Effectiveness of ruta graveolens 30ch in cases of digital vision syndrome in age group of 15-40 yrs: a case series

Raichura Jisha, Siddiqui Arefa, Patil Ruchita

Abstract: As there is no precise guide lines, it is now a everyday practice for students to spend most of their time (8 to 12 hours/day) dealing with E-classes in front of computer or mobile screens. Over past few months due to COVID-19 lockdown, our society has been in indoor settings where the education, work and entertainment are through digital platform. This created an increase in rate of digital eye strain. It is an emerging global problem; enhancing proficiency over this will be considerable asset to community as well employing use of homeopathic medicine Ruta graveolens perceiving its utility in digital vision syndromethrough case series study with sample size 46 cases. Based on study from 46 patients, 45(97.82%) patients were improving, and 1(2.18%) patient was improved. The mean score ofSymptom index form scale at the beginning of the study was 19.95 & after treatment mean score was 6.86. Ruta 30CH is effective in cases of Digital Vision Syndrome. From the study we observed that Quality of life of patient was improved.

Key words: Digital Vision Syndrome, Ruta graveolens 30 CH, Symptom Index FormScale, Eye strain.

Introduction:

The progressing pandemic of SARS-COVID-19 infection has caused enormous stress in health care system and altering the day-to-day life of individual Due to episodes of lockdownthere has been interference in education, working, and commuting activities. Mankind had counted on digital devices for amusement, knowledge and work during lockdown period leading to towering threat of developing Digital Vision Syndrome [(1).] With the emergence of technological revolution advanced computing devices have become an integral part of not only professional work but also of leisure activities. These computing devices with their visual display terminals has now spread their presence from fixed desktop of office space to laptop of a user in bedroom. There has been complaints of eye and vision problems after using digital gadgets among 75-90% users on average who continuously work for 3 hours or more are estimated to suffer from digital vision syndrome. [(3)] There has been forbidding rise in number of individuals worldwide affected after use of digital gadgets where approximately 70% users are affected with vision problems. Worldwide there are about 1 million cases occurring every year. At present 60 million people globally are suffering from Digital Vision Syndrome. [(5)]

Aim: To study the effectiveness of Ruta graveolens 30CH in cases of Digital Vision Syndrome in age group of 15-40yrs.

Objectives: Primary objectiveis to find the effectiveness of Ruta 30CH in cases of Digital Vision Syndrome in age group of 15-40yrs & Secondary objective is to find the most common symptoms of Digital Vision Syndrome among the patients of age group 15-40yrs.

Materials And Methods:

Study design & Setting: Case series study of DVS diagnosed & enrolled during the year 2022, in the M(N)HMC OPD, camps and peripheral OPD by convenient sampling technique

Duration of study: 6 months

Tools: Questionnaire for eye assessment, Symptom Index Form Scale, Schirmer's test stripes, snellen's chart

Study Population:

A] Inclusion criteria: Cases having signs and symptoms of DVS present for at least one week or should have complaints of same in past 1 month, Age group between 15-40years of both sexes, Patient willing to give consent, Patients who are having at least three or more symptoms of DVS during or after use of digital screen.

B] Exclusion criteria: Individuals known with untreated refractive and other visual screening errors, Individuals known with history of migraine, eye allergy, frequent conjunctivitis, acute rhinitis, sinusitis, acute scleritis, lens opacities e.g. Cataracts, Individuals with known history of chronic neck and back complaints as this would alter the significance of study, Subjects who are unable to refrain from using eyedrops, antihistamines, hormonal preparation such as oral contraceptive or any other medication interfering with the outcome of study.

Study procedure- According to the study, population was screened using (Questionnaires for eye assessment) [11] which was done through online as well as offline forms. Consent was taken from the patients followed by Case taking along with symptom index form scale [11] & eye examinations were done, analysis and evaluation of cases were done. Homeopathic medicine (Ruta graveolens 30CH) was prescribed, Further, follow up(6f/w) at interval of 15 days were taken, during last follow up the patients were asked to fill symptom index form scale & eye examinations were done.

Intervention- Ruta 30CH was prescribed to the cases diagnosed with DVS. The repetition of dose was done according to the severity of the symptoms, if patients were improving the dose was not repeated or vice versa.

Statistical Analysis- We have taken before & after scale score by Symptom Index Form Scale, the mean value of before scale was 19.95 & the mean value of after scale was 6.86. Then we use Student paired T test to see the result of the study. [19] As the calculated T value is 13.298 was greater than table t value at the level of significance (5%) that is 2.02 So accordingly Ruta graveolens 30CH is effective in cases of DVS in age group 15-40yrs.

