

Review Article

A Review on Asatmendriyartha Samyoga w.s.r. to Digital Eye Strain

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ABSTRACT:

In *Ayurveda*, one of the three main causative factor of disease is *Asatmendriyartha Samyoga* which means the improper contact between sensory organs with its object. This improper contact is again divided into 3 types – *Hina yoga* or less contact, *Atiyoga* or excessive contact and *Mithya yoga* or incorrect contact with its object. Human senses are our contact to the environment. The most important organ of sense are our eyes. *Asatmendriyartha Samyoga* or the improper contact between the eyes and the digital equipment results in the manifestation of digital eye strain. Though, digital eye strain has no direct reference in *Ayurveda*, however an *Ayurvedic* approach can be given on the basis of fundamentals of *Ayurveda*.

KEY WORDS: *Asatmendriyartha Samyoga, Hina yoga, Atiyoga, Mithya yoga.*

INTRODUCTION:

Human senses are our contact to the environment. The most important organ of sense are our eyes. About 80% of what we perceive comes through our sense of sight. Nowadays, adults and children are spending more time than ever on electronic devices by working, schooling, just trying to pass the time with friends in social networks. This rapid increase in screen time can also greatly increase the number of people suffering from digital eye strain or computer vision syndrome. The symptom are complaints of eye strain, dry or itchy eyes, headache, blurred vision, physical and mental fatigue. Increased digital interaction due to classes being held online has also put more children at risk of developing myopia.

Acharya Charaka explains that disease is a result of 3 main causative factor occurring in both *Sareera* and *Manas*. They are *Asatmendriyartha samyoga*¹, *Prajnaparadha* and *Parinama*. Hence in this review *Asatmendriyartha samyoga* has been highlighted with reference to Digital Eye Strain.

Asatmyaindriyartha samyoga:

The factors which causes damage and disturbing dosha, gives harmful effect or uneasiness to the body is known as *Asatmya*. In *Ayurveda*, for the

interpretation of knowledge proper coordination of *Indriya, Indriyaartha, Atma* and *Manas* is essential. Due to any kind of improper *Samyoga* between *Indriya* and its *Artha*, the further interpretation of knowledge too gets impaired. *Asatmendriyartha samyoga* is of three types – *Atiyoga, Hina yoga & Mithya yoga*². *Atiyoga* means excess utilisation, *Hina yoga* means less utilisation and *Mithya yoga* means wrong or faulty utilisation. These above three types of usage of five *Indriya* constitute the fifteen *Asatmendriyartha samyoga*.

Chakshurendriya:

According to *Ayurveda*, our senses are the channels through which our mind³ is fed. All the knowledge that we possess has been transferred to our brain through our senses. In order to keep our mind healthy, our senses should be well taken care of and stimulated in a way which will not feed them with wrong impressions. Our senses recognise the quality of food we eat, the amount of noise or visual stimuli, etc. At the present time, these causes of disease are more important to understand than even before. *Asatmendriyartha Samyoga* in *Chakshurendriya* is excessive gazing at highly illumines objects will leads to excessive utilisation of visual objects. Not looking

at anything at all leads to non-utilisation. Similarly, its wrong will leads to see things too close or too far away or things that are awful or terrifying or surprising contemptuous frightful and deformed.

Digital eye strain:

Nowadays our eyes are constantly stimulated by computer, tablet, mobile phones, and television. The prolonged use of digital devices has contributed to an increase in computer related ocular symptoms called Computer Vision Syndrome (CVS) or Digital Eye Strain⁴. It is the condition that results from focussing on a digital screen for a long time without breaks. It not only affects eyesight but also hampers an individual's productivity. It is a temporary discomfort in eyes by focussing on a digital screen for uninterrupted periods of time. Various electronic devices that can cause the issue include desktop and laptop computers, e- readers, tablets, television, gaming system and smart phones. Behaviours and situations that contribute to putting strain on the eyes include texting on the phone, watching television, typing on a computer, reading on a device or computer, playing video games, etc. Due to the above reasons, eyes are strained; the tiny nerves and muscles of the eyes become overworked, fatigued, and stressed. Unlike other conditions, digital eye strain can develop in people without a history of eye problems. Electronic or digital devices emit blue light, which is high energy visible light having short wavelength. This deep penetration may result in retina damage, sleep problems, and long term vision problem, age related macular degeneration and cataracts. High energy visible light also causes headache, eye pain, and loss of sleep when electronic devices are used around bedtime.

