

Clinical Study of *Haridradi Ghrita* and *Saindhavadi Parisheka* in the Management of *Sushkakshipaka* (Computer Vision Syndrome)

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Abstract: *Computer Vision Syndrome (CVS), also known as Digital Eye Strain (DES) and Visual Fatigue (VF), results from prolonged digital device use. It presents with visual, ocular, and extraocular symptoms like blurred vision, photophobia, dryness, headache, and musculoskeletal strain. CVS shares clinical features with Sushkakshipaka, a Sarvagata Netra Roga caused by Vata dosha, leading to inflammation and dryness due to reduced tears. This study aimed to evaluate the clinical effectiveness of Haridradi Ghrita and Saindhavadi Parisheka in the management of Sushkakshipaka. A total of 50 patients, aged 16 to 50 years, were selected for the clinical study in accordance with diagnostic criteria and were being assessed for 30 days. The trial drug Haridradi Ghrita and Saindhavadi Parisheka had been given in calculated dosage of 15ml BD orally and 600 matras in morning through local application respectively. Efficacy was assessed using subjective parameters and objective parameters. Results showed significant improvements in symptoms like Eye redness (Raga) (64%), Eye pain (Shula) (65%), Burning (61%), Tearing (Bheda) (61%) etc. Very significant relief was seen in Difficulty focusing for near vision (Divitya Patala Timira lakshna) and in case of Dryness (Vishushkatva) having p value being $p=0.003$ and in the symptom of Asthenopia p value is $p=0.002$. Objective parameters like Schirmer's test (38%) and Tear Film Break-Up Time (30%) showed the improvement in clinical features having $p<0.0001$. The overall effects suggested that effectiveness of Haridradi Ghrita and Saindhavadi Parisheka was discovered to be an effective formulation in managing Sushkakshipaka (Computer Vision Syndrome) having no adverse effects.*

Keywords: Computer Vision Syndrome, *Sushkakshipaka*, Digital Eye Strain (DES), *Haridradi Ghrita*, *Saindhavadi Parisheka*

1. Introduction

The eye is a crucial sense organ, and its well-being is essential for maintaining quality of life. With the advancement of technology, prolonged exposure to digital screens has led to a significant rise in Computer Vision Syndrome (CVS), also known as Digital Eye Strain (DES) [1]. CVS is a prevalent condition affecting individuals across all age groups due to extended screen time from computers, smartphones and tablets and is also known as Visual fatigue [2]. It manifests as a combination of visual, ocular, and extraocular symptoms, including blurred vision, photophobia, dryness, headache, and musculoskeletal discomfort [3,4]. The symptoms seen in the children includes reduced concentration period, irritation, indiscipline, dry eye, ocular discomfort, strain in the eyes, neck pain, shoulder pain and headache. [5] Millions of individuals irrespective of age are at risk of CVS due to massive growth of digital devices as well as their use. These devices have now become an integral part of daily routine in developed nations. [6]

Despite its increasing prevalence, CVS remains an overlooked health concern, particularly in developing nations [7]. Existing modern treatments, such as artificial tears, lubricating eye drops, and computer glasses, provide only temporary symptomatic relief and fail to address the underlying pathology [8]. Ayurveda describes a similar condition, *Sushkakshipaka*, characterized by dryness, foreign body sensation, blurred vision, photophobia, and difficulty in opening and closing the eyes [9,10]. Classical Ayurvedic texts

recommend therapies like *Anjana* (collyrium), *Tarpana* (eye nourishment therapy), *Nasya* (nasal administration), and *Parisheka* (eye irrigation) for its management [11,12].

In this clinical study, the efficacy of *Haridradi Ghrita* [13] and *Saindhavadi Parisheka* [14] is evaluated as a holistic, safe, and effective alternative for CVS, aiming to provide both symptomatic relief and long-term ocular health benefits.

Aims and Objectives

To evaluate the clinical effectiveness and conduct an analytical assessment of *Haridradi Ghrita* and *Saindhavadi Parisheka* in the management of *Sushkakshipaka* (Computer Vision Syndrome) using standardized parameters.

