



Clinical Study

ISSN: 2454-5023
J. Ayu. Herb. Med.
2021; 7(3): 210-213
Received: 04-06-2020
Accepted: 02-08-2021
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www.ayurvedjournal.com
DOI: 10.31254/jahm.2021.7309

Effect of Tarpan and Rsayana Churna in the Management of Computer Vision Syndrome: An Evidence based Clinical Study

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ABSTRACT

The world in the new millennium is having Computer vision syndrome as a new complaint. *Trividha Hetu* i.e. *Astamendriarth Samyoga*, *Pragyaparadha* (distortion from the moral values); and *Parinama (Time)* is basic Ayurveda fundamental for every disease pathogenesis. In reference of CVS, improper use of visual sensory organ leads to Digital stress injury similar to *Astamendriarth Samyoga*, intellectual distortion of human acts i.e. *Pragyaparadha* and new millennium disease i.e. *Parinam*. Computer, suddenly change “the distance dominant” world into the complete “near point world”. This change emerged visual disorder in form of vision-related discomfort, ocular fatigue, and systemic effects. Computer Vision Syndrome is identified as digital eye strain group of visual, ocular, and systemic symptoms caused by prolonged and improper use of Video Display Terminal (VDT). Blueprints recommended by *Acharya Vagbhatt* and *Charaka* for such types of disorders indicate that CVS can be assumed as *Vata-Pittaja* ocular cum systemic disease. So, topical therapy along with systemic therapy should be including for curative measures of CVS. The use of *Rasayana Churna* for oral intake and *Phaltrikadi-Ghrita Netra Tarpana* for topical therapy was tried among 20 patients of CVS distributed in two groups. In group I, combined treatment i.e oral and local therapy was given, shows the significant improvement in visual, ocular and systemic symptoms of CVS. While in groups II only oral treatment was given and shows significant results only on systemic symptoms of CVS. The outcome of study established CVS as a *Vata-Pittaja* visual, ocular as well as systemic disorder according to *Ayurvedic* perspective. So the overall treatment includes systemic health booster therapy combination with topical ocular medication gives the promising results for CVS management.

Keywords: Computer vision syndrome, *Phaltrikadi Ghrita*, *Rasayana Churana*, *Tarpana*.

INTRODUCTION

World is beautiful only when one’s eyes are healthy. The word *Netra* is derived from the root “Ni” which means to guide or to lead. *Netra* means *Chakshu* or visual sensory faculty which is guiding in nature [1]. Eyes or *Netra* is a guiding sensory organ which are most delicate and special status among all the sense organs. With civilization, there had been enormous changes in the lifestyle. Suddenly they found themselves confined to their tables and chairs working on computers and spending most of their times with a small boundary of offices.

Human eyes are not specifically designed for this near point world of 21st century. Digital eye strain due to prolonged and inadequate use of video display terminals as computer, tablet, cell phone leads to arise a group of eye and vision related symptoms known as Computer Vision Syndrome [2].

Although, CVS is common disease among computer users but treatment aliments are very limited in modern medical science. The phenomenon of Digital stress injury in CVS is close to *Acharya Vagbhatta* concept of eyes disorder suffering from light, electric spark & heat exposure and indicated cooling and rejuvenating therapies for treatment [3]. Topical method of drug administration *Kriyakalpas* or topical ocular therapeutics is the uniqueness of *Ayurvedic* ophthalmology [4]. *Tarpan* is one of most suitable therapeutic among these *Kriyakalpas* because therapeutic concentration potently achieved due more tissue contact time and the bio-availability [5]. So, *Vatapitta shamak* local therapy by *Phaltrikadi Ghrita Tarpan* [6] and Systemic rejuvenation, boosting therapy through *Rasayana Churna* [7] had been studied for the management of CVS.

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Aims and Objective

- Critical analysis of CVS in *Ayurvedic* perspective.
- Evaluate the effect of *Rasayana Churna*, *Phaltrikadi-Ghrita Tarpana*, for the treatment of CVS.

MATERIALS AND METHODS

Selection of patients: The patients presenting with clinical features of CVS were registered and screened out for study from the outdoor and indoor patient Department of *Shalaky Tantra (Netra Roga Unit)* of Rishikul campus Uttarakhand Ayurveda University, Haridwar.

