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A randomized clinical trial in the management of *Ardhavabhedaka* to review the principle - “*Nasa Hi Shiraso Dwaram*”

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ABSTRACT

Background: The purpose of Ayurveda as a medical system is to ensure a healthier and longer life to the humanity. Awareness about its holistic approach, its natural and mostly safe methods, and its potential for maintaining health is increasing globally. *Ardhavabhedaka* is a disease of *Shiroroga*, characterised by pain in half side of *Shira*, *Shankha*, *Akshi*, *Karna*, *Bru*, *Lalatavedana*. It is a common clinical problem which occurs by episodic attacks of headache and associated symptoms such as nausea, sensitivity to light, sound, cold and head movements. *Nasa* is the gateway of *Shira*. The drug administered through nose as *Nasya* reaches the brain and eliminates only morbid *Doshas* responsible for producing the diseases of *Urdhvajatrugatapradesha*. The objectives were to study in detail about *Nasa Hi Shirasodwaram*, *Gudadi Nasya* in *Ardhavabhedaka* from Ayurvedic view and to evaluate the efficacy of *Gudadi Nasya* from *Sharangadhara Samhita* in management of *Ardhavabhedaka*. **Methods:** Total 30 subjects, having symptoms of *Ardhavabhedaka* were included. 30 subjects were assigned in a single group and all subjects were administered with *Gudadi Nasya* for 7 days 45 days follow up was done. Results were statistically analysed before and after treatment by using unpaired ‘t’ test. **Results:** Among 30 subjects studied, 17 subjects showed marked relief, 11 subjects showed moderate relief and 02 subjects showed mild relief in the overall treatment.

Key words: *Ardhavabhedaka*, *Migraine*, *Nasya*, *Gudadi Nasya*, *Nasahi Shirasodwaram*.

INTRODUCTION

Uniqueness of *Ayurveda* is its holistic approach to the life, centered on the nature and its rhythms. One can trace its origin to antiquity. Man is the only human creatures in the Universe that has been gifted with the power of thinking. With this power he has been successful in creating new inventions to make his life

easy and live happy. His capability to think, ambitious nature, luxurious life, modern life styles etc. made him busy all the time which gave rise to stress, strain, mental disturbances and enhances the incidence of many diseases like migraine headaches etc. It is the brain, which controls all the voluntary and involuntary functions of the body. Thus, brain can be considered as supreme, important and major organ of the body. Our Ancient *Acharyas* have mentioned, *Shiras* (head) as the *Uttamanga*^[1] and also described vital organ of the body. *Shirah* is that part of the body where *Prana* (life) along with sense faculties resides.

Shirah is one among the *Trimarma*^[2] in which it is *Sadhyopranaharamarma*. It is compared with root of the tree.^[3] If we nourish the root, the tree becomes strong. In the same manner, if we nourish the *Shiras* the body will become healthy. And also it is the seat of *Prana Vata*, *Alochaka Pitta* and *Tarpaka Kapha*.^[4] *Nasa Hi Shiraso Dwaram*^[5] i.e. Nose is the gateway of

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Shiras, Out of nine *Dwaras* seven are in the *Shiras*. Among them *Nasa* alone is preferred for the *Urdhwajatragata Shodhana* because it is the safest, easiest and most effective channel for *Shiras*.

The drugs, which are administered through the nose act locally as well as systemically.

Literally meaning of the word *Nasya* is being beneficial to nose. *Nasa* is considered as one of the *Pancha Gyanedriya* whose functions are not only limited to olfaction and respiration but also considered as a Pathway for drug administration. *Acharya Charaka* said that if *Ardhavabhedaka* is left untreated it leads to diseases of deafness and blindness.^[6] As per *Acharya Sushruta*, the attacks of *Ardhavabhedaka* will be once in three days, once in fifteen days and once in a month.^[7]

