



SIGNIFICANT ANALYSIS OF DINACHARYA WITH SPECIAL REFERENCE TO PREVENTIVE OPHTHALMOLOGY

Dr. Tresa Maria Job^{1*} and Dr. Mamatha K. V.²

¹ 1st Year PG scholar, Department of PG Studies Shalaky Tantra, Sri Kalabyraveswara Swamy Ayurvedic Medical College Hospital and Research Centre, Bengaluru, Karnataka.

² Reader and Guide, Department of PG Studies Shalaky Tantra, Sri Kalabyraveswara Swamy Ayurvedic Medical College Hospital and Research Centre, Bengaluru, Karnataka.

*Corresponding Author: Dr. Tresa Maria Job

1st Year PG scholar, Department of PG Studies Shalaky Tantra, Sri Kalabyraveswara Swamy Ayurvedic Medical College Hospital and Research Centre, Bengaluru, Karnataka.

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ABSTRACT

Eyes are the most precious gift of God to mankind thus it is rightly stated that “*Sarvendriyanam madhye nayanasya pradhanatvat*” by *Dalhana*.^[1] The condition free from any disease or deformity is known as *Swastha*.^[2] The regimens followed to maintain the health is called as *swasthavritta*. Eye diseases can be prevented and normal vision can be maintained for longer time by following *Dinacharya*, *Ritucharya*, *Sadvrutta*, *Netra kriyakalpas*, *Chakshushya rasayana dravyas* along with appropriate *Ahara* and *Viharas*. In present scenario, the concept of preventable blindness has gained increasing recognition, as changing lifestyle has resulted in many eye disorders and problems in day to day life. Many diseases like Dry eye, Computer vision syndrome, Refractive errors, Cataract, Diabetic retinopathy etc. occurs as a result of modern lifestyle. Here an attempt is made to explore the *Dinacharyas* for the preservation of eye health as explained in our classics and how we can incorporate it in present day lifestyle.

KEYWORDS: *Dinacharya*, *Netraswasthya*, Modern lifestyle.

INTRODUCTION

The main aim of Ayurveda is to maintain the health of healthy person and to cure the diseased person. Thousands of years ago, It has been explained in Ayurveda that a man is said to be healthy (*swasta*)^[3] when his *Doshas*, *Dathus*, *Malas* are in the state of equilibrium along with mental, sensory, spiritual pleasantness and happiness which also matches with the WHO definition of health, “Health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity”.^[4] The *Dinacharya* or daily regimens explained by our *Acharyas* are a boon of Ayurveda to the mankind through which we can maintain our health and prevent the diseases with simple modifications. The importance of protection and preservation of eye health and vision is quoted by *acharya Vagbhata* as “All efforts should be made by men to protect the eyes, throughout the life for the man who is blind this world is useless, the day and night are the same even though he may have wealth”.^[5]

According to WHO, global blindness due to eye diseases is increasing in an alarming rate. An estimated 253 million people live with vision impairment; 36 million are blind and 217 million have moderate to severe vision

impairment.^[6] Overuse of computers in the modern era can lead to many diseases like computer vision syndrome, dry eye. 7 out of 10 children wear a corrective lens at very young age due to excess digital usage like mobiles, watching television, video games which are the main cause of school Myopia. Use of various eye cosmetics, hair dyes etc. that contain various chemicals can harm the eyes and can cause visual impairment which is also explained in our classics. Inappropriate cleaning of the eyes may lead to allergic and infectious manifestations. Increased usage of junk foods and lack of proper nutrition leads to various metabolic diseases which in turn have adverse effects on eye. Preventive ophthalmology aims at providing an ophthalmologic service; identifying and preventing eye sight threatening ocular condition, to whoever (mass, large number) in the community at affordable costs.

Dinacharyas regarding maintaining eye health are described under *swasta chatushka dinacharya adhyaya* by *charaka samhita*,^[7] *Sushruta samhita chikitsa sthana* 24th chapter,^[8] *Dinacharya adhyaya* by *Vagbhata acharya*,^[9] *Nityapravritti prakara* in *Yogaratnakara*,^[10] *Dinacharya ritu prakrana* in *Bhavaprakasha*.^[11]

1. Brahmi muhurtha uthana (Waking up early)

The healthy person should get up at early morning in *Brahmi muhurta* to protect his life after considering the condition of digestion of food.