Criteria for selection of patient

Inclusion Criteria

- Patients between 16 to 50 years of age.
- Video terminal Display i.e. computer screen users complaining of eye strain, irritated dry eyes, headache, redness, burning sensation, slow refocusing, fatigue.
- Visual acuity should not more than 6/36 with PG.
- Patients having minimum three symptoms of COMPUTER VISION SYNDROME.
- Use of computers minimum 2 to 3 hrs/day and from minimum 2 months.

Exclusion Criteria

- Patients of age lower than 16 years or more than 50 years.
- Patients related to other ocular disorders like Cataract, Glaucoma, Uveitis, Stye, Scleritis, Blepharitis Conjunctivitis etc.
- Patients diagnosed as fundus pathology like Hypertensive retinopathy, Retinal disorder, Optic atrophy, Diabetic retinopathy, Papilledema, etc.
- Patients with any systemic debilitating disorder (e.g., Hypothyroidism, Tuberculosis, Hypertension, Diabetes mellitus,)

Method of study

The diagnosed patients of CVS who came under the inclusion criteria, were distributed into the following two groups by simple random sampling technique,-

- Group I – *Tarpana Karma* by *Phaltrikadi Ghrita* along with *Rasayana Churna* orally by *Ghrita* and *Madhu Anupana* was given in this group.

- Group II - *Rasayana Churna* orally by *Ghrita* and *Madhu Anupana* was given in this group.

Selection of Drugs

The drug *Phaltrikadi Ghrit and Rasayan Churna* for the present study was selected for study.

Drug schedule

Group I(Combined therapy Group)

Rasayana Churna for oral intake in 3 gm dose, twice daily with *Ghrita* and *Madhu Anupana* for period of 1 month along with two sittings of *Tarpana Karma* by *Phaltrikadi Ghrita* each for 7 days, with interval of 7 days was given. *Phaltrikadi Ghrita* for *Tarpana* was taken according to the customized dose in order to drowning the eye lashes in it.

Group II

Rasayana Churna for oral intake in doses of 3 gm with *Ghrita* and *Madhu Anupana* two times a day upto 1 month period.

Duration of trial

The 1 month duration of trial for therapy was carried out in both groups.

Follow-up

Patients Follow-up was taken at every two weeks to observe the any significant changes. One month followed up were also considered for all patients to observe any withdrawal or adverse drug reactions.

Assessment Criteria

Assessment of each clinical feature before the beginning of trial and after the completion of trial was done on the basis of specific Grading and scoring system.

OBSERVATIONS AND RESULTS

Demographic distribution and clinical findings of all patients were reported by observational data. The results of each group were analyzed according to assessment criteria and mentioned in [Table 1], [Table 2]; though the overall effect of therapy reported in [Table 3]

Table 1: Effect of therapy in Group I (*Phaltrikadi Ghrita* and *Rasayana Churna*)

No.	Chief complaints	N	N	BT Mean	AT Mean	Mean Difference	% Difference	W Value	P Value
1	Eye Strain	10	10	2.6	0.3	2.3	86.95%	55	0.002
2	Blurred Vision	09	10	2.3	0.3	2.0	85%	55	0.002
3	Headache	10	9	1.9	0.1	1.8	93.75%	45	0.0039
4	Redness	10	09	1.9	0.4	1.5	81.25%	45	0.0039
5	Burning sensation	10	7	1.9	0.3	1.6	84.21%	28	0.015
6	Dry & irritated eyes	10	10	2.4	0.10	2.3	95.45%	55	0.002
7	Slow refocusing	10	10	1.9	0.2	1.7	87.50%	55	0.002
8	Fatigue (neck & shoulder pain)	10	10	2.5	0.3	2.2	86.36%	55	0.002

Table 2: Effect of therapy in Group II (*Rsayana Churna*)

No.	Chief complaints	N	N	BT Mean	AT Mean	Mean Difference	% Difference	W Value	P Value
1	Eye Strain	10	08	2.6	1.7	0.9	34.61%	36	0.015
2	Blurred Vision	10	08	1.9	1.4	0.5	26.31%	10	0.125
3	Headache	10	07	1.7	1.0	0.7	41.17%	28	0.015
4	Redness	10	05	1.3	0.8	0.5	38.46%	15	0.062
5	Burning sensation	10	04	1.4	1.0	0.4	28.57%	10	0.12
6	Dry & irritated eyes	10	06	1.8	1.2	0.6	33.33%	21	0.031
7	Slow refocusing	10	09	1.9	0.4	1.5	78.94%	45	0.0039
8	Fatigue (neck & shoulder pain)	10	10	2.3	0.6	1.7	73.91%	55	0.002