Netra roga:

In *Ayurveda*, any diseases affecting the eyes comes under *Netraroga*. *Acharya Sushruta* has been described *Netra roga* in a systematic manner. Types of *Netraroga*⁵ based on *Dosha* predominance, location and surgical procedures has been given.

Nidanaor causative factors for Netra roga:

According to *Acharya Sushruta*, the causes⁶ are immersing in cold water immediately after getting exposed to heat/sun, looking very distant objects for a long time, abnormal sleeping habits, continuous weeping for long duration, getting anger & grief, stress, injuries, excessive indulgence in sex, addiction of alcohol, excess use of horse gram, black gram, suppression of natural urges, excessive sudation to eyes, exposure to smoke and dust, suppressing the

urge of vomiting, excessive emetic therapy, suppressing tears during grief and watching minute objects for longer duration.

Samprapti or pathogenesis:

Due to the above mentioned *Nidana*, aggravated *Dosha* moving upwards through *Shiras*⁷ get localised in eye giving rise to diseases in different parts of the eye.

Purvarupa or prodromal symptoms:

Dirty appearance, redness with little pain, lacrimation, itching, stickiness of eyelids, heaviness, burning pain, pricking pain, pain in eyelids, feeling as if paddy husk has been filled in the eyes, irritation, dimness of vision, disturbance in functioning of eyes. These symptoms manifest in feeble form in the stage of *Purvarupa*⁸. The same symptoms which have been mention before are manifested in a magnified form in actual manifestation of *lakshana* or symptoms.

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Eyestrain, blurred vision, neck ache, headache, tiredness, insomnia, dry eyes, shoulder pain.

Preventive measures:

The main concept of treatment in *Netra roga* is *Nidana Parivarjana*¹⁰ which means avoiding the cause. But nowadays it is not possible to avoid the cause. But we can prevent them by environmental factor modification, proper eye care by spending time for rest breaks, eye wash, blinking, eye exercise, etc. Among these, the most important one is external environmental factor which is lighting. These bright light sources need to be controlled with proper blinds, filters or adjustment of the room arrangement so that an acceptable level of lighting is obtained to minimize visual fatigue. Different age group may require different light intensity to work with, workers over 50 years of age tends to require twice the light level of young adults to perform the same task.

Ahara:

Green leafy vegetable, egg yolk, carrots, almonds, fatty fish, citrus and berries can be taken. Dark green leafy vegetables are rich in carotenoids, lutein and Zeaxanthin. This helps as a nutrient for eyes. Egg yolk are the prime source of lutein and Zeaxanthin and also has rich supply of zinc. It should not be over

cooked, since it damages the proteins in the egg. Carrot are the rich source of beta carotene. Almonds are the rich source of vitamin E, a handful of almonds will supply almost half of the daily requirement of vitamin E. Fat fish contains DHA (Docosahexaenoic acid) which is a type of Omega 3 fatty acid, helps in dry eye syndrome. Citrus and berries are the rich source of vitamin C, and has proven to be healthy for eyes.

Vihara:

The following measures¹¹ which helps in decreasing the symptoms and prevent severe eye strain and dry eyes.

