



Research Article

EFFECT OF DIFFERENT DOSAGE FORM OF SAINDHAVADIYOGA IN THE MANAGEMENT OF COMPUTER VISION SYNDROME: A PILOT STUDY

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ABSTRACT

Eyes have a unique position among all the sense organs. Primary importance has been given for the protection of eyes by ancient Indian scholar because without eyes whole world is full of darkness. With the advancement of science development of many electronic gadgets like computer mobile etc, which has been produce new diseases. Among those diseases computer vision Syndrome is one of them. In modern system there is no permanent cure of CVS. In Ayurvedic text there is no description of Computer Vision Syndrome but it can be a *Anukta vyadhi* as describe by a *Charak*. Some of ocular symptoms of computer vision syndrome can be correlated with *Sushkaksipaka* as describe by *Acharya sushrut* and *A.Hridya*. Modern medicine do not have a definite treatment for this problem except lubricating eye drops whereas *Ayurvedic kriyakalpas* that is Ayurvedic local ocular therapies could suggest definite treatment to cure the computer vision syndrome along with the change in working style and correction of refractive error. Drugs which are describe in the treatment of *Suskhakshipaka* have potent property to reduce the clinical features of CVS. So in this clinical trial, I have used different dosage form of *Saindhavadiyoga* in the management of CVS. Study was conducted among the BHU computer professionals and all the patient were divide in the three group. In the group A eye drop and *Anjana of Saindhavadi yoga* was given, in the Group B only Carboxy Methyl Cellulose eye drop was given while in the group C only *Tarpan* therapy was given with *Saindhavadighrita*. All the group have positive result results in reduction of signs and symptoms of CVS without any side effect which are produce by the preservative of Artificial tear drops. But in the group C have better results in comparison to other two group, it was occur due to oleation, nutritive antioxidant property of *Ghrita* and *Yogvahi* property of *Ghrita* which increase the bioavailbilty of drug along with other content of the drug.

INTRODUCTION

Computers are now a fundamental part of our day life today, in the 21st century, where we are living in a highly refined environment; computer is one of the popular developed technologies which are used currently by the children, the young and the old. With over 560 million internet users, India is the second largest online market in the world, ranked only behind China.

In India there will be over 600 million internet users in 2021. Despite the large base of internet users, only 17 percent of the Indian population could access the internet in 2015. At the same time, almost 71 percent of the internet users in the country were noted to be men, compared to just 29 percent of female internet users^[1]. According to national institute of occupational safety and health (NIOSH), CVS affects some 90% of the people who spent three hours or more a day on a computer. Computer user's vision related problems are the most frequently reported health-related problems occurring in over 70% of computer users^[2] they have concluded that CVS is a vision disorder that has been described as the number one occupational hazard of 21st century. Previous studies have estimated that the prevalence of CVS ranges between 64 and 90% among computer users.^[3]

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It has been estimated that nearly 60 million people suffer from CVS globally and about one million new cases occurs each year.^[4]

The advancement in computer science has bring about a enormous change in our lives that we can't imagine life without computer Most of the people are sitting in front of the computer for longer hours, which is a highly vision challenging job. Before the involution of computers, office work had mixed up with various activities including typing, filing, reading, and writing. These activities have need of variety of changes in posture and vision; provide a natural "break" from the prior activity. But now a day's typing writing and reading has been done on a computer without change in posture.

The transformation from working in the open to working on paper has been gradual and not very stressful for our visual system. But the shift from papers to computers has been very rapid and strong. Eye could not adapt to the new demands put on it to work at near in face of computers for extensive hours and in extremely tense environments but the eyes are not capable to handle up with the need of computer work, leading to ocular and systemic discomfort known as Computer Vision Syndrome (CVS).

Asthenopic symptoms in eye are guilty for much of the morbidity in CVS. Rest of extra ocular muscle is recommended to relieve the associated eye strain. A routinely recommended approach is to consciously blink eyes frequently. (This help to replenish the tear film) and look out the window to distant object or to the sky. One of the catch phrases is "20-20-20". After every 20 minutes focus the eye on an object 20 feet away for 20 second Dry eye is a major symptom that is under attack in therapy of CVS. According to modern medical science, artificial tear drops are useful in Computer Vision Syndrome. The use of artificial tear drops can reduce the effects of dry eye in CVS.

Anti-reflection coating improves both vision through lenses and the appearance of eyeglasses. In ARC coated glasses the reflection of light from the front and back surface of eyeglasses. Today's modern antireflective coatings can practically abolish the reflection of light from eye glasses allowing 99.5% entry of light in eye^[5]. So ARC coating glasses are also helpful in Computer Vision Syndrome. But these artificial tear drops and ARC coating glasses have their own limitations and No counteractive measures for the prevention and cure of Computer Vision syndrome.

In modern system of medicine except using ocular surface lubricants, computer glasses, and counseling for judicious computer use. As there is no satisfactory treatment available for computer vision

syndrome, Ayurveda, the ancient science of life can be of great help by its preventive and therapeutic principals.

The main objective of this study is to find out a suitable preventive substance which has the ability not only to prevent the progressive damage but also to cure the condition. Alternative system of medicine like Ayurveda be a good option for improve or to check the pathology of the computer vision syndrome.

In *Ayurveda* their is no description of computer vision syndrome but it can be a *Anukta Vyadhi*^[6] as describe by *Acharya charack*. Some of ocular symptoms of CVS can be co-relate with *Suskakshipaka*^[7] as describe by *Acharya Sushruta* and *Astanghridya*

Treatment of *Shuskakshipaka*^[8] as describe by *Acharya Sushruta* is use

- *Anjana - Saindhav, Daru Shunthi, Matulung Swaras, Ghrita, Dugdha*
- *Ghritpan*
- *Tarpan*
- *Nasya with Jivaniya Ghrita or Anu Tail*
- *Parishek with Saindhavlavan and cold water*

In this clinical trial, different dosage form of *Saindhavadi* drug which were describe by *Acharya sushruta* in the management of *Shuskakshipaka*. In the above clinical trial we made dosage form of *saindhavadiyoga* like *Saindhavadi eye drop, Saindhavadianjana, Saindhavadi ghrita*. Composition of the drug which has been used in this clinical study has potent activity to prevent the sign and symptoms of Computer Vision Syndrome.

