



Case Study

PHARMACEUTICO THERAPEUTICS OF *SHADBINDU THAILA* - A CASE STUDY ON EFFICACY IN *TIMIRA* W.S.R. TO MYOPIA

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ABSTRACT

Nasyakarma is one among the *Panchakarma* procedures in which, the medicated drugs are administered through the nasal route and is indicated specially for the treatment of *Urdhwajathrugatharogas* i.e., the disorders of head and neck. *Prathimarsha nasya* is a type of *Nasya* wherein the medicament is administered in smaller dosage and advisable in all age groups and conditions.

Material and methods: *Shadbindhu taila* containing different *Vatahara* and *Kaphahara* drugs processed along with *Ajakshira* was prepared in the laboratory of Rasashastra and Baishajyakalpana of SDM college of Ayurveda, Udupi, as per the classical reference and with all precautions. Single case study was taken up in a patient diagnosed of *Timira* viz myopia

Results and discussion: *Shadbindhu taila* is *Tikta - katu rasa, Madhuravipaka*, having *Ushnathikshnaguna*. It helps in decreasing the excessive secretions from the mucus membrane of nose, dryness as well as the inflammation of the nose. It is useful in strengthening the functions of eyes, growth of hair, maintaining the integrity of the teeth. A single case study was taken up to access its efficacy in *Timira* w.s.r. myopia and it is found to have promising results.

Conclusion: *Shadbindhu taila* has shown improvement in the patient when used in the form of *Prathimarsha nasya*. Further study with larger sample size has to be done and with different stages of myopia can be done for further evaluation.

KEYWORDS: *Prathimarsha nasya, Snehakalpana, Urdhwajathru.*

INTRODUCTION

Myopia or nearsightedness also known as short sightedness is a refractive error of eyes. It is a disorder where the light is focused in front of the retina, instead of on the retina. Due to this the distant objects seems to be blurry and near objects appear normal. It is a very common condition throughout the world. The prevalence of myopia has been reported to be as high as 70-90% in some Asian population with Taiwan reporting a myopic prevalence of 84% among 16-18 - years old high school students. Uncorrected refractive errors are the most common cause of visual impairment and second major cause of avoidable blindness in India. According to the World Health Organization (WHO)- NPCB survey in 1989, 1.49% population in India is blind of which 7.35% is due to refractive errors. The proportion of blindness due to refractive error increased to 19.7% A 3/4th of visual impairment was attributed to refractive errors in the same survey^[1].

As per Guytons physiology the pathophysiology^[2] of this disease is, when the ciliary muscle is completely relaxed, the light rays coming from distant objects are focused in front of the retina. This is usually due to too long eyeball, but it can result from too much refractive power in the lens system of the eye. No mechanism exists by which the eye can decrease the strength of its lens to less than that which exists when the ciliary muscle is completely relaxed. A myopic person has no mechanism by which to focus distant objects sharply on the retina. However, as an object moves nearer to the person's eye, it finally gets close enough that its image can be focused.

Cause of this disorder of eye is mainly said as the combination of genetic and environmental factors^[3]. Also there seems to be some link with myopia and socio economic factors. Higher levels of education, better housing, higher individual monthly income, white collar or professional occupation

parents, children seem to inherit myopia. Also activities such as reading, writing, computer activities, playing video games have suggested responsible for myopia. Lack of outdoor activities also is one of the major causes.

Symptoms of this disease includes blurred vision, distorted vision, eye strain, fatigue when performing Near- work like studying or driving, head ache usually in the evening due to straining and squinting eyes when trying to read far away objects. Correction of Myopia is by use of lenses. Refractive power can be neutralized by placing in front of the eye a concave spherical lens in form of spectacles or contact lens, which diverge the rays.

In Ayurveda it is correlated to *Timira* the word *Timira* indicates the darkness. Conditions with gradual loss of vision leading to blindness are considered as *Timira*. As per Acharya Sushruta^[4] *Timira*, *Kacha* and *Linganasha* are three stages of the same disease and in the last stage of these will be complete blindness. *Timira* too is explained in stages, where in the *Dosas* viciate the *Patalas* or layers of eyes which are situated one behind the other. When the first *Patala* i.e., outer most *Patala* is affected. It is mild in nature and gradually inner *Patalas* when gets affected can lead to disorders of serious nature to eyes.

Prathama pataala gatha timira, is when the vitiated *Dosas*, move or gets *Sthana samshraya* towards eyes, first reach the *Prathma patala* of the eye. The patient will have blurred vision. This is explained as *Avyaktha darshana* by Sushruta, *Animittha Avyaktha roopa darshana* by Acharya vagbhatta and *Kadachith roopa darshana* by Acharya Madhava^[5] if untreated will encroach the second *Patala*.

Treatment of this includes *Gruthapana*, *Nasya*, *Virechana*, *Basthi karma*, *Kriyakalpa* like *Anjana* etc, *Siravyada* etc. In this study *Prathimarsha Nasya* with *Shadbindhu Taila*^[6] is taken up.

MATERIALS AND METHODS

Shadbindhu thaila was prepared in the Rasashastra and Bhaishajya laboratory of S.D.M. College of Ayurveda. The reference of Bhaishajya Rathnavali was followed.

