

A CLINICAL COMPARATIVE STUDY ON THE EFFECT OF SHATAHWADI GHRITA TARPANA WITH OR WITHOUT BHRINGARAJA TAILA NASYA IN THE MANAGEMENT OF TIMIRA W.S.R. TO MYOPIC ASTIGMATISM

Gautam Nupur¹, Hiremath Veerayya², Shashikala³, Gururaj⁴

¹M.S. (Scholar), ²M.S, PhD, Professor (& Head), ³M.S, Assistant Professor, ⁴M.S, Assistant Professor, Department of Shalakya Tantra, SJGAMC & hospital, Koppal, Karnataka, India

Email: drgautam247@gmail.com

ABSTRACT

Background & Objectives: *Timira* is one among the *Drishtigata roga*. It can be compared to Astigmatism based on the clinical features. Astigmatism is a type of refractive error wherein the refraction varies in different meridians of the eye. At present surgical treatment is the only satisfactory approach; recurrence after surgical intervention is common. Considering a non-surgical management, glasses and contact lenses are the most common methods to correct astigmatism, which neither stop nor prevent the progression of the condition. The *Ayurvedic* approach of the disease mainly concentrates on preventing the progression of the disease. With this aim clinical study was undertaken. The objective of the study was to compare the effect of *Shatahwadi ghrita tarpana* with and without *Bhringaraja taila nasya* in the management of myopic astigmatism. **Methods:** In this study 30 patients were randomly selected and divided into 2 groups, with 15 patients each. In Group A, patients were treated with *Shatahwadi ghrita tarpana* and *Bhringaraja taila nasya* for two sittings of 5 days each with a gap of 10 days. Group B were treated with only *Shatahwadi ghrita tarpana* for two sittings of 5 days each with a gap of 10 days. The research was a mixed methods study (quantitative & qualitative analysis). The parameters were tested for significance at $p= 0.05$. **Results:** There is statistically significant effect of *Bhringaraja taila nasya* with *Shatahwadi ghrita tarpana* in the management of *Timira* on comparative analysis within the groups before and after treatment at $p=0.01$. The calculated data shows the comparative result is insignificant ($p> 0.05$) between the groups. **Interpretation & Conclusion:** Myopic Astigmatism (*Timira*) is result of various structural changes in eye. *Vata dosha* is responsible for any structural changes in the body. Both the drugs *Bhringaraja taila* and *Shatahwadi ghrita* used for the treatment, possess *vatashamaka*, *balya*, *rasayana* and *chakshushya* properties. Which helped in alteration disease process of Myopic Astigmatism (*Timira*) resulting in improvement in objective parameters along with subjective parameters.

Keywords: Myopic Astigmatism, *Timira*, *Tarpana*, *Nasya*, *Shatahwadighrita*, *Bhringarajataila*.

INTRODUCTION

Timira¹ means darkness or blurriness¹. The condition with blurriness as symptom is called as *timira roga* in Ayurveda under *drishtigata roga*. Its clinical features includes, *avyaktani-sarupani-sarvanyeva-prapashyati* (whatever the person see is blur)². *avyaktama-ikshate* (not clear vision), *vyaktama-api-animitatah* (sometimes it is clear without any reason), There is also diminution of vision for distant objects (*dooresookshmama cha naekshate*), the vision is severely or deeply distorted (*drishtir-bhrishamama-vihavalati*), difficulty in perceiving the correct image (*yatna-aasannama*) even when person subjectively tries to accommodate by tilting head, squinting/squeezing eyes, etc., and *arunaa-bhasam*, i.e. the red color will appear brighter than usual. These may cause eye strain, headache and fatigue³.

Prathama patalagata Timira is *sadhya* i.e. curable and *dwitiya patala gata timira* is *yapya* i.e. relievable/treatable *Vyadhi* (*Vataja* type).⁴

Sushruta has advocated various forms of *snehana* viz, *nasya* and *pana* for *vata*-predominant *drishti-gata vyadhi*.⁵ The *snehana*, *shodhana* & *chakshushya* properties of the drugs used for *nasya* and *tarpana* procedures help in *preenana* (nourishment) of the *patalas* by supplementing the nutrition and help in establishment of *prasanna-netra* (clear vision).

