

“A Clinical study of Eye Exercise, Shatavari Ghrita Tarpana in the Management of Computer Vision Syndrome”

Dr.Pushpavati S Policepatil¹, Dr Hemachandrashetty ²

¹Professor, ²Assistant Professor Department of Shalakya Tantra, B.V.V.Sangha's
BVVS Ayurved Medical College & Hospital, Bagalkot

ABSTRACT

Computers have made our world smaller allowed us to respond more quickly put facts and figures at our finger tips, Although Computers have certainly made our work lives easier and more efficient the most wide spread problem seen nowadays is Computer Vision Syndrome. Increased use of Computers has led to an increase in number of patients with Ocular Complaints. Computer vision syndrome is a temporary condition resulting from focusing the eyes on a computer display for uninterrupted periods of time. Health Organizations such as NIOSH have long viewed Computer Vision Syndrome (CVS) as an Occupational Safety issue and have called for more research this area. A recent study clearly shows a performance decrease in workers who report cvs symptoms. In Ayurved we do not get direct references regarding computer Vision syndrome but few symptoms can be observed in **Shushkakshipaka**. Vagbhata mentioned use of Anjana Seka and Tarpana, Acharya Vagbatta has advocated Sheeta, Snigdha Santarpana Chikitsa in light, electric and heat exposure ocular conditions. Sushruta mentioned Aksi Tarpana,, Seka Ghritapana to handle this condition. Chakradatta considered Shatavari under Chaksusya varga.

Keywords : Computer Vision Syndrome, Shatavari Ghrita, Shuskaaskipaka, Eye Exercise

INTRODUCTION

According to National Institute of occupational safety and Health,

Computer Vision Syndrome affects about 90% of the people who spend three hours or more a day at a

computer. Health Organizations such as NIOSH have long viewed Computer Vision Syndrome (CVS) as an Occupational Safety issue and have called for more research in this area. A recent study clearly shows a performance decrease in workers who report CVS symptoms.¹

Many researches are being conducted in this field, Hence an effort has been made to have remedy for this disorder by using Eye Excercise and Tarpana with Shatavari Ghrita which said to be Chaksushya which may relieve the symptoms of CVS.

Computers have made our world smaller allowed us to respond more quickly put facts and figures at our finger tips, Although Computers have certainly made our work lives easier and more efficient the most wide spread problem seen nowadays is Computer Vision Syndrome.²

Increased use of Computers has led to an increase in number of patients with Ocular Complaints. The Visual Display Terminal (VDT) is a computer screen, here images are made of Pixels or dots the resolution being measured in dots per inch³. Prolonged work on computers has been associated with

diminished power of accommodation, removal of near point of Convergence. Viewing distance and angles used for this type of work are also often different from those commonly used for other reading or writing tasks. As a result the eye focusing and eye movement requirements for digital screen viewing can place additional demands on visual system⁴.

Computer Vision Syndrome (CVS) is a complex of eye and vision problems related to near work which are experienced during or related to computer use. Many individuals experience eye discomfort and vision problems when viewing digital screens for extended periods. If nothing is done to address the cause of the problem, the symptoms will continue to recur and perhaps worsen with future digital screen.

Computer vision syndrome is a temporary condition resulting from focusing the eyes on a computer display for protracted uninterrupted periods of time ,Between 64%to 90% of people use computers experience symptoms of cvs include⁵.

- Blurred Vision.
- Watering of eyes.

- Redness in eyes.
- Dry eyes.
- Double vision.
- Eye strain.
- Headache.
- Vertigo.
- Neck shoulder and back ache.

These symptoms can be increased due to improper lighting conditions.

In Ayurved we do not get direct references regarding computer Vision syndrome but few symptoms can be observed in **Shushkakshipaka**.

According to Acharya Sushruta⁶

we can see

- Avila Darsana(Blurred Vision),
- Daruna Rooksha Vartma (Hardness and Dryness of lids).