A Headache is an unpleasant thing, which is the common human being experience. Neurovascular headache includes Migraine and Cluster headaches. Migraine is one of the common causes of headache. It is most common disabling paroxysmal headache characterized by severe pain on one or both side of head with nausea/vomiting and neurological disturbance usually visual.^[8] Migraine is now recognized as a chronic illness, not simply a headache. It is the most common vascular headache, caused by blood vessel abnormalities, which in turn constrict and open blood vessels in the head. According to IHS, migraine constitutes^[9] 16% of the primary headache and affects 10-20% of the general population. It is three times more common in women than men, because of hormonal fluctuations etc. The age group in between 30-40 has the peak incidence and about 4% of children have migraine. Migraine is the third most common disease in the world with an estimated global prevalence of 14.7% i.e. around 1 in 7 people. It is ranked by W.H.O. as number 19 among all diseases world wide causing disability. Headache is 9th most common complaints of the people. 90% of the individual have at least one headache per year. 10-20% of the population goes to physician with headache as their primary complaint. Among them 35% of headache sufferers are from migraine

headache.^[10] The treatment of modern system of medicine has high cost and complications like drug induced obesity, drowsiness, depression, constriction of blood vessels, insomnia, menstrual disturbances etc.

The Ancient system of Ayurvedic medicine advocated a variety of natural medications for the treatment of psychosomatic diseases like *Shirashoola* and *Ardhavabhedaka*.

Ayurveda has *Nasya* therapy as the Master key for *Shiroraga*, method to alleviate the pain and stress. Medicine administered through the nose enters the head and expel the vitiated *Doshas*.

The classical *Nasya* described in *Sharangadhara Samhita* i.e. *Gudadi Nasya*.^[11] It is mainly *VataKaphahara* and has been selected as *Brihman* as well as *Shodhananasya*. So here the clinical study has been planned to find out the efficacy of *Gudadi Nasya* for the treatment of *Ardhavabhedaka* with following aims and objectives.

AIMS AND OBJECTIVES

1. To study in detail about the concept of *Nasa Hi Shirasodwaram*.
2. To study the disease *Ardhavabhedaka* from *Brahattrayees*.
3. Understanding the basic concept of *Nasya*.
4. To evaluate the efficacy of *Gudadi Nasya* in *Ardhavabhedaka* from *Sharangdhar Samhita*.

MATERIALS AND METHODS

The patients were selected and registered after their fulfillment of diagnostic criteria of *Ardhavabhedaka*. The patients were thoroughly questioned and examined on the basis of Proforma which include both subjective and objective criteria's. Ethical clearance and informed consent were obtained before conducting the clinical trial.

Inclusion Criteria

1. Subjects having the classical symptoms of *Ardhavabhedaka*

- Subjects aged between 20-50 yrs of either sex.
- Subjects fit for *Nasya Karma* will be included under the study.

Exclusion Criteria

- Subjects unfit for *Nasya Karma*.
- Subjects having the history of trauma/ head injury,
- Systemic disorders like uncontrolled DM, Hypertension.
- Subjects with Tuberculosis, HIV & HbsAg etc. infectious diseases
- Headache secondary to meningitis, tumor, spondylosis, encephalitis etc.
- Severe depression and other psychosomatic disorders.

Examination of the patients

In this study the data was collected from the patients with the help of interview. The detailed data related to general history, history of past illness, present illness, family history, food habits, history of treatment taken so far etc., were recorded in the Proforma of the case sheet. The systemic examinations of the patient were also done and findings were recorded as per the Proforma.

Parameters of study

Subjective parameters

- Shirashoola*
- Manyavedana*
- Brulalatavedana*
- Shankhavedana*
- Akshivedana*
- Karnavedana*
- Toda*
- Bheda*
- Praseka*
- Chardi*

11. *Shirogouravata*

12. *Bhrama*

Objective Parameters

Pain index:^[12] Before and after treatment.

- 0 - No Pain
- 1 - Faint Pain (Mobility and activities of daily living are in no way impacted)
- 2 - Mild pain (Headache but very easy to ignore)
- 3 - Moderate pain (uncomfortable but tolerable pain)
- 4 - Uncomfortable pain(Throbbing pain, pain may move down to neck)
- 5 - Distracting pain(Piercing pain, difficulty to manage daily activities , blurred vision and radiating pain in neck and head)
- 6 - Distressing pain(Intense pain that controls mindset and psychological outlook)
- 7 - Unmanageable pain (Radiating pain completely dominating mindset and outlook on recovery, requires strong medications)
- 8 - Intense pain(Pain is so intense that can no longer think clearly , shooting type of pain, numbness, tingling, extreme discomfort)
- 9 - Severe pain(excruciating pain is so intense that unable to tolerate the level of pain)
- 10 - Debilitating pain(unmanageable pain, may go unconscious)

Study Design : A comprehensive clinical study.