During this time there will be abundance of nascent oxygen which easily mixes with hemoglobin forming oxy hemoglobin reaching the tissues and boosts the immune system. The cornea and lens are the avascular structures of the eye which gets nutrition directly by oxygen present in the air.^[12]

Normally, the highest cortisol secretion happens in the second half of the night with peak cortisol production occurring in the early morning. This hormone boosts blood sugar levels, providing immediate energy and helps us to recover from the effects of stress. It also regulates the activities of body including metabolism and immune response.

2. Akshi sechana (Eye wash)

Akshi sechana is the procedure of washing the eyes. It is done with mouth filled with water. In *Grishma* (summer), *Sarat* (Autumn) *Ritus* cold water is used and in other seasons, lukewarm water can be used.^[13]

3. Netra prakshalana (Eye wash)

Netra prakshalana or eye wash is done with *Amalaka kashaya*, *Bhillotaka* or *lodhra kashaya* is used for *Antarmukha prakshalana* and *Sheetodaka* is used for both.

Netra prakshalana with *Triphala kashaya* helps to maintain the corneal transparency and the arrangement of collagen fibers in corneal stroma. Ocular injury occurs due to oxidative stress as there will be an imbalance between the oxidants and antioxidants causing eye damage. *Netra prakshalana* with *Triphala kashaya* which contains vitamin C reduces the oxidative stress. It also strengthens the ocular tissues and produces toning action of eyes. The anterior segment of the eye, cornea and conjunctiva are directly exposed to external environment. *Netra prakshalana* also has a cleansing action as it washes away the accumulated dust particles in the eye.

4. Anjana (Collyrium)

Anjana is the procedure in which the medicine is applied along inner surface of eyelid. It provides brilliance of vision, tolerance to wind and sun and prevents eye diseases. Eyes become clear and beautiful with thick eye lashes and excel the vision. *Anjana* is of three types-*souweeranjana*, *Srotanjana*, *Rasanjana*. *Souweeranjana* is good for eyes, so used daily. Eyes become clear and beautiful with thick eye lashes and excel the vision by the application of *Anjana*. Among all *mahabhutas*, *tejas* dominates the eye. Eye is more prone to *kapha dosha* so it should be eliminated once in 7 days at night time by using *Rasanjana*. According to *acharya charaka*. As the gold ornaments are cleaned by different methods the

eyes become bright like “the moon in clear sky” on application of *Anjana*.

Anjana is used in treating various ailments of eye like cataract. Apart from its curative effects in various eye disorders, it can be adopted as a daily regimen to protect eyes and to maintain good vision.

Anjana is a topical instillation in the eye which passes through the various barriers in the eye like corneal barrier, Blood aqueous barrier, Blood vitreous barrier and Blood retinal barrier. *Anjana* drugs have low molecular weight so that it can penetrate cornea and bring the desired action upon the eyes depending on the potency of the drug.

By the topical application of *Anjana*, bioavailability is enhanced by the controlled and sustained release of the drug into the eye.

5. Abhyanga (Oil massage)

Abhyanga is the procedure where in oil is applied all over the body followed by movement with pressure in specific direction for a stipulated period of time. *Abhyanga* bestows good vision it does the *Dristi prasadana* action. *Abhyanga* should be done regularly to head, ears and feet. *Abhyanga* makes the body soft, controls *kapha* and *vata* aggravation and bestows good complexion, nourishment and strength to the tissues. *Bhrajaka pitta* which is situated in the skin helps in the absorption of *veerya* of medicine applied on the skin by *Abhyanga*.^[14]

It will increase blood circulation locally providing better transportation of oxygen and nutrients in body. It increases the nerve stimulation on the area which is done.

6. Shiroabhyanga (Head massage)

Shiroabhyanga is the procedure of applying head in the oil and gives nourishment to all sense organs.

It nourishes the optic nerve which is responsible for vision. *Shiroabhyanga* enhances the flow of CSF, thus strengthening the nervous system, relaxes the muscles, improves the blood circulation and oxygenates the brain.

