



HOLISTIC APPROACH TO OCULAR HEALTH IN ERA OF COVID19

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ABSTRACT

Novel coronavirus was declared as a pandemic by WHO in March 2020. Since then many countries have been under the state of lockdown and stay at home, work from home orders have been released throughout to protect human race. During this time of quarantine and isolation, we are all trying save ourselves from the contagious virus but rise in mental and physical health issues due to staying indoors have become a matter of concern for health authorities. In between these situations there is one more worrisome issue that most of us might be ignoring that is the deteriorating ocular health. Computers, laptops, cell phones and television have overcome every other activities of our day to day life in present circumstances. While working or relaxing we are spending most of our times in front of these visual display terminals (VDT) creating burden over our eyes and becoming victim of an ocular condition called Computer Vision Syndrome associated with symptoms like eye strain, headache, blurred vision, dry eyes, and neck and shoulder pain. Apart from cutting the glare and giving rest to the eyes treatment modalities encompass measures such as using anti-glare glasses and artificial tear drops. While staying at home, we could prevent and improvement could be achieved in this condition through certain exercises and *Trataka* among yogic practices which has been discussed in this paper.

KEYWORDS: Computer vision syndrome, Ocular health, Covid19, ocular exercises, *Trataka* yoga.

INTRODUCTION

Novel Corona virus (COVID19) was reported to be originated in China in January 2020 and since then it has crossed the boundaries and spread rapidly across the world making most of the countries to go under state of lockdown for indefinite period. With people quarantined in their homes trying to keep them safe from the virus, staying indoors the whole time, working from home, lack of physical activity, dropping economy related various factors have heightened the fear, anxiety and stress among them leading to rise in cases of mental illness and increased risk of conditions like obesity and hypertension.^[1] Apart from mental and physical health issues, another matter of concern is the deteriorating ocular health. Eyes are being widely used during this period whether it is for working from home or leisure activities. Spending time in front of television, computer screens and cell phones has taken over all the other activities of our day to day life. About the current situation it has been predicted that we might have to learn to live with corona virus as it is going to stay around for a longer period of time which means dependency over these electronic gadgets is going to increase even more and with passing time they are

making our eyes are more vulnerable for becoming a victim of array of ocular symptoms, the Computer vision syndrome.

Our eyes were created for carrying out distance work majorly but with time it had to adapt to the present demand of extensive paper and screen related work. Doing near work on screens for longer hours put great stress on eyes and most of us users suffer from a computer vision syndrome without even realizing it. The syndrome has already established itself as an occupation health hazard. Among workers using computers at their work 64% to 90% of computer users have already become victim of the disease.^[2] In USA, it has been reported that more than 143 million Americans work on computer each day and 90% of them were estimated to be suffering from computer eyestrain.^[3] In India also conditions does not differ much as stated by one survey on CVS held in Jamnagar. A total of 1205 computer professionals were surveyed and among them, 485 peoples were having the symptoms of CVS which means 40.24% of total surveyed population has shown the prevalence of CVS in Jamnagar.^[4] A pilot survey conducted in the metropolitan cities of India also

revealed the incidence of CVS in as much as 70% of computer users^[5] and these are all studies conducted before human kind was attacked by the pandemic and whole world went into lockdown. Conditions might have worsened with the present scenario.

DISEASE REVIEW

Computer vision syndrome or CVS is a group of clinical symptoms related to extensive use of computers and other visual displays for prolonged hours repetitively. The ocular component of disease can be broadly classified 1) Asthenopic symptoms i.e. eye strain, sore eyes 2) Ocular surface related- watering, irritation and dry eye 3) Visual symptoms i.e. blurred vision, slowness of focus change, double vision and changes in color perception.^[6] In addition it also comprises of extra ocular symptoms involving musculoskeletal and peripheral nervous system such as such as tingling and numbness of the fingers, cervical stiffness and backache, headache. Though CVS is associated with extra ocular symptoms, the eye symptoms are the most frequently encountered complaint among its users.^[7] The reason behind group of symptoms are chiefly caused by various factors like accommodative fatigue, poor lighting, glare on a digital screen, resolution and reflection of screen, long working hours, improper viewing distances, poor seating posture,

uncorrected vision problems, and a combination of these factors.^[8] Treatment modalities does not have any therapeutic measures, but preventive steps like using anti-glare eyeglasses and contact lenses, proper position of computer screen from sitting chair, breaks in between work and blinking.^[9]

AYURVEDIC REVIEW

Ayurveda is a very ancient system of medicine and as CVS is consequence of improper lifestyle and use of modern technology; our ayurvedic texts have not mentioned any such disease but doors for identification and treatment of upcoming diseases on the basis of its Prakriti (nature), Adhishtan (site) and Nidaan (etiological factors) are kept open.^[10] If we look at the disease from the ayurvedic perspective we can draw out samprapti of CVS in following steps:

1. While using visual display terminals for long hours we are stepping into *asatmyaindriyarth samyog*(improper use of sense organs), one of the three foremost causes of any disease according to ayurveda.
2. Three components of *asatmyaindriyarth samyog* are either mithyayog (wrong), atiyoga (excessive) or heenyoga (less use) of indriyas classified in the table given below.

