



ISSN 2456-3110

Vol 7 · Issue 4

May 2022

Journal of
**Ayurveda and Integrated
Medical Sciences**

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



Maharshi Charaka
Ayurveda

Indexed

An observational study to evaluate the efficacy of *Saha Ashwagandhadi Taila Nasya* and *Balashatavaryadi Ghrita Tarpana* in *Prathama Patalagata Timira* with special reference to Simple Myopia

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ABSTRACT

Introduction: *Prathama Patalagata Timira* is one of the stages of *Timira* which is a *Drishtigata Roga* and can be correlated to Simple Myopia with the characteristic symptom of blurred vision for distant objects. This disease is said to be physiological and become the major health concern. It is the common cause of ocular morbidity that may ultimately lead to blindness as explained by *Vagbhatacharya*. **Objectives:** The objectives of the study are to evaluate efficacy of *Nasya* and *Tarpana* in relieving Myopia & Asthenopic symptoms such as head ache, eye strain, watering of the eyes. **Methods:** 30 patients fulfilling the inclusion criteria of simple myopia were randomly selected. *Nasya* with *Saha Ashwagandhadi taila* for 7 days then from 8th day *Tarpana* with *Balashatavaryadi Ghrita* was done for 7 days, followed by 2 follow-ups. **Results:** The overall assessment was done before treatment, on 15th day, 30th day and 44th day. **Conclusion:** *Nasya* has role in improving vision where as *Tarpana* relieves asthenopic symptoms as well as improves vision.

Key words: Myopia, Nasya, Tarpana, Prathama Patalagata Timira, Ayurveda.

INTRODUCTION

Ayurveda, the science of life, a divine knowledge is a gift of nature to humans. It is *Upaveda* of *Atharvaveda* aiming to Protection, Prevention and maintenance of health along with management of diseases. *Shalaky Tantra* is one among the *Astanga Ayurveda* which deals with prevention and management of *Jatruhdhwagata*

Vikaras. It is unique in its own way as it deals with *Uttamanga*. In this branch the prime importance is given to *Netra*, as it is considered as *Pradhana* in all *Indriyas*. *Vagbhatacharya* explains importance of eyes as i.e., A person who desires for a long life must take care of his eyes through out the life, as for a blind man there is no difference between day & night. Hence forth even though he has wealth, he will be poor.^[1]

So, protection of eye sight is the top most priority of *Shalaky Tantra*. Since the loss of vision completely disables a person. In the process of *Jnanotpatti*, the very first stage begins with the *Indriya* and *Indriyarth* *Sannikarsha*. This *Jnana* is *Pratyaksha*, the prime *Pramana* of all *Darshanas*. *Chakshurendriya* serves as the gateway to the *Pratyaksha Jnana*.

Ayurveda explains in detail about various *Netrarogas* and its classifications. *Timira* is the disease explained under *Drushtigata Rogas*. The symptomatology of *Timira* can be considered as errors of refraction and

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Submission Date: 19/03/2022 Accepted Date: 24/04/2022

Access this article online

Quick Response Code



Website: www.jaims.in

DOI: 10.21760/jaims.7.4.2

early stage of cataract. The anatomical considerations of the *Patalas* and symptoms of the vitiated *Doshas* situated in these *Patalas* reveal that the word '*Timira*' which is described in *Drishtigata Roga*, is nothing but errors of refraction, specially the '*Prathama Patalagata Timira*' can be taken merely as the Simple Myopia, a subtype of Myopia.

Though modern medical science has made tremendous, remarkable progress and advances in the field of ophthalmology in the recent time. Till now no medicine is invented to preserve the sight of the patients affected with myopia. Usual treatment for Simple myopia is optical correction (spectacles or contact lenses) to restore distance vision. This is just an aid to improve the diminished vision, meanwhile, it fails to decrease the risk of posterior segment sequel of Myopia. Surgical intervention although popular, has no high success rate.