Astigmatism is a type of refractive error wherein the refraction varies in the different meridian of the eye. Consequently, the rays of light entering in the eye cannot converge to a point focus but form focal lines. Patient usually have blurred or distorted vision in significant amounts of astigmatism and in mild astigmatism, there is complaint of headache, eye strain, fatigue, or blurred vision at only certain distances. Astigmatism is corrected using cylindrical lenses for spectacles, contact lenses and surgical procedures like vision corrected surgery with Phakic refractive lenses, Refractive Lens Exchange, LASIK and Photo astigmatic Refractive Keratotomy.⁶ All these treatment procedures (though less time consuming and mostly safe) have some specific complications that may or may not be managed post-surgery. Besides, many people with the diagnosed condition are not fit and/ or willing for the surgery.

The clinical features of *Prathama patalagata*, *dwitiya patala gata* and *vataja* types of *timira* are similar to simple and compound types of regular myopic astigmatism.

Nasya is the best modality to approach *urdhwa jatrugata rogas*⁷ and *Tarpana* for *Timira*.⁸ Thus in order to find out a solution to the problem *timira* (myopic astigmatism) without surgical intervention, this work was taken for clinical evaluation with *Shatahwadi ghrita*⁹ *tarpana* with or without *Bhringaraja taila*¹⁰ *nasya*, both having *snehana*, *tridosha shamaka* and *chakshushya* properties and analyzed statistically.

AIM OF THE STUDY:

A clinical comparative study on the effect of *shatahwadi ghrita tarpana* with or without *bhringaraja taila nasya* in the management of *timira* w.s.r. to myopic astigmatism

OBJECTIVES OF THE STUDY:

1. To evaluate the efficacy of *shatahwadi ghritam tarpana* with *bhringaraja taila nasya* in the management of myopic astigmatism.
2. To evaluate the efficacy of *Shatahwadi ghritam tarpana* without *Bhringaraja taila nasya* in the management of myopic astigmatism.
3. To compare the effect of *Shatahwadi ghritam tarpana* with and without *Bhringaraja taila nasya* in the management of myopic astigmatism.

STUDY DESIGN: Open labeled Comparative Clinical Study.

ETHICAL CLEARANCE: The Ethical Clearance for the study was taken from Institutional Clinical Ethical Committee SJGAMC & HOSPITAL, KOPPAL, India with ref. no. SJGAMCHKPL/ICEC/16-17/34.

MATERIALS & METHODS:

SOURCE OF DATA: Sample source: The sample size was 30 in total. The patients were screened from the outpatient department of Shalakyta Tantra, Shree Jagadguru Gavisiddheshwara Ayurvedic Medical College and hospital, Koppal, Karnataka; the patients fulfilling the selection criteria were selected irrespective

of their sex, caste and socio economic status and occupation and allotted to two groups by a method of simple random sampling procedure.

Drug source: All the raw materials were collected from the local medicine herb dealer and their authentication was done from Dravyaguna department of SJGAMC Koppal.

METHODOLOGY: Method of drug preparation: The medicines were prepared according to classical preparation methods of ghrita (medicated ghee) and taila (medicated oil)¹¹ in Rasa Shastra Bhaishajya Kalpana Department of SJGAMC Koppal..

Ingredients of Shatahwadi ghrita:

- Powders of *Shatapushpa (Anethum sowa)*, *Kusta (Saussurea lappa)*, *Jatamamsi (Nardostachys*

jatamamsi), *Kakoli (Lilium polyphyllum)*, *KsheeraKakoli (Fritilaria roylei)*, *Yastimadhu (Glyccerhiza glabra)*, *Prapoundarika (Saccharum officinarum)*, *Sarala (Pinus roxburghii)*, *Pippali (Piper longum)*, *Devadaru (Cedrus deodar) – 50gms each*

- Cow’s ghee - (*Moorchitha Go Ghrit*) – 500gms
- Cow’s milk – 4 liters;
- Water- 2 liters

Ingredients of Bhringaraja taila:

- *Bhringaraja swarasa* = 2.5 Liters
- *Tila taila* = 500 ml
- *Mulethi kalka* = 60 grams
- Cow’s milk = 2.5 Liters

Method of Drug Administration:

POSOLOGY:

Table1: GroupWise drug posology and duration of the treatment)