Result- As our first objective was - To find the effectiveness of Ruta30 CH in cases of Digital Vision Syndrome in age group of 15-40yrs, so the result was the total no. of cases was46 out of which 45(97.82%) cases are in improving condition and 1(2.18%) case improved.
Second objective was - To find the most common symptoms of Digital Vision Syndrome among the patients of age group 15-40yrs, so the result was the commonest symptom of Digital Vision Syndrome was watery eyes (69.56%)

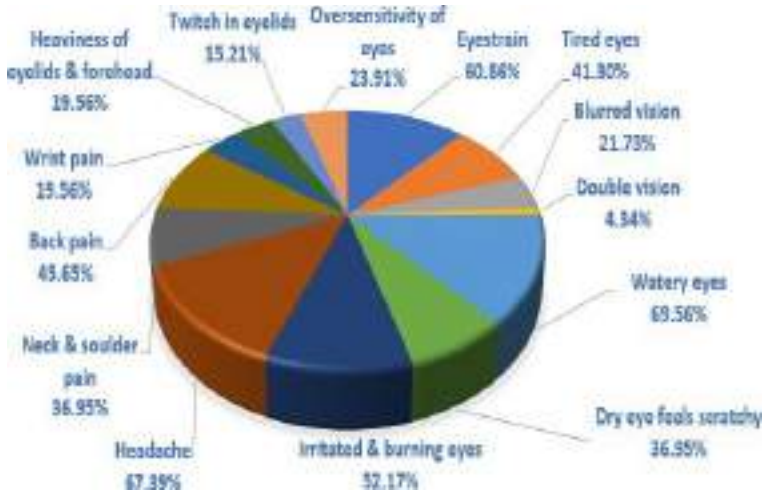

Fig 1- Pie chart of most common symptoms of DVS

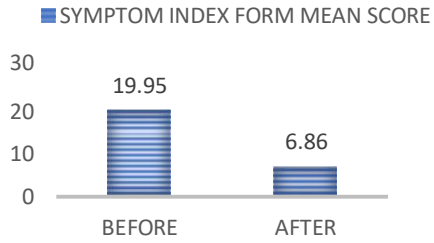

Fig 2- Mean Score of Symptom Index Form Scale

Discussion

46 patients were selected on basis of simple random sample out of which 16 studentsfrom M(N)HMC OPD & 30 students from camp at Jawahar Institute of Technology, Nashik

We selected study population using questionnaire where patients had three or more symptoms of digital vision syndrome for at least one week or past 1 month. Further we explained them about our project and took consent from them. Patients who were willing to participate were selected and further assessed with external examination of eye, visual acuity test, Schirmer's test, cover test, discharges & eye muscle movement test. Symptom index form was given at the beginning of this project to be filled by patients. All the complaints of patients were recorded in case record format. The patients were also advised for eye exercise, follow rule of 20-20-20 & use of specialized digital glasses/lenses when using digital screen for prolonged time.

Patients who had untreated refractive errors, history of migraine, eye allergy, sinusitis, conjunctivitis, chronic neck pain & back pain were excluded from study.

After administering the patients with appropriate medicines required it was overall found that the patients were improving, the complaints have reduced. During further follow up we observed that patients when had increased overload of work the complaints had relapsed where we needed to repeat the medicines.

During the whole course of the study, patients were not regular for follow up, hence it was difficult to maintain the regularity of follow up according to the first visit.

During the last follow patients were given the symptom index form scale where they were asked to fill up their symptoms according to the severity and it was further calculated. they were also assessedfor external examination of eye, visual acuity test, Schirmer's test, cover test, discharges & eye muscle movement test. We calculated the scores given on scale before the treatment & after

treatment to see the effectiveness of Ruta 30 in cases of Digital Vision Syndrome.
After the study of 6 months, we observed that the complete cure was not possible as the maintaining cause (constant use of digital screen was inevitable) the patient were better for a specific period but most of the complaints relapsed later where it became mandatory to repeat the medications.
Out of 46 case 1 patient (2.18%) improved & other 45 (97.82%) cases were in improving state Most common symptom observed watery eyes (69.56%), headache (67.39%) Eyestrain (60.86%), other symptoms observed were irritated & burning eyes (52.17%), dry eyes that feels scratchy (36.95%