Shunthi^[9] have an anti-inflammatory action, it usually useful in treatment of chronic inflammation because it partially inhibits most important enzymes cyclooxygenase (COX) and 5-lipoxygenase (LOX) that play key role in inflammation without any adverse effect which are produce by the Non Steroidal Anti-inflammatory. *Daruhridra*^[10] have various pharmacological action, Water extract of *Daruhridra* is called as *Rasanjana*, used in eye disorders with infection and inflammation, *Swaras* of *matulung*¹¹ so antioxidant property, while *Saindhav Lavan* increase the absorption of the drug.

According to Ayurveda, *Goghrita*^[12] is *Vata pitta shamak* property. It has quality of *Snigdha* (oiliness). It is smooth, lubricating and nurturing. *Goghrita* have property oleation so it prevents the dryness of ocular surface. *Go ghrita* have Vit. A, D, E and K. Vitamins A and E are antioxidants and are helpful in preventing oxidative injury to the body. Vitamin A keeps epithelial tissue of the body intact, keeps the outer lining of the eyeball moist and

prevents blindness *Godugdha* have *Vata pitta shamak* property like *Go ghrita* so it prevent pathology of Computer Vision Syndrome it also act as immune modulator.

Composite forms of above drug have a very potent property to stop the progression of signs and symptoms of Computer vision syndrome.

Kriyakalpa^[13] is the unique and advance local therapy of *Shalakyta Tantra* for various ocular disorders. Each procedure of *Kriyakalpa* has their own importance. In this clinical trial *Tarpan* therapy with *Saindhavadiyoga* has been given, because most of the signs and symptoms of computer vision syndrome are similar to *Suskaakshipaka* in *Suskaakshipaka* dominance of *Vata Pitta Dosha*. Hence *Tarpan* therapy with *Saindhavadiyoga* may be a good because *Saindhavadiyoga* have a *Vata pitta shamak* property and *Ghritha* also best for the *Shaman* of *Vata* and *Pitta dosha*.

In *Suskaakshipaka Sukata* is the main symptom. Hence treatment must be strictly aimed to arrest the vitiated *Vata Dosha* in the eye. *Goghrita* is best for *Shaman* of *Vata* due to their *Snigdha* and *Madhur* property. *Goghrita* is used as a base for various formulations which have been extensively used for various eye diseases. It is used for both local and internal administration in many forms for treating many of the ocular conditions. It acts as the best *Rasayana* and *Chakusya drug*. So we have used *Tarpan* therapy with *SaindhavadiGhritha* in this clinical trial.

Eye drop (*Aschyotan*)^[14] is the simplest and most convenient method of topical application. But eye drop have less bioavailability due to their less contact of time. So in this clinical trial we were use *Anjana* along with eye drop because *Anjana* have more bioavailability in comparison to eye drop which *Anjana*

have more contact of time with the tissue but due to semisolid form of *Anjana* it hamper the vision so in this clinical trial we used *Anjana*^[15] at the bed time. Along with this change in working style and appropriate environment at work place is as important as *Ayurvedic* treatment for prevention of computer Vision Syndrome. So I strictly told every treatment for proper working style and appropriate environment at work place So, I have selected this topic in order to study the Role of *Saindhavadiyoga* in the management of the computer Vision Syndrome.

Aims & Objective

- To study the efficacy of Ayurvedic medicine in computer vision syndrome.
- To define the effect of different dosage form of *Saindhavadiyoga* with carboxy Methyl Cellulose.

Material and Methods

Plan of study

The present clinical study was conducted in two parts

- Experimental study
- Clinical study

(A) Experimental study (Tolerance Test)

The experimental study was carried out before clinical study on the eye of rat. The drug was applied in the right eye of each rat of total 6 for seven days and adverse effects were recorded.

- Redness
- Watering
- Lid swelling
- itching

The observations were recorded immediately after instillation, one hour after and after 24 hours. There was no adverse effect seen in any of the rats.



Clinical study

In this clinical study, the patient were selected from questionnaire among BHU computer professionals, OPD of *Shalakyta Tantra* and Ophthalmology of S.S Hospital Institute of Medical Science, Banaras Hindu University, Varanasi and the patient were registered irrespective of their age, sex and religion and occupation

Criteria for selection of Patients

Inclusion criteria

- Age between 16 -70 years are taken for study
- All patients using VDT like desktop, laptop or both at least 2h/day presenting with following clinical features of CVS are included in this study Dry eye-

Changed colour perception, Eye strain- blurred vision.

Dizziness/Nausea- Headache, Redness-Burning Sensation, Slow refocusing-Excessive fatigue {Neck/shoulder/Back pain}

- Patient having minimum three symptoms of CVS
- Minimum 1 year exposure to any type of above mentioned VDTs
- Those who have given informed consent to participate in the clinical trial

Exclusion criteria

- Age less than 16 years and more than 70 years.
- Cases complicated with acute, chronic, infective conjunctivitis any specific eyelid disorder, corneal ulcer dacrocystitis and lagophthalmos.
- Patient suffering from ocular surface disorders except Dry eye syndrome were excluded.
- Patients suffering from any systemic or metabolic disorder.
- Patients having any fundus pathology like optic atrophy diabetic retinopathy hypertensive retinopathy, papilledema etc.
- Refractive error of more than +/-10 diopters.
- If patient develop any complication to treatment.
- Those patients not willing for the study.