- 1) Blink often – try to blink often while watching television or doing any work on any digital device. Blinking keeps your eyes lubricated. Also encourage others to blink at least 18 times per minute.
- 2) Frequent breaks – while working on a computer or any digital device, take a break every 20 minutes and look at a distant object (at least 20 feet away) for 20 seconds. Habit of this will break the continuity of the screen.
- 3) Modify workplace – always keep a distance of a foot away from the monitor or the gadget when sitting straight. Adjust the brightness of the screen by fixing an antiglare screen to your device to avoid eye strain. Also use proper lighting in the room.
- 4) Exercise – stretch your neck and shoulders frequently during break time. Also move your arms and legs and a bit walk.
- 5) Exposure to sun – it is a good source of energy to eyes. It helps in increasing blood circulation of eyes. This should be done during sunrise or sunset in sitting posture with feet flat on the floor, hand on knees, chin raised with closed eyes. Facing the sun, sway your body side to side for a period of 50 counts/3 minutes.
- 6) Palming – sit comfortably with eyes covered with palms, finger crossed by taking support on forehead and elbows resting on a soft pillow. Palming reduces the stress and strain of eyes.
- 7) Candle exercise – sit comfortably facing the candle flame 20 inches away. Move the eyes forward upto 5 inch close to the candle and then backwards to the starting point.
- 8) Water splashing -splashing cold water to the eyes helps to relax the eye strain. Allow it to dry on its own.
- 9) Cold pad – apply cold pad to the eyes by closing the eyes for sometime.

10) Shifting – moving eyes from one point to another.

Management in Ayurveda:

In general, for eye diseases, the procedures like *Anjana* (collyrium), *Aschotana* (eye drops), *Netra dhara* (irrigation with medicated water), *Netra Prakshalana*, *Tarpana* and *Putapaka* (satiating or nourishing therapies) can be done as Sthanika (local) chikitsa. For Sodhana (purificatory) purpose, Nasya (nasal medication) can be given.

- 1) *Aschotana*¹²– it is pouring the medicated liquid substance into the eyes. It is the first line of treatment for all the eye disorders. It relieves redness, lacrimation, friction in the eyes, pain, burning sensation and itching. Commonly used medicine for *Aschotana* is *Triphala Kashaya*.
- 2) *Netra Tarpana*¹³- is used to nourish or to irrigate the eyes. Medicated ghee is liquefied and filtered. Then it is poured into the medial can thus of closed eye up to the level of eyelashes. Then the eyes should be opened and closed slowly. Medicated ghee should be retained for specific time inside the boundary made by black gram paste. Common medicines used for *Tarpana* are *Triphala ghrita*, *Mahatriphala ghrita*, *Jivantyadi ghrita*, *Jivaniyagana ghrita*, *Satahwaditarpana ghrita*, *Kakolyadigana ghrita*, *Ghritamanda*, etc.
- 3) *Netra Prakshalana*¹⁴ – Irrigation to the eyes are very good for the eyes. It removes burning sensation. The procedure is first, hold your mouth with cold water and splash cold water over your open eyes. This is a very effective method and it has double cooling effect both on eyes as well as oral cavity. Water used for *Prakshalana* consists of *Triphala churna* ie. One glass of water with one teaspoon of *Triphala* powder and kept overnight should be strained well and taken for irrigation. This irrigation should be done 2-3 times in a day.
- 4) *Nasya*¹⁵ -it is the procedure where medicines are administered into the nostrils through the nasal cavity. It helps in providing all the nourishment and lubrication to eyes. According to *Acharya Vagbhata*, based on *dosha*, *nasya* is of 3 types. They are
 - I) *Pratimarsa Nasya* which reduces fatigue and eye strain, improves vision, relieves symptoms like blurred vision, difficulty in focusing, double vision and eye strain.
 - II) *Shamana Nasya* helps in treating redness of the eyes.
 - III) *Sneha Nasya* acts as rejuvenative, where it strengthens the function of sensory organs and improves the vision.

CONCLUSION:

Computers and other devices are an important part of today's society and digital age. These help us to learn, to keep us in touch with family and friends, and to get work done faster. Also, there are health risk associated with too much exposure to electronic devices. So, one has to follow the preventive measures to protect our eyes prior to the manifestation of diseases. In *Ayurveda* it is given that "*Sarvendriyanam Nayanam Pradhanam*¹⁶". Among the five sensory organs, eyes are considered as important because eyes are the reflection of our body's overall health. So, one has to protect our eyes.

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