PREVENTIVE AND PROMOTIVE OCULAR CARE IN AYURVEDA

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ABSTRACT
Prevention of ocular disorders and preservation of ocular health has become essential, as changing lifestyle has resulted in many eye disorders and brought miseries to daily life. Ayurveda gives prime importance to the eye. It says that sarvendriyanam nayanam pradhanam.¹ Eyes allow understanding and navigating the world around. Suffering from eye disorders with uncorrected refractive error in children result into adverse quality of life and significantly affect their vision, education and psychosocial development. Most of the people pay attentions to their eyes only if they have eye problems. However, the hours spent in reading, writing, watching TV, using multimedia mobile and working on computers take their toll on eye health. Diseases like dry eye, computer vision syndrome, diabetic retinopathy etc. Occur due to life style changes. Ayurveda describe vividly about ocular health and hygiene. So attempt has been made to explore the procedures for preservation of eye health in relation to certain factors like relation of eye diseases with mind, diet and activities, sleep, daily and seasonal regimen related to eye health, occupational eye health and disorders, rasayana therapy for preserving better vision. Time tested procedures like Anjana (collyrium), padabhyanga (foot massage with oil) etc and various yogasana and shatkriyas are considered highly effective daily procedures for maintenance of ocular health.

KEYWORDS: – Eye care, Preventive ophthalmology, Daily Regimen and Lifestyle disorders.
INTRODUCTION
An art of leading a holistic life is necessity in this modern technological era with the people living in glare and comfort of modern life. Ayurveda is ancient system of medicine which aims not only in cure of the disease but also prevent the humanity from all categories of physical, mental, intellectual and spiritual miseries. Among all the sense organs eyes are considered to be very important because vision is crucial for social and intellectual development of a person. Vagbhatacharya, mentioned the importance of eyes “once the vision is lost, the different kind of things of the world will all become one kind only that of darkness.”[2] It is proved that about 80% of the knowledge we gain through the eye. Shalakya tantra is one among eight clinical specialties of Ashtanga Ayurveda,[3] devoted to eye care and management. Uttaratantra of Sushruta samhita starts with eye disease and 19 chapters are devoted to only eye disease. According to Ayurveda, three factors being responsible for the causation of all type of diseases including ophthalmic disorders.[4]
1) Asatmendriyarthasamyoga (Incompatible contact of eye with visual objects)
2) Pragnaparadha (Willful blaspamy)
3) Parinama (Abnormal cycles of season)

A faulty life style has been linked to much human illness and much has been emphasized about life style disorders like cardiovascular disorders, DM, Kidney diseases and their preventive methods. Vision is also affected as consequences of faulty life style. Smoking, cigarette, tobacco, alcohol consumption, high fat diet, prolong exposures to bright light, working in computer for long time are few example which exerts damage to the eye. For preventing these type of eye diseases and maintaining ocular health much has been described in classic text, in the form of Dinacharya (Daily regimen), Ritucharya (Seasonal regimen) and special therapies like kriya kalpa are useful to restore eye health and proper vision.

MATERIAL AND METHOD
Modalities for prevention of eye diseases and promotion of ocular health
Avoiding the causes and migration of involved doshas are prevention in brief.[5]
- Avoidance of exposure to water, immediately after getting heated from exposure to sun heat or fire
- Avoiding practices of watching very far objects
- Circumventing practices of observing very minute objects
- Untimely sleeping habits
- Avoidance of indulging in anger, sorrow, fear and exertion
- Suppression of natural urges like controlling of tear should not be followed

✓ **Dinacharya (Daily regimen)**
- **Netra prakshalana** – washing eyes with *Lodra kashaya* (Symplocos racemosa decoction) or with *Amalaka kashaya* (Emblica oficinalis) after getting up from bed in the morning.\(^6\)
- **Ushnajalapana (Water intake in early morning) and Nasajalapana** – daily intake of water in early morning either mouth or through nose purify the whole GIT and ensure good vision.\(^7\)
- **Gandusha** – keeping mouthful of water 2-4 times a day will helps to maintain eyesight

✓ **Shiro abhyanga** – is a procedure in which oil is applied on the head. Oil is best for *vata dosha*. The *vata dosha* confined to eye is *pranavayu* and the seat is scalp, the medicinal effects reaches up to the brain. The optic nerve to which ends in *drishti patalam* (Retina) is the directed extension of brain stem. Oil applied over the head especially at the region of *moordha* acts on *drishti patalam* through the optic nerve. So, daily application of oil selected and medicated according to *prakriti* of person is a preventive measure of the eye diseases.\(^8\)

✓ **Padabhyanga, padaprakshalana and padatra dharana** – taking care of foot is also essential as foot is connected to the eye.\(^9\) *Acharya* Dalhana has explained that there is *nadi* that traverses from the feet to the eye and hence medicines applied over the soles of feet transcend to the eyes. Foot is the end organ and so the nerve endings of the foot reflect on the eye via sympathetic and parasympathetic supply. So foot should kept clean, *abhyanga* and footwear should be used to avoid physical injuries to the foot as *padabhyanga* (Foot sole massage), *padaprakshalana* (Cleaning foot) and *padatra dharana* (Using footwear) has *chakshushya* (Improves vision) effect.\(^10\)