Table 3: Overall Effect of Therapy by Chi square test

Groups	0-25%	26-50%	51-75%	76-100%	Row Total	χ^2	P
GB	0	3	5	2	10	13.33	0.001
GC	0	0	0	10	10		
Column Total	0	3	5	12	20		

Demographic Profile

The major incidence of CVS i.e 80 % was found in young patients under age group of 16-35 years, in which 60 % females and 40 % males mostly belonged from Hindu religion i.e. 95 %. Majority of the patients, i.e., 90 % was well educated and related to middle socio-economic status. 56.66% of patients belonged from rural area. The number of patients i.e 40 % were working 7h or more/day on computer or VDTs; 85% of patients were affectionate to use *Amla* and *Lavan ras* in their diet while, 50% of patients were reported on *Vishama* dietary habits. The high incidence of CVS i.e., 55% was reported in *Vata-Pittaja Prakriti* patients. The 80% patients were found addicted to tea or coffee, irregular bowel habits were reported in 45 % of patients and 55 % patients having disturbed sleep problems. In marital status similar distribution ratio i.e 50% found in both unmarried and married patients. Visual acuity for near as N/6 or less were reported in maximum number of eyes i.e. 90%.

Clinical profile

All patients i.e. 100% had complaint of eye strain during their work, 90 % patients had irritated/dry eyes, while 80 % patients had redness in eyes. Maximum number of patients i.e. All i.e. 100% patients had symptom of fatigue, 95% were suffered from blurred vision and 70% had burning sensation in eye. Majority of patients i.e. 95% had slow refocusing, while 80% patients suffered from headache.

DISCUSSION

Conceptual Contrive

CVS is a new disease dually contributed by electronic technology. Doshic predominance in CVS is based on vitiate *Vata* and *Pitta* in a specific sense organ i.e. eye but also distress whole body physiology. Hence cannot be considered only as an ocular problem. So, the dual approach (topically as well as orally) by *Vata pitta Shamak* drugs in the

CVS management is one the unique contribution of ancient science for today's computer world.

Demographic profile

Most of the young patients belonged from age group of 16-35 years were found affected by CVS because these age group persons majorly operate video display terminal VDTs i.e. Computer or mobile screen in comparison of other age groups persons. Majority of patients were Hindus because of Hindu dominant population found in trial area. Most of the patients were worked as full-time computer operators and utilize VDTs for 7 hours or more/day, this suggest that CVS is more common in prolonged computer users who works continuously without any break. Along with it number of patients complaint disturbed sleep due to this, they used mobile screen or computer screen on bed in lying position under dark room which became a major reason for etiopathogenesis of CVS. The high incidence of CVS was found in patients of middle socioeconomic status because this group of society tolerate the major stress to compensate their financial needs by over working periods and neglecting own health requirements results in became more susceptible for CVS. Addiction of tea and coffee also reported because most of the patients use these beverages as refreshment for awaking and continue working. *Vata-Pittaja Prakriti* patients were more vulnerable CVS because *Vata* dominating *Pitta dosha* are root cause for CVS.

Clinical Profile

Effect of therapy in Group I

In ocular symptoms Statistically extremely significant ($P < 0.001$) results i.e. 86.95% in eye strain, 85% in blurred vision, 81.25 % in redness, 87.50 % in slow refocusing, and 95.45% in dry and irritated eye were observed.

In Systemic symptoms Statistically highly significant ($P < 0.001$) results i.e. 86.36 % in fatigue (neck & shoulder pain) 93.75 % in headache were observed. Significant results ($P < 0.01$) in burning sensation of eye i.e. 84.21% were reported.

This group shows highly significant results because of combined drug therapy because *Phalatrikadi Ghrita Tarpana* enriches the strength of whole intra and extra ocular muscles, due which lens can easily change its focusing power according to the image leads to proper formed image on retina while on the other hand *Rasayana churna* by its *balya*

and *Rasayana* property additively works through antioxidant, imunomodulator and purifactory action on whole body and revitalize the unhealthy tissue on systemic level.

Effect of therapy in Group II

Highly significant ($P < 0.001$) results were found in slow refocusing of eyes i.e. 78% while in fatigue (neck & shoulder pain) i.e. 73.91%.