Pharmaceutical preparation: Raw drugs were collected. *Eranda* (*Ricinus communis*), *Tagara* (*Velerian wallichil*), *Jeevanthi* (*Leptadenia reticulate*), *Shathapushpi* (*Pimpinella anisum*), *Rasna* (*Hybanthus enneaspermus*), *Saindava* (Rock salt), *Shringi* (*Pistacia chinensis*), *Vidanga* (*Embelia ribes*), *Yasthi madhu* (*Glycyrrhiza glabra*), *Shunti* (*Zingiber officinale*).

These were taken and pounded in separate *Ulukala yantra* or pounding machine and made into fine powders of 1.5 grams each. *Aja Ksheera* was collected from a local farmer which was 60ml in quantity. Equal amount of *Thaila*, *Tila thaila* which had undergone *Moorchana* during pervious practical was taken i.e in 60 ml. Fresh *Bringaraja* (*Eclipta alba*) was collected and churned to obtain 240ml of *Swarasa*. Table 1 shows the ingredients and their quantity taken.

Table 1 Ingredients and their Quantity taken

Ingredients	Quantity
<i>Eranda</i> (<i>Ricinus communis</i>)	1.5 gram
<i>Tagara</i> (<i>Velerian wallichil</i>)	1.5gram
<i>Jeevanthi</i> (<i>Leptadenia reticulate</i>)	1.5gram
<i>Shathapushpi</i> (<i>Pimpinella anisum</i>)	1.5gram
<i>Rasna</i> (<i>Hybanthus enneaspermus</i>)	1.5gram
<i>Saindava</i> (Rock salt)	1.5gram
<i>Shringi</i> (<i>Pistacia chinensis</i>)	1.5gram
<i>Vidanga</i> (<i>Embelia ribes</i>)	1.5gram
<i>Yasthi madhu</i> (<i>Glycyrrhiza glabra</i>)	1.5gram
<i>Shunti</i> (<i>Zingiber officinale</i>)	1.5gram
<i>Aja Ksheera</i>	60ml
<i>Tila thaila</i> (<i>Moorchita</i>)	60ml
<i>Bringaraja</i> (<i>Eclipta alba</i>) <i>Swarasa</i>	240ml

Moorchitha tila thaila, *Bringaraja swarasa* and *Aja ksheera* were taken in mentioned quantity in a brass vessel and *Kalka* of above mentioned powders were added and heated in low flame. (Figure 1) Occasional stirring was done as it contained *Aja Ksheera* and that used to rise. After about 15 minutes all the ingredients got thoroughly mixed. After 35 minutes large and unequal sized bubbles started forming (Figure 2). After 45 minutes the *Kalka* got separated from the liquid portion. Forms had become uniform sized. During this time the *Kalka* was checked for whether it forms a *Varthi* or wick. Also it was put in flame for testing any sounds which can be heard if water particles remaining in the *Kalka*. In another two minutes the *Sneha siddhi lakshana*^[7] were obtained (Figure 3). The *Thaila* was immediately filtered through a clean cloth into clean vessel and measured. 90ml of *Shadbindhu taila* was obtained. Organoleptic characters of the obtained *Thaila* are given in the table 2. This preparation was then packed in 5ml dropper bottles for giving it to patients for purpose of *Nasya* (Figure 4).

Table 2: Organoleptic characters of Shadbindhū Taila

State	Liquid
Colour	Reddish brown
Smell	Pleasant characteristic smell
Touch	Oily
Total quantity taken	360ml
Obtained quantity	90ml
Loss percent	75%

Case study

History of patient: A Female patient of age 27years has the main complaint of difficulty in reading far off objects since 3 years. Table 3 gives details on complaints and associated complaints of the patient. The onset was gradual over 3 years. She had difficulty in watching the power point presentations from last benches and gradually even from the middle benches. She used to develop watering of eyes whenever she worked continuously on computer screen and mobile phones. Whenever she watched movies specially with subtitles she used to end up in severe headache and excessive tiredness of eyes which used to reduce on keeping cold packs on eyes and getting a good night's sleep. She observed that these symptoms gradually increased and she usually did not prefer to work after 5pm as she observed fatigue. Hence a friend of hers advised to get her eyes checked and found to have myopia. As she did not want to start wearing spectacles so she approached Ayurvedic physician for help.

Table 3: Details of Complaints

Main Complaint	Gradual / Sudden	Duration
Diminished vision	Gradual	3 years
Associated symptoms	Right eye/Left Eye/Both eye	Duration
tiredness and watering of eyes headache on-off	Both eye	1 year

Family history: Both parents and sibling are known to be using correction lens for Myopia

Personal history: She is a non vegetarian. Gets a sound sleep in fact has increased due to fatigue. Bowel is well formed and normal color and consistency. Micturation is also normal. She has a good Appetite and gets hunger time to time.

Physical examination: Physical examination showed all the parameters in normal limits. As per Ayurveda *Astasthana Pariksha* is given in the Table 4.

