

Preventive and Promotive Eye Care in Ayurveda for School Going Children.

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ABSTRACT :- In Ayurveda Shalakyatantra contains the study of five sense organs i.e. eye, ear, nose, tongue and skin. Among these sense organs, Ayurveda gives prime importance to the eye. It says “Sarvendriyaanam Nayanam Pradhanam”. Eyes allow to understand and navigate the world around you. Suffering from eye disorders with uncorrected refractive error in children result into adverse effect on quality of life & significantly affect their vision, education and psychosocial development. Most of people pay attention 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. Working in artificial light (either dim light or bright light) is another culprit for deterioration of eye health. In Ayurveda, selected classical daily regimens like Netraprakshalna, Anjana, Snana, Padabhyanga, Nasya, wholesome and unwholesome dietetic are promoted as high-end measures for the maintenance of eye health. Various Netra Vyayamas, Yogasanas, Pranayamas, Neti and Trataka are also said to be beneficial for the same cause. Prevention of eye disorders and major Ayurvedic promotive measures and perceptions regarding to maintenance of eye health for school going childrens are explored in this article. The aim of this review article is to spread the awareness of visual health promotive procedures in Ayurveda.

Keywords: Daily Regimen, Promotive Ophthalmology, Lifestyle disorders

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1. INTRODUCTION

Vedic science offers many safe, effective and simple techniques for maintaining visual health. These primitive approaches can be easily practiced in everyday life to prevent lifestyle related eye disorders. Shalakya Tantra is one of the eight clinical specialties of Ashtanga Ayurveda, devoted to eye care and management. According to Ayurveda, three factors being responsible for the causation of all type of diseases including ophthalmic problem too. [1] i.e. 1- Incompatible contact of eye with visual objects (Asatmyendriyarthasamyoga), 2- Misuse of intellect (Pragyaparadha) 3- Abnormal cycles of seasons (Rituviparyaya). In the present time, eye diseases have become a major threat to the mankind specially in school going childrens. Hence significance of multi-disciplinary approach becomes mandatory. Integration of Ayurvedic concepts of preventive and promotive ophthalmology and principle of yoga are essential to tackle eye problems. Person should make constant efforts to protect their eyesight. For a blind person though he is wealthy and rich, day and night are equal and entire world seems to be useless. More over if a person is endowed with all other sensory faculties, strength and beautiful appearance but without eye sight he will be as unfeasible as an insect. [2] The overall population-based estimates of prevalence of refractive errors, myopia, hypermetropia ($\geq +2.00$ D) and astigmatism in children of age <15years were 8.0, 5.3, 4.0 and 5.4 percent, respectively. The corresponding figures from the school-based data were 10.8, 7.2, 2.6 and 1.8

per cent. Refractive error in children in India is a major public health issue and requires intensive efforts from various stakeholders including the health care workforce, education professionals and parents, to manage this problem.

2. Modalities for promotion of ocular health and prevention of eye diseases.

Acharyas have described the daily regimen of preventive healthcare and maintenance of health of body and mind. They specially emphasized on eye healthcare and defined the slaves for betterment of eyes. Avoiding the causes and mitigation of involved doshas are prevention in brief. [4,5]

- a) Avoidance of exposure to water, immediately after getting heated from exposure to sun heat or fire.
- b) Avoiding practices of watching very far objects.
- c) Circumventing practices of observing very minute objects.
- d) Escaping untimely sleeping habits.
- e) Avoidance of indulging in anger, sorrow, fear and exertion.
- f) Suppression of natural urges like controlling of tear should not be followed.

3. Dinacharya (Daily Regimen)

Dinacharya and Pathya apathya regarding the maintaining of eye health is widely described in Ayurveda. The daily regimen can be summarized in more realistic manner as follows.

Eye Wash (Netraprakshalana): [6] Washing eyes with decoction of Lodhra (Symlocosracemosa), with Amalaka (Emblica officinalis) decoction or with

cold water helps in maintaining the constant clear vision.

Ushajalapana (water intake in early morning) & Nasajalapana: [7] Daily intake of water in early morning either mouth or through nose purify the whole GIT and ensure good vision.

Gandusha-Keeping mouthful of cold water 2-4 time a day will helps to maintain eyesight.