Sample size : A minimum of 30 subjects diagnosed with *Ardhavabhedaka* fulfilling the diagnostic and inclusion criteria will be selected for the clinical study.

Table 1: Interventions

<i>Ama Pachana</i>	Shunti Churna Dose: 5gms of <i>Churna</i> with warm water before food. (Till <i>Nirama Laxana</i>) (3 to 5 days)
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Nasya	Gudadi Nasya Dose - 6 drops in each nostril
Total duration of study	7 days

Table 2: Overall assessment of Results based on Grades

Overall assessment of results	Grade of improvement
Marked Relief	Above 75% Improvement
Moderate Relief	50 to 74 % Improvement
Mild Relief	26 to 49 % Improvement
Unchanged	<25 % or No Improvement

Table 3: Effect of therapy on Subjective Parameters and Objective Parameters

Parameter	Mean		Percentage of Relief
	BT	AT	
Shirashoola	2.33	0.533	77.25%
Manyavedana	1.6	0.33	79.4%
Brulalatavedana	1.26	0.4	68.3%
Shankhavedana	1.73	0.5	71.1%
Akshivedana	1.06	0.3	68.2%
Karnavedana	0.8	0.1	80.73%
Toda	1.06	0.2	74.91%
Bheda	1.13	0.3	68.15%
Bhrama	1.1	0.2	76.4%
Praseka	1.36	0.3	73.53%
Chardi	1.1	0.1	90.91%
Shirogourava	1.7	0.4	75.49%
Pain index	6.26	0.76	87.86%
Hb%	1	0.86	14%

Chart 1: Showing effect of therapy on both subjective and objective parameters of the study.

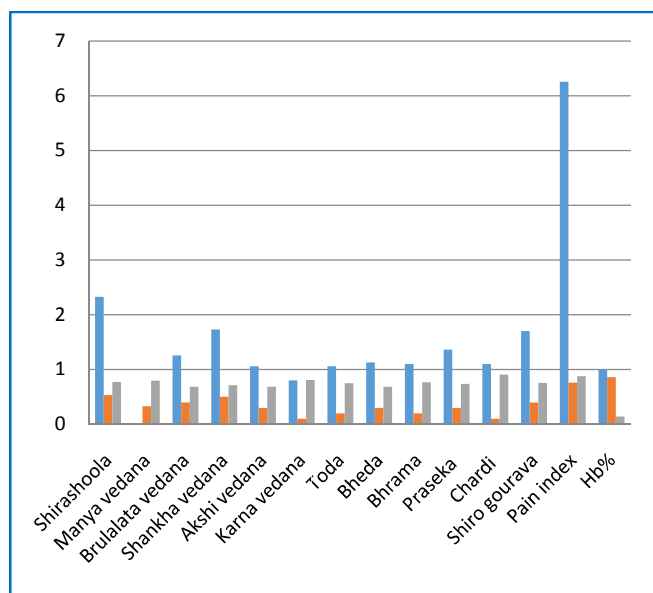


Table 4: Distribution of Subjects according to overall assessment of the result.

Relief	No. of Subjects	Percentage	Remarks
Above 75%	17	56.7 %	Marked relief
51% to 75%	11	36.7%	Moderate relief
26% to 50%	2	6.7%	Improved relief
Less than 25%	0	%	No relief