The importance of Ayurvedic treatment in the diseases of eyes cannot be ignored owing to the above mentioned limitations in modern therapy. In Ayurvedic classics we have various ways of approach in this regard, like concepts of *Chakshushya Dravyas* and dietary regimen, *Netra Kriyakalpas*, *Shodhana* procedures etc., which are said to enhance visual acuity, improve the general health of eyes, also prevents further progression of the condition and helps in avoiding ocular complications. This study was also aimed towards literary, diagnostic and preventive (secondary prevention) aspect of *Timira* considering the ancient as well as contemporary views.

Among many efficient formulations mentioned in classics, this study of *Saha Ashwagandhadi Taila Nasya* and *Balashatavaryadi Ghrita Tarpana* is taken up to evaluate its efficacy in the management of simple myopia (*Prathama Patalagata Timira*) as the medicines are easily available, cost effective, easily administered and without any complications.

MATERIALS AND METHODS

Subjects were selected from Out-patient department and In-patient department of Shalakyta Tantra, Government Ayurveda Medical College and SJGAUH,

Bengaluru presenting with the features of *Prathama Patalagata Timira*. 30 patients irrespective of sex were selected for the study. Patients with the symptoms of distant blurred vision associated with or without asthenopic symptoms like eyestrain, headache and watering from eyes were selected.

Inclusion criteria

- Subjects irrespective of gender, caste, religion.
- Subjects between the age group of 8 years to 40 years.
- Subjects presenting with clinically established cases of simple myopia.
- Patients having - 0.25 to -6D of vision.

Exclusion criteria

- Pathological myopia, High myopia with degenerative and gross retinal changes.
- Myopia associated with structural deformities like corneal opacity, keratoconus, keratoglobus.
- Subjects who have underwent any of the refractive surgeries.
- Subjects who are contraindicated for *Nasya* and *Tarpana*.

Study Design

30 patients were randomly selected for this study.

Diagnostic Phase

Diagnosis of the disease was made on the basis of Symptoms and clinical investigations. The findings were recorded in the proforma prepared as per Ayurvedic and Modern parameters. The criteria adopted for the present study are:

1. Visual acuity for distant vision tested by Snellens Distant vision Chart.
2. Autorefractometry.
3. Slit lamp examination to find out if there is any pathology in the anterior segment.

Interventional Phase**Plan of Study**

Group	Chikitsa	Dose and Duration	Follow Up	Total duration of study
1.	<i>Saha Ashwagandhadi Taila Nasya</i>	6 Bindu in the morning before food for first 7 days	30 days (once in 15 days)	44 days
2.	<i>Bala Shatavaryadi Ghrita Tarpana</i>	Quantity sufficient in the morning before food for next 7 days.		

Preparation of medicine***Saha Ashwagandhadi Taila*^[2]**

Kalka is prepared out of *Mudgaparni*, *Ashwagandha*, *Atibala* and *Shatavari* taken in equal quantity. Four part of *Jala* is taken and *Taila* prepared as per standard *Taila Paka Vidhi (Mridu Paka)*.

Physiochemical analysis

Physiochemical analysis of the drugs used in the present study were carried out at the *Rasasastra* analysis lab GAMC Bengaluru as per the pharmacopeial standards set by CCRAS New Delhi, for Ayurvedic formulations

- p^h - 6.48
- Specific gravity - 1.05

***Bala Shatavaryadi Ghrita*^[3]**

Prepare *Kalka* and *Kwatha* of *Bala*, *Shatavari*, *Ashwagandha*, *Sita*, *Saireyaka* and *Triphala*. To this add *Go Ghrita* and *Ghrita* prepared as per standard *Ghrita Paka Vidhi*.

Physiochemical analysis

Physiochemical analysis of the drugs used in the present study were carried out at the *Rasasastra* analysis lab GAMC Bengaluru as per the pharmacopeial standards set by CCRAS New Delhi, for ayurvedic formulations

- p^h - 6.86
- Specific gravity - 1.05

Statistical Estimation of Results

The obtained data were analysed statistically. The values were expressed as percentage of relief. The data were analysed by paired 't' test for the comparison of before and after treatment obtained score of subjective and objective parameters.

- $p > 0.05$ = Insignificant
- $p > 0.05$ & 0.01 = Significant.
- $P < 0.001$ = Highly significant.