Table 1: Asatmyaindriyarth Samyog in CVS.

Indriya Atiyoga (excessive use)	Indriya Mithyayoga	Indriya Heenayoga
Exposure to very bright light, long hours of near work, Concentrating more on near work without shifting gaze	Poorly illuminated room, decreased blinking while working with concentration	Viewing very short fonts against bright screens, Abnormal working hours, Constantly staring at monitor

3. All the above conditions lead to aggravation of vata and pitta doshas.
4. Vitiated doshas reaches and localize at bahya netra patalas and other ocular parts such as shuklamandala etc through netravahi sira and produce symptoms of CVS.

Acharya Vagbhatta in his text stated that eyesight damage caused by exposure to heat, light or electric spark need to be treated with regenerating and cooling therapies.^[11] This phenomenon can be taken as the principle foundation for forming effective treatment guidelines as it can be correlated to aetiopathogenesis of CVS.

HOLISTIC APPROACH TOWARDS CVS

Holistic medicine emphasizes the person's ability to engage in self-care, a sort of health promotion that is self-directed in such a way as to allow a person to be part of his or her own healing processes. The practice of holistic healthcare accounts for the physical, environmental, mental, economic, emotional, social and spiritual aspects of human experience.^[12] It is an integrated effort to resolve the issue on whole, not focussing on an organ but the whole body. *Ayurveda* has been following this path since the very beginning. In terms of CVS the disease itself is not limited only to ocular symptoms. The

involvement musculoskeletal symptoms, intense stress during prolonged working makes it a necessity to find for a cure that can provide relief on whole. Thus apart from using antiglare glasses and screens, fixing illumination and bright screen, need of the hour is to find out a way which is effective, safe, affordable and accessible at home to relax and calm our complete system along with the eyes.

TRATAK YOG KRIYA

Yoga is a 3000 year old tradition, a form of relaxation and exercise that incorporates stretching, meditation and the knowledge of the body's full potential. In ancient Indian medicinal system, yoga is described as the link between the individual and the universe (*Parmatma*).^[13] It is a well-known physical, mental and spiritual practice since the ancient time and still benefitting people globally, now is regarded in the Western world as a holistic approach to health and is classified by the National Institutes of Health as a form of Complementary and Alternative Medicine (CAM).^[14] To achieve the sense of balance and union between the mind and body together with preventive and promotive approach to the ocular health, yoga could prove to be the best available holistic course of action.

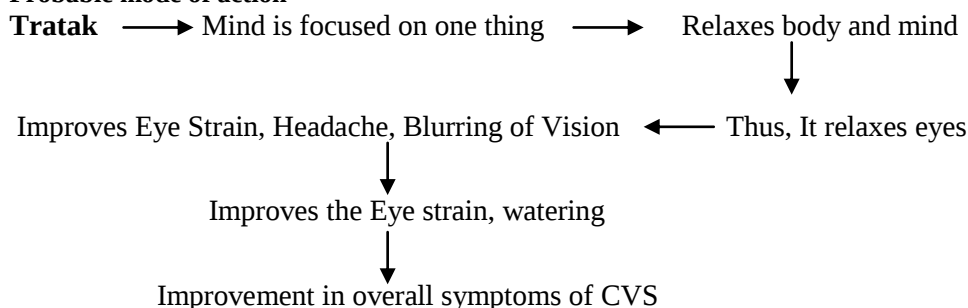
Trataka yoga is one among the *shatkarmas* in various texts of yoga such as *Hath Yoga Pradepika* and *Gherand samhita*.^[15] *Trataka* means to gaze steadily. There are two forms of practice, one is *Bahiranga* or external *Trataka*, and the other is *Antaranga* or internal *Trataka*.^[16] The practice of *Bahiranga Trataka* involves two sets of eye exercises. (i) Shifting the gaze (by moving the eyes alone) in eight directions. During this exercise, practitioners are asked to use their thumb as a cue to direct their gaze. The directions are up, down, up to the left, down to the left, up to the right, down to the right and rotation of the eyes clock-wise and anti clock-wise. (ii) During the second exercise, practitioners gaze at a flame placed at eye level without blinking. While gazing at the flame, practitioners are instructed to focus their gaze on the flame and subsequently defocus while keeping their gaze on the flame. Throughout the practice practitioners should sit upright and should avoid moving their head to shift their gaze.^[17]

METHOD

Bahiranga Trataka: (External concentrated gazing)

- Preferably practiced either in a dark room or a semi dark room.
- Place a candle two or three feet in front, with the flame at the eye level.
- It is vital that flame should be still and does not flicker at all.

