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Effect of Isolated and Combined Practice of Yoga Therapy and Ayurveda on Distant Vision among Myopia

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ABSTRACT

Myopia or shortsightedness is the most common refractive error of the eye. A recent study conducted at National Eye Institute shows the prevalence of myopia from 25% in 1971 to a whopping 41.6% in 1999 -2004. Present study was done to analyse the efficacy of Yoga Therapy and Ayurvedic Medicine on distant vision among myopics. 30 subjects were randomly selected for the study from SHES Ayurvedic Medical College OPD, Kalaburagi. 30 subjects were grouped in 3 experimental groups. First group were administered Ayurvedic medicines, second group was selected for Yoga therapy, and third group was advised Yogasana and Ayurvedic therapy. First group was given *Triphala Ghrita* and *Pratimarsha Nasya* with *Abhijeeta Taila* for a period of 8 weeks. Second group was selected for *Trataka* for a period of 8 weeks. Training was given for 6 days in a week, 15 minutes per day. Third group received combined Ayurveda and Yoga therapy. Snellen's chart was the scale used to record the distant vision before and after the treatment. Good Response was seen in Group C (Yoga + Ayurveda) as compared to Group A (Ayurveda) and Group B (Yoga).

Key words: Myopia, *Pratimarsha Nasya*, *Trataka*, *Timira*, *Triphala Ghrita*.

INTRODUCTION

The primary pursuit of all human endeavours is to attain happiness. To achieve the same, it calls for a healthy state of being of individual in the physical, emotional, intellectual as well as spiritual places. Indians had well recognised that body was an instrument for achieving the higher states. Such an

outlook, which dates back to the vedic days, led our ancient people to take a deeper look at the health and medicinal systems; at the body and mind; modern man is confronted with newer and peculiar psychosomatic diseases. An understanding of the causes for these and the remedies are still mirage to the medical community. It is here the traditional systems of health and medicine developed and followed in India offer a ray of hope.

Yoga and Ayurveda are the unique sciences of antiquity. Both were developed and practised in similar circumstances with similar objectives in the same land. Yoga and Ayurveda both are based on similar concept of human existence.^[1] According to basic Hindu thought, life is the combination of *Satva* (mind), *Atma* (spirit), *Sharira*.^[2]

Yoga and Ayurveda are allied disciples. Both have advocated *Aushadi*, *Mantra*, *Japa*, *Samadhi*, etc. as the means of achieving their objectives.^[3] Besides

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spiritual paths, Yoga also teaches the use of drugs of *Chitta Shuddhi*. Similarly besides *Ausadhi*, *Anna*, *Vihara*, Ayurveda also teaches the practice of Yoga. Thus there is a similarity in the approach of these two human sciences, though the emphasis varies.^[4]

In Hindu Traditions the purity of *Sharira*, *Manas* and *Vani* has been considered important as the basis of human welfare. Many authorities believe that one and the same author, by different names, wrote three different texts for comprehending knowledge for the total welfare of mankind.

“*Sarvendriyanam Nayanam pradhanam*” | Among the five sense organs eye is said to be superior.”

As long as there is desire for living, so long all our efforts should be made to protect the eyes; because for the blind man, night and day are the same; all the things of this world are useless though he might have lot of wealth.^[5]

Myopia is that condition when parallel rays of light from infinity come to a focus in front of retina with accommodation at rest. The inability to see distant objects clearly and holding the book too close to the eye while reading are the usual complaints of parents of the child having simple myopia. Eye strain and headache may occur due to an imbalance between accommodation and convergence in myopia. Sometimes, the patient sees black spots floating before the eyes and occasionally flashes of light are noticed.^[6]

Trataka is a cleansing process practised with the help of eyes. *Trataka* is defined as focusing the eyes or ‘gazing’ at an object for a prolonged period without blinking. This creates tears to flow in many people thus washing and cleansing the eyes. It is also a preparatory process for meditation (*Dhyan*).