2. Materials and Methods

Selection of Patients-

A total of 50 patients, aged 16 to 50 years, were selected for the clinical study from the OPD and IPD of the *Shalaky Tantra* Department at Sanjeevani Hospital, Dr. Sarvepalli Radhakrishnan Rajasthan Ayurved University, Jodhpur. The selection was made irrespective of gender, religion, occupation or educational background.

IEC & CTRI registration-

The study obtained Institutional Ethics Committee clearance IEC No. DSRRAU/UPGIAS&R/IEC/20-21/359 and registered at Clinical Trial Registry of India (CTRI

/2023/07/054848). A written informed consent from each patient was taken before enrolling in the clinical trial.

Inclusion criteria-

- 1) Individual between age group 16-50 years.
- 2) Patients of both sexes were included.
- 3) Patients presenting with characteristic symptoms of *Sushkakshipaka* (Computer Vision Syndrome) were included in the study.

Exclusion criteria-

- 1) Individuals below 16 years or above 50 years of age.
- 2) Patients diagnosed with Bell's palsy.
- 3) Patients with glaucoma.
- 4) Individuals suffering from corneal ulcer or corneal opacity.
- 5) Patients with trichiasis, entropion or ectropion.
- 6) Patients with severe systemic diseases.

Study Design-

This study was a non-randomized, interventional clinical trial consisting of three phases: Preparation, Treatment and Efficacy evaluation.

Table 1: Study Design of the Project

Study Type	Interventional Clinical Trial
Purpose	Treatment
Allocation	Single Arm Study
Masking	Open level
No. of Groups	One
Timing	Prospective
End Point	Efficacy and Safety
Patients	50
Total Study Period	30 Days
Total Treatment Period	30 Days
Follow up Period	15 Days
Randomization	Non-Randomized

Trial Drugs-

Followings drugs were selected for the present clinical trial-

- 1) *Haridradi Ghrita*^[15] for oral administration.
- 2) *Saindhavadi Parisheka*^[16] for local application.

Table 2: Contents of *Haridradi Ghrita*

S. No.	Ingredient	Quantity
i.	<i>Go- Ghrita</i>	40Kg
Murchana Dravyas		
i.	<i>Haritaki</i>	500 gm
ii.	<i>Vibhitka</i>	500 gm
iii.	<i>Amalaki</i>	500 gm
iv.	<i>Nagra</i>	500 gm
v.	<i>Musta</i>	500 gm
vi.	<i>Haridra</i>	500 gm
vii.	<i>Matuluga svarsa</i>	1/2 litre
viii.	Water	160 litres

Table 3: Contents of *Saindhavadi Parisheka*

S. No.	Drug	Botanical Name	Family	Part Used
1.	<i>Go-dugdha</i>	Lactus (Latin)	-	Milk
2.	<i>Saindhava lavana</i>	Sodium chloride	Chloride	Salt

Table 4: Drug dosage and posology

Drug	Haridradi Ghrita	Saindhavadi Parisheka
Dose	15ml B.D.	600 matras in Morning
No. of Groups	One	
Duration	30 Days	30 Days
Route	Oral	Local
Anupana	Lukewarm water	-
No. of Patients	50	50
Type of Study	Open	Open
Duration of Drug Trial	30 Days	30 Days

Assessment

Diagnostic criteria

Diagnosis was based on detailed history and clinical examination, assessing *Sushkakshipaka* and *Computer Vision Syndrome* symptoms using standard parameters.

The effectiveness of the trial drugs was assessed based on the following parameters:

1) Clinical Assessment

- **Subjective Parameters:** Evaluation based on clinical symptoms- Burning (*Daha*), Itching (*Kandu*), Feeling of foreign body (*Gharsha*), Tearing (*Bheda*), Excessive blinking (*Nimesha*), Redness (*Raga*), Pain (*Shula*), Heaviness of eyelids (*Kaphotklista*), Dryness (*Vishushkatva*), Blurred vision (*Aavila Darshana*), Double vision (*Tritiya Patala Timira Lakshana*), Difficulty focusing for near vision (*Divitya Patala Timira Lakshana*), Increased sensitivity to light (*Kunita Vartma*), Colored halos around objects (*Pravamandala*), Worsening of eyesight (*Drishti Daurbalya*), Headache (*Siroshula*), Asthenopia (*Netra Avasada*), Sticking of eyelids (*Slishtavartma*), and Photophobia (*Prakasha Asahishnuta*).

