



Review Article

PREVENTIVE NASYA SCOPE AND CHALLENGES: REVIEW

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ABSTRACT

Five among the *Panchakarmas* '*Nasya*' has specific *modus operandi* in its administration Pharmacotherapeutics and clinical outcomes. Irrespective of *Doshik* combination pattern, it deals with all diseases of *Urdhvajatrugat* unlikely of *Vaman*, *Virechan* and *Basti* which are specifically useful in amelioration of *Kapha Pitta* and *Vata* respectively. The preventive potential of *Vaman*, *Virechan* and *Basti* has sound conceptual base and subsequent clinical observation; however, *Nasya* for its preventive potential has not been much explored. The present write up is an effort to discuss the opportunities and challenges of *Pratimarsha Nasya* therapeutics for its preventive and health promotive dimensions.

KEYWORDS: Preventive *Nasya*, *Pratimarsha Nasya*, *Nasya* scope.

INTRODUCTION

Nasya karma is one among five *Panchakarma* procedures which is basically instilling of medicated oils, liquids, powders into the nose to achieve desired therapeutic effects in particular it is used in the disease of *Urdhvajatrugat* (diseases of head and neck).^[1,2]

It is believed that the nasal drug delivery system is most feasible alternatives to parenteral drug route. This is due to high permeability of nasal epithelium allowing a higher muscular mass cut off and the rapid drug absorption rate with plasma drug. Studies have also concluded that in this mode of drug delivery, the drug degradation is absent, the absorption is rapid, and the better bioavailability for smaller drug molecule, besides the drug which cannot be absorbed orally may be delivered to the systemic circulation through nasal drug delivery system.

It is because of these reasons the *Nasya* has been designated among 5 main course of *Panchakarma* regimen. The clinical usefulness is high as it has been advocated to be used in various local and systemic diseases; covering to almost all systems. The classical recommendation of *Nasya* is not just limited to be a therapeutic procedure but also refer to one among the daily activities of health and has been mentioned as a part of *Dincharya* (daily regimen) which offers a great impact on prevention of diseases and promotion of health.

The *Pratimarsha Nasya* (Preventive *Nasya*)

Among the 5 types of *Nasyas* i.e., *Navana*, *Avapeedana*, *Dhamapana*, *Dhuma* and *Pratimarsha*,^[3] the *Pratimarsha Nasya* is rewarded as having both properties of *Snehan* and *Shodhana*.^[4] Normally in this process the oil or *Sneha* or medicated oil is instilled into nose in the dose of 02 drops of finger dipped in oil up to the second metacarpophalangeal joints and applied inside the nostrils.^[5] It is mentioned that it never aggravates *Dosha*, indicated to any age, having no complications and helps to prevents from diseases of Head and neck. However, on the basis of medications used, *Pratimarsha Nasya* may offer *Rechan*, *Tarpan* or *Shaman* effects as well.^[6]

Indication of *Pratimarsha Nasya*^[7,8]

1. After getting up in the morning (*Talpouthita Kala*) - Causes cleansing the stagnated nasal discharge, make headlight and pleases the mind.
2. After tooth brushing (*Prakshlita Danta*) - Provides strength to denture and keep the mouth fresh.
3. Before going out of house (*Grihanirgachhatah*) - Moistens Nasal cavity and upper respiratory tract.
4. After exercise (*Vyayamouttara*) - Remove fatigue, exertion, sweating and stiffness in body.
5. Post coitus (*Vyavayouttara*) - Remove fatigue, exertion, sweating and stiffness in body.
6. After strenuous work/long travelling (*Adhwa-parisharanta*) - Remove fatigue, exertion, sweating and stiffness in body.
7. Post defecation (*Mala visarjanoupranta*) - *Drishti-prasadana* (Decongestion of eyes).