Sushruta mentioned Aksi Tarpan,, Seka Ghritapana to handle this condition

According to **Acharya Vagbhata⁷**

- Gharshna (foreign body sensation) ,
- Toda (pain)
- Upadeha(blurriness of vision and stickyness),
- Krichra Unmeela Nimeela(difficulty in opening and closing of the lids), Sushkata(Dryness of the Eyes)
- Shoola (pain).

Vagbhata mentioned use of Anjana Seka and Tarpana, Acharya Vagbatta has advocated Sheeta,Snigdha Santarpana Chikitsa in light, electric and heat exposure ocular conditions.

Shushkakshipaka should be treated similar to Vataja Abhisyananda according to Astanga Sanghra utara stana 20 chapter 2 sloka . Sharangadhara mentioned pindi in managing Vataja Abhisyananda so in present study Pindi Kriya Kalpa is selected. Snigdha Santarpana Chikitsa is mentioned in handling Shushkakshipaka so Tarpana is selected for present study.

As per Bhavaprakash⁸ and Kaideva Nigantu⁹Shatavari is Chaksusya and Rasayana. Chakradatta considered Shatavari under Chaksusya varga¹⁰. So these medicines are selected for present study.

Aims & Objectives:

To Evaluate Efficacy of **Shatavari Ghrita Tarpana** and **Eye exercise**.

Materials & Methods:

Materials

Source of Data Patients will be selected from OPD, IPD and camp conducted by BVVS Ayurved Medical College and Hospital, Bagalkot for present study.

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Randomly patient will be selected and divided into 2 groups.

(Simple randomized method)

Medicine: Shatavari Ghrita

Raw materials will be purchased and medicine will be prepared in the Department of Rasashastra and Bhaysajya Kalpana, BVVS Ayurved Medical college and Hospital Bagalkot. Ghrutakumari procured from market.

Methods:

Group A (40) Patients will be advised Eye exercise and Shatavari Ghrita Tarpana 10mins for 7 days with a gap of 2 months again the same procedure will be repeated, total 2 settings will be done.

Routine eye examination

- Visual acuity
- Slit lamp
- Intraocular pressure
- Fundoscopy.

Inclusion Criteria

1. All the patients who use computer more than 3 hours per day for 2-3 months.

2. Age between 18 to 40 years.
3. Patients suffering with at least 4 complaints of CVS.

Exclusion Criteria

1. Refractive Error
2. Other systemic diseases Hypertension, Diabetes Mellitus .

Criteria for assessment

Drug will be given to the patients in two settings with a interval of 2 months each and the changes in subjective and objective parameters will be recorded during every visit.

Follow up: After every 15 days

Subjective parameters

1. Blurred Vision.
2. Watering of eyes.
3. Redness in eyes.
4. Eye strain.

Objective parameters

1. Tear Film Break-up Time (TBUT)
2. Schirmer"s Test

Statistical methods

Students "t" test is used to analyse before and after data.

SUBJECTIVE PARAMETERS	
Avila Darsha(Transient Blurring of vision)	0-Absent 1 -Occasionally present 2 - Intermittently present 3- Frequently present
Daha (Burning Sensation)	0 – Absent

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	<p>1- Occasionally present 2- Intermittently present 3- Frequently present</p>
Toda(Pricking pain)	<p>0-Absent 1-Mild –Tolerable, negligible 2-Moderate–Constant, tolerable 3-Severe–Intolerable, Constant</p>
Ragata (Congestion)	<p>0 – Absent 1- Discrete, thin vessels vascular net work limited to P.C* and fornix 2- prominent vascular net work involving peripheral part B.C** 3-Fierry red eye involving whole BC and. circumcorneal zone.</p>
Sushkata (Dry Eyes)	<p>0-Absent 1-Occasionally present 3-Intermittently present 3 Frequently present</p>
Shirobhitapa(Headache)	<p>0-Absent 1-Occasionally present 2-Intermittently present 3-Frequently present</p>
Double Vision	<p>0-Absent 1- Occasionally present 2- Intermittently present 3-Frequently present</p>