	Group A (<i>SHATAHWADI GHRITA</i>)	Group B (<i>BHRINGARAJA TAILA</i>)
Mode Of Administration & Duration	Two sittings of 5days <i>Netra tarpana</i> with the gap of 10 days each.	Two sittings of 5days <i>Netra tarpana</i> and <i>Bhringaraja taila Nasya</i> with the gap of 10 days.
Advice And Regimen To Be Followed After The Procedure.	<ul style="list-style-type: none"> • Not to go under sun, rub eyes, or strain eyes (reading, watching television) just after the procedure. He/she should not gaze at bright flames, wind, sky, mirror and shining objects and should adhere to healthy food and activities for double the number of days of these therapies. • During night he/she should bind the eye with a pad of flowers like <i>Malathi (Aganosa heynei)</i>, <i>Mallika (Jasminum multiflorum)</i> 	

Assessment: Patients were assessed on before treatment and 6th, 16th & 21st day during treatment and the Clinical observations were recorded systematically and thoroughly in Case Record Form prepared for the study.

Follow up: 30 days (every 15th day). Patients were advised for follow up twice, after 15 days and 30 days respectively.

Method of study design: An open label clinical comparative study of 30 patients fulfilling the inclusion criteria; will be allocated at random to receive one of the two comparative clinical interventions divided into two groups of 15 patients each.

SELECTION CRITERIA:

The selection of patients was based on clinical features of timira mentioned in *Ayurveda* as well as astigmatism of modern ophthalmology.

(a) INCLUSION CRITERIA:

1. Patients complaining of *Avyakta* (blurriness) and *vihvala* (distorted) *drushti*.
2. Patients presenting with the clinical symptoms of simple and compound myopic astigmatism namely defective vision, blurring of objects with or without asthenopic symptoms.
3. Patients between age group of 10 to 30 years.
4. Refractive error ranging from -0.25D to -1.50D (cylindrical and spherico-cylindrical)

(b) EXCLUSION CRITERIA:

1. All other *drishtigataavikaras* including *timira* affecting 3rd, and 4thpatalas.
2. Patients having lenticular or corneal opacity and any other known ocular pathology.
3. Simple and compound hypermetropic; irregular astigmatism.
4. Congenital, progressive and pathological astigmatism.

GRADATION PARAMETER:

To assess the effect of therapy, all the signs and symptoms were given scoring depending upon their severity as below:

SUBJECTIVE CRITERIA-

1. *Avyaktadarshana/ vihvaladrushti*: subjective blurring of vision as assessed on visual acuity even though patient may / may not read the line; and complains of blurring of vision while driving, or recognizing distant objects and known people at distant graded verbally on the scale of 1 to 10.
2. Eye strain (On the basis of Visual Analogue Scale)
3. Head ache (On the basis of VAS scale)

OBJECTIVE CRITERIA-

1. Visual efficiency by Visual Acuity: Snellen’s chart reading
2. Auto refraction instrument reading and Clinical refraction- Total refraction by the dioptric power required for full optical correction.

Grading of parameters:

Table 2: Grading of subjective parameters

Grade	Blurring of vision	Headache/VASpoints	Eye strain	Snellen’s chart reading
0	Never	NO PAIN(0)	Never	6/6
1	Very little	VERY LITTLE(1-2)	Little	6/9
2	Little	LITTLE(3-4)	Much	6/12
3	Moderate	MODERATE(5-6)	Never	6/18
4	Much	MUCH(7-8)	Little	6/24
5	Very much	VERY MUCH(9-10)	Much	6/36
6	-	-	-	6/60

Table 3: Cylindrical and spherical power of auto refraction instrument and clinical correction

Cylindrical values	Grade:	Cylindrical values	Grade:	Cylindrical values	Grade:
-0.25D	Grade 1	-0.75D	Grade 3	-1.25D	Grade 5
-0.50D	Grade 2	-1.0D	Grade 4	-1.50D	Grade 6
Spherical values:	Grade:	Spherical values	Grade:	Spherical values	Grade:
-0.25D	Grade 0	-2.0D	Grade 7	-3.75D	Grade 14
-0.50D	Grade 1	-2.25D	Grade 8	-4.0D	Grade 15
-0.75D	Grade 2	-2.50D	Grade 9	-4.25D	Grade 16
-1D	Grade 3	-2.75D	Grade 10	-4.50D	Grade 17
-1.25D	Grade 4	-3.0D	Grade 11	-4.75D	Grade 18
-1.50D	Grade 5	-3.25D	Grade 12	-5.0D	Grade 19
-1.75D	Grade 6	-3.50D	Grade 13		

Assessment of overall response:

To evaluate the effect of treatment on individual parameters in Group A and Group B independent sample t test, repeated measures ANOVAs and post-hoc

bonferroni were applied. The tests were applied as follows:

1. Comparison between the groups on individual parameters using independent sample t test.

2. Comparison of the groups at different time intervals using repeated measures anova.
3. Post-hoc bonferroni for multiple comparisons results between the different time intervals to evaluate the significance in specific time intervals.
4. Comparison of right and left eye using paired sample t test on individual parameters. The test of significance was set at $p= 0.05$.