Assessment criteria

- Change in the symptoms score
- Changes in the diagnostic test

Duration and Mode of treatment

Study Design: A Single blind randomized controlled clinical trial.

Study Setting

(A) Study will be conducted at BHU among computer professional at different centre of BHU.

(B) Study will be conducted at OPD of Shalaky Tantra and OPD of Ophthalmology IMS BHU.

Study population: Computer professional at different computer center of BHU, OPD of Shalaky Tantra and OPD of Ophthalmology, IMS, BHU are taken for the study.

Sample size: 45 Patients will be divided into three groups of 15 in each.

Sampling Technique: Randomly allocated the cases into different group, with help of inclusion criteria. Then registration of the patients will be done by written information consent in this study protocol.

Grouping of patients

Total 42 patients out of 45 patients (90 eyes) were enrolled for the present clinical Study and were divided into 3 group.

- **Group A-** In this group collyrium and eye drop of *Saindhavadi yoga* is given and counseling for changing the working style.
- **Group B-** In this group carboxy methyl cellulose is given and counseling for changing the working style.
- **Group C-** In this group only *Netratarpan* with *Saindhavadiyoga* and counseling for changing the working style

Method of study

A. In group A 14 patients were studied in this group and given *Saindahavadi yoga* were given in two dosage form i.e., *Saindhavadi* eye drop and *Saindhavadi anjana* in this group *Saindhavadi* eye drop were given topically 4 times a day for 3 weeks and *Saindhavadi anjana* was given at bed time up to 3 weeks. The study drug was given on day 1 and patients examined at particular follow up days 7th day, 14th day and 21st day, during which assessment of efficacy of treatment with the help sign and symptoms and diagnostic criteria and two follow up at 7 days interval of two week was done for reoccurrence and counseling for change the working style and counselling for change the working style.

B. In group B 15 patients were studied in this group and given carboxymethyl cellulose 1% were given topically 4 times a day for 3 weeks to the patient. The study drug was given on day 1 and patients examined at particular follow up days 7th day, 14th day and 21st day, during which assessment of efficacy of treatment with the help sign and symptoms and diagnostic criteria and two follow up at 7 days interval of two week was done and counselling for change the working style.

C. In group C 13 patient were studied in this group and given *Tarpan* therapy. In the present clinical study we did *Tarpan* therapy in three seating for each patient each seating was 5 days with the interval of 3 days and duration was 10 minute for each cases. The efficacy of therapy was observed just after the completion of therapy after end the therapy two follow up the patients was done for two weeks of seven day interval and counselling for change the working style.

Drug schedule

All the patient were given strict instruction for regular taking *Saindhavadi* Eye drop and carboxy methyl cellulose Eye drop 4 times a day and *Saindhavadi Anjana* at bed time and also given strict instruction for regular taking *Tarpan* therapy at the interval 3 days.

Criteria of assessment

All the cases were examined in outdoor patients department and were selected on the basis of clinical signs, symptoms and diagnostic criteria as Slit lamp examination Schirmer's-I, Tear film break up time.

Grading and scoring system was adopted for assessing each clinical feature before the commencement of trial, every follow up and after the completion of trail

Statistical Analysis

For the purpose of Statistical analysis, the age, sex, occupation demographic data and personal factor were analysed on the basis of number and percentage of cases. In personal factor t test is not applicable due to small number of Patient n was 42. Symptoms and diagnostic tool in different were determined. For within Group of comparison (before and After treatment) **wilcoxon signed rank test** (Non Parametric Test) were used whereas for between the group between Group A and Group B **Mann Whitney**

Test (Non Parametric Test) was applied while in Group C between the group comparison was not applicable due to in group C sitting were done which was differ from follow up of Group A and B. The results were interpreted at the level of $P < 0.001$ as highly significant, $P < 0.01$ as moderately significant, $P < 0.05$ as significant and $P > 0.05$ as insignificant.

Observation and results

The observations were made under following three headings.

1. Demographic profile
2. Personal Factor
3. Clinical Profile

OBSERVATIONS ON RATS (Tolerance Test)

In present clinical study *Saindhavadi Eye Drop*, *Anjana*, and *Ghrita* was applied to on eyes of rats to see any adverse effects before applying to patients. There was no adverse effect observed after application of different dosage form of *Saindhavadiyoga*.

| Adverse Effects | Immediate | 1 Hour | 24 Hours |
|----------------------------------|-----------|--------|----------|
| Redness | Absent | Absent | Absent |
| Discharge | Absent | Absent | Absent |
| Watering | Absent | Absent | Absent |
| Lid Swelling | Absent | Absent | Absent |
| Ocular surface Epithelial Damage | Absent | Absent | Absent |
| Itching of Eye With Paws | Absent | Absent | Absent |

Demographic Profile

The demographic profile of 42 patients (84Eyes) in the present study is as follows. The observation regarding demographic profile are presented and have to show that all the three groups were comparable in terms of demography.

Out of three group 53.33% % patients were noted between 20-30 years. Between 31-40 years, there were 26.66% patients noted. Between 41-50 years there were 8.88% patients. While between 51-60 there were 11.11% patients noted, in the above clinical trial 62.2% were male and 37.8% were female, 57.8% were servicemen and 42.2% were student.

Personal profile

Out of 45 patients of study 11 (24.4%) patient was pure vegetarian and 34 patient (75.6%) was on Mixed Diet, 17 patient have good sleep 21 patients have disturbed sleep and 7 patient was suffer from insomnia. 33.3% patient was suffer from Emotional Stress and 66.7% patient have no emotional stress, 24.4% patient have history of alcohol addiction but 75.6% patient have no history of alcohol addiction, 22.2% patient have *Vatakaphaja Prakriti*, 57.8% patient have *Vata Pittaja Prakriti* and 20.0% patient have *Pitta Kaphaja Prakriti*, 11.1% patient have *Satva Rajasa Prakriti*, 26.7% patient have *Satva Tamasa Prakriti* and 62.2% patient have *Rajasatamasa Prakriti*.