	OBJECTIVE PARAMETERS
Tear Film Break-up Time (TBUT)	<p>10 seconds 5-10 seconds 4-5 seconds 3 less than 4 seconds</p>
Schirmer"s Test	<p>≥15 mm wetting of the paper after 5 minutes. 14-9 mm wetting of the paper after 5 minutes 8-4 mm wetting of the paper after 5 minutes <4 mm wetting of the paper after 5 minutes</p>

Overall assessment of clinical response

Table 1: Showing Overall assessment of clinical response.

Complete Remission	100%
Marked improvement	75 - 99%
Moderate improvement	50%-74%
Mild improvement	25 -49%
No improvement	< 25%.

OBSERVATION

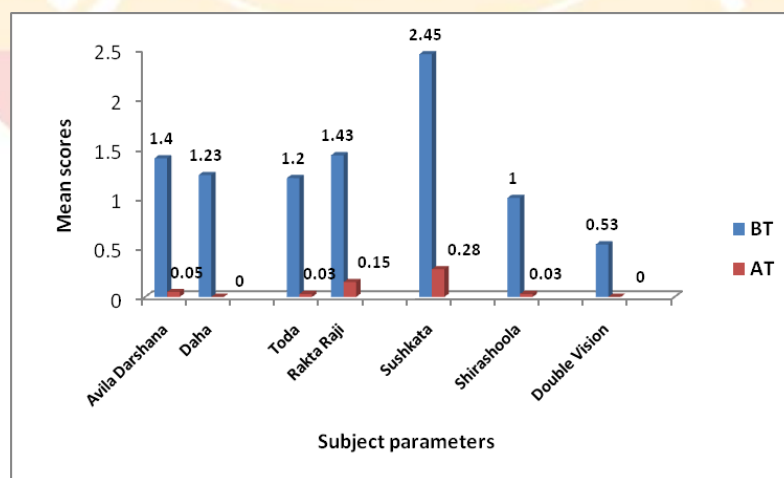
- The total 44 subjects were registered for the study. Among them 40 cases completed the treatment, 4 cases discontinued the intervention at various stages of clinical study.
- In this clinical study, out of 40 patients, 06 (15%) of patients belongs to 25year age group, 11(27.5%) of patients be(27.5%) of patients belong to 26 -30 year age group long to 26 -30 year age group, 13(32.5%) of patients belong to 36 year age group .
- In this clinical study, out of 40 patients, 18 (45%) patients were male and 22 (55%) patients were female.
- Observation on education status of the patients revealed that, 38 (95%) patients were Graduates and 2 patients were post graduates.
- Observation on occupation of patients revealed, 11(27.5%) patients were
 - Bank Empolyees, 03(7.5%) patients were Bossiness man 1(2.5%) patient was clerk . 2(5%) patient were computer engineers, 06(15%) patient were computer operators, 8(20%) patient were Teachers, 02(5%) patient were Doctors, 1(2.5%) patient was Pharmacist, 06(15%) patient were Students.
 - Observation on the distribution of socio-economic status of patients revealed that, maximum patients belong to middle class i.e., 31 (77.5%).
 - Observation on the distribution of habitat in patients of Computer Vision Syndrome revealed that, 33(82.5%) patient were from urban region.
 - Observation on addictions revealed that, 08 (20%) patients were addicted to Smoking, Tea, and Coffee.
 - Observation on sleep revealed that, 10 (25%) patients had disturbed sleep.