In Ayurveda without *Doshas* there is no physiology. Therefore the impact of *Doshas* on visual perception is worth knowing. *Vata* is said to be responsible for *Pravarthana* (stimulation) of the *Indriya*; whereas *Pitta* performs *Alochana* (perception) of the *Indriya*. *Adhistana* by providing *Tarpana*. Further the subtypes of *Doshas* like *Prana Vayu* and *Vyana Vayu*

are specifically held responsible for *Vata Karmas*, *Alochaka Pitta* for *Darshana* and *Tarpaka Kapha* for *Akshi Tarpana*.^[7]

The role of *Alochaka Pitta* is of considerable importance in the visual perception. *Alochaka* is the *Antastharaka* of the eye to receive the images. *Bhela* has envisaged two aspects of *Alochaka Pitta*; among which *Chakshu Vaisheshika* produces the knowledge of the characteristics the form and colours of the things. *Buddhi Vaisheshika*, the other type of the same enables concentration, response and cogitation as it recalls the objects. Similar ideas are reflected in the description of two phases of *Chakshur Buddhi*. The momentary knowledge is obtained by *Kshanika Chakshur Buddhi* which will be further confirmed in the second stage by *Nischayatmaka Chakshur Buddhi*.^[8] *Sushruta* relates the theory of common origin (*Tulya Yoni*) as the basis of sensory perceptions. It is believed that light which illuminates the objects and the eye which receives the light, both are the derivatives of *Tejo Mahabhuta*; hence eye perceives only *Rupa* of the objects and not the characters like sound etc. As a corollary to the same, he declares *Surya* as *Adideva* and *Drishya* as the *Adibhuta* for *Chakshu* which is *Adhyatma*.^[9]

Nasya Karma is one among the *Panchakarmas*. It is defined as follows. “*Nasayam Praneeyamana aushadham Nasyam*”^[10]. Administration of medicines through the nose is known as *Nasya*. It is also called as *Navana* or *Nastakarma*. The Medicine that is put into it, moves up the channels upto the *Sringataka Marma* (a vital spot at the base of the brain), spreads to the interior of the head, the channels of the eyes, ears, throat and their veins and uses the diseases affecting parts above the shoulders quickly. *Pratimarsha Nasya* just like *Basti* (enema) therapy is suitable for all, from birth to death, it bestows the same benefits as those from *Marsha* if taken daily. It does not need any rigid regimen to be followed nor there is the fear of complications as described for *Marsha Nasya*.^[11]

In the present study it was hypothesized that there may be a significant difference between the isolated

and combined groups in the distant vision among myopic.

AIM OF THE STUDY

To Assess the combined effect of Yogic exercises and Ayurvedic medicine in the distant vision among myopic.

MATERIALS AND METHODS

Selection of Subjects

The purpose of the study was to analyse the efficacy of Yoga therapy and Ayurvedic medicine on distant vision among myopic. 30 subjects were read selected irrespective of gender from the OPD Shalakyia Shri Hingulambika Education Society's Ayurvedic Medical College, Hospital Research & Centre, Bhavsar Nagar, Sedam Road, Kalaburg, between 15-25 years. The selected groups of subjects were not involved in any types of physical training programme.

Selection of the Variables

Within the limitations of the present study, following variable was selected to achieve the objective of the study i.e distant vision.

Thirty subjects were selected randomly and they were grouped into three experimental groups.

- Group A (n=10) was subjected to Ayurvedic treatment.
- Group B (n=10) was subjected to Yoga therapy.
- Group C (n=10) was subjected for combined Yoga therapy and Ayurvedic treatment.

Posology

Tratak Kriya along with few eye exercises were scheduled for 15 minutes in the morning session for five days a week for a period of 8 weeks. Ayurveda treatment selected for the study was

- Nasal medication of *Abhijeet Taila* 2 drops in each nostril once in the morning for 8 weeks.^[12]
- Triphala Ghrita* – 10 ml with warm water before bed for 8 weeks.^[13]

The subjects were informed about the purpose of the study in order to secure their full co-operations. Tests were conducted to all the subjects prior to experimentation.

Training Schedule

Duration of the study was of 8 weeks. Group B and Group C were given training of *Tratak Kriya* and eye exercises for 15 minutes. Group A and Group C were administered nasal drops and orally *Triphala Ghrita*.

Table 1: Experimental Design

Grouping	Group A	Group B	Group C
No. of Patients	10	10	10
Advised Treatment	<i>Nasya</i> with <i>Abhijeet Taila</i> <i>Triphala ghrita</i> . (Oral medication)	Preparatory Eye Movement exercises. <i>Tratak</i> Palming.	Both Yoga Therapy and Ayurvedic Treatment
Duration of the study	8 weeks	8 weeks	8 weeks
Dose / Time.	<i>Nasya</i> – 2 drops in each nostril in the morning. <i>Triphala ghrita</i> 10 ml. with warm water before bed.	Eye exercises – 10 Min. <i>Tratak</i> – 1 to 3 Min. Palming – 1 Min.	Combined.