✓ **The eye reflexology points** – the eye reflexology points are located on the undersides of second and third toes. It’s like a U-shaped area below the toe pads. Because the energy meridians in the body cross over each other at the neck, the reflexology point for the left eye is on the right foot. And conversely, the point for the right eye is on the left foot. To massage these points, use your thumb to press and rub the U-shaped area in up and down direction.\(^11\)
✓ **Snana (bath)** – bath arouses all sensory organs. Cold water head bath enhances the blood circulation, improves digestive capacity, and removes sleepiness, exhaustion of the body. It helps to reduce the thirst, burning sensation in the body. Cold water bath have shown to increase the release of depression beating chemicals like non-adrenaline and beta endorphins making you fell 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.[12]

✓ **Nasya** – the procedure in which medication is instilled in to the nostril in a specified manner nourish the organs above the clavicle known as nasya. Nasal cavity structures have direct connection with the sensor neural structures of brain and this is a natural gateway to brain. Due to anatomical communication, the medicine instilled in nasal cavity reaches to “shringataka marma” (cavernous sinus) which is the seat of all the centers of vision, hearing, smell and taste. One who practices Anutaila pratimarsha nasya (small dose of medicated oil) 1-2 drops in each nostril, gets a better vision and power of other sense organs remain intact and defects free.[13]

Lipid soluble substances have grater affinity for passive absorption through the cell walls of nasal mucosa. The cilia of the olfactory cells contain relatively large quantities of lipid materials. Non polar hydrophobic molecules diffuse through the lipid bilayer of the plasma membrane, into and out of cells. It is a route of absorption of some nutrients and excretion of waste by body cells which are lipid soluble.[14]

✓ **Vegadharana (Suppression of natural urges)** – suppression of tear and sleep leads to eye diseases. Suppression of urges causes vataparakopa, leading to weakness of ocular tissues and strain to eyes. Prolonged office duties, meetings, watching TV programs and continuous computer work nowadays are part of faulty lifestyle and quite evident for suppression of natural urges.[15]

✓ **Yoga and eye health** – purifying procedures like Netikriya and Trataka help to promote clear eye vision and prevent the doshasanchaya.[16] In yoga asana palming, swinging and shifting movement of eyes and matsya asana give relief to eyes and prevent the refractive errors and other problems. Palming is the technique in which rubbing of own palms and
Nayak et al. – Role of trataka yoga kriya and eye exercises in the management of Timira has done studied on 66 patients, in his work moderate improvement was observed in 6.25% and mild improvement in 56.25% of Timira patients. [17]

Pranayama - means expansion of the dimension of Prana. A good balance of mental status is essential for proper functioning of the eyes because sense organs can perceive the objects only in the presence of mind. Proper practices of nadishodhana and bhramari pranayama increases stress tolerance, calms the mind, improve circulation and reduce the muscles tension. All these may have promotive action in the eye health.

Rasayana – for eye health promotion mainly Naimittika and Achara rasayana adopted. The use of Yashtimadhu, Ghrita (ghee) and Triphala act as rasayana. Acharya Vagbhata has advised that triphala along with honey and ghrita should be consumed at night, daily for strengthening of eye sight. Ghrita (ghee) and navaneeta (butter) are extremely rich in vitamin E, foliate and Vitamin-B_{12} in small amount. Anti-stiffness factor present in butter prevents hardening of arteries. [18]

Anjana (Collyrium) – application of medicine to the internal surface of lid margin from kaneenika s andhi to apanga sandhi with the anjana shalaka. So its bioavailability is more due to more tissue contact time.

Souviranjana or darvi rasa kriya can be mixed with honey can be applied in the eye for kapha shodhana as eye is pitta predominant in nature and should be protected from kapha dosha. So daily practice of anjana as Dinacharya is best simple ophthalmic medication to prevent eye diseases. [19]

The ocular absorption of anjana may initiate though the conjunctiva and cornea. Mainly lipophilic active ingredients may absorb through the cornea by trans cellular pathway and hydrophilic from the conjunctiva by paracellular pathway. This ocular absorption may be depend on the passive diffusion and endocytosis. Also pH, viscosity, tonicity and most importantly molecular size and molecular weight of active ingredients play major role. [20]

DISCUSSION
Prevention and treatment are equally important in fighting with the diseases of eyes. Various theories have been out forward even in ancient literatures, so that early detection of cause,
diagnosis, patho-physiology, prevention, treatment and further complications can be known. Nowadays due to sedentary lifestyles leads to metabolic disorders, which ultimately have undesirable effects on eyes. Ayurveda has promotive care and restoring measures that neutralize the effect of today’s stressed life style over eyes, strengthening eye muscles, making lens fiber elastic. The promotive regimen delays the degenerative process in the retina and focal point nourishes the visual structures. Once a permanent mechanical change develops in the shape of eye ball, then it is not possible to reverse the changes. Eye exercises and Ayurvedic measures are found to be supportive in eye care. A person can attain excellent potentiality of body and sense organs by the usage of daily regimen in their life.

**CONCLUSION**

Various lifestyle exposures are found closely associated with eye diseases. Their causes are persuading to be the result of metabolic changes influenced by process of growth and aging. Prevention modalities advocates in Ayurveda such as dinacharya, padabhyanga, shiroabhyanga and anjana etc. along with positive life style modifications may help considerably reducing the impact of ocular diseases in general population.

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