Clinical profile**Dryness**

In all the three Groups statistically significant Improvement in the dryness in both eyes, but there is no statistically significant improvement in between the Group A & B.

| Groups | Grade | Dryness in Rt Eye | | | | | With ingroupwilcoxon signed rank test |
|--|-------|-------------------|-------------------|-------------------|--------------------|--------------------|---------------------------------------|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 3 (20%) | 6 (40%) | 5 (33.3%) | 9 (64.3%) | 9 (64.3%) | Z=2.810 P=0.005 |
| | 1 | 6 (40%) | 5 (33.3%) | 6 (40.0%) | 5 (35.7%) | 4 (28.6%) | |
| | 2 | 6 (40%) | 4 (26.7%) | 4 (26.7%) | 0 (0%) | 1 (7.1%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 4 (26.7%) | 6 (40.0%) | 4 (60%) | 11 (73.3%) | 11 (73.3%) | Z=3.127 P=0.002 |
| | 1 | 5 (33.3%) | 7 (46.7%) | 7 (46.7%) | 3 (20.0%) | 4 (9.5%) | |
| | 2 | 6 (40.0%) | 2 (13.3%) | 2 (13.3%) | 1 (6.7%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 1 (6.7%) | 5 (38.5%) | 4 (66.4%) | 7 (53.8%) | 11 (84.6%) | Z=2.950 P=0.003 |
| | 1 | 8 (53.3%) | 5 (38.5%) | 7 (53.8%) | 6 (46.2%) | 1 (7.7%) | |
| | 2 | 6 (40.0%) | 3 (23.1%) | 0 (0%) | 0 (0%) | 1 (7.7%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=0.200 P=0.8 | Z=0.401 P=0.68 | Z=0.692 P=0.48 | Z=0.378 P=0.705 | Z=0.622 P=0.534 | |

Left Eye

| Groups | Grade | Dryness In Lt Eye | | | | | With in group wilcoxon signed rank test |
|--|-------|--------------------|-------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 1 (6.7%) | 7 (50.0%) | 8 (57.1%) | 11 (78.6%) | 10 (71.4%) | Z=3.207 P=0.001 |
| | 1 | 11 (73.3%) | 6 (42.9%) | 5 (35.7%) | 3 (21.4%) | 4 (28.6%) | |
| | 2 | 3 (20.0%) | 1 (7.1%) | 1 (7.1%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 5 (33.3%) | 8 (53.3%) | 11 (73.3%) | 13 (86.7%) | 14 (93.3%) | Z=2.927 P=0.003 |
| | 1 | 7 (46.7%) | 6 (40.0%) | 3 (20.0%) | 2 (13.3%) | 1 (6.7%) | |
| | 2 | 3 (20.0%) | 1 (6.7%) | 1 (6.7%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 2 (13.3%) | 5 (38.5%) | 7 (53.8%) | 9 (69.4%) | 11 (84.6%) | Z=2.889 P=0.004 |
| | 1 | 7 (46.7%) | 5 (38.5%) | 6 (46.2%) | 4 (30.8%) | 1 (7.7%) | |
| | 2 | 6 (40.0%) | 3 (23.1%) | 0 (0%) | 0 (0%) | 1 (7.7%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=1.135 P=0.256 | Z=.172 P=0.862 | Z=0.836 P=0.403 | Z=0.567 P=0.571 | Z=1.533 P=0.125 | |

Eye Strain

In all the three Groups statistically significant Improvement in the strain of both eyes, but there is no statistically significant improvement in between the Group A & B.

Right Eye

| Groups | Grade | Eye Strain (Rt Eye) | | | | | With in group wilcoxon signed rank test |
|--|-------|---------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 2 (13.3%) | 2 (14.3%) | 3 (21.4%) | 8 (57.1%) | 10 (71.4%) | Z=3.27 P=0.001 |
| | 1 | 7 (46.7%) | 8 (57.1%) | 11 (78.6%) | 6 (42.9%) | 4 (28.6%) | |
| | 2 | 6 (40.0%) | 4 (28.6%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 3 (20.0%) | 4 (26.7%) | 8 (53.3%) | 10 (66.7%) | 12 (80.0%) | Z=3.035 P=0.002 |
| | 1 | 5 (33.3%) | 6 (40.0%) | 7 (46.7%) | 5 (33.3%) | 2 (13.3%) | |
| | 2 | 7 (46.7%) | 5 (33.3%) | 0 (0%) | 0 (0%) | 01 (6.7%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 2 (13.3%) | 4 (30.8%) | 6 (46.2%) | 9 (69.2%) | 9 (69.4%) | Z=3.051 P=0.002 |
| | 1 | 8 (53.3%) | 7 (53.8%) | 7 (53.8%) | 4 (30.8%) | 4 (30.8%) | |
| | 2 | 5 (33.3%) | 2 (15.4%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=0.90 P=0.928 | Z=0.237 P=0.813 | Z=1.739 P=0.832 | Z=0.519 P=0.604 | Z=0.410 P=0.682 | |