Anjana (collyrium): There are two types of Anjana, mainly practiced in daily regimen-(A). Medically processed antimony sulphide (Sauveeranjana) & (B). Solid extract of *Barberisaristata* (Rasananjana). The Sauveeranjana type of collyrium is applied to eyelashes every day and Rasananjana is used once at interval of five or eight nights for stimulation and secretion. The eye vision is predominantly associated with tejasguna and as such especially susceptible to kaphadosha. Hence, the measures alleviating kapha are beneficial for clear vision. Anjana removes the doshas and malas in the form of tears & provide cleanness to eyes. As a result, all the objects seen easily and clearly. [8] Daily habit of Anjana practice found not only useful for good appearance of eyes but also removes burning sensation, itching, dirt (excretion), moistness and pain of eyes, accommodation to high and low light and prevent diseases development. [9] Action of Anjana can be attributed for dissolving the accumulated vitiated kapha and draining it out. It dilates the blood vessels, increases the blood flow and maintains the integrity of netrasrotas. In one of clinical study report, the impact of Rasananjana (concentrate of *Berberis Aristata*) eye drops in treatment of NetraAbhishyanda on

patients found that noteworthy help in Redness , Burning sensation , Lacrimation. [10] In another clinical study report , to evaluate the adequacy of Triyushnadi Anjana in Kabhaja Abhishyanda (Vernal keratoconjunctivitis) has watched alleviation in lacrimation and photophobia, relief in burning sensation and eye discharge. [11] Contraindication of Anjana-Person who is on fasting, who has taken bath on head, who is awoken at night and person with fever should not apply collyrium.

Snana (Bathing): [12] Bathing with cold water or water with slightly less temperature than body temperature from the head always promotes eye health and indicated to people until or unless other contraindications. But bathing with warm water on head always makes unhealthy effect on eyes.

Shiroabhayanga: [13] Daily application of medicated oil on head especially Murdha region, is strengthening to eyes and preventive measure for sense organs disorders. It acts as drishti prasadan. Feet wash (Padaprakshalana), Oil Massage on feet (Padabhyanga) and Foot wearing (PadatraDharana):

As per literature, two siras (vein) are situated in the center of feet (soles) which are significantly connected to eyes. These transmit the effect of medications applied over the soles in the form of oil massage and promote the eye health and prevent the diseases. These veins vitiated by the accumulation of malas (dirt, assault of soles by hard substance and stone) or over pressure bring about abnormality of eye. [14]

Padaprakshalan- Washing of feet with clean water confers clear vision.

Padabhyanga- Application of oil over soles always bestows sleep comfort and maintains vision.

Padatra Dharan- Walking without foot wear on irregular surface causes harm to eye so use of footwear is beneficial for eye sight. Hence, every person should perform massage over soles with oil, washing them well & should use foot wears as simple preventive and promotive approach for eye problems. [15] In a clinical study of the effect of Tila Taila Padabhyanga on eye strain of 60 patients for 15 days, observed 70% improvement in weakness of eye and 33.33% showed improvement in heaviness of eye. [16]

Use of umbrella: [17] Use of umbrella prevents excessive light, heat and dust to eye. It acts as chakshushya (beneficial to eye).

Nasya: [18] The procedure in which medication are applied to the nostril in a specified manner to nourish the organs above the clavicle known as Nasya. Nasal cavity structures have direct communication with the sensorineural structures of brain and this is a natural gateway to brain. Due to anatomical communication, the medicine applied through nasal cavity reaches to "Sringataka Marma" (cavernous sinus) which is the seat of all the centres of vision, hearing, smell, and taste. One who practices Anutaila as Pratimarsh Nasya (small dose of medicated oil) 1-2 drop in each nostril, gets a better vision and power of other sense organs remain intact and defects free. Hence the strength of sense organs increased by Nasya and not attacked suddenly by disorders that part above clavicle, even in old age.

Eye health and Trayopasthambha (three sub pillar of life) : Ahara, Nidra and Brahmacharya- are sub pillars of life which hold and maintain the diseased free life on proper succeeding. Food should be taken at proper time. Suppression of hunger leads to weakness in visual perception. Pathya Ahara (wholesome diet) vihara (activities) which affect eye can be summarized as follows in the Table 1. Virudha Ahara (unwholesome food) may lead to reduced vision and blindness. [19] Nidra (sleep) revitalizes the mind and body. Sound sleep is absolutely necessary for the eyes. During sleep, the eyes are at complete rest and recollect functional capacity. Brahmacharya is concerned to self-control of sense organs. [20]

Pathya-Apathya for promotion of visual health [28-30]

Food / activities	Pathya (wholesome)	Apathya (unwholesome)
Shukadhanya	Lohitakashali (red variety of rice), Sashtika, Yava (barley)	Germinated cereals/sprout
Shimbidhanya	Mudga (green gram) and other pulses	Kulattha (horse gram), masha (black gram)
Mamsa (meat)	Flesh of birds, tortoise flesh, lobster, Peacock	Matsya (fish), flesh of animals living in semi-arid tropics
Shaka (green vegetables)	Jeevanti (Leptadenia reticulata) karavellaka (Bitter melon), Solanum	Kalingakapatrasaka (Hoarrrhena)