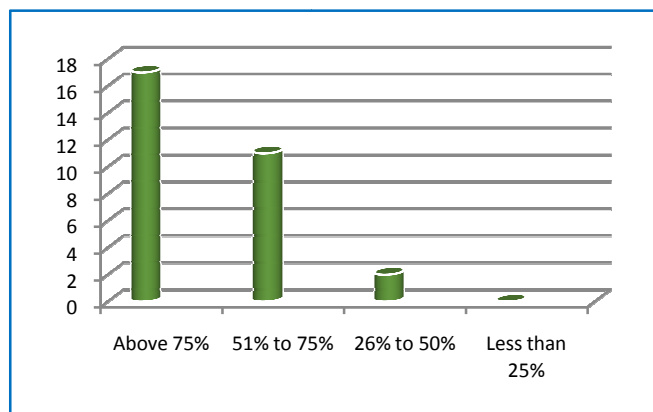


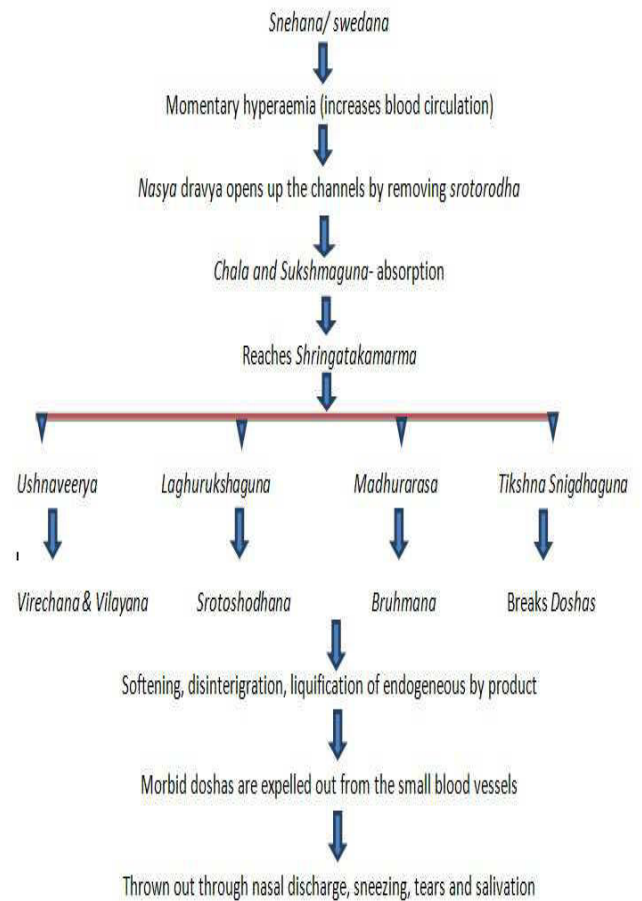
Chart 2: Showing distribution of subjects according to overall assessment of the result.

Probable mode of action of *Gudadi Nasya*

Gudadi Nasya is indicated in all types of *Shirorogas*, *Karna*, *Akshi* and *Nasa Rogas*, and has been found to be very helpful in curing *Ardhavabhedaka*. It has been explained in *Sharanagdhara samhita*.^[13] It is having *Guda*, *Shunti* and *Saindhava Lavana*. The mode of administration of *Aushada* through *Nasya Karma* is having several advantages. The rich vascular plexus of the nasal cavity provides a direct route into the blood stream for medications that easily cross mucous membranes. The ingredients of the *Gudadi Nasya* are mainly *Vata-Kaphahara*. As *Vatakapha Doshas* are especially involved in all types of *Shirorogas* it helps in subsidence of the symptoms of *Shirashoola*, *Bhrama*, *Praseka*, *Akshishoola*, *Karnashoola*, *Shankhashoola* and *Shirogourava*. The *Puranaguda* increases the local blood circulation, nose being rich in vascular structure nasal mucosal membrane provides good absorbing surface. The drug *Shunthi* inhibits the production of immune system components called cytokines the chemicals are believed to create a long term tendency toward inflammation, thus helps in managing the pain. *Shunti* also stimulates blood circulation. The *Teekshana* drug *Saindhava Lavana*, produces irritation of the nasal mucosa which increases the nasal secretions as a result of increased circulation. It also probably generates a chemical impulse which is further transformed into electrical impulse which is finally converted into a neuronal impulse. This neurons impulse influence on cerebral cortical areas thereby producing a stimulatory effect leading to evacuation of *Dosha*. Due to *Tikta*, *Katu Dravyas* resolves *Margavarana* and help to clear *Srotorodha* so it also acts as *Shodana*. In this way combined effect of *Dravyas* provides relief from the symptoms of *Ardhava Bhedaka*. It provides strength and nutrition to the Brain. The lipid contents of the *Gudadi Nasya* may pass through the blood-brain barrier easily due to their transportation. Some of the active principles may reach certain levels in the nervous system where they can exert their *Vatakaphaghna* property and does subsidence of vitiated *Doshas* in the nervous system on its nasal administration; it reaches different

Shirogata Indriya and causes *Vatakaphashamana* and strength to the *Indriyas*.