8. Post micturition-*Dhrishtiprasadana* (Decongestion of eyes).
9. After gargling (*Kawala*)- *Dhrishtiprasadana* (Decongestion of eyes).
10. Post Collyrium application (*Anjana Pashchata*)-*Dhrishtiprasadana* (Decongestion of eyes).
11. Post meal (*Bhojanouttara*)- Remove excessive secretion, make head light and pleases the mind.
12. Post emesis (*Vamanpashchata*)- Remove *Kapha* present in *Srotas* and increases interest towards food.
13. After getting up from day sleep – Remove excess sleep, devastation and heaviness of body.
14. In evening (*Sayakala*)- Cleansing of respiratory tract, sound sleep at night and fresh awaking in morning.
15. After laughing- *Dhrishtiprasadana* (Decongestion of eyes) and mitigates *Vata dosha*.
16. Post flatulence- *Dhrishtiprasadana* (Decongestion of eyes) and mitigates *Vata dosha*.
17. Post sneezing- *Dhrishtiprasadana* (Decongestion of eyes) and mitigates *Vata dosha*.
18. After head message (*Shiroabhyanga*)-*Dhrishtiprasadana* (Decongestion of eyes).

Contraindication of *Pratimarsha Nasya*

1. *Dustapeenasa*
2. *Madyapeeta*
3. *Abalastrotra*
4. *Utklistadosha*
5. *Pratimarsha* given in these conditions will worsen the pathology as *Doshas* are in highly aggravated state. [9]

Scope of *Pratimarsha nasya*

According to Ayurveda understanding, there is natural *Sanchay*, *Prakopa* and *Prashama* of *Dosha* (the diurnal cycle) in *Ritu* (Season) *Vaya* (Age) *Ahoratri* (Day and Night) and *Bhuktanam* (Dining). To address the natural vitiation of *Kapha*, *Pitta* and *Vata*, *Vaman Virechan* and *Basti* are indicated in *Basant*, *Sarad* and *Varsha Ritu* respectively. However, *Nasya* is indicated during all above said *Ritus* i.e., *Varsha*, *Sarad* and *Basant* when sky is clear and free of clouds. [10]

Further the author of *Charak Samhita* has narrated that if *Anu Taila Nasya* is taken as per recommendation, the outcomes are very positive. In particular, person never gets degenerative changes in *Netra* (the visual sense), *Ghrana* (olfactory sense) and *Srotendriya* (auditory sense), the graying of hair and falling of hair do not ensue and helps to strengthen hair root and growth of hair as well. It also helps to cure *Manyastambha* (cervical spondylosis) *Sirashashoola* (headache) *Ardit* (Facial Palsy)

Hanustambha (Lock jaw) *Peenasa* (Chronic rhinitis) *Ardhavabhedaka* (Hemicrania) and *Shirokamp* (Tremors). Further the *Nasya* with *Anu Taila* offers the strengthening of vascular system, nervous system and musculoskeletal system of head and also offers deep and stable voice, fresh and well-built face, freshness and active sense organs and prevent from acute onset diseases of *Urdhvajatrugat* and most importantly despite geriatric age the *Nasya* of *Anu Taila* prevents the degenerative changes in the brain. [11]

From the above citation, it is evident that for preventive purpose, use of *Anu taila* in *Pratimarsha* dosage form may be considered with utmost seriousness to have community based study to create evidence based therapeutic data. However, in the same chapter *Acharya Charak* has mentioned that *Anu taila* should be administrated in the dose of *Ardhapala* i.e., 2 *tola* (20ml approx) in three divided doses in twenty-four hours i.e., three times a day on alternate day for 07 days. [12]

The liberty of interpreting the above doses for the purpose of community based intervention as *Pratimarsha Nasya* may be worked out to match the basic concept of *Pratimarsha Nasya* i.e., two drops approximately 01ml thrice a day up to 07 days.