RESULTS

EFFECT OF THERAPY ON SUBJECTIVE PARAMETERS

Subjective parameters	Mean±SD score		Reduction	%	Paired t test	P value
	BT	AT				
Avila Darshana	1.40±0,67	0.05±0,22	1.35	96%	t=12.89	P=0.001*
Daha	1.23±0,48	00	1.23	100%	t=12.89	P=0.001*
Toda	1.20±0,47	0.03±0,16	1.17	97.5%	t=16.150	P=0.001*
Rakta Raji	1.430±0.64	0.15±0.43	1.28	89.5%	t=14.844	P=0.001*
Sushkata	2.45±0.68	0.28±0.45	2.17	88%	t=14.552	P=0.001*
Shirashoola	1.00±0.32	0.03±0.16	0.97	97%	t=17.618	P=0.001*
Double Vision	0.53±0.51	00	0.53	100%	t=6.565	P=0.001*

Table 2: Showing the Reduction in subjective parameters before and after treatment



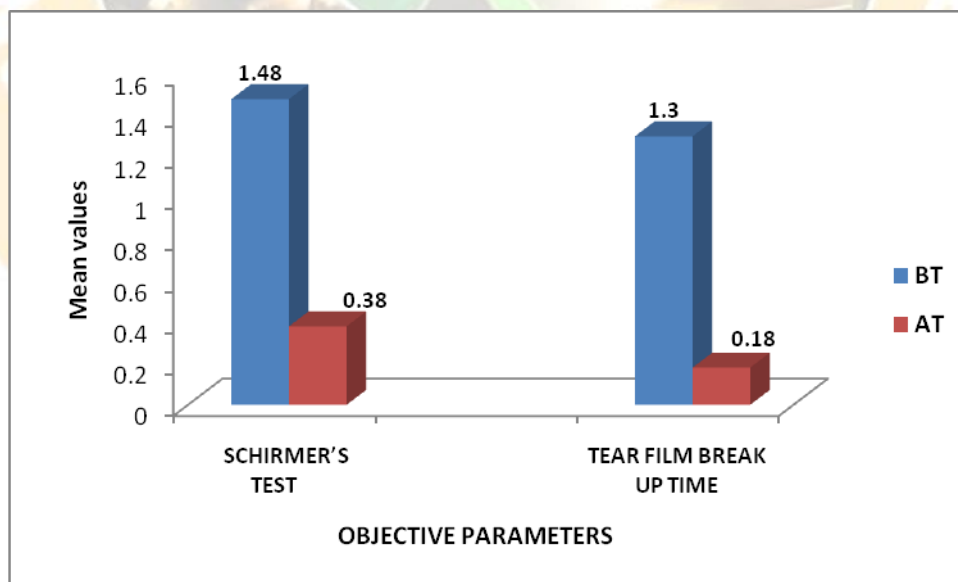
Graph No 1: Showing the mean difference of the subjective parameters.

EFFECT OF THERAPY ON OBJECTIVE PARAMETERS

Subjunctive parameters	Mean±SD score		Reduction	%	Paired t test	P value
	BT	AT				
SCHIRMER'S TEST	1.48±0.51	0.38±0.54	1.1	74%	t=14.022	P=0.001*
TEAR FILM BREAK UP TIME	1.30±0.46	0.18±0.39	0.18	86%	t=12.631	P=0.001*

*: Significant difference

Table 3: Showing the Reduction in Objective Parameters before and after treatment