Left Eye

| Groups | Grade | Strain Lt Eye | | | | | With in group wilcoxon signed rank test |
|--|-------|--------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 2 (13.3%) | 3 (21.4%) | 5 (35.7%) | 8 (57.1%) | 10 (71.4%) | Z=2.810 P=0.005 |
| | 1 | 7 (46.7%) | 8 (57.1%) | 8 (57.1%) | 6 (42.9%) | 4 (28.6%) | |
| | 2 | 6 (40.0%) | 3 (21.4%) | 1 (7.1%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 1 (6.7%) | 5 (33.3%) | 11 (73.3%) | 14 (93.3%) | 14 (93.3%) | Z=3.145 P=0.002 |
| | 1 | 12 (80.0%) | 9 (60.0%) | 4 (26.7%) | 1 (6.7%) | 1 (6.7%) | |
| | 2 | 2 (13.3%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 4 (26.7%) | 6 (46.2%) | 9 (69.4%) | 10 (76.9%) | 12 (92.3%) | Z=3.071 P=0.002 |
| | 1 | 8 (53.3%) | 6 (46.2%) | 3 (23.1%) | 3 (23.1%) | 1 (7.7%) | |
| | 2 | 3 (20.0%) | 1 (7.7%) | 1 (7.7%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=1.046 P=0.296 | Z=1.015 P=0.310 | Z=2.075 P=0.038 | Z=2.236 P=0.025 | Z=1.533 P=0.125 | |

Blurred Vision

In all the three group significant improvement in blurred vision but there is no significant improvement in between the Group A & B.

| Groups | Grade | Blurred vision Rt Eye | | | | | With in group wilcoxon signed rank test |
|--|-------|-----------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 6 (40.0%) | 7 (50.0%) | 8 (57.1%) | 9 (64.3%) | 10 (71.4%) | Z=2.121 P=0.034 |
| | 1 | 8 (53.3%) | 7 (50.0%) | 6 (42.9%) | 5 (35.7%) | 4 (28.6%) | |
| | 2 | 1 (6.7%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 10 (66.7%) | 10 (66.7) | 11 (73.3%) | 14 (93.3%) | 12 (85.7%) | Z=1.732 P=0.083 |
| | 1 | 5 (33.3%) | 5 (33.3%) | 4 (26.7%) | 1 (6.7%) | 2 (14.3%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 9 (60.0%) | 11 (84.6%) | 11 (84.6%) | 12 (92.3%) | 12 (92.3%) | Z=2.333 P=0.020 |
| | 1 | 4 (26.7%) | 1 (7.7%) | 2 (15.4%) | 1 (7.7%) | 1 (7.7%) | |
| | 2 | 2 (13.3%) | 1 (7.7%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=1.538 P=0.124 | Z=0.895 P=0.371 | Z=0.901 P=0.368 | Z=1.896 P=0.058 | Z=0.905 P=0.366 | |

Left Eye

| Groups | Grade | Blurred Vision Lt Eye | | | | | With in group wilcoxon signed rank test |
|--|-------|-----------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 7 (46.7%) | 8 (57.1 %) | 9 (64.3%) | 12 (86.7%) | 12 (85.7%) | Z=2.530 P=0.011 |
| | 1 | 5 (33.3%) | 6 (42.9%) | 5 (35.7%) | 2 (14.3%) | 2 (14.3%) | |
| | 2 | 3 (20.0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 10 (66.7%) | 11 (73.3%) | 13 (86.7%) | 14 (93.3%) | 14 (93.3%) | Z=2.236 P=0.025 |
| | 1 | 4 (26.7%) | 4 (26.7%) | 2 (13.3%) | 1 (6.7%) | 1 (6.7%) | |
| | 2 | 1 (6.7%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 10 (66.7%) | 10 (76.9%) | 11 (84.6%) | 11 (84.6%) | 13 (100.0%) | Z=2.236 P=0.025 |
| | 1 | 5 (33.3%) | 3 (23.1%) | 2 (15.4%) | 2 (15.4%) | 0 (0%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=1.214 P=0.225 | Z=0.901 P=0.368 | Z=1.383 P=0.167 | Z=0.662 P=0.508 | Z=0.662 P=0.508 | |

Headache

Significant improvement in the headache with in all three group while in between the Group A & B there is no significant improvement.

| Groups | Grade | Headache | | | | | With in group wilcoxon signed rank test |
|--|-------|--------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 0 (0%) | 2 (14.3%) | 4 (28.6%) | 5 (35.7%) | 6 (42.9%) | Z=3.217 P=0.001 |
| | 1 | 4 (26.7%) | 6 (42.9%) | 7 (50.7%) | 8 (57.1%) | 7 (50.0%) | |
| | 2 | 11 (73.3%) | 6 (42.9%) | 3 (21.4%) | 1 (7.1%) | 1 (7.1%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 0 (0%) | 0 (0%) | 2 (13.3%) | 5 (33.3%) | 10 (66.7%) | Z=3.448 P=0.001 |
| | 1 | 6 (40.0%) | 12 (80.0%) | 10 (66.7%) | 10 (66.7%) | 4 (26.7%) | |
| | 2 | 9 (60.0%) | 3 (20.0%) | 3 (20.0%) | 0 (0%) | 1 (7.1%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 1 (6.7%) | 5 (38.5%) | 5 (38.5%) | 7 (53.8%) | 12 (92.3%) | Z=3.513 P=0.002 |
| | 1 | 5 (33.3%) | 4 (30.8%) | 6 (46.2%) | 6 (46.2%) | 1 (7.7%) | |
| | 2 | 9 (60.0%) | 4 (30.8%) | 2 (15.4%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=0.762 P=0.446 | Z=0.612 P=0.540 | Z=0.568 P=0.570 | Z=0.129 P=0.898 | Z=1.163 P=0.245 | |

Neck, Shoulder And Backache

Significant improvement in the neck, shoulder & backache with in all three group while in between the Group A & B there is no significant statistically improvement.