- **Objective Parameters:** Schirmer's Test, Tear Film Break Up Time (TBUT) and lab investigations.

2) Patient Counselling-

Patients were provided guidance on maintaining proper working conditions while using computers to minimize strain on the eyes.

3. Observations and Results

General observation in trial

A total of 50 patients were registered in a single group. All the 50 patients completed the treatment. Observations of 50 patients are described below-

Table 5: Depicting the Demographic Data of the Present Study

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Contents	Details	No of patients	%
1. Age	16-20	9	18%
	21-30	18	36%
	31-40	16	32%
	41-50	7	14%
2. Gender	Female	27	54%
	Male	23	46%
3. Religion-	Hindu	45	90%
	Muslim	03	6%
	Sikh	02	4%
4. Marital status	Married	26	52%
	Unmarried	24	48%
5. Education	High school	10	20%
	Under-Graduate	17	34%
	Post-Graduate	23	46%
6. Occupation	Teacher	10	20%
	Student	11	22%
	Engineer	08	16%
	Bank employee	09	18%
	Driver	05	10%
	Housewife	07	14%
7.Socioeconomic Status	Lower	02	4%
	Middle	40	80%
	Upper	08	16%
8. Habitat	Rural	44	88%
	Urban	06	12%
9. Diet	Vegetarian	46	92%
	Mixed	04	8%
10.Appetite	Good	05	10%
	Medium	21	42%
	Poor	24	48%
11. Bowel	Regular	21	42%
	Irregular	07	14%
	Constipation	22	44%
12. Micturition	Normal	43	86%
	Polyuria	07	14%
13. Addiction	Tea/Coffee	30	60%
	Smoking	09	18%
	Alcohol	06	12%
	None	05	10%
14. Sleep	Normal	21	42%
	Disturbed	29	58%
15. Time spent in front of visual display terminal daily in 24 hours	4-5 hrs	11	22%
	6-8 hrs	25	50%
	More than 10 hrs	14	28%
16. Prakriti	Vata Prakriti	05	10%
	Pitta Prakriti	04	8%
	Vata -Pitta Prakriti	22	44%
	Pitta kapha Prakriti	19	38%
17. Sara	Asthi	10	20%
	Majja	12	24%
	Mansa	07	14%
	Meda	18	36%
	Rakta	03	06%
18. Samhanana	Pravara	09	18%
	Madhyam	28	56%
	Avara	13	26%
19. Pramana	Pravara	02	4%
	Madhyam	32	64%
	Avara	16	32%
20. Satmya	Madhyam	21	42%
	Avara	29	58%
21. Satva	Madhyam	19	38%
	Avara	31	62%
22. Ahara Shakti	Pravara	09	18%
	Madhyam	18	36%
	Avara	23	46%