Probable mode of action



DISCUSSION

CVS is the consequence of improper use of *Chakshu-indriya* (*Asatmyaindriyartham* *Samyog* of *Darshanindriya*) which leads to various symptoms such as eye strain, dry eyes, burning sensation, blurring of vision, headache and shoulder-neck pain. Tear film instability due to continuous exposure of eyes to the screens, lack of blinking and fatigue of extra- and intra ocular muscles because of intense near work and irresistible to-and-fro movements of eyeball while viewing those screens are the main reasons behind the production of these symptoms. Because of present scenario and increased dependency on visual screens this occupational syndrome may have spread and taken over most of the people around the globe. As *Ayurveda* follows preventive and curative aspect of every disease, our first step towards prevention should be *Nidan parivarjan*. Avoiding continuous use of screens, using antiglare glasses, following 20-20-20 rule etc comes under this part of the treatment. The curative

- Sit in a comfortable meditative pose, preferably *Siddhasana*, or comfortably on chair and place the hands on the knees.
- One should relax the whole body, close the eyes and prepare as for any meditative practice.
- Make oneself calm and quiet and be prepared to keep the body perfectly still throughout the whole practice.
- Then open the eyes and gaze at the middle portion of the candle flame just above the wick.
- Try to keep the eyes perfectly steady and do not blink in between. Stare as long as possible.
- Gaze steadily at the centre of candle till the eyes filled with tears^[1] then closes them and relaxes.

Antaranga Trataka involves clear and stable inner visualization of an object.^[18]

Preparation is same as that of *Bahiranga Trataka*. Here the eyes are close throughout the practice and concentrating on the object. If we have no symbol, then try to visualize a point of light, like flame of candle.

These *Yoga Kriyas* are believed to increase the imagination power, functional efficiency of extra ocular and intraocular by forcing them to work and enhances the metabolism of rods and cones through the mechanism of dark and light adaptation.^[19]

part on the other hand, can be achieved by following *Vata-Pitta Shamaka*, Cooling, Rejuvenating, *Balya*, and *Rasayana chikitsa* considering same routine for the diet too. However, the most promising, calm peaceful and trouble free foremost method is relaxation and nourishment on to ocular muscles and mind which can be achieved by *Trataka Yoga Kriya*. It is a non-pharmacological way which has already been proved effective in reducing refractive errors^[20], and glaucoma^[21] along with reducing psychological components like stress and anxiety^[22]. Hence we can definitely yield best results in CVS also.

CONCLUSION

Computers are an essential part of modern life especially today they are the only thing which is connecting us with world. The exponential increase in the dependency and use of these devices is pushing us into this underestimated but an extremely potential health hazard

which can affect our occupational and personal life majorly known as computer vision syndrome. Throwing attention on a variety factors like level of top of display screen, viewing distance from the screen, position and brightness of screens etc can prevent us from becoming a victim but *Trataka yoga* can be the best non pharmacological, inexpensive and most relaxing way to deal this condition while staying indoors and safe.