INVESTIGATIONS: - Nil –

OBSERVATIONS & RESULTS:

Demographic analysis:

Based on socio-economic status: Among 30 patients (group A and Group B), maximum patients were middle class (66.66%).

According to education: Out of total 30 patients in Group A and Group B, maximum patients were graduated i.e. 17 (56.6%)

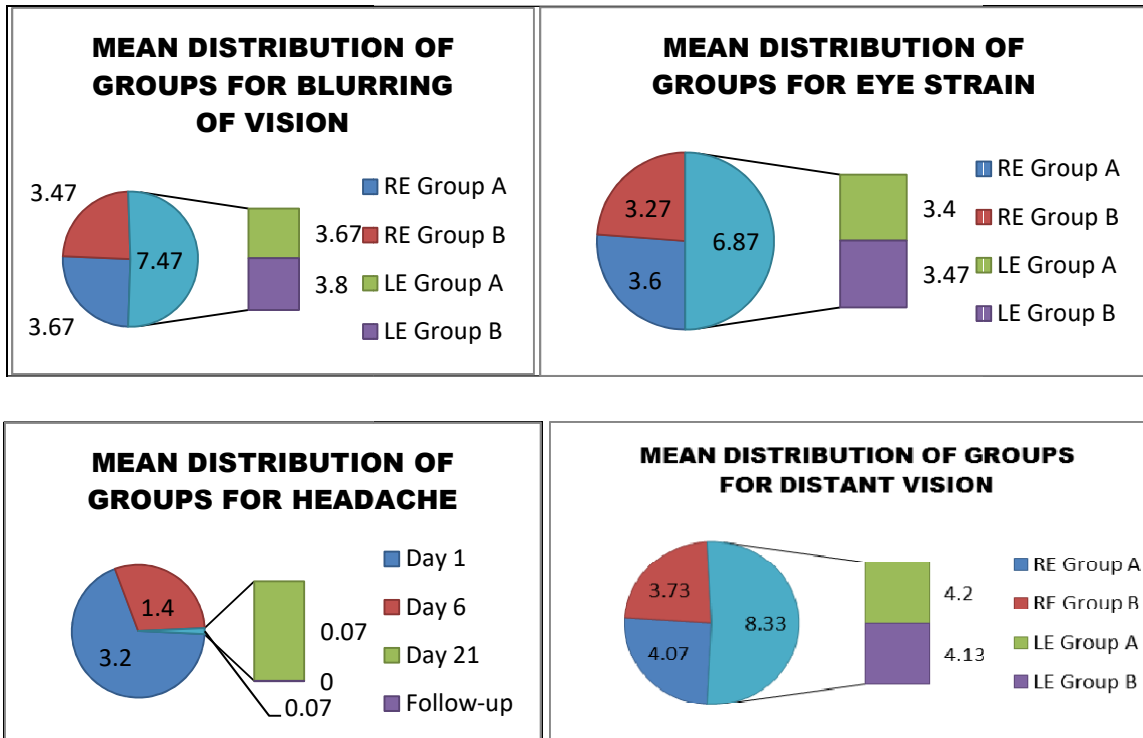
According to occupation: Out of total 30 patients in Group A and Group B, maximum patients were found to be students, 19(63.33%). In GroupA, 2(13.3%) were housewives, 9(60%) were students and 4(26.6%) were office workers [including 1(6.7%) advocate, 1(6.7%) engineer and 2(13.3%) teacher]. In Group B 1(6.7%) was housewife, 1(6.7%) was manager, 1(6.7%) was mechanic, 10(66.7%) were students and 2(13.3%) were teachers.

While observing family history: In group A family history was present in 5 patients (33.3%), while in group B it was found in 4 patients (26.7%)

Disease analysis:

While observing subjective parameters: Out of total 30 patients in group A & B, all the subjective parameters were found in both the groups except eyestrain, which was present in 14(93.3%) subjects and absent in 1(6.7%) subject in group B.

