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Clinical efficacy of *Madhu Aschyotana* in the management of *Prathama Patalagata Timira* w.s.r. to Simple Myopia - A Pilot Study

Shweta Savalagi¹, Vinod Jadhav², Santosh Pujari³, Manjunath Koutal⁴, Prashanth Kalyanshetty⁵

¹Post Graduate Scholar, Dept. of Shalaky Tantra, Shri Vijaya Mahantesh Ayurvedic Medical College. Ilkal, Karnataka, India.

²Professor and HOD, Dept. of Shalaky Tantra, Shri Vijaya Mahantesh Ayurvedic Medical College. Ilkal, Karnataka, India.

³Associate Professor, Dept. of Shalaky Tantra, Shri Vijaya Mahantesh Ayurvedic Medical College. Ilkal, Karnataka, India.

^{4,5}Assistant Professor, Dept. of Shalaky Tantra, Shri Vijaya Mahantesh Ayurvedic Medical College. Ilkal, Karnataka, India.

ABSTRACT

Sarvendriyanam Nayanam Pradhanam Netra (Eye) is a highly specialized sense organ serving the most important vision function. Almost 90% of knowledge is perceived only through the eyes. But in today's era due to Excessive exposure to dust, smoke, and other pollutants like carbon dioxide emitted from vehicles, factories visual impairments have started. *Ayurvedic* classical texts have mentioned the eye and its diseases since *Vedic* and *Samhita Kala*, thus while explaining *Nidana's*^[1](Causes) of *Netra Roga* they said, as *Sukshma Nireekshana*, *Durekshanat*, *Diva Swapna*, and *Prasakta Samrodhana*, *Vega Vinigraha*, etc lead to the different types of *Netra Roga*. In *Ayurveda*, clinical features related to visual disturbances are generally seen in *Dristigata Roga*. The anatomical consideration of the *Patala* and symptoms of the vitiated *Dosha* situated in these *Patala* reveals that the word *Timira*, described as an ocular pathology in *Ayurveda*, is nothing but the error of refraction. The part of clinical features of *Timira* (*Prathama Patalagata Timira*) can be correlated to simple myopia. Honey is good for the eyes and hence considered under *Chakshushya Dravya's*^[2], and eliminates vitiated *Kapha* and *Pitta Dosha*. Honey has a long history of *Ayurvedic* use for various eye ailments. Administration of *Madhu* in the eyes improves vision or eyesight.

Key words: *Ayurveda*, *Prathama Patalagata Timira*, *Simple Myoipa*, *Madhu*, *Netra*.

INTRODUCTION

चक्षुस्तेजोमयं तस्य विशेषात् क्षेप्ततो भयम् ॥^[3] The eye is full of *Tejas* and has a risk of trouble especially from *Shleshma*. Therefore usage of *Madhu* reduces vitiated *Kapha* and thus good for the eyes. *Madhu* can be indicated in *Timira* i.e., Myopia. The myopia concept

lies in two different problems, on the one hand, it is an optical problem with poor focussing due to a mismatch between eyeball axial length and the lenses composing it (cornea and crystalline). On the other hand, it is still an unsolved medical problem that predisposes a person who has it to suffer other eye pathologies more frequently.^[4] Today there is sufficient evidence that oxidative stress forms part of the molecular bases that participate in the growth and appearance of diseases such as myopia, cataracts, and retinal diseases.

Honey contains many important bioactive plant compounds and antioxidants, such as flavonoids and phenolic acids, polyphenols.^[5] Therefore, using honey for your eyes can help improve your vision. Among the diseases of the eyes one group, known as *Drishtigata rogas* is responsible for visual impairment both, partial and complete. *Timira* comes under this group of diseases of all the ocular diseases. *Timira* is considered

Address for correspondence:

Dr. Shweta Savalagi

Post Graduate Scholar, Dept. of Shalaky Tantra, Shri Vijaya Mahantesh Ayurvedic Medical College. Ilkal, Karnataka, India.

E-mail: shwetasaivalagi1369@gmail.com

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to be the most important one, causing difficulty in vision. The symptoms of *Timira* can be considered as errors of refraction. The anatomical consideration of the *Patalas* as symptoms of vitiated *Doshas* situated in these *Patalas* reveals the word *Timira* which is described as an ocular pathology in *Ayurveda*, is nothing but errors of refraction, especially the *Prathama Patalagata Timira* can be taken as Simple Myopia. Thus, an effort is made to study the Clinical Efficacy of *Madhu Aschyotana* in the management of *Prathama Patalagata Timira* W.S.R to Simple Myopia.

AIMS AND OBJECTIVES

1. To evaluate the effectiveness of *Madhu Aschyotana* before and after improving visual acuity among individuals diagnosed with Simple myopia.
2. To assess the impact of *Madhu Aschyotana* on reducing the progression of Simple myopia in the study population.
3. To investigate and document any potential side effects or adverse reactions associated with the use of *Madhu Aschyotana* in the management of simple myopia.
4. To analyze patient-reported outcomes related to visual comfort, quality of life, and overall satisfaction with the treatment.