| Groups | Grade | Neck Shoulder and Backache | | | | | With in group wilcoxon signed rank test |
|--|-------|----------------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 2 (13.3%) | 4 (28.6%) | 3 (21.4%) | 6 (42.9%) | 10 (71.4%) | Z=2.863 P=0.004 |
| | 1 | 4 (26.7%) | 7 (50.0%) | 8 (57.1%) | 8 (57.1%) | 3 (21.4%) | |
| | 2 | 9 (60.0%) | 3 (21.4%) | 3 (21.4%) | 0 (0%) | 1 (7.1%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 1 (6.7%) | 1 (6.7%) | 2 (13.3%) | 7 (46.7%) | 10 (66.7%) | Z=3.286 P=0.001 |
| | 1 | 5 (33.3%) | 9 (60.0%) | 10 (66.7%) | 7 (46.7%) | 4 (36.7%) | |
| | 2 | 8 (53.3%) | 4 (26.7%) | 3 (20.0%) | 1 (6.7%) | 1 (6.7%) | |
| | 3 | 1 (6.7%) | 1 (6.7%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 1 (6.7%) | 7 (53.8%) | 8 (61.5%) | 9 (69.2%) | 12 (85.7%) | Z=3.272 P=0.001 |
| | 1 | 5 (33.3%) | 6 (46.2%) | 5 (38.5%) | 4 (30.8%) | 2 (14.3%) | |
| | 2 | 9 (60.0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=0.350 P=0.726 | Z=1.379 P=0.168 | Z=0.278 P=0.781 | Z=0.000 P=1.000 | Z=0.242 P=0.809 | |

Tear Film Break Up Time

Significant improvement in the tear film breakup time in the Group C only, but there is no significant statistically improvement between Group A & B

Right Eye

| Groups | Grade | Tear Film Break up time Rt Eye | | | | | With in group wilcoxon signed rank test |
|--|-------|--------------------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 7 (46.7%) | 7 (50.0%) | 8 (57.1%) | 12 (85.7%) | 12 (85.7%) | Z=2.646 P=0.008 |
| | 1 | 7 (46.7%) | 6 (42.9%) | 6 (42.9%) | 2 (14.3%) | 2 (14.3%) | |
| | 2 | 1 (6.7%) | 1 (7.1%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 8 (53.3%) | 8 (53.3%) | 11 (73.3%) | 15 (100.0%) | 11 (73.3%) | Z=1.732 P=0.083 |
| | 1 | 7 (46.7%) | 7 (46.7%) | 4 (26.7%) | 0 (0%) | 4 (26.7%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 4 (26.7%) | 6 (46.2%) | 8 (61.5%) | 12 (92.3%) | 13 (100.0%) | Z=2.887 P=0.004 |
| | 1 | 10 (66.7%) | 7 (53.8%) | 4 (30.8%) | 1 (7.7%) | 0 (0%) | |
| | 2 | 1 (6.7%) | 0 (0%) | 1 (7.7%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Between the group A & B Mann Whitney Test | | Z=0.519 P=0.604 | Z=0.348 P=0.728 | Z=0.901 P=0.368 | Z=1.491 P=0.136 | Z=0.808 P=0.419 | |

Left Eye

| Groups | Grade | Tear flim Break up time Lt Eye | | | | | With in group wilcoxon signed rank test |
|---------|-------|--------------------------------|--------------------|--------------------|--------------------|--------------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 7 (46.7%) | 7 (50.0%) | 8 (57.1%) | 12 (85.7%) | 12 (85.7%) | Z=2.646 P=0.008 |
| | 1 | 7 (46.7%) | 6 (42.9%) | 6 (42.9%) | 2 (14.3%) | 2 (14.3%) | |
| | 2 | 1 (6.7%) | 1 (7.1%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 8 (53.3%) | 8 (53.3%) | 11 (73.3%) | 15 (100.0%) | 11 (73.3%) | Z=1.732 P=0.083 |
| | 1 | 7 (46.7%) | 7 (46.7%) | 4 (26.7%) | 0 (0%) | 4 (26.7%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 4 (26.7%) | 6 (46.2%) | 8 (61.5%) | 12 (92.3%) | 13 (100.0%) | Z=2.887 P=0.004 |
| | 1 | 10 (66.7%) | 7 (53.8%) | 4 (30.8%) | 1 (7.7%) | 0 (0%) | |
| | 2 | 1 (6.7%) | 0 (0%) | 1 (7.7%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | | Z=0.519 P=0.604 | Z=0.348 P=0.728 | Z=0.901 P=0.368 | Z=1.491 P=0.136 | Z=0.808 P=0.419 | |

Schrimmer I Test

Statistically significant improvement in the Schrimmer I Test in the Group A only, but there is no significant statistically improvement between Group A & B.

Right Eye

| Groups | Grade | Schrimmer Test IRt Eye | | | | | With in group wilcoxon signed rank test |
|---------|-------|------------------------|------------------|-------------------|--------------------|-------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 7 (46.7%) | 08 (57.1%) | 10 (71.4%) | 14 (100.0%) | 14 (100.0%) | Z=2.826 P=0.005 |
| | 1 | 8 (53.3%) | 6 (42.9%) | 4 (28.6%) | 0 (0%) | 0 (0%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 8 (53.3%) | 9 (60.0%) | 13 (86.7%) | 14 (97.6%) | 14 (97.6%) | Z=2.449 P=0.014 |
| | 1 | 7 (46.7%) | 6 (40.0%) | 2 (13.3%) | 1 (2.4%) | 1 (2.4%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 7 (46.7%) | 8 (61.5%) | 9 (69.2%) | 12 (92.3%) | 12 (92.3%) | Z=2.449 P=0.014 |
| | 1 | 8 (53.3%) | 5 (38.5%) | 4 (30.8%) | 1 (7.7%) | 1 (7.7%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | | Z=0.359 P=0.720 | Z=.153 P=.878 | Z=.995 P=0.320 | Z=0.966 P=0.320 | | |