Assessment of results:



COMPARISON OF GROUPS FOR AUTO REFRACTOMETER READING (CYLINDRICAL)



COMPARISON OF GROUPS FOR AUTO REFRACTOMETER READING (SPHERICAL)



RESULTS:

- Both *Shatahwadi Ghrita Tarpana* with or without *Bhringaraja Taila Nasya* gave symptomatic relief in all subjects.
- The calculated data shows the comparative result is insignificant ($p > 0.05$) between the groups.
- Comparative analysis within the groups before and after treatment was statistically significant at $p = 0.01$.
- Multiple comparisons results for the effect of varied duration (before, during & after treatment and follow up) on efficacy of treatment within the two groups (group A and group B) was statistically significant at $p = 0.05$.
- The comparative inference between the right and left eye for different parameters is statistically found to be insignificant.

DISCUSSION

I. On disease:

The samples of the study were majorly from student age group and of lower-middle socio economic status. This indicates major disease process of *Timira* takes place in student age group because of exposure to bright light (laptops, smart phones, etc), reading and writing, late night activities and less sleep. Even the low value nutrition level of lower-middle socio economic status has impact in this.

II. On drugs and procedure:

1. *Shatahavadi ghrita tarpana*:

Tarpana provides nourishment to eye and strengthens the ocular structures because of its higher tissue contact time and bio availability. The ghee used in *tarpana* takes the absorbed medicines to cells of eye structures because of lipophilic action.

Ingredients of *shatahavadi ghrita* possess *vatashamaka*, *balya*, *rasayana* and *chakshushya* properties, which helped in alteration disease process. *Ghrita* also contains properties like *balya*, *brimhana*, and *rasyana*, so it gives strength to the overall tissues of the eyeball as well as the nervous tissues. *Ghrita* contains vitamin A, D, E, K and carotene in it. Vitamins A and E are antioxidants and Vitamin A also keeps the outer lining of the eyeball moist.

2. *Bhringaraja taila nasya*:

Nasya karma is a therapeutic measure in which the medicated drug is administered through nasal route mainly to eliminate or extinguish the vitiated *Doshas* situated in head and its constituent parts, curing the diseases of that part. (*Urdhvajatrugatavikaras*).

In *Bhringarajataila*, the base *tilataila* was used as a media or vehicle and by virtue of properties *vyavayi* (quick spread), *sookshma* (minuteness), *Saraguna*(flow) it can reach to every minute channel. The cow milk itself is *chakshushya*(good for eye) and also helps in pacifying doshas.

Other ingredients also possess *tridosha-hara*, *rasyana*, *chakshushya* and *balya*, which help in altering the disease process.

III. On result:

1. Comparison between Group A and Group B:

The comparative statistics was done to evaluate the efficacy of *Shatahwadi ghrita tarpana* with or without *Bhringaraja taila nasya* in the management of *timira* i.e. Myopic Astigmatism as expressed by three subjective parameters (blurring of vision, eye strain and headache) and objective parameters (auto-refractometer reading and visual acuity testing).

The calculated data shows the comparative result is insignificant ($p > 0.05$) between the groups.

The mean value, however, was found higher for Group A (Group A > Group B) in overall assessment which is suggestive that there was mean difference between the groups. For example, during before verses after evaluation of the treatment, on 6th day after 1st sitting of the treatment protocol, the mean difference in right eye was found 1.13 and 0.53 in Group A and Group B respectively. This clearly shows Group A has better result after 6 days of the treatment (Group A > Group B); if we increase sample size then we might obtain significant results. Therefore, further research is needed with large sample size.

2. Comparison within the groups at different time intervals:

Comparative analysis of effect of *Shatahwadi Ghrita Tarpana* with or without *Bhringaraja Taila Nasya* (group A and group B) within the groups before and after treatment was statistically significant at $p=0.01$

There was no significance in results between first and second sitting protocol of the treatment. But second sitting helps in reduction of power clinically (as checked through visual acuity and autorefractometer).

3. Comparison of right and left eye using paired sample t test:

In Group B, when we started with the treatment, the difference in characteristic presentation of blurring of vision between the two eyes was statistically significant at $p= 0.05$. But during & after treatment there was no significant change observed between right eye and left eye. It was found non-significant for Group A in all the durations irrespective of the eye. Henceforth, the original values and the changes observed after the completion of procedures in the two groups statistically insignificantly varied between the two eyes in overall assessment of the subjects.

The comparative inference between the right and left eye for the eye strain is statistically found to be insignificant.