Table 4: Astasthana pareeksha

<i>Nadi</i>	68/min
<i>Moothram</i>	<i>Prakrutha</i>
<i>Mala</i>	<i>Prakrutha</i>
<i>Jihwa</i>	<i>Unupaliptha</i>
<i>Sabdham</i>	<i>Prakrutha</i>
<i>Sparsha</i>	<i>Prakrutha</i>
<i>Drik</i>	<i>Dosa in drusti</i>
<i>Akruthi</i>	<i>Prakrutha</i>

Examination of Eye^[8]

Physical examination: Eye brows, Eye lashes, Eye lids, Conjunctiva, Sclera, Cornea etc structures of both the eyes were normal. Functional examination of eye was done using Snelln's chart and Auto refractor. The value obtained is given in the Table 5.

Table 5: Vision test 1 - Before treatment

Date	Treatment progress (Day)	Right eye (D.V)	Left Eye (D.V)
26/11/2019	Before Treatment Day 0	6/18 partial	6/18

Treatment: Patient was advised to administer 2 drops of *Shadbindhu thaila* into each nostril every morning after bath. For 15 days and then come for follow up. After that she was advised to come on 40th day.

OBSERVATION

Patient had felt the difference in one week of the treatment. She had felt the soothing effect on eyes. Watering of eyes was absent within one week of application. The symptom of tiredness of eyes had disappeared within a span of 15 days of application. Also patient had felt physically active and had feeling of lightness in *Urdhwajatru*. As an added benefit the hair fall was decreased in the patient. On 40th day of treatment vision test was repeated with using Snelln’s chart and Auto refractor. Observations are given in Table 6.

Table 6: Vision test 2 – After Treatment

Date	Treatment progress (Day)	Right eye (D.V)	Left Eye (D.V)
6/1/2020	During Treatment Day 40	6/12 partial	6/9 partial

Figures



Figure 1: All the drugs and *Kalka* added



Figure 2: During the *Paka*

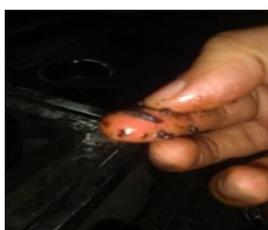


Figure 3: *Sneha siddhi lakshana*

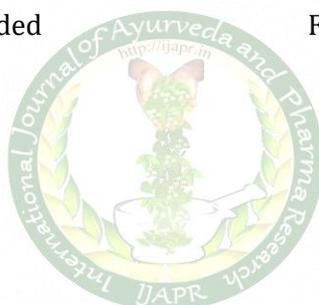


Figure 4: Packed *Shadbindhu thaila*

RESULTS AND DISCUSSION

Myopia is a refractive disease of eyes having a high prevalence. Incidence of this disorder is increasing due to use of mobile phones, T.V., Video games, Laptop etc due to digitalization of the world. Lesser outdoor activity, less nutritious diet which may be due to lack of food or due to the increased intake of junk foods too is adding on to the increase of the myopia cases.

Ayurveda says that the cause for the *Prathama patala gatha timira* is due to vitiation in the *Rasa* and *Raktha dhathu*^[9] by the *Dosa* which has in turn has got vitiated due to improper food habits. As per Acharya Nimi on the cause for the *Timira* to gradually increase^[10] is that the coving of the *Patala* there will be gradual growth with is painless hence neglected (*Upekshitha*). Hence there will be further accumulation of *Dosa*. These *Dosa* gets stable in that area and later on will not allow even the medicines to penetrate through. At last it can end up in blindness too.

Therefore there is a need for effective medicine for this disorder. People in this busy world find it difficult for long procedures. A *Prathimarsha nasya* with a potent medicine like *Shadbindhu thaila* can be an answer.

Shadbindhu thaila has ten *Kalka dravyas* most of them are *Kapha-vata hara* and having mainly *Netriya* action. They provide strength to *Netra* and improve its functions. As we have seen the patho physiology of myopia points at the relaxation of the ciliary muscles. These muscles gain strength and nourishment through the drugs of *Shadbindhu thaila* which is being administered as *Prathimarsha nasya*. Also the *Aja Ksheera* in the formulation has a higher concentration of Vitamin A^[11] which is most essential for the health of the eyes. *Tila thaila* itself is having *Chakshushya* property.

Route of administration is *Nasa* i.e., through the nasal route it is the window of the *Siras*.^[12] Also it is nearest opening to the eyes hence that too plays a role in improvement in the patient.

CONCLUSION

Hence can be used for myopic patients to prevent or postpone or treat the disorder. Patient also gets the added benefits of good hair growth, stronger teeth, and good health of the shoulder joints as they too are the indications of this preparation as per the reference. Further studies with larger group of patients and on different severity of myopia has to be done to prove and document the efficacy of *Shadbindhu taila*.

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Cite this article as:

Radhika Bhat, Radhika Ranjan Geetesh. Pharmaceutico Therapeutics of Shadbindu Thaila - A Case Study on Efficacy in Timira w.s.r. to Myopia. International Journal of Ayurveda and Pharma Research. 2020;8(6):44-48.

Source of support: Nil, Conflict of interest: None Declared

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