Need to Have Community Based Epidemiological and Interventional Studies

In the present era of non-communicable, autoimmune and allergic diseases the role of *Nasya* practice of *Pratimarsha Nasya* has high potential. General data where *Nasya* therapeutics are used, suggests the Allergic Rhinitis, Chronic Sinusitis, Migraine, facial Palsy, frozen shoulder, Cervical spondylosis, Ophthalmic diseases, Alopecia, graying of hair, mental disorders etc., disease conditions being intervened with *Nasya* particularly the use of *Anu Taila*. However, the scope is huge as discussed in *Matrashitiya* chapter in *Charak Sutasthana*. [13] It is estimated that nearly 20-30% of the Indian population suffers from allergic rhinitis and because of this 15% develop asthma, [14] Migraine is the 3rd most prevalent and 7th leading cause of disability worldwide is also highly prevalent in India. [15] Frozen shoulder is a common problem in our country in the 5th and 6th decades of life. It is developed due to long term complication of diabetes. It is reported 10-29% in diabetic patients. The prevalence of Ophthalmic diseases are also high in India as myopia of adults aged over 30 years was reported 17% in Central India [16] and 19.4% in Indians with diabetes aged over 40 years. [17] If *Pratimarsha Nasya* is practiced by the community in such diseases, it can be assumed that the incidence of above diseases can be reduced significantly.

Research Reviews

In the Clinical study investigations on the Ayurvedic management of Allergic Rhinitis (*Vataja Pratishyaya*) by *Pratimarsha Nasya* as nasal drug delivery system, 37 patients are selected with allergic rhinitis in single group and were administered *Pratimarsha Nasya* with *Anutaila* daily for a period of 60 days and found significant effect on the chief complaints and totals nasal symptom with high statistical significance (<0.001) effect on laboratory immunological parameters which included TLC, Absolute Eosinophil Count, Neutrophils and Lymphocytes.^[18]

In the "Clinical Study of *Anurjata Janita Pratishyaya* (Allergic Rhinitis) & Comparative Assessment of *Nasya Karma*" total 69 patients were selected and randomly divided into 3 groups. First group was treated with *Shunthi Tail Nasya* for 14 days, followed by internal drug *Sudha Haridra* 2gms TDS for 21days; second group was treated with *Pradhmana Nasya* with *Katphal churna* obtained, followed by internal drug *Shuddha Haridra* 2gms TDS for 21days and third group was treated with only oral drug *Sudha Haridra* 2gms TDS for 21 days. They observed that symptoms like sneezing, rhinorrhoea, headache, itching were almost completely relieved in all groups.^[19]

In the study "Role of *Pratimarsha Nasya*, yogic practices and diet in *Pratishyaya* (allergic rhinitis)" 160 patients were selected suffering from *Pratishyaya* and randomly allocated into 4 groups. Group I was treated with *Pratimarsha Nasya* with *Anu Taila* and selected diet and at the end of the study all patients of this group got significant result in symptoms of allergic rhinitis.^[20]

In the clinical study "Effect of *Jatamansi Taila Nasya* and *Kshiradhara* in Insomnia" selected 20 Insomnia patients and randomly divided in two group; group A was treated with *Nasya* with *Jatamansi taila* for 7days and group B was treated with *Mahisha Ksheeradhara* for 7days. At the end of the study they observed that *Nasya* with *Jatamansi taila* showed highly significant results in 6 components out of 7 components of Pittsburgh Sleep Quality Index.^[21]

The positive effects of *Pratimarsha Nasya* w.s.r. to sleep in 28 randomly assigned subjects and every evening two drops *Anu taila* in each nostril was administered for 3 months. In result significant improvement with p value <0.0001 was recorded on PSQI, ESS sleepiness scale as well as self-developed *Sukhnidra Sukhprabodham* scale.^[22]

These promising results of *Patimarsh Nasya* in allergic rhinitis and insomnia open a new vista in

Ayurveda inspired novel targeted drug delivery systems.