Left Eye

| Groups | Grade | Schrimmer Test ILt Eye | | | | | With in group wilcoxon signed rank test |
|---------|-------|------------------------|------------------|-------------------|--------------------|-------------|---|
| | | BT | F1 | F2 | F3 | AT | |
| Group A | 0 | 7 (46.7%) | 08 (57.1%) | 10 (71.4%) | 14 (100.0%) | 14 (100.0%) | Z=2.826 P=0.005 |
| | 1 | 8 (53.3%) | 6 (42.9%) | 4 (28.6%) | 0 (0%) | 0 (0%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group B | 0 | 8 (53.3%) | 9 (60.0%) | 13 (86.7%) | 14 (97.6%) | 14 (97.6%) | Z=2.449 P=0.014 |
| | 1 | 7 (46.7%) | 6 (40.0%) | 2 (13.3%) | 1 (2.4%) | 1 (2.4%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| Group C | 0 | 7 (46.7%) | 8 (61.5%) | 9 (69.2%) | 12 (92.3%) | 12 (92.3%) | Z=2.449 P=0.014 |
| | 1 | 8 (53.3%) | 5 (38.5%) | 4 (30.8%) | 1 (7.7%) | 1 (7.7%) | |
| | 2 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | 3 | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | 0 (0%) | |
| | | Z=0.359 P=0.720 | Z=.153 P=.878 | Z=.995 P=0.320 | Z=0.966 P=0.320 | | |

DISCUSSION

In study it was observed that the incidence of Computer Vision Syndrome was observed higher in the age group of 20 to 40 years. It is probably because

more exposure to computer and video Display Terminal and air conditioning in this age group. The incidence of Computer Vision Syndrome was observed

higher in males than female because more the dominance population of Male in Every Sector of India. A higher prevalence seen in service sector and students probably because of more exposure to computer, more working hours in front of computers. In this clinical study 75% was on mixed diet. Most of them was not taking a Balance Diet The incidence of Computer Vision Syndrome was observed higher in those patients who were suffering from disturbed sleep. Due to disturbed sleep extra ocular muscle not get a sufficient relax so on the next day easily become fatigue so signs and symptoms of CVS occur most commonly. The incidence of Computer Vision Syndrome was observed higher in those patients those were not have an any emotional stress. In condition of emotional stress frequent secretion of tears which kept the ocular moist or in emotional stress they were not full concentrate on their work so in respect to this they get relief from their work on computer screen. The incidence of Computer Vision Syndrome was observed higher in those patients those were not having any addiction history. Due to absence of any addiction they have less tendency to bear job related stress so due to job related stress force them to continuous work without any break and relax so easily they suffer from CVS.

The incidence of Computer Vision Syndrome was observed higher in *Vata Pittaj Sharir Prakriti and Rajas Tamasa Manas Prakriti*. Because most of the sign and symptoms of CVS are like *Suskakshipaka* which is *Vata pitta* dominant *Vyadhi* so dease is most common in *Vata pitta prakritipradhan patient*. *Rajas Tamasa Manas Prakriti* has more tendency of *Pragyaapradha* due to less amount of *Satva*.

Prevalence of computer Vision Syndrome is higher in those patient in which visual acuity was not equal to 6/6 in one or both eye or in those patient in which their was not full correction of visual acuity. In case of refractive error sign and symptoms of computer Vision Syndrome occur more potentially.

Effect on Clinical Parameter

The effect of trial Drug on the Patient with computer vision Syndrome was observed after completion of therapy. The clinical parameter selected were feeling of Dryness, Eyestrain, Blurred Vision, Red Eyes, Burning Eyes, Excessive Secretion of Tears, Headache, Contact Lens Discomfort, Slowness In Changing Focus, Neck Shoulder And Backache and Diagnostic Test, Visual Acuity for Distant Vision and Near Vision Refraction Dry Eye Assessment by Tear Flim Break up Time and Schrimmer I test.

Effect of Trial Drug on Dryness

The dryness symptoms occur due to decrease rate of blinking which lead to evaporation of tears the

evaporation rate depend on lipid layer of tear flim . Decrease in symptoms seems to be result of lubrication of ocular surface. In group C more significant improvement in dryness in comparison to Group A. It may occur due to amount and contact time of drug is more.

Effect of Trial Drug on Eye Strain

Extensive focusing does not give much opportunity to the eye muscle to move or uncorrected visual defect this lead to the eye strain. Due to change in working style and correction pf visual defect significant improvement in the entire three groups but in Group C higher number of patient was got relief. It occur due to nourishing and anti oxidant property of *Ghrita* which may increased by increasing the bioavailbilty of *Saindhavadi Ghirta* by *Saindhav Lavan*.

Effect of Trial Drug on Blurred Vision

Significant improvement was observed in all the group after the treatment but in control Group B in Right Eye decrease in the number of patient which was complain of blurred vision but it was not Statistically Significant. It may occur due long time hour use of computer or absence of full correction in Right Eye of Some Patient and only lubricating property of Carboxy Methyl Cellulose.

Effect of Trial Drug on Headache

Their was significant improvement was observed in all the three group after the treatment. In patient headache was due to inappropriate working style, refractive error and work stress. But in Group C 92% patient was got complete relief in Headache it occur due to antioxidative, lipphilic nature of *Ghrita* due to which reason it easily absorb through cell Membrane and provide nourishment to the cell.

Effect of Trial Drug on Neck, Shoulder and Backache

After completion of treatment significant improvement in Neck, Shoulder and Backache all the three group. But significant improve in the number of patient in the group C was observed it occur due to antioxidant lipophilic nature of *Saindhavadi Ghrita* which easily absorb easily through local tissue and give nourishment to all the tissue of the body.

Effect of Trial Drug on Tear Flim Break Up Time

Significant improvement in Tear Film Break Up Time was observed in the Group A and Group C after the treatment it shows that different dosage form of *Saindhavadi Yoga* help in improvement of quality of tear film. The increased TBUT, therefore may indicate qualitative improvement in tear Film.