RESULTS**1. Effect of Intervention on Blurred Vision (Right Eye)**

Statistical analysis showed that the mean score which was 2.23 before the treatment was reduced to 1.17 after second follow up with 47.76% improvement and there are statistically significant ($P < 0.05$) results.

2. Effect of Intervention on Blurred Vision (Left Eye)

Statistical analysis showed that the mean score which was 2.13 before the treatment was reduced to 1.00 after second follow up with 53.13% improvement and there are statistically significant ($P < 0.05$) results.

3. Effect of Intervention on Eye Strain (Right Eye)

Statistical analysis showed that the mean score which was 0.67 before the treatment was reduced to 0.37 after second follow up with 45% improvement and there are statistically significant ($P < 0.05$) results.

4. Effect of Intervention on Eye Strain (Left Eye)

Statistical analysis showed that the mean score which was 0.70 before the treatment was reduced to 0.23

after second follow up with 66.67% improvement and there are statistically significant ($P < 0.05$) results.

5. Effect of Intervention on Watering of Eyes (Right Eye)

Statistical analysis showed that the mean score which was 1.07 before the treatment was reduced to 0.7 after second follow up with 65.63% improvement and there are statistically significant ($P < 0.05$) results.

6. Effect of Intervention on Watering of Eyes (Left Eye)

Statistical analysis showed that the mean score which was 1.00 before the treatment was reduced to 0.57 after second follow up with 56.67% improvement and there are statistically significant ($P < 0.05$) results.

7. Effect of Intervention on Headache

Statistical analysis showed that the mean score which was 0.77 before the treatment was reduced to 0.27 after second follow up with 65.22% improvement and there are statistically significant ($P < 0.05$) results.

8. Effect of Intervention on Visual Acuity (Right Eye)

Statistical analysis showed that the mean score which was 3.57 before the treatment was reduced to 1.6 after second follow up with 44.86% improvement and there are statistically significant ($P < 0.05$) results.

9. Effect of Intervention on Visual Acuity (Left Eye)

Statistical analysis showed that the mean score which was 3.33 before the treatment was reduced to 1.8 after second follow up with 46.00% improvement and there are statistically significant ($P < 0.05$) results.

10. Effect of Intervention on Auto Refraction (Right Eye)

Statistical analysis showed that the mean score which was 3.33 before the treatment was reduced to 1.80 after second follow up with 46.00% improvement and there are statistically significant ($P < 0.05$) results.

11. Effect of Intervention on Auto Refraction (Left Eye)

Statistical analysis showed that the mean score which was 3.57 before the treatment was reduced to 1.97

after second follow up with 44.86% improvement and there are statistically significant ($P < 0.05$) results.

Overall effect of Intervention

Effect of treatment		
Class	Grading	No of subjects
0-25%	No improvement	0
26-50 %	Mild improvement	12
51 – 75%	Moderate improvement	18
76 – 100 %	Marked improvement	0



Fig. 1: Physio chemical analysis of Saha Ashwagandhadi Taila



Fig. 2: Physio chemical analysis of Bala Shatavaryadi Ghrita

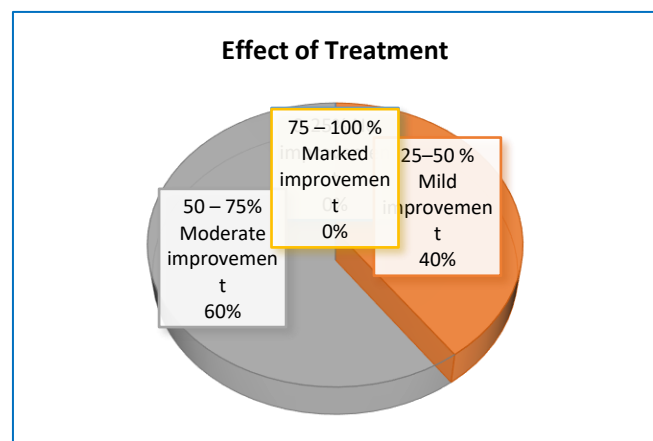


Fig. 3: Overall effect of treatment

DISCUSSION

Blurriness of vision is main complaint of myopes. After the *Poorva Roopa* stage when the refractive error clearly manifest, the diminished vision will be continuous. *Vata* will be chief causative factor for this. Along with that there will be involvement of *Pitta* or *Kapha* or both. There can be an increase or decrease in axial length of eye ball (*Vyasa*) or curvature (*Sankocha*) which is a function of *Vayu*. The basic treatment in myopia is pacification of *Vata Dosha*.