CONCLUSION

Both *Shatahwadi Ghrita Tarpana* with or without *Bhringaraja Taila Nasya* are effective in management of *timira*. It is beneficial to administer *nasya* along with *tarpana* procedure in order to have a satisfying

result with respect to improvement in vision and correcting the refractive error i.e. Myopic Astigmatism.

FUTURE SCOPE AND LIMITATIONS:

- Multi centric trial can be carried out with larger sample size.
- Histopathology study to prove the mechanism of healing of Astigmatism with *nasya* and *tarpana* can be done.
- There is a need of further study in choosing the quality of *ghrita* to be used in *Tarpana* procedure.

REFERENCES

1. Amarasimha Namalinganusasanam; Amarkosha; with commentary of Bhanuji Dikshita edited with notes by Pandit Shivadatta; 1st edition; Varanasi; Chaukhambha Krishnadas Academy 2002; 463pp; reference no. 8; Palatibhogavarga 87/3.
2. Sushruta, Sushruta Samhita, Dalhana commentary; Nibandhasangraha; Chaukhambha Surbharati Prakashana; Varanasi; Uttara tantra, chapter7, page606;
3. Acharya Vagbhata. Ashtanga Hridayam, Sarvangasundara and HemadriVyakhyan, annotated by Dr. Anna Moreswar Kunte and Krishna Ramachandran SastriNavre, Chaukhambha Sanskrit Sansthan;Varanasi, Edition reprint 2010, Uttarasthana 12/1-5 pg816
4. Acharya Vagbhata. Ashtanga Hridayam, Sarvangasundara and Hemadri Vyakhyan, annotated by Dr. Anna Moreswar Kunte and Krishna Ramachandran Sastri Navre, Chaukhambha Sanskrit Sansthan; Varanasi, Edition reprint 2010, Uttarasthana 12/32-33(commentary) pg818
5. Acharya Sushrutha. Sushruta Samhita, Dalhana Nibandhasangraha Vyakhyan, edited by Vaidya Yadvji Trikamji Acharya and Narayan Ramcharya Kavyathirtha, Chaukhambha Sanskrit Sansthan; Varanasi, Edition reprint 2010. (Su.S.Ut.17/30-33)
6. Khurana A.K.; comprehensive ophthalmology; New Age International (P) Limited Publishers; 5th edition, 2012 pg no36-39 and 49.
7. Acharya Vagbhata. Ashtanga Hridayam, Sarvangasundara and Hemadri Vyakhyan, annotated by Dr. Anna Moreswar Kunte and Krishna Ramachandran Sastri Navre, Chaukhambha Sanskrit Sansthan; Varanasi, Edition reprint 2010, Sutra sthana 20/ 1 page 287.

8. Acharya Sushruta. Sushruta Samhita, Dalhana Nibandhasangraha Vyakhyan, edited by Vaidya Yadvji Trikamji Acharya and Narayan Ramcharya Kavyathirtha, Chaukhamba Sanskrit Sansthan; Varanasi, Edition reprint 2010. 15 (Su.S.Ut.18/17)
 9. Acharya Vagbhata. Ashtanga Hridayam, Sarvangasundara and Hemadri Vyakhyan, annotated by Dr. Anna MoreswarKunte and Krishna Ramachandra-n Sastri Navre, Chaukhamba Sanskrit Sansthan; Varanasi, Edition reprint 2010, Uttarasthana 13/98 pg825.
 10. Yogratnakar; Yogratnakar Part 2, edited and translated by Dr. (Mrs.) Asha Kumari and Dr. (Km.) Premvati Tiwari; published by Chaukhamba Vishwabharti Oriental Publishers and distributors; Varanasi; first edition, 2010. Bharat Bhaishajya Ratnakar; / pg 651 (3rd)/ Vangasen/ GadaNigraha/ Taila.
 11. Bramhanand tripathi, Deepika hindi commentry on saharangadharasamhita 2008, chaukhamba surabharati prakashan, Varanasi. Madhyamakhanada 9/10-16
-

Source of Support: Nil

Conflict Of Interest: None Declared

How to cite this URL: Gautam Nupur et al: A Clinical Comparative Study On The Effect Of Shatahwadi Ghrita Tarpana With Or Without Bhringaraja Taila Nasya In The Management Of Timira W.S.R. To Myopic Astigmatism. International Ayurvedic Medical Journal {online} 2019 {cited October, 2019} Available from: http://www.iamj.in/posts/images/upload/1755_1762.pdf