Effect of Trial Drug on Schrimmer I Test

Statistically significant improvement occur in SchrimmerI test all the three group after the completion

of treatment but in moderately significant improvement observed in Group A It occur due to large size of particle of drug in *Anjana* which at as foreign body and long time stay of *Anjana* in sac increase the bioavailbilty of drug that's why increase in production of tear.

There is no significant different in improvement in subjective and objective Parameter of CVS between Group A and Group B because in patient of CVS signs and symptoms occur due to inappropriate working station, continuous long hour use of video display terminal and incorrect visual defect, in all three group patient was recommended to change in working style and appropriate working Station and correction of visual defect as best possible. In Group A and Group C comparison is not possible because follow up of Group A and Group C were different. In Group A follow up at every 7th day, 14th and 21st day while in Group C 3 sitting of 5day each with gap of three day.

In Group A after completion of treatment significant improvement was seen in Dryness, Eyestrain, Blurred Vision, Burning Sensation, Headache, slowness in Changing Focus and Schirmer I Test. For absorption of drug through ocular surface it should have both hydrophilic and lipophilic property. In cornea the epithelium and endothelium is lipid permeable whereas stromal layer is hydrophilic. In *Saindhavadi* eye drop *Saindhavlan* have hydrophilic property and *Saindhavadianjanaghrita* have lipophilic nature, lipophilic active ingredient may absorb through the cornea by Transcellular pathway and hydrophilic from the counjunctiva by paracellular pathway. According to pathophysiology of CVS lipid layer of the tear film gets disturbed lipid layer, TBUT reduce remarkably. This disturbed the tear flim leads to dryness in the eye. Lipophilic nature of *Ghritha* strength the lipid layer of tear film. IT increase TBUT and Reduce the Dryness, it has lubricating property which was very useful in reducing dryness and burning sensation in CVS.

Due to extensive focusing, extraocular muscle and cilliary muscle become fatigue and oxidative injury of tissue occur due to which free radical and inflammatory mediators release that's why eye strain, blurred vision, slowness in changing focus and headache occur in patient. In *Saindhavadiyogashunthi* and *Daruhridra* have anti-inflammatory property and matulung, *Ghritha* and *Dugdha* have antioxidant and rejuvation property which was very useful in eye strain, blurred vision, slowness in changing focus, headache and increment in the value of Schirmer I Test.

In Group C along with improvement in other sign and symptom of CVS more significant

improvement in TBUT, redness, Neck, Shoulder and Backache.

As per Ayurvedic classics, *ghrita* has properties as *Snigdha*, *Guru*, *Mridu*. It causes improvement in Tear film, increases TFBUT & reduction in dryness in eyes.

Ghritha have *Vata pitta shamak* property due to which reduce in redness, headache, burning sensation and neck shoulder and backache.

Digestion, absorption and delivery to a target organ system are crucial in obtaining the maximum benefit from any formulation, this is facilitated by *Ghritha*. Active ingredients are mixed with *Ghritha*, are easily absorbed. Lipophilic action of *Ghritha* facilitates transportation into the cell. The modern lipophilic nature can be compared with the *Yogvahi Guna* which facilitates entry of the formulation into the cell. *Goghrita* also contains Vit. A, D, E and K. Vitamins A and E are antioxidants and are helpful in preventing oxidative injury to the body. Vitamin A keeps epithelial tissue of the body intact, keeps the outer lining of the eyeball moist that's why anti-inflammatory, anti oxidant, rejuvation property of formulation is increase in this dosage form in comparison to eyedrop and *Anjana* In *Anjana ghrita* in small quantity and bioavailbilty of *Anjana* is les in compare to *Ghritha*. Due to this property of *Saindhavadi Ghrita*, it more useful in improvement of TBUT, TMH, Redness and Neck Shoulder and Backache along with improvement in other subjective and objective Parameter.

As point that eye drop and *Anjana* and *tarpan* which one is best. Results of *Tarpan* therapy is some what superior in comparison to eye drop and *Anjana* but *Tarpan* therapy is complicated therapy patient has been come to hospital in each day of sitting and due to burning nature of *Saindhavadighrita* some patient was not tolerate the therapy. Most of the patients of CVS are either servicemen or Student. So come in hospital every day of sitting is not possible for them. So follow the recommendation of eye drop and *Anjana* is easy and suitable for the patient of Computer Vision Syndrome.

CONCLUSION

Computers are now an integral part of our day we cannot imagine the life without the computer. Computer Vision Syndrome (CVS) is the general term used to describe a variety of vision related symptoms and physical symptoms that may be aggravated by regular use of a computer or video display terminal for two or more hours a day continuously, these signs and symptom occur due to Glare, Uncorrected Visual problems, Reduce blinking rate, because of continuous staring at the screen which cause the ocular surface damage due to excessive evaporation of tears, poor sitting posture. According to Indian system of medicine

working on the Computer for longer duration and *Asatmyaindriyasayoga* and *Pragyaapradha* of *Chakhuindriya* lead to *Vata* and *Pitta pradhan Doshadusti* and *Dosha Vriddhi* Means that in CVS is *Vata pitta pradhanvyadhi*. *Saindhavadi* eye drop, *anjana* and *Saindhavadi Ghrita* have *Vata pitta shamak* property. In all of the *Lavan* only *Saindhavilavan* have *Pitta shamak* property and *Goghrita* has *Pitta* pacifying properties so it is useful in CVS.

So for treatment of Computer Vision Syndrome along with medication correction of refractive error as best possible, change in work style and working station is also necessary. In modern system of treatment except lubricating eye drop there is no satisfactory treatment of CVS along with preservative related side effect, while freshly prepared *Ayurvedic* dosage form have more better result along with correction of Refractive error and change in working style and working station without any side effect. That's why *Ayurvedic* treatment along with correction of refractive error and appropriate working style and working station is best therapy for management for computer vision syndrome. Further study on large number of population is required to establishment of theory and *Ayurvedic* guideline of management of Computer Vision Syndrome.

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