23. Vyayama Shakti	Pravara	05	10%
	Madhyam	17	34%
	Avara	28	56%
24. Vaya	Yuva	20	40%
	Madhyam	30	60%
25. Nidana wise distribution	Ushnabhitaptasya jala praveskata	21	42 %
	Doorekshanata	33	66 %
	Swapna viparyayata	36	72 %
	Prasakta Samrodana-Kopa-Shoka-Klesha	27	54 %
	Abhigata (Shiro-abhigata)	0	0 %
	Shukta-arnal-amlam-kulattha-nishevana	27	54 %
	Vega-vinigraha	31	62 %
	Ati-sweda	13	26 %
	Dhoom nisevana	17	34 %
	Vamana atiyoga	05	10 %
	Sukshma nireekshana	50	100 %
	Ati-sheegrah -Yaanat	24	48 %
	Ritunamcha Viparayaya	26	52 %
	Ati-Dravanna pana	21	42%
	Ati-Madyapana	06	12 %
	Baspagraha	21	42 %
26. Chief complaint wise distribution	Burning (<i>Daha</i>)	50	100 %
	Itching (<i>Kandu</i>)	50	100%
	Feeling of a foreign body (<i>Gharsha</i>)	49	98%
	Tearing (<i>Bheda</i>)	50	100%
	Excessive blinking (<i>Nimesha</i>)	45	90%
	Eye redness (<i>Raga</i>)	45	90 %
	Eye pain (<i>Netra Shula</i>)	49	98 %
	Heaviness of eyelids (<i>Kaphotklista</i>)	36	72 %
	Dryness (<i>Vishushkatva</i>)	50	100 %
	Blurred vision (<i>Aavila darshan</i>)	41	82 %
	Double vision (<i>Tritya Patala Timira lakshna</i>)	32	64 %
	Difficulty focusing for near vision (<i>Divitya Patala Timira lakshna</i>)	29	58 %
	Increased sensitivity to light (<i>Kunita vartma</i>)	37	74 %
	Colored halos around objects (<i>pravamandla</i>)	33	66 %
	Worsening of eyesight (<i>Dristi daurbalya</i>)	29	58 %
	Headache (<i>Siroshula</i>)	21	42 %
	Asthenopia (<i>Netraavasada</i>)	34	68%
	Sticking of Eyelids (<i>Slishtavartma</i>)	17	34%
	Photophobia (<i>Praksha asahishnuta</i>)	31	62%
27. Aggravating factors wise distribution	VDTs	36	72%
	Hot climate	20	40%
	Dust and Wind	15	30%
	Air-conditioner	29	58%
28. Relieving factors wise distribution	Eye wash	25	50 %
	Cold Compresses	16	32 %
	No Relieving	09	18 %
29. Chronicity wise distribution	6 months to 1 year	18	36%
	1-2 years	15	30%
	2-4 years	13	26%
	More than 4 years	04	8%
30. Schirmer's Test Reading	Less than 5mm/5min	26	52%
	6-10mm/5min	12	24%
	More than 11mm/5min	12	24%
31. Duration of TBUT	More than 10 seconds	09	18%
	5-10 seconds	13	26%
	Less than 5 seconds	28	56%

Effect of Therapy on Subjective & Objective Parameters-

Table 6: Effect on the Subjective Parameters

Subjective variables	BT (Mean±SD)	AT (Mean±SD)	Mean difference	% of changes	P value
Burning (<i>Daha</i>)	2.76±0.45	1.13±0.56	1.63	59.06	<0.0001
Itching (<i>Kandu</i>)	2.75±0.41	2.62±0.60	0.13	4.73	0.007
Feeling of a foreign body (<i>Gharsha</i>)	2.57±0.58	0.89±0.38	1.68	65.37	<0.0001
Tearing (<i>Bheda</i>)	2.71±0.42	1.07±0.45	1.64	60.52	<0.0001