MATERIALS AND METHODS

Study design

A randomized selection of 10 Patients suffering from simple myopia irrespective of gender were taken for study.

Inclusion criteria

- Patients having signs and symptoms of *Prathama Patalagata Timira*.
- Patients between the age group of 18 - 25 years.
- Those fit for *Aschyotana*.
- Patient with refractive error -0.25 DS to -3.0 DS.
- Irrespective of Gender, Religion, and Socioeconomic status fulfilling the diagnostic criteria.

Exclusion criteria

- Patients having any other known ocular pathology, e.g. cataract, corneal opacity, etc
- Patients below 18 years and above 25 years.
- Patients having dioptric power more than -3.0 DS.
- *Dwitiya, Tritiya* and *Chathurta Patalagata Timira*.
- Congenital Myopia.
- Myopia with systemic diseases like TB, Hypertension, Diabetes Mellitus, etc.

Intervention

Medicine	<i>Madhu</i>
Administration	<i>Madhu Aschyotana</i> Weekly twice 1 drop in each eye in the morning
Duration	2 months (8 weeks)
Follow-up	3 rd month (12 th week)
Total treatment duration	3Months

Properties of *Madhu*^[6]

Rasa - Madhura

Anurasa - Kashaya

Guna - Rooksha

Veerya - Sheeta

Karma - Chakshushya (Good for eyes), *Lekhana*

Assessment criteria

Gradation index: visual acuity for distant vision

Snellen's distant vision chart	0 - 6/6	100%
	1 - 6/9	90%
	2 - 6/12	80%
	3 - 6/18	70%
	4 - 6/24	60%
	5 - 6/36	50%

	6 - 6/60 to 4/60	40-20%
	7 - 3/60	<10%

Subjective Parameter

The effect of therapy on the Subjective parameter was assessed below:

No improvement	0%
Mild improvement	1-30%
Moderate improvement	31-60%
Marked improvement	61-100%

Showing the effect of the Overall response of *Madhu Aschyotana* after follow-up:

Response	No. of subjects (20)	Percentage
No improvement	4	0%
Mild improvement	16	18%
Moderate improvement	0	0%
Marked improvement	0	0%

DISCUSSION

It is a well-known fact that free radicals are very unstable and highly reactive molecules, thus they exhibit a very good reaction capacity because they have unpaired electrons, and they are very reactive because of this instability. So all these factors contribute to oxidative stress.^[4]

The first clear evidence for a relationship between oxidative stress and myopia probably came about through the research conducted.

Thus there is evidence that oxidative stress forms part of the molecular bases that participate in the growth and appearance of diseases called myopia. The antioxidants present in Honey play a vital role in encountering oxidative stress which is the responsible factor for myopia.

Madhu Aschyotana, an Ayurvedic formulation, likely exerts its therapeutic effects on *Prathama Patalagata Timira* (Simple Myopia) through several potential mechanisms:

- 1. Nourishment of Ocular Tissues:** Ayurvedic formulations often contain antioxidants, vitamins, and minerals that nourish the ocular tissues. These nutrients may support the health and function of the eye, potentially reducing strain and improving visual acuity.
- 2. Improvement of Blood Circulation:** Some components of *Madhu Aschyotana* may possess properties that enhance blood circulation to the eyes. Improved blood flow can ensure adequate oxygen and nutrient supply to ocular structures, promoting overall eye health and potentially alleviating symptoms of Simple Myopia.
- 3. Regulation of Doshas (Biological Humors):** According to Ayurvedic principles, imbalances in doshas can contribute to disease. *Madhu Aschyotana*, through its ingredients and formulation, may help rebalance doshas related to vision health, thereby addressing the underlying causes of Simple Myopia.
- 4. Maintenance of Optic Nerve Function:** Ingredients in *Madhu Aschyotana* may possess neuroprotective properties, helping to maintain the health and function of the optic nerve. This can potentially prevent or slow down the progression of Simple Myopia by preserving the integrity of the neural pathways involved in vision.

CONCLUSION

Madhu being a *Chakshushya Dravya* has Anti-oxidant properties thus reducing oxidative stress which is the main cause of myopia. During this study, there are no potential adverse effects noted like redness, burning sensation, ocular pain, and other inflammatory symptoms. As per this study, the overall assessment of results shows that among the 20 subjects, 16 subjects have shown mild improvement with a percentage of 18% (Average), and the other 4 subjects haven't. Since the study of *Madhu Aschyotana* is done twice a week,

this may be a factor for not getting moderately marked improvement. So, for a further research study, it can be recommended that *Madhu Aschyotana* be done on daily and larger sample size. Through this pilot study, we can conclude that *Madhu Aschyotana* is safe, cost-effective, and easy to practice without any adverse effects and one can practice *Madhu Aschyotana* in cases of *Kaphaja Timira*, *Prathama Patalagata Timira*, *Kaphaja Abhishyanda* and other *Kaphaja Netra Roga* related *Vyadhis*.

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