7. Padabhyanga (Foot massage)

Padabhyanga is the procedure of massaging the foot with appropriate oils. Eye sight will be improved *vata dosha* is pacified by doing *padabhyanga*. It is pleasing and wholesome for eyes. *Padabhyanga* is considered as *chakshusya* as per *Ayurveda*. Two *siras* are present in the Centre of the feet which moves upwards to the head region and supplies the eye. So the medicine applied over the feet in the form of *Abhyanga* is absorbed through the feet and its action is produced in the eye.^[15]

By doing *padabhyanga* the somatic sensory area in the cortex gets stimulation as both eyes and feet are present

in the area II of cortex. The stimulant effect on feet goes to the eye and reduces eye strain and improves the vision.

8. Mukhalepa (Face pack)

Application of medicines on the face is called as *mukhalepa* and it makes eyes firm and strong.

The facial nerve and trigeminal nerve are lying along the cheek, having branches to the eye. The Temporal and Zygomatic branches of facial nerve supplies to the orbicularis oculi muscle and the Ophthalmic branch of Trigeminal nerve supplies to the conjunctiva and upper eye lid.^[16] So the medicine applied on face enhances the functions of these nerves which supplies to the eye.

9. Snana (Bath)

Bath arouses all sensory organs. Cold water head bath is good for eyes, hot water can harm the eyes.

Cold water head bath enhances the blood circulation, improves digestive activity, remove tiredness, sleepiness, exhaustion of the body. It helps to reduce the thirst, burning sensation, itching in the body. Cold water baths have shown to increase the release of depression beating chemicals like nor-adrenaline and beta endorphins making you feel fresh.

Eye is a vascular structure and when exposed to heat capillaries get dilated and circulatory disturbance occurs. Due to the increased heat subconjunctival vessels are affected and may result in the rupture of vessels. So hot water head bath is not indicated.

10. Pada Prakshalana (Foot wash) and Padatara dharana (Wearing footwear)

Washing the feet is considered as *Chakshu prasdana* as it improves vision as it nourishes the *padanibandha nadi*. At the Centre of foot *padanibandha nadi* is present which has direct connection with the eyes. Any injury to the foot can directly harm the eye. By doing *Abhyanga*, washing of feet, using footwear is considered as wholesome for eyes.

Using footwear promotes vision, walking without footwear has adverse effects on eye health.

The soles of feet are extremely sensitive to touch due to high concentration of nerve endings. By doing *Pada prakshalana* and *abhyanga* these nerves gets stimulated and softens the skin of the feet. Washing the feet helps to remove dirt and various microorganisms adhered to the feet which may result in many infections.

12. Chankramana (Walking)

Chankramana is considered as *indriyabodhana* according to *Ayurveda* i.e. it increases the perceptive power of sense organs.

Walking can increase the metabolism of our body and increases the peripheral circulation, also helps in the reduction of high cholesterol content and can help in managing the systemic diseases like diabetes which later can have its adverse action on eyes.

13. Chatradharana (Using umbrella)

The use of umbrella protects our eyes from sun, wind, dust etc. and from harmful ultraviolet radiations. It is considered as *chakshusya* as per *Ayurveda*.

Direct exposure to sunlight, UV rays, seeing eclipses without proper protection may cause damage to the Retinal pigment epithelium and may lead to solar retinopathy,^[17] Macular degeneration, Photo keratitis etc.

14. Nasya (Nasal drops)

Nasya karma is the procedure of instillation of medicinal drops to the nose. *Nasya karma* is considered as the best treatment for *urdhwa jatru vikaras*. It improves the strength and functioning of sense organs. Those who practice *nasya karma* according to proper *kala* and method are not affected with diseases of eye. 15 and 14 *pratimarsha nasya kalas* are mentioned by *vaghbata* and *Sushruta* respectively. *Nasya karma* after evacuation of bowels is considered as *drister gurutwam apanayati* or produces lightness to eyes. Doing *pratimarsha nasya* after *shiroabhyanga*, *Gandusha* and *Anjana* promotes vision. One should use *Anutaila nasya* in *pravrut* (rainy), *sharath* (autumn) and *vasantha* (spring) *ritu* every year. *Anutaila* acts as *tridoshagna* and provides strength to *indriyas*. *Nasya* nourishes the *Shringataka marma* which is the seat of all the center of eye, ear, nose and tongue.