Inclusion criteria

- Age: 15 – 25 years.
- Simple Myopia where correction given ranges from -0.25 D sph. – 2.00 D sph.

Exclusion criteria

- High Myopia.
- Pathological Myopia.

- Glaucoma
- Infective condition.

Materials used for the study

- Snellen's chart was the scale used to record the distant vision before and after the treatment.
- Patient was made to sit at a distance of 6 mts. And asked to read the letters on the chart. Snellen's chart contains different sized prints in 7 or 8 lines, from bigger size to smaller from top to downwards. Each line is marked with some specific number i.e. 60, 36, 24, 18, 12, 9, 6, 5 (from top to bottom).
- If the patient is able to read up to 6 number row, his vision is recorded as 6/6 Normal. If the patient is able to read up to 5 number row, then vision is recorded as 6/5 – Best vision. If patient is able to read any row other than 6 number and 5 number then the eye is considered as “Ametropic” and needs correction of the refraction with concave glasses.

Method of scoring

Before starting the therapy, correction (concave glasses for normal vision is dioptries) required was noted and later compared with the correction required after the therapy for each eye separately. If there was decrease in the correction required in dioptries after the therapy,, then it was considered as a positive response.

Response to the therapy was noted as follows:

1. **Good Response:** If there was a decrease of correction required in dioptries in both the eyes, then it was considered as Good Response.
2. **Moderate Response:** If there was a decrease of correction required in dioptrie in one eye, then it was considered as Moderate Response.
3. **Poor Response:** No change in the correction required in dioptrie before and after the study was considered as Poor response.

RESULTS

In this chapter the results of Analysis of variance (ANOVA) for pre-test and post-test scores and

Analysis of covariance (ANCOVA) of adjusted post – test means related to distant vision, has been dicussed in order to empirically elicit the differences if any, among the three groups. Also the significant differences of ordered adjusted post test means between paired groups is discussed.

Statistical analysis of the experimental study resulted in p value >0.05 which reveals that there is no significant difference among the groups .The study shows that there is marginal difference in pretest mean of all the groups where as the difference in post-test on correction in myopics across the groups are noticable. The post test means for Right eye are 0.475, 0.650 and 0.475 for Ayurveda, Yoga, combined Ayurveda & Yoga Group respectively. The post test means for left eye are 0.575, 0.650, 0.475 for Ayurveda, Yoga, combined Ayurveda & Yoga Group respectively. It is noted that the difference is higher in combined Ayurveda & Yoga Group compared to the other two groups. The pre-post difference highest in Yoga & Ayurveda group for the Right eye when composed to other groups.

The pre-post difference is highest in combined Yoga & Ayurveda group for the left eye when composed to other groups.

It was noted that Good response was seen in 4 patients in Group C who were given combined Yoga & Ayurvedic treatment where as good response was negligible in group A & B. Similarly poor response was seen in 2 patients in group C, where as poor response was 4 & 5 patients in Group A & Group B respectively. This shows that combined theory with Ayurveda & yoga is better compared to individual.

Other than visual acuity, other symptoms like, watering of the eyes, burning sensation, redness of the eyes & eye strain were reduced in almost all the patients in all the 3 groups.

DISCUSSION

Based on the data taken for the study discussion was carried on different angles related to the study. Depending on the patient's response to the treatment, Good Response was seen in Group C (Yoga

+ Ayurveda) as compared to Group A (Ayurveda) and Group B (Yoga). Other than visual acuity symptoms like burning eyes, watering, eye strain etc. were screened and found to be reduced in almost all the three groups. Screening for causative factors revealed that subjects were indulged in factors like, late night sleep, day sleeping, spending more time before computers, & sedentary life style. Response was positive in patients of recent origin in all the three groups. Good response was noted in the age group of 15-20 yrs as compared to 21-25 yrs of age group. Out of 30 patients, 5 were males and 5 females in Group A & Group B, where as 4 male patients & 6 female in Group C.

CONCLUSION

Statistical analysis of the experimental study resulted in p value 0.3483 (Right Eye) & 0.4028 (Left Eye). Since $p > 0.05$, study reveals that there is no significant difference among the groups. But within the limitations of the present study, the following conclusions were drawn, Positive response was seen in all the three groups. Good response was seen in combined Ayurveda & Yoga group when compared to other groups. Trataka and eye exercises improve ocular muscle tonicity, where as *Pratimarsha Nasya* improves the functional ability. Study revealed that response in reduction of other symptoms like eye strain, burning eyes, watering, was seen in all the groups.

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