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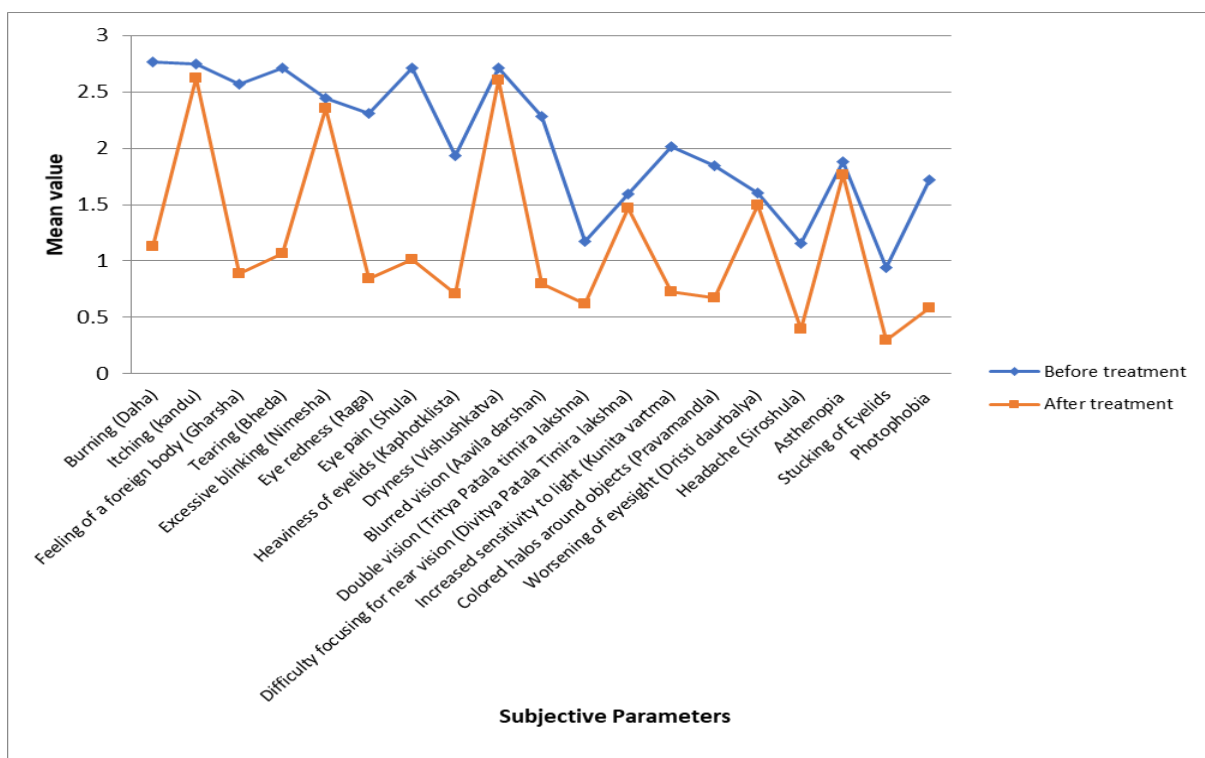
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Excessive blinking (Nimesha)	2.44±0.91	2.35±0.91	0.09	3.69	0.015
Eye redness (Raga)	2.31±0.96	0.84±0.44	1.47	63.64	<0.0001
Eye pain (Netra Shula)	2.71±0.56	1.01±0.41	1.755	64.76	<0.0001
Heaviness of eyelids (Kaphotklista)	1.93±1.27	0.71±0.56	1.22	63.21	<0.0001
Dryness (Vishushkatva)	2.71±0.41	2.6±0.45	0.11	4.06	0.003
Blurred vision (Aavila darshan)	2.28±1.13	0.8±0.52	1.48	64.91	<0.0001
Double vision (Tritya Patala Timira lakshna)	1.17±1.36	0.62±0.55	1.12	95.73	<0.0001
Difficulty focusing for near vision (Divitya Patala Timira lakshna)	1.59±1.40	1.47±1.33	0.12	7.55	0.003
Increased sensitivity to light (Kunita vartma)	2.01±1.26	0.73±0.53	1.28	63.68	<0.0001
Colored halos around objects (Pravamandla)	1.84±1.37	0.67±0.54	1.17	63.59	<0.0001
Worsening of eyesight (Dristi daurbalya)	1.6±1.41	1.5±1.35	0.1	6.25	0.007
Headache (Siroshula)	1.16±1.40	0.4±0.53	0.76	65.52	<0.0001
Asthenopia	1.88±1.34	1.76±1.30	0.12	6.38	0.002
Sticking of Eyelids	0.94±1.34	0.3±0.46	0.64	68.09	<0.0001
Photophobia	1.72±1.39	0.58±0.52	1.14	66.28	<0.0001

Statistically extremely significant relief ($p < 0.0001$) was seen in Burning (Daha) (59.06%), Feeling of a foreign body (Gharsha) (65.37%), Tearing (Bheda) (60.52%), Eye redness (Raga) (63.64%), Eye pain (Shula) (64.76%), Heaviness of eyelids (Kaphotklista) (63.21%), Blurred vision (Aavila darshan) (64.91%), Double vision (Tritya Patala Timira lakshna) (95.73%), Increased sensitivity to light (Kunita Vartma) (63.68%), Colored halos around objects (Pravamandla) (63.59%), Headache (Siroshula) (65.52%), Sticking of Eyelids (68.09%) and in case of Photophobia

being (66.28%). Statistically very significant relief was seen in Difficulty focusing for near vision (Divitya Patala Timira lakshna) and in case of Dryness (Vishushkatva) having p value being $p = 0.003$ and in the symptom of Asthenopia p value is $p = 0.002$. Statistically very significant relief was seen too in case of Itching (Kandu) and Worsening of eyesight (Dristi daurbalya) with value of $p = 0.007$. In Excessive blinking (Nimesha) p value being $p = 0.015$ had significant relief.