Lipid soluble substances have greater affinity for passive absorption through the in the olfactory membrane and diffuses quickly. These medicines also stimulate the olfactory nerve which is connected with higher Centre's of brain like hypothalamus, Amygdaloidal complex, anterior thalamic nuclei, parts of basal ganglia etc. Stimulation of Amygdala leads to the production of secretions from the anterior pituitary. One of the major divisions of the olfactory tract terminates in a portion of amygdala called corticomедial nuclei, which lies immediately beneath the cerebral cortex in the olfactory pyriform area of the temporal lobe.^[19]

15. Kavala (Gargling)

Kavala is one among the *dinacharya* which is indicated in *Akshirogas*. *Kavala* is a procedure in which the medicinal liquid is filled in the mouth and is allowed to move and thereby reaching all parts of oral cavity.

The medicine may get absorbed through mucous membrane and also stimulates the nerve endings of oral cavity, Trigeminal nerve, Facial nerve which is present along the cheek region and supplies to the various eye structures.

16. Dhumapana (Inhalation of medicated smoke)

Dhumapana is the procedure of inhalation of medicated smoke through nose and mouth. It is indicated in *Akshi shoola* and in various *netra rogas*. *Vata kapha* disorders of *Urdhwajatru* (above the shoulder region) can be prevented or pacified by using *dhumapana*. Eight *Prayogika Dhumapana kalas* are mentioned as *vata kapha utklesha* occurs at these times by *charaka samhitha*. Due to *sukshma guna* of drugs used for *Dhumapana*, it enters the minute channels and due to *Tikshna* and *Ushna guna* liquefies *Kapha* and helps in the excretion of *kapha*.

Dhumapana clears excessive secretion, does the disinfection of nasal mucosa and maintains the patency of nostrils. The medicaments used in *dhumapana* wick when ignited, will release volatile substances which will pass through the nostrils and absorption of these medicines occurs. It stimulates the nerves surrounding the areas of nasopharynx, endocrine system and nervous system.

DISCUSSION

Modern lifestyle and dietary habits has a great role in development of different disorders of eye. This can be more effectively managed by modifications in both diet and regimens. Kajals available in markets have various harmful contents which can adversely affect the eyes meanwhile *Anjanas* prepared as per classics will have *prasadana* action to our eyes. *Netra Aschyotana* (eye drops) done with *Gogritha* (cow ghee) can prevent dry eyes. *Netra prakshalana* (eye wash) can be done regularly with *Triphala kashaya* which will protect eyes from allergy and infections. Intake of *Rasayanas* (rejuvenative therapies) like *Triphala* with *Madhu* (honey) and *Ghritha* (ghee) is beneficial in maintaining the vision in any systemic diseases which can lead to ocular manifestation. Adopting *Ritu anusara shodhana karmas* (seasonal purificatory therapies) helps to balance *doshas* and *dhatu*s. Simple Eye exercises like *Palming* can be helpful to enhance vision in people who work in front of computers. Control over mental stress and emotions like anger, fear etc. plays an important role in present era. Increased stress can lead to the conditions like central serous retinopathy. *Abhyanga, Padabhyanga* should be done with suitable *tailas* (oils) like *Dhanwantaram taila*. *Netra kriyakalpas* like *Tarpana, Putapaka* should be done periodically to maintain the eye health. After a journey, washing the eyes and face with cold water or *Triphala phanta* reduces eye strain and removes dust accumulation. Necessary precautionary measures should be taken like tinted glasses in industrial workers. Use of umbrella and sunglasses to protect eyes from radiations should be practiced. Avoid overuse of computers and follow 20-20-20 rule to reduce accommodative stress and dry eyes.

CONCLUSION

Though it is unable to prevent certain ocular manifestations in systemic diseases, still it can be delayed with minimal changes by certain modifications in lifestyle. Public awareness about blindness and eye health should be raised by NPCB programs^[18] and should encourage people to adopt *Ayurvedic* methods for the same. Blindness leads not only to reduced economic and social status but may also result in premature death. Classes, seminars in schools, colleges should be conducted with the support of concerned authorities. Screening of refractive errors in school and adopting *Ayurvedic* measures can control school myopia. Strengthening the projects of Indian system of medicine and other NGO programs on eye health to a larger population. Many eye diseases can be prevented or managed by improving nutrition, by controlling organisms that cause infection, improving safety conditions particularly on roads, safe working environments and establishment of national programs.

No creature in the universe is immortal, it is impossible to prevent death, but it is possible to prevent diseases. Let's join our hands together for a better tomorrow with good vision and proper eye health.

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