Significant results ($P > 0.05$) was found in eye Strain patients i.e. 34.61 % and in patients of headache i.e. 41.17 %

Statistically insignificant ($P > 0.05$) results observed in blurred vision i.e. 26.31 %, in redness only 38.96 %, in burning sensation 28.57 % and in dry & irritated eyes 33.33 %.

Slow refocusing, fatigue, Eye strain and headache like symptoms are subjected to compromised health issues due to this reason *Rasayana Churna* shows better improvement in these complains. While blurred vision, burning sensation and dry and irritated eyes are more concerned with local tissues health that's why *Rasayana Churna* shows limited results in these symptoms of CVS.

Comparative Analysis of Groups results

Statistically significant ($p < 0.001$) difference was found on Overall effect of therapy in between Group I and Group II. Again clinically significant results were found more in Group I on percentage relief in various symptoms of CVS. So, the fact is verified that combined drug therapy is more effective therapy for CVS.

CONCLUSION

- CVS is a *Vata Pitta* dominant ocular cum systemic disorder arise from *Pragyapradha and Astamendriyarth Samyog*; *Astamendriyarth samyog* term parallel to repeated stress injury (RSI) used in contemporary medical science.
- This cause alteration in cellular structure of first *Patal* i.e. tears film destruction and weakness of Second *Patal* i.e. compromised strength of ocular muscles.
- Lubricating healing, *Vatapitta* pacifying properties *Phaltrikadi ghrita Tarpan* reconstruct the tear film and enriches the ocular muscles while *Rasayan Churna* orally synergise effect by its *Chakushusya, Balya* and *Rasayan* action on whole body.
- Thus, it is proved statistically as well as clinically that combined therapy i.e. Group I (*Phaltrikadi Ghrita Tarpan* and *Rasayan churna* orally) shows most significant improvement in all cardinal features of Computer Vision Syndrome.

Conflict of Interest

None declared.

Financial support and sponsorship

Nil.

REFERENCES

1. Shabdkalpadruma by Raja Radhakant Devbahadur, Chaukhamba Sanskrut Granthmala 3rd edition, 1967 part 5, p. 568-569

2. Computer Vision Syndrome-American Optometric Association, <https://www.aoa.org/patients-and-public/caring-for-your-vision/protecting-your-vision/computer-vision-syndrome> Google's cache appeared on 7 Jan 2020 07:14:05 GMT.
3. Vagbhata, Astanghridayam, Vidhyodini, Hindi commentary, Kaviraj Atridev Gupta, Chaukhmbha Varanasi 2009, Uttara Tantra 13/97, p. 678
4. Sushruta, 'Sushruta Samhita' with 'Nibandha Sangrha' commentary by Dallhanacharya, edited by Vaidya JadavajiTrikamaji Acharya and Narayana Rama Acharya, ed. ChaukhambaOrientalia Varanasi 2009 Uttar Tantra 18/4; p. 71
5. Prof.K.S.Dhiman.ShalakyaTantra, KriyakalpaVigyan,Chaukhambha viswa bharti varanasni 2013, chapter-9, p.- 141-142.
6. Chakradatta,originally known as Chikitsa Sangraha editor and translated by Dr.Madham Shetty Suresh Babu, Chaukhambha Krishnadas Academy Varanasi, 1st Edition: 2012, Netra Roga Chikitsa 59/179, p. 469
7. Vagbhata, Astanghridayam, Vidhyodini, Hindi commentary, Kaviraj Atridev Gupta, Chaukhmbha Varanasi 2009. Uttar tantra, 39/157-159, p. 825
8. Agnivesh-CharakaSamhita', revised by Charaka and Dridhbala with 'Ayurveda Dipika' commentary,by Chakrapanidatta, edited by Vaidya JadavajiTrikamaji Acharya, ed ChaukhambhaVaranasi 2011, Sutra Sthan 11/43, p 233
9. Agnivesh-CharakaSamhita', revised by Charaka and Dridhbala with 'Ayurveda Dipika' commentary,by Chakrapanidatta, edited by Vaidya JadavajiTrikamaji Acharya, ed ChaukhambhaVaranasi 2011 Viman Sthana, 6/6; p. 718

HOW TO CITE THIS ARTICLE

Kumar S, Sharma G, Verma A. Effect of Tarpan and Rsayana Churna in the Management of Computer Vision Syndrome: An Evidence based Clinical Study. J Ayu Herb Med 2021;7(3):210-213. DOI: 10.31254/jahm.2021.7309

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