Flow Chart 1: Showing effect of *Gudadi Nasya*



DISCUSSION

Among the various etiological factors enlisted in *Bruhatrayis*, some of them are particular in predisposing *Ardhavabhedaka* type of *Shirashoola*. After careful observation of the *Nidanas*, some are of *Vata*, *Pitta*, *Kapha* or *Sannipata* vitiating factors. *Vata* vitiating *Nidanas* are - *Atirukshaaahara*, *Vegasandharana* particularly *Mutra*, *Puresha*, *Kshavatuvegas*, *Ativyayama*, *Ativyavaya*, *Abhigata*, *Ucchairbhashya*, *Ratrijagarana*, *Atirodana*, *Bhashpanigraha*, *Manasasantapa*, *Purovata*. *Pitta* vitiating *nidanas* are - *Daha*, *Exposure to sun*, *krodha*. *Kapha* vitiating *Nidanas* are - *Divaswapna*, *Sheetambusevana* *Tridoshaja* vitiating *Nidanas* are - *Adhyshana*, *Atimatraa* *Aharasevana*, *Gandhaasatmya*.

It is obvious from the foregoing that the maximum number of etiological factors of *Ardhavabhedaka*

belongs to *Vata* vitiating factors, followed by *Kapha* and minimum to *Pitta* vitiating factors. Pain in half side of the head particularly *Manyapradesha* (neck region), eye brows (*bhru*), *Shankhapradesha* (temporal region), *Karna* (ear), *Akshi* (eye) and *Lalaata* (forehead). The pain in these regions suggests aggravation of *Vata* and *Kaphadosha*.

Acharya Sushruta describes *Toda*, *Bheda*, *Bhrama* and *Shoola* as extra symptoms, while *Acharya Vagbhata* mentions one extra site i.e. *Ghata Pradesha*. Commentator *Indu* suggest, *Krikatika* means occipital region and commentator *Arundatta* suggest *Shankhasya Upari Bhaga* i.e. parietal region for it. *Ardhava Bhedaka* is best treated with *Ghrita*, *Taila* and *Majja*, *Shiro Virechana*, *Kaya Virechana*, *Nadisweda*, *Niruha* and *Anuvasana Basti*, *Upanaha* and *Shiro Basti*. In any system of medicine there is no procedure for eradicating the disease from the roots. Only Ayurveda is such a system of medicine where the importance of both prevention and cure has been highlighted. As per Ayurvedic texts, diseases are deep seated at different *Dhatu* levels. Hence, a procedure *Nasya Karma* is indicated to uproot the deep-seated disease. Perfect balance of oxygen levels in the body can be attained with *Nasya Karma*, thereby also clearing all the morbid *Doshas*. *Gudadi* is having *Vatanashaka*, *Kaphanashaka* and *Vedanasthapaka* i.e. pain relieving properties. According to all *Acharyas*, *Nasa* is said to be the gateway of *Shiras*. The drug administered through the nose as *Nasya* reaches the brain and pacifies *Doshas* responsible for producing the diseases.

The anatomical point of view there is direct pharmacodynamic considerations between nose and cranial organs. Moreover blood brain barrier is a strict security system in human brain. Something happens when provocation of *Doshas* takes place in *Shirah* due to irritating effect of administered drug resulting in an increase of the blood circulation of brain. So extra accumulated morbid doshas are expelled out from small blood vessels and ultimately these morbid doshas are thrown out by the nasal discharge, sneezing, tears and by salivation.

CONCLUSION

Shiras is called *Uttamanga*, because it is a main control system of all bodily ailments. Alteration in the activity of the *Shiras* influences all body tissues and it is also influenced by body tissues in an inverse order. The *Acharyas* said - *Nasa Hi Shiraso Dwaram*, i.e. Nose is the gateway of *Shiras*, because *Nasa* is indirectly connected with the brain centers in the *Shiras*. It is the best method to eliminate and alleviate the vitiated *Doshas* from *Urdhvajatrugata Pradesha*. *Ardhavabhedaka* is well understood in terms of Ayurveda in its aspects of aetiology, aetiopathology, clinical manifestation and treatment. *Nasya* is the only procedure which can directly influence *Indriyas* and having the better chance of absorption through blood vessels. Along with the *Aushadha*, *Pathya Ahara-Vihara* plays a major role in avoiding *Ardhavabhedaka* pathologies and correcting the existing pathologies. *Gudadi Nasya* is the best drug for *Nasya* which acts in the physiology of *Ardhava Bhedaka* and vitiated *Doshas* are expelled out through secretions. It is observed in this study that *Gudadi Nasya* has *Vatakaphashamaka*, *Balya*, *Sroto Shodhaka*, *Tridosha Hara*, *Rakta Prasarak* and *Vedana Sthapaka* properties.

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