Graph 1: Effect on the Subjective Parameters

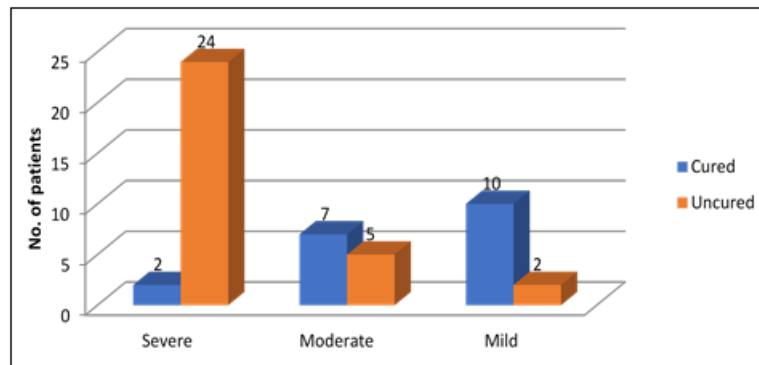
Table 7: Effect on the Objective parameters (SCHIMER'S TEST)

Before Treatment	After Treatment		
	Cured	Uncured	Total
Severe	2	24	26
Moderate	7	5	12
Mild	10	2	12
	19	31	50

Chi square 22.71, p value < 0.0001 (ES)

Schirmer's Test reading showed that among the total of 26 patients suffering from CVS as severe, 02 patients were cured while 24 patients remained uncured. While patients who were diagnosed as moderate due to suffering from CVS being 12 in number, 07 were cured and 05 remained uncured. Among the total of 12 mild patients, 10 patients were cured and 02 remained as uncured.

The Chi square test reading was noted as 22.71 and p value being < 0.0001 which indicated the result was extremely significant statistically



Graph 2: Effect on the Schirmer's test

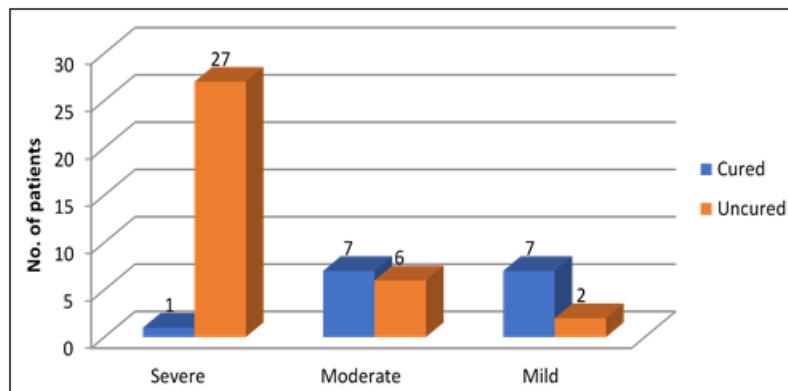
Table 8: Effect on the Objective parameters (Tear Film Break-Up Time)

Before Treatment	After Treatment		
	Cured	Uncured	Total
Severe	1	27	28
Moderate	7	6	13
Mild	7	2	9
	15	35	50

Chi square 22.61, P value <0.0001 (ES)

According to Tear Film Break Up Time (TBUT) Test reading among the total of 28 patients who were diagnosed as severe, 01 patients was cured while 27 patients remained uncured. While patients who were diagnosed as moderate, suffering from CVS being 13 in number, 07 were cured and 06 remained uncured. Among the total of 09 patients diagnosed as mild, 07 patients were cured and 02 remained as uncured.

The Chi square test reading was noted as 22.61 and p value being <0.0001 which showed that the result was extremely significant statistically.



Graph 3: Effect on the Tear Film Break-Up Time

4. Discussion

In the present clinical study total 50 patients were registered and all of them completed the trial. Diagnosis was made based on the clinical features as mentioned in Modern as well as Ayurvedic texts. Subjective parameters and objective parameters (Schirmer's Test and TBUT) were used for assessment criteria. Patients suffering from any infection of the eye and those with any specific disease already diagnosed were excluded from the trial. Routine biochemical and hematological examinations were performed in the suspected patients before registration in the clinical study so as to rule them out. The selected patients were registered in a single group. The patients were administered *Haridradi Ghrita* 15 ml twice a day with lukewarm water orally for 30 days. Another drug used was *Saindhavadi Parisheka* for local application in the morning for 600 *matras* also for 30 days. For the Assessment of patients Ayurvedic as well as modern parameters were followed. The improvement of patients was assessed on the basis of statistical analysis of B.T., A.T., S.D.,

and percentage of relief in the registered patients and the P value according to Subjective and Objective parameters.