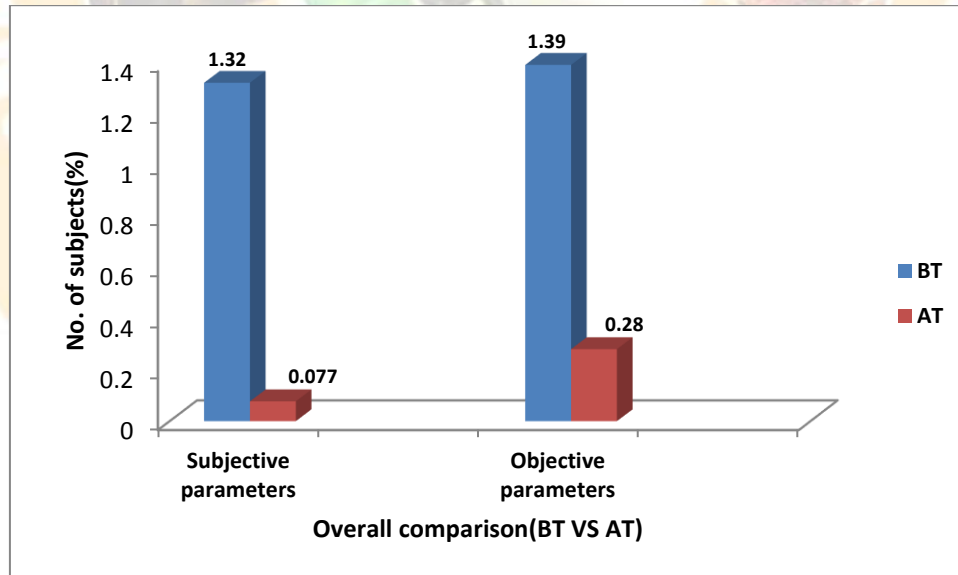
Graph No 2: Showing the mean difference of objective parameters .

OVERALL EFFECT OF THERAPY ON SUBJECTIVE AND OBJECTIVE PARAMETERS

Overall subjective & Objective comparison	Mean±SD score		Reduction	%	Paired t test	P value
	BT	AT				
Subjective parameters	1.32±0,58	0.077±0.10	1.243	94.2%	t=6.665	P=0.0006*
Objective parameters	1.39±0.13	0.28±0.13	1.11	79.86%	t=111.0	P=0.0005*

*: Significant difference

Table 4: Showing the overall Reduction in subjective & Objective parameters before and after Treatment



Graph No 1: Showing the overall Reduction in subjective & Objective parameters before and after treatment

DISCUSSION ON RESULTS

Our eyes and bodies are not designed to withstand this ongoing stress, which contributes to poorer vision, eye disease, and often neck and back problems. Shatavari Ghrita is a herbal drug containing Shatavari and Goghrita. Shatavari is having Chaksusya and Rasayana qualities, it is Vata Pitta Rakta Shamaka, and Balya. It is indicated in Netra Rogas. Shatavari Kalpa treats weakness, improves immunity and overall health due to the nourishing effect of its tonic. Shatavari roots are said to have anti-microbial activity against a variety of bacteria. Shatavari is having saponins and it also acts as an antioxidant. Eye exercises have been used for many years and by many cultures to help maintain healthy vision. Because of these properties, it is able to reduce the Toda, Avila Darshana, Shuskata of Netra, hence acting on the samprapti. Eye exercises have been used for many years and by many cultures to help maintain healthy vision.

SUMMARY

1. Computer Vision Syndrome is one of the occupational hazards which can be

correlated to Shuskaksipaka which is Sarvasara Netra Roga.

2. The features of Shuskaksipaka are merely similar to Computer Vision Syndrome.
3. It is a clinical trial; total 40 patients were included in the study.
4. As per Bhavaprakash and Kaideva Nigantu, Shatavari is Chaksusya and Rasayana.
5. Subjective parameters for the study were Avila Darshana, Daha, Toda, Shirashoola. Observation was done on various parameters. Student's t test is done to evaluate the results.

CONCLUSION

Eye Exercise and Shatavari Ghrita had a better effect on subjective and objective parameters in all the patients.

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SCOPE FOR FUTURE WORK

1. Sample size needs to be increased for further analysis.
2. Analysis of the drugs should be done in a proper chemical laboratory setup, to analyze chemical composition and to know active principles.
3. Same drug should be studied in different forms (Different Kalpa).

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Corresponding author:

Dr.Pushpavati S Policepatil

Professor, Department of Shalakya Tantra, B.V.V.Sangha's BVVS Ayurved Medical College & Hospital, Bagalkot

Email: ppolicepatil@gmail.com

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