	m nigrum, Aloe vera, unripe banana and redish, pointed gourd, Allium sativum	antidysentrica)
Fruits	Dadima(pomegranate), Draksha(grapes), amalaki(Emblica officinalis), Vibhitka (Terminalia bellerica), abhaya (Terminalia chebula)	Citrullus lanatus
Dugdha (milk)	Milk obtained in evening time, fresh butter obtained from churning of milk	Milk gotten in morning time
Ghrita(ghee), butter	Ghee prepared from Cow's and goat milk	Curd
Oils	Tilatail (Sesamum indicum)	Atasi (Linum usitatissimum) Kushmbhatail
Rasa	Sweet, Sita(sugar)	Amla (Sour), lavana (Salt), Katu, Kshara (Alkali) Sour items like pickles in excess
Seeds	Kataka (Strychnos potatorum), chakshusyasa (Casia absus), Sobhanjana (Moringa	Sprouted paddy seed, Tilkut (Sesamum indicum)

	olifera)	
Salt	Rock salt	Other salts
Sugandhi dravya (aromatic drugs)	Chandana (sandal) Karpura (camphor)	Tambula
Food habit	Light and easy digestible quantity	Excessive intake of food
Posture	Recurrent palming	Sitting on heels, Sleeping in prone position, trauma on Apangamarma
Sleep	Timely & sound night sleep	Habit of day sleep, Awakening in night
Drinks	Liquid drink (paya, vilaipi)	Excessive alcohol, smoking
Manasikabhavas (Psychological traits)	Manonivritti (Self-discipline)	Indulgence in Fear, krodha (anger), shoka (sorrow)

Vegadharana (suppression of natural urges): [21] Suppression of natural urges has bad effect on whole body but suppression of tear and sleep especially leads to diseases of eye. Suppression of urges causes vataprakopa, leading to weakness of ocular tissues and strain to eyes. Prolonged office duties, class room, meetings and watching TV programs and continuous computer work nowadays are part of faulty lifestyle and quite evident for suppression of natural urges.

Yoga practices and eye health: Purifying procedure like Netikirya and Trataka help to promote clear eye vision and prevent the doshasanchaya. [22] In yoga asana palming, swinging and shifting movement of eyes & matsya asana may give relief to eyes and prevent the refractive errors and other problems. Palming is the technique in which rubbing of own palms and then touching them to eyes. Palming process when used after meal is very useful for prevention of timira (refractive error and development of cataract). [23] The study - Role of trataka yoga kriya and eye exercises in the management of Timir has done on 66 patients, in this work moderate improvements was observed in 6.25% and mild improvement in 56.25% of Timir patients. [24] Pranayama-pranayama means „extension or 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, calm to mind, improve circulation & reduce the muscles tension. All these may have promotive action in the eye health.

Rasayana healing and eye health promotion: The main Rasayanas adopted in eye health promotion are Naimitika Rasayana and Achara Rasayana. The appropriate use of Chakshushya and Rasayana Dravyas will help to maintain the health of the Netra and prevents age related eye disorders. The use of Yastimadhu, Ghrita and Triphala act as Rasayana. Acharya Vagbhata has advised that triphala along with honey and ghrita

(butter fat) should be consumed at nights, daily for strengthening of eye sight. [25] In some study - observed that 55.56% myopic patients showed mild improvement and Moderate improvement was seen in 44.44% patients with triphlagrahita. [26] Ghrita (ghee) and Navaneeta are extremely rich in vitamin A and choline with good amount of Vitamin-E, Riboflavin, Niacin and pantothenic acid; Vitamin K, foliate and Vitamin-B12 in small amount. Anti-stiffness factor present in butter prevents hardening of arteries and cataracts. [27]

DISCUSSION :- Human eyes are extremely delicate organs. These are the organs which should be free from stress, near watching activities for long time and living in polluted environment. But since of the present way of life style, our eyes have to bear a lot of stress and limit resistance against eye issues. As a result, the person suffers from refractive errors, cataract and other eye problems. In India, varied prevalence rates of myopia and hyperopia have been reported in children. [31-33] Refractive error comprises a major part of avoidable blindness. If just the two major causes of visual impairment, refractive error and development of cataract are minimized by prevention & promotion of eye health, two third of population eye vision remain intact otherwise it will lead to blindness. [34] Emphasis on the comprehensive eye care, attention to eliminate avoidable blindness from the country is necessary. Ayurveda has promotive care & restoring measures that neutralize the effect of today’s stressed life style over eyes, strengthening eye muscles, making lens fibre elastic. The eye promotive regimen delays the

degenerative process in the retina & focal point and 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.

CONCLUSION:

Ayurveda gives careful consideration on staying away from the components causing diseased state. Giving emphasis on our daily routine and a few subtle changes in our lifestyle can result in optimum visual health. The prevention modalities encouraged in Ayurveda such as Anjana, Nasya, Snana, Aschyotana, Padabhyanga, etc. along with a few changes in behaviour at personal, family, and community level including preventive practices are promoted as effective measures for maintenance of visual health and the prevention of ocular disorders in population. Selected Yoga Asanas and Shatkriyas are also said to be beneficial for the health of eyes.

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