Pharmacodynamics of Nasya

The systemic Pharmacodynamics of *Pratimarsha Nasya*

Rasayanas are considered to be the most effective if these are started just before the *Madhya Vaya* (Middle age group). As *Nasya* process offers better bioavailability of drug in plasma the *Rasayan* drugs may be started using the same line. Thus in future interventional studies should be planned to treat or prevent these kinds of diseases for example use of *Jyotishmati Taila*, *Bramhi Ghrith*, in *Pratimarsha Nasya* dosage form and modality in promoting intellect or treating the disorders of deficient intellect or memory. Similarly, *Shatavari Ghrith Nasya* and *Ashwagandha Ghrith Nasya* is given for female and male healthy reproductive life, respectively. *Anu taila Nasya* to prevent CVA, *Arjun Ghrith Nasya* to prevent CVD or *Gokshura ghrith/Taila Nasya* to prevent CKD or *Kantkari Ghrith Nasya* to prevent COPD/ILD etc. and may be brought in clinical practice or as preventive measures. As nose is the nearest root for the drug administration which can deliver the drug efficiently and provide nourishment to brain cells thus balance the functions of central nervous system. Various research indicating that penetration of the compound through the nasal mucosa increases in lipophilic compounds. Because Lipophilic compounds easily cross biological membranes through the transcellular route, since they are fit to partition into the lipid (bilayer) of the cell membrane and diffuse into and traverse the cell in the cell cytoplasm and attained higher concentration in the membrane.^[23] The systemic pharmacodynamics indicating that liposome therapy of Nano particles comprising lipid bilayer membrane facilitates better efficacy and safety of drugs, supports the concept of use of *Sneha Nasya* in prevention and treatment of various systemic diseases.

Local Pharmacodynamics of *Pratimarsha Nasya*

Pratimarsha Nasya has been indicated to be used before going outside probably considering the environmental pollution by *Acharyas*. To substantiate, it can be stated that the Pharmacodynamic action of *Pratimarsha Nasya* is potent to check the contact as well as the absorption of pollutant particles through nasal mucosa. If medicated oil is used, then it would also probably kill or deactivate the micro-organism entering into nasobronchial tract with air flow. It is also reported that most of the environmental pollutants in air are inorganic and lipid insoluble, hence probably does not get absorbed as *Sneha* in lipid media. Thus, it prevents the nasal irritation and no sneezing and

congestion takes place to prevent from allergic rhinitis.

Future Strategies: Planning of Epidemiological and Interventional Studies

The research data require related to evidence on the relevance of use of *Nasya* in various systemic diseases as claimed in classics as well as on the effectiveness of *Nasya* in treating such diseases. So, to answer the question of whether *Pratimarsha Nasya* is effective in prevention or control of the disease as claimed in classical texts, a population based cross sectional survey studies would be required to identify such subjects who are in practice of *Pratimarsha* and their health status, at the same time well planned epidemiological studies, designs including randomized controlled trials, and quasi experimental studies would be also required.

Furthermore, outreach camps would be also required to create awareness about the usefulness of *Pratimarsha Nasya* in prevention of diseases. The camps may be organized in *Varsha, Sarad* and *Basant Ritu* as indicated in *Charak Samhita*.^[24] The outcome measures would require objectives parameters thus minimum 5 to 10 years large scale study would be required. The Government may also be plan for *Pratimarsha Nasya* adaptation and campaign/drives with the help of IEC materials with the help of committed team of professionals and field level investigators and of course logistics.

Challenges

Challenges are big, community based study requires active compliances and frontline participants. Unfortunately gone are the days when *Pratimarsha Nasya* practice was visibly prevalent in India, the new generation would least concern to be the participant of the study. However massive awareness generation among the population with evidence based IEC material which by itself a difficult task, may prove to be of significant importance in carrying out epidemiological and interventional study in different communities. The Nasal administration of active ingredients of drugs would require pharmaceutical cooperation to make the drug material lipid soluble or water soluble so as to make patient friendly and biologically congenial to be used in human beings.

CONCLUSION

The preventive potential of '*Nasya Karma*' is vast and has a wide scope in preventing various diseases prevalent among children, men, women and in geriatric age group. Further the minimal dosages form and maximum bioavailability of drug administered by means of '*Nasya*' opens up a new vista in the management of various systemic diseases. Hence the need of the hour is to conduct

community based studies in larger number of volunteers to assess the efficacy of '*Pratimarsha Nasya*' as an effective tool to prevent diseases and to promote the systemic health.

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