Probable Mode of Action

Haridradi Ghrita, containing *Haridra*, *Daruharidra*, *Go-Ghrita*, and *Saindhav lavana*, acts internally by pacifying *Vata* and *Pitta*—the primary doshas involved in *Sushkakshipaka* (CVS). Its *Madhura Rasa*, *Sheeta Veerya*, and *Snigdha Guna* nourish and lubricate ocular tissues, reducing dryness and inflammation. *Ghrita* act as a *Yogavahi*, aiding deep tissue delivery of active principles via *Rasavahi* and *Raktavahi srotas*. Its *Rasayana*, *Chakshushya*, and *Agnivardhaka* properties restore eye strength, promote *Dhatu poshana*, and disintegrate *Samprapti*. Thus, it supports *Prana*, *Vyana*, and *Udana Vayu*, ultimately leading to healing and prevention of recurrence in *Sushkakshipaka*.

Saindhavadi Parisheka, composed of *Go-dugdha* and *Saindhav lavana*, works locally to mitigate *Sushkakshipaka* (CVS) through synergistic action. *Go-dugdha*, being *Rasayana*, *Chakshushya*, and *Vata-Pitta shamaka*, promotes *Dhatu poshana* and immunity. *Saindhav lavana* is

Vedanasthapana, *Pachana*, and *Tridosahara*. Their combined effect helps in reducing inflammation, nourishing ocular tissues, and pacifying aggravated *doshas*. As per classical references, *Parisheka* is effective in treating severe *Netra rogas* due to its *Ropana*, *Sodhana* and *Shamana* properties. Thus, *Saindhavadi Parisheka* supports both preventive and curative aspects by restoring *doshic* balance and healing ocular structures effectively.

5. Conclusion

Computer Vision Syndrome (CVS) is a growing concern due to prolonged screen exposure, leading to ocular, visual and musculoskeletal symptoms. It results from both ocular and non-ocular factors with symptoms influenced by screen time, posture and viewing distance. *Sushkakshipaka*, described in *Uttar Tantra Adhyaya 6* as a *Vataja* disorder, closely resembles CVS in aetiology, clinical features and treatment. Ayurveda offers an effective approach with *Haridradi Ghrita* (oral administration) and *Saindhavadi Parisheka* (local application) which showed extremely significant improvement in Subjective parameters of Burning (Daha) being (59.06%), Feeling of a foreign body (Gharsha) (65.37%), Tearing (Bheda) (60.52%), Eye redness (Raga) (63.64%), Eye pain (Shula) (64.76%), Heaviness of eyelids (Kaphotklista) (63.21%), Blurred vision (Aavila darshan) (64.91%), Double vision (Tritya Patala Timira lakshna) (95.73%), Increased sensitivity to light (Kunita Vartma) (63.68%), Colored halos around objects (Pravamandla) (63.59%), Headache (Siroshula) (65.52%), Sticking of Eyelids (68.09%) and in case of Photophobia being (66.28%). Additionally, statistically very significant relief was seen in dryness ($p=0.003$) and asthenopia ($p=0.002$). In Excessive blinking (Nimesha) p value being $p=0.015$ shows significant relief.

While taking into consideration the Objective parameters Schirmer's Test reading, the Chi square test reading was noted as 22.71 and p value being <0.0001 which indicated the result was extremely significant statistically. Similarly looking at Tear Film Break Up Time (TBUT) Test reading, the Chi square test reading was noted as 22.61 and p value being <0.0001 which showed that the result was extremely significant statistically.

These formulations provided synergistic effects, improving subjective and objective symptoms. Lifestyle modifications further enhanced CVS management, emphasizing proper screen habits and time efficiency. This integrative Ayurvedic approach presents a promising, safe and holistic alternative to conventional CVS treatment, offering both preventive and curative benefits.

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