REFERENCES

- Hiremath P, Suhas Kowshik CS, Manjunath M, Shettar M. COVID 19: Impact of lock-down on mental health and tips to overcome. Asian J Psychiatr, 2020 Apr 10; 51: 102088. doi: 10.1016/j.ajp.2020.102088. Epub ahead of print. PMID: 32302964; PMCID: PMC7151434.
- Sen A, Richardson S. A study of computer-related upper limb discomfort and computer vision syndrome. J Hum Ergol (Tokyo), 2007; 36: 45-50.
- Hayes JR, Sheedy JE, Stelmack JA, Heaney CA. Computer use, symptoms, and quality of life. Optom VisSci, 2007; 84: 738-44.
- Pilot Survey-Survey Was Conducted in Jamnagar by Dr. Gangamma M.P., M.S.(Ayu), Ph.D. Scholar in 2007-2008, Under Guidance of Dr. Manjusha R., M.D.(Ayu), Ph.D., Reader in P.G. Department of Shalakya Tantra, IPGT & RA, Jamnagar.
- Pilot Survey-2001: A Pilot Survey was conducted in Metropolitan Cities of India by Dr. Chandrasekhar M.S., P.G. Scholar Under Guidance of Dr. B.A. Venkatesh M.D. (Ayu) Professor and Head, Department of P.G studies in Shalakya Tantra. Bangalore: GAMC.
- Blehm C, Vishnu S, Khattak A, Mitra S, Yee RW. Computer vision syndrome: a review. Survey of ophthalmology, 2005; 50: 253-62.
- Computer and visual display terminals (VDT) vision syndrome (CVDTS) Maj Gen J.K.S. Parihar, Vaibhav Kumar Jain, Lt Col Piyush Chaturvedi, Lt Col Jaya Kaushik, Gunjan Jain Ashwini K.S. Parihar, Medical journal armed forces india, 2016; 72: 270-276. Received 4 March 2016 Accepted 27 March 2016 Available online 25 May 2016.
- Rosenfield M. Computer vision syndrome: A review of ocular causes and potential treatments. Ophthalmic Physiol Opt, 2011; 31: 502-15.
- Computer Vision Syndrome (American Optometric Association). Available from: <http://www.aoa.org/x5374.xml>. [Last retrieved on 2017 Jan 23].
- Agnivesh Charak samhita, Savimarsh Vidyotini by Kashinath Pandey and Gorakhnath Chaturvedi, Sutrashtana 18/44-47, revised 2011, chaukhambha bharti publications.
- Vagbhatt, Ashtang Hridaya, "Vidyotini" bhashateeka by Kaviraj Atridev Gupt, Uttar Tantra, 16/28, Chaukhambha Bharti Publications, 2009.
- Ventegodt, Soren & Kandel, Isack & Ervin, David & Merrick, Joav. (2016). Concepts of Holistic Care. 10.1007/978-3-319-18096-0_148.
- Semwal, Deepak & Chauhan, Ashutosh & Mishra, Satyendra & Semwal, Ruchi. Recent Development in Yoga: A Scientific Perspective. Journal of AYUSH: Ayurveda, Yoga, Unani, Siddha and Homeopathy, 2016; 5: 14-20.
- Woodyard C. Exploring the therapeutic effects of yoga and its ability to increase quality of life. Int J Yoga, 2011 Jul; 4(2): 49-54. doi: 10.4103/0973-6131.85485. PMID: 22022122; PMCID: PMC3193654.
- Sigh P. Hatha Yoga Pradipika. 1st ed. Ch. 2. New Delhi: Munshiram Manoharlal Publishers, 2007.
- Muktibodhananada S. Hatha Yoga Pradipika. 3rd ed. Ch.2, 31. Bihar: Yoga Publication Trust, 1998.
- Shirley Telles, KV Naveen, and NK Manjunath Effect of yoga on self-rated visual discomfort in computer users Head Face Med, 2006; 2: 46. Published online 2006 Dec 3. doi: 10.1186/1746-160X-2-46.PMCID: PMC1697802 MID: 17140457.
- Muktibodhananada S. Hatha Yoga Pradipika. 3rd ed. Ch.2, 31. Bihar: Yoga Publication Trust, 1998.
- Gopinathan G, Dhiman KS, Manjusha R. A clinical study to evaluate the efficacy of Trataka Yoga Kriya and eye exercises (non-pharmacological methods) in the management of Timira (Ammetropia and Presbyopia). Ayu, 2012 Oct; 33(4): 543-6. doi: 10.4103/0974-8520.110534. PMID: 23723673; PMCID: PMC3665208.
- Gopinathan G, Dhiman KS, Manjusha R. A clinical study to evaluate the efficacy of Trataka Yoga Kriya and eye exercises (non-pharmacological methods) in the management of Timira (Ammetropia and Presbyopia). Ayu, 2012 Oct; 33(4): 543-6. doi: 10.4103/0974-8520.110534. PMID: 23723673; PMCID: PMC3665208.
- Sankalp, Dada T, Yadav RK, Faiq MA. Effect of Yoga-Based Ocular Exercises in Lowering of Intraocular Pressure in Glaucoma Patients: An Affirmative Proposition. Int J Yoga. 2018 Sep-Dec; 11(3): 239-241. doi: 10.4103/ijoy.IJOY_55_17. PMID: 30233118; PMCID: PMC6134736.
- Khatri Arun, Singh Surinder, Effect of selected Kriyas on psychological components International Journal of Physical Education Sports Management and Yogic Sciences Year, 2014; 4(1): First page: (29) Last page: (32) Print ISSN: 2231-1394. Online ISSN: 2278-795X. Article DOI: 10.5958/j.2278-795X.4.1.007.