropped into the nostrils. The method of administration is similar to the navana nasya. In case of pradhamana nasya, the medicaments used are in the form of powder, it is loaded into a glass tube and is then blown into the nostrils. For this the prescribed dose of medicinal powder is placed on a plate. The glass tube fitted with bulb at one end is taken and the free end of the glass tube is pressed against the powder, and it allows the powder to load into the tube. Physician standing at right side of the table holds the tube with its medicine loaded end facing one of the nostrils. Then he gently compresses the bulb to blow the medicine into the nostrils. The patient is then asked to inhale after closing the opposite nostril with finger. The procedure is also repeated with the other nostril as well.

Observation of The Client

Following the administration of the medicine the physician should closely observe the patient to assess the proper effect of the medication. If the patient develops any symptoms indicative of inadequate or excessive effect then it should be treated properly. Following symptoms suggest the therapeutic effect of the *nasya karma*.

Symptoms Indicative Of Proper Effect

Shiraso laghavah • Feeling of lightness in the head Sukhasvapna • Sound sleep Sukha prabodhanam • Easy awakening

Vikaropashamah • Remission of the illness Shuddhirindriyanam • Clarity of the sense organs Manah sukham • State of happiness Srotas shuddhi • Clarity of the body channels.

SYMPTOMS INDICATIVE OF INADEQUATE EFFECT

Shirogurutva • Heaviness of the head Kandu • Itching Angagaurava • Heaviness of the body parts Srotasam kaphasamsravah • Mucoid discharge from the nostrils and other body openings Vatavaigunya • Morbidity of vata dosha Indriyanam cha rukshata • Dryness of the sense organs Roga-ashanti • No remission of the illness.

Inadequate effect when identified it should be treated with another dose of *nasya* therapy.

SYMPTOMS INDICATIVE OF EXCESSIVE EFFECT

Kapha-praseka • Excessive watering from the nose Shirogaurava • Heaviness of the head Indirya-vibhrama • Disorders of sense organs Mastulungagama • Discharge of mastulunga (CSF) Vatavriddhi • Vitiation of vata dosha Shirah-shunyata • Sense of emptiness of the head.

Excessive effect of *nasya karma* whenever happens it should be treated by measures that alleviates morbid *vata* as well as kapha dosha.

COMPLICATION

Administration of the *nasya* therapy in persons; in whom it is contraindicated may lead to several complications. To be more precise, immediately after the intake of food or drink, or else in a day with sky completely covered with thick clouds; subjecting the client to *nasya* therapy may predispose to diseases like *shvasa* (breathlessness), *kasa* (cough), *pinasa* (rhinitis) and *agnimandya* (sluggish digestion). These conditions due to provocation of *dosha* should be treated by *kapha* alleviating measures.

Further, administration of *nasya* in emaciated persons, individuals who are just subjected to *virechana* karma, pregnant females and, subjects exhausted due to heavy physical exercise and persons suffering from excessive thirst; lead to the vitiation of *vata* dosha. This should be treated by *vata* alleviating measures as well as *brimhana* therapy. *Snehana* and *svedana* therapy is also indicated in this condition. Progressive cataract is the potential risk due to the erroneous *nasyakarma* in clients suffering from *jvara* (fever), afflicted with *shoka* (grief) or intoxicated due to alcoholic beverages. This complication should be treated by *ruksha* (dry) *anjana* and *putapaka*.

Pashchat Karmam (Post-Procedure Care)

The client is asked to spat out any medicine that reaches the throat. Sudation is repeated on the face after the administration of the *nasya karma*. This is carried out either by a towel soaked in warm water or by the method of *nadi sveda*. Gentle massage is done on the forehead, palms and soles of the client. He is then allowed to take rest in supine position for several minutes.

Client is then allowed to wash his mouth and face with hot water. After the *nasya karma* the client may be treated with *dhumapana*, *kavalagraha* and *gandusha*.

As follow-up regimen, the patient is asked to observe the following:

Hitannabhuk • Client should take the foods that are congenial for health.

Vivatoshnasevi • He should spend his time in place devoid of breeze

Niyatendriya • He should restrict himself to the ideal use of sense organs.