Head ache and eye strain in myopia is due to ciliary pain caused by increased muscular effort. The nature of pain is often described as dull aching, boring, superficial, deep seated or migranous. This is because of *Vata Prakopa* in first *Patala*. *Rooksha Guna* is mainly involved.

Watering of eyes is due to mild inflammation of lids and lacrimal glands. It is due to *Vata Prakopa* in *Rasa Dhatu*.

The medicine selected in the present study are “*Saha Ashwagandhadi Taila*” for *Nasya* and “*Balashatavaryadi Ghrita*” for *Tarpana*.

a) *Saha Ashwagandhadi Taila*

It is one among the *Timira Hara Yoga* explained in *Sushruta Samhita Timira Pratishediya Adhyaya*. It contains drugs such as *Saha (Mudgaparni)*, *Ashwagandha*, *Atibala* and *Shatavari*.

- *Mudgaparni* by virtue of its properties acts as *Vatapitta Hara* and *Chakshushya*.
- *Ashwagandha* has *Balya* and *Brimhana* properties which maintains the integrity of ocular structures and helps in rejuvenation of tissues.
- *Atibala* is mainly *Vata Samana* and *Anulomana*.
- *Shatavari* is *Balya*, *Brimhana*, *Rasayana*, *Chakshushya* which helps in the nourishment of eye and maintains normal eye structure.

Mode of Action of *Nasya*

Drugs in the form of *Nasya*^[4] has probable mode of entry in circulation, hence role in the improving vision and relieving asthenopic symptoms as follows.

- By general blood circulation, after absorption through mucous membrane.
- Direct pooling into venous sinuses of brain via, inferior ophthalmic veins.
- Absorption directly into the cerebrospinal fluid.

As this medicine is absorbed in ophthalmic vessels it has its nourishing role in extra ocular muscles and eye proper. Along with this antioxidant property have role in maintaining tissue built. Asthenopia is a condition characterized by sense of fatigue in eye muscle and the symptoms varies from patient to patient. In some patients watering will be more felt while head ache and eye strain will be more felt in other patients. In this study, though there were 30 patients a statistical conclusion is difficult because of the variations in the presentation of patients. When considering the symptoms, for diminished vision and asthenopia, the better improvement is obtained after *Nasya*.

The head ache and eye strain in asthenopia is due to ciliary pain caused by increased muscular effort. The nature of pain is often described as dull aching, boring, superficial, deep seated or migranous. This is because *Vata Kopa* in first *Patala*. The *Rooksha Guna* is mainly involved. *Saha Ashwagandhadi Taila* is *Snigdha* and *Anushna* hence pacifies *Vata* and relieves head ache and eye strain.

Watering in asthenopia due to mild grade inflammation of lids and so the lachrymal glands. Watering occurs because of *Vata Kopa* in *Rasa Dhatu* and here *Rooksha*, *Chala* and *Drava Gunas* will be involved at various stages. *Nasya* does *Uttamanga Shuddhi* in this regard.

b) *Balashatavaryadi Ghrita*

It contains drugs such as *Bala*, *Shatavari*, *Veera/Kakoli (Ashwagandha)*, *Sita*, *Saireyaka* and *Triphala*.

- *Bala* is mainly *Vata Samana* and *Anulomana*.
- *Shatavari* is *Balya*, *Brimhana*, *Rasayana*, *Chakshushya* which helps in the nourishment of eye and maintains normal eye structure.
- *Veera/Kakoli* substitute - *Ashwagandha* has *Balya* and *Brimhana* properties which maintains the

integrity of ocular structures and helps in rejuvenation of tissues.

- *Sharkara / Sita* is having *Madhura, Snigdha* and *Sheeta Guna* predominantly which helps in reducing the asthenopic symptoms like eye strain and watering eyes.
- *Triphala* is a wonderful medicine in the treatment of eye diseases. The place of *Triphala* in Ophthalmology is so high that it is said to be *Agroushadam* for eye diseases.
- *Saireyaka* by virtue of its *Madhura Rasa, Snigdha Guna* and *Usna Virya* reduces *Vata* thereby reduces the *Lakshanas* of *Timira*.

Mode of Action of *Tarpana*

Tarpana^[5] is one among the *Kriyakalpas* mentioned by *Acharyas* in management of *Netra Rogas*, and, *Tarpana* is carried out with the help of various *Ghritha* preparations only. As discussed earlier the disease *Timira* is *Vata Pradhana Tridoshaja Vyadhi*. *Acharya Charaka* has quoted as *Sneho Anilam Hanti*, i.e., in order to pacify the *Vata Dosha Snehana* is the best. He also mentioned *Akshi Tarpana* as one of the 24 *Snehapravicharana* in *Sutrasthana* 13th chapter.

Ghritha is the best among all *Jangama Snehas* and acts as *Balavardhaka, Ojovardhaka, Vayasthapana, Agni Deepana* and *Dhatuposhaka*.

According to *Charaka* (Ch.Sam.Su. 13/14),^[6] *Ghritha* is effective in subsiding *Pittaja* and *Vataja* disorders, it improves *Dhatu*s and is overall booster for improving *Ojas*. *Bhavaprakasha* has also described *Ghritha* as *Rasayana, Chakshushya* and protects body from various diseases.

When we look at above said qualities of *Ghritha*, mode of action for *Akshitarpana Kriya* can be specified as follows:

The *Ghritha* has the quality of trespassing into minutest channels of the body. Hence when applied in the eye, it enters into deeper layer of *Dhatu*s and cleanses every minute part of them. Moreover, *Ghritha* due to its *Samsakaranuvartana* quality easily imbibes the

properties of other drugs processed with it without leaving its own properties.

Also, in the description of *Drishti*, *Sushruta* has mentioned that *Sheeta Dravyas* are *Satmya* for *Drishti*. *Ghritha* is also *Sheeta Virya* hence, the eye being the site of *Alochaka Pitta* can be effectively managed by constantly using *Ghee* for *Akshi Tarpana*. *Ghritha* also possess properties like *Balya, Brimhana* and *Rasayana*, so it gives strength to the overall tissues of the eyeball as well as to the nervous tissues.

Ghritha contains approximately 8% lower saturated fatty acids which makes it easily digestible. It contains vit A, Vit E and β carotene which are anti-oxidants and are helpful in reducing ketone bodies and prevents the oxidative injury to the body.

Mainly Vit A keeps the epithelial tissue of the body intact, keeps the outer layer of the eyeball moist and prevents blindness.

CONCLUSION

The main objective of the study was to evaluate the efficacy of *Nasya* and *Tharpana* in the treatment of Myopia. But during the various steps of the study, some valuable conclusions were also derived. Simple myopia is the most prevalent condition in the present era. It limits the occupational choices with substantial social, educational, economic impact and contributes to increased risk of vision threatening conditions. People belonging to early age group are the major sufferers and it makes them often feel handicapped and this condition even limits some of the professional choices. Improvement in vision was evident soon after *Nasya* where Asthenopic symptoms were relieved during *Tarpana*. Patients with shorter duration of disease showed better improvement than patients of longer duration. No untoward effects were observed, except some discomfort on the first day of *Tarpana*. In overall effect of treatment in simple myopia, out of 30 patients, 12 patients got mild improvement and 18 patients got moderate improvement. Overall effect of the treatment is 63.46% after treatment. It got reduced to 59.43% after first follow up and 52.22% after second follow up.

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How to cite this article: Sabarinath MK, S M Pasha. An observational study to evaluate the efficacy of Saha Ashwagandhadi Taila Nasya and Balashatavaryadi Ghrita Tarpana in Prathama Patalagata Timira with special reference to Simple Myopia. J Ayurveda Integr Med Sci 2022;4:8-14.
<http://dx.doi.org/10.21760/jaims.7.4.2>

Source of Support: Nil, **Conflict of Interest:** None declared.