Following behaviors should be avoided:

Raja • Exposure to dust

Dhuma • Exposure to smoke

Sneha • Intake of fat substances

Atapa • Exposure to sunshine

Madya • Consumption of alcohol

Dravapana • Excessive intake of fluids

Shirahsnana• Head bath

Atiyana • Excessive traveling

Krodhadi • Suffering from emotional disturbances like anger, grief etc

Nasya karmas adopted in siroroga treatment according to acharya vagbhata^[6]

Acharya Vagbhata has described *Nasya Karma* in the treatments of almost all of the *Sirorogas* which are given in Table 1.

Nasya karmas adopted in siroroga treatment according to acharya susrutha $^{[7]}$

Acharya Susrutha has described *Nasya Karma* in the treatments of almost all the *Sirorogas* which are given in Table 2.

Mode of action of nasya karma (nasya karmukata)[8]

According to Charaka Samhita, drug when administered via nose reaches the *Uttamanga* and eradicates the morbid *Doshas* residing in the *Shiras* which are responsible for causing *Sirorogas*. According to Vagbhata drugs administered through the nose which is the doorway to *Shiras*, arrives at one of the vital *Marma* of *Shiras* knows as *Sringataka*, which is a *Sira Marma* and is formed by *Siras* of *Nasa*, *Netra*, *Shrothra* and *Kantha* and cleanses the area it reaches helping in treating a disease.

Indu, the commentator of Astanga Sangraha, mentioned the exact *sthana* of the *Sringataka Marma*, which can be considered as the middle Cephalic Fossa. The middle cephalic fossa is the region which, in connection with Ethmoid and Sphenoidal sinuses, consists of Meningeal vessels mainly Internal Carotid Artery, Cranial Nerves (3rd, 4th, 5th, and 6th) and the Optic Nerve. The pituitary gland can be approached through the Sphenoidal sinus by trans-antral and trans-nasal routes. The sphenoidal sinus is connected inferiorly with the Naso-Pharynx and posteriorly with that of the brain stem. This depicts that *Shringataka Marma* can be correlated as the Middle Cephalic Fossa.

Table 1. The nasya dravyas used in different sirorogas according to vagbhata

SIROROGAS	NASYA PRESCRIBED
Vatika sirasoola	Karpasamajja, twak, musta and buds of sumana, macerated in hot water, cures headaches of all types.
Sirahkampam	
Pittaja Sirasoola	With milk and ghee boiled with drugs of jivaniya gana.
Raktaja Sirasoola	
Sankhaka	
Kaphaja sirasoola	With drugs having rooksha (dry), teekshna (penetrating), ushna (hot) properties.
Krimija sirasoola	With teekshna (penetrating) and strong nasal medication.
	Eg ; Katu taila, nimba taila, ingudi taila or pilu taila each separately boiled with vidanga, svarjika, danti, hingu and gomutra.
	1.Krimijit boiled in ajamutra.
	2.Smoke of bad smelling fish and drugs.
Ardhavabheda	1. Seeds of shirisha root of Apamarga along with bida should be used.
Suryavarta	2.Beedalavana mixed with Sthira rasa/Shalaparni
Khalati	1.Oil prepared with drugs of Brihatyadi and Jivaniya gana.
Palita	2.Nimba taila used as <i>nasya</i> for one month.
	3. Medicated oil prepared with one prastha each of milk juice of sahachara, bhringaraja and surasa, one kudava of oil, and one
	pala of yasti and preserved either in vessel of stone, or horn of a ram.

Table 2. The Nasya dravyas used in different Sirorogas according to Susrutha

SIROROGAS	NASYA PRESCRIBED
VATIKA SIRASOOLA	Oil processed with meat juive of crab/ Kulira
PAITIKA SIRASOOLA	With medicines of Madhura gana or freshly prepared ghrutham or vasa of wild animals
KAPHAJA SIRASOOLA	Madhukasara or decoction of ingudi twak or meshashrungi twak is used.
KSHAYAJA SHIROROGA	1.Ghee processed with vatahara drugs from Bhadradarvyadi and from Kakolyadi or Madhura gana.
	2.Vasadi ghrutham
KRIMIJA SIRASOOLA	1.Shonitha nasya
	2.Shirovirechan nasya – Laghu sigrubija and kasyamla or other anthelmintic drugs like vidanga pounded
	with cow's urine.
SURYAVARTA	Avapeedana Nasya;
SHANKHAKA	1.Roots of Vansha and Karpura is triturated in water
	2.Alternatively Vacha and Pippalichurna; or Yahtimadhu and Madhu; or Manasila, Chandana and
	madhu are beneficial
	3.After elimination of kapha by above nasya, ghrutha processed with paste of Madhura drugs like
	Kakoli

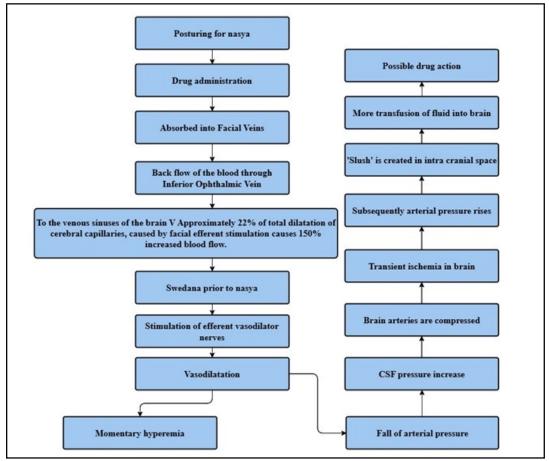


Figure 1. At the level of blood circulation

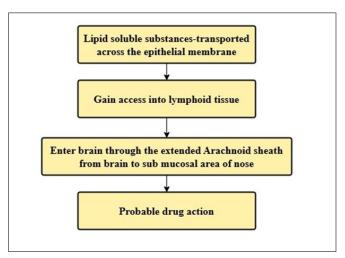


Figure 2. At the level of lymphatic channels including CSF

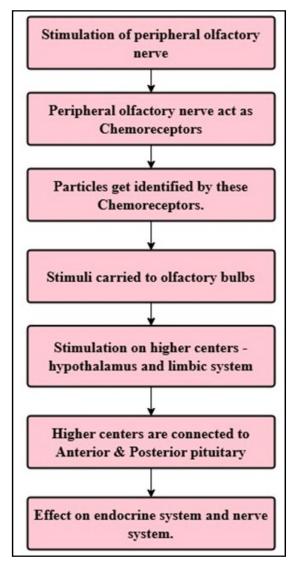


Figure 3. At the level of Neuro-Endocrinal & Neuro-Vascular Stimulation

To understand the mode of action of Nasya, following are the probable pathways:

- At the level of blood circulation **Figure 1**
- At the level of lymphatic channels including CSF –
 Figure 2
- At the level of neuro-endocrinal & neuro-vascular stimulation **Figure 3**
- At the level of neuropsychological levels

However, it is known that these nerves are connected with the limbic system of the brain including hypothalamus. The limbic system and hypothalamus have control over endocrine secretions. Moreover, the hypothalamus is accountable to be responsible for integrating the function of the endocrine system and the nervous system. It is known to have direct nervous connection with the posterior part of pituitary. The hypothalamus is also indirectly connected with the anterior lobe of pituitary through portal vessels which supplies blood to the gland, and it is believed that the products of such hypothalamic stimulation are drained into anterior lobe by portal vessels.

At neuro-psychological Levels

- The adjacent nerves called terminal nerves which runs along the olfactory are connected with the limbic system of the brain including the hypothalamus
- This limbic system is also connected with the behavioral aspect of human beings, besides control over endocrine secretions.
- Thus, certain drugs administered through the nose may have an effect on immediate psychological functions through olfactory nerves by acting on the limbic system.

Effect on Drug Absorption and Transportation: Keeping the head in a lowered position along with retention of medicine in nasopharynx, helps in imparting sufficient time for local drug absorption. Any liquid soluble substance has greater chance for passive absorption directly through the lining membrane's cells. On the other hand, *abhyanga* and *svedana* also enhance the drug absorption.

The latter course of drug transfusion can occur in two of the following ways:

- By systemic circulation
- Direct pooling into the intracranial region.
- This direct transportation can be assumed again in two paths which are

By vascular path: Vascular path transportation is feasible through the pooling of nasal venous blood to the facial vein, which occurs naturally. Just opposite to the entrance the inferior ophthalmic veins have no valves in between. So that, blood may drain on either side, that is the blood from facial vein can enter cavernous venous sinus of the brain in a reverse direction. Thus, such pooling of blood from nasal veins to venous sinuses of the brain is more likely in the head lowered position due to gravity. Resulting in absorption of drug materials into meninges and related parts of the intracranial organs.

By lymphatic path: Drug transportation by the lymphatic path, can reach directly into the CSF as it is known that the Archanoid matter sleeve is extended to the Submucosal area of the nose along with olfactory nerve.

DISCUSSION

The article gives a comprehensive overview of Siroroga, which is a type of head diseases and its treatment emphasizing the importance of *Nasya karma*. It postulates that, since the head houses all the vital functions and organs of senses, it demands careful care along with the proper therapeutic

application. Nasya karma is the most common Ayurvedic treatment above the neck because it allows medicaments to reach the cranial area directly through the nostrils.

Classification of Sirorogas: The classification made by *Sirorogas* in the Ayurvedic text of Charaka, Vagbhata, and Susruta reflects complete understanding of head-related disease conditions in Ayurveda. Each text then classifies their conditions under predominance and symptomatology-features that highlight a patient-centered approach in the domain of Ayurvedic medicine. The very fact of making this categorization makes the *Nasya* treatment sophisticated since dosha type is decisive enough to differentiate one specific sort of the Nasya preparation applicable to a certain condition with that of any other particular patient's pathology.

Procedure and Methodology of Nasya Karma: The procedural details suggest an all-round methodology which encompasses preparation, administration, and follow-up. *Poorvakarma* such as abhyanga and *svedana* preparation of the body as is emphasized by the Ayurvedic science, prepares the body in such a manner that the treatment is effective. The subtleties in providing Nasya Karma, like positioning and dosing show that great care has to be taken in order to derive maximal therapeutic benefits with minimal side effects.

Therapeutic Effects and Observations: Acharyas had categorized symptoms indicative of proper, improper, and excessive effects post-Nasya administration. Such a classification not only helps a practitioner determine the success of a given treatment but also serves a purpose for patient safety due to proper identification and management of complications. Some effects that can be experienced as, for instance, feeling light in the head, sharpness of sense organs give expression to holistic benefits offered by Nasya karma.

Complications and Contraindications: This will emphasize that there is a balanced approach to treatment, as this emphasizes the potential complications that may arise from improper or contraindicated use of Nasya. It also highlights on the importance of having careful assessments before therapy, especially that contraindications must be taken into consideration so that adverse outcomes are avoided.

Mechanisms of Action: The study of the working of *Nasya Karma* drugs up the physiological channels that the medicine works in the body. The authors of the paper have illustrated mechanisms such as blood circulation, lymphatic drainage, neuro-endocrine responses, and neuro-psychological influences. This has enabled a much clearer perception about how *Nasya Karma* works as well as to bridge traditional practices with present understandings of anatomy and physiology.

Strengths

- Highly classified treatment protocol for Sirorogas.
- Protective measures for the head and its vital organs and associated diseases.
- Multi-module treatment approach that encompasses physical, psychological as well as
- Pharmacological treatment methods.
- Inter-individual variation in response to the treatment.

Limitations

- There is no uniform dosing and duration for the treatment.
- Very little scientific evidence prevails about the effectiveness of *Nasya Karma* in any of *Sirorogas*.
- Risks and complications post treatment such as watering of nose excessively, the *Vata dosha* gets vitiated, and progressive cataract.
- The technique is dependent upon the skill of the practitioners to give a proper diagnosis and treatment.

Future Scope

- Clinical studies should be performed to validate effectiveness and safety of *Nasya Karma* for various *Sirorogas*.
- Standardize the dosing, treatment period, and training of practitioner to do *Nasya Karma*.
- It needs to be incorporated with modern medical practices which could provide it a much better scope to understand and accept.
- Research on the Pharmacological and Neurophysiological pathways which might be in charge of its mechanism of action.

CONCLUSION

Ayurvedic understanding through *Sirorogas* reflects head-related diseases and how essentially the head is to being the seat of life and senses. With such a deep link of the head with general well-being, treatment modalities, especially *Nasya karma*, become imperative. This approach not only covers a host of conditions based on targeted medication delivery but also promotes the principles of balance *doshas* and enhanced health in line with the broader scope of Ayurveda. With increased awareness about traditional practice, incorporating *Nasya karma* into modern treatments might prove a viable route toward maximizing health and wellness. Finally, the wisdom of Ayurvedic traditions, joined with modern insights, allows for a holistic approach in maintaining and restoring health within the delicate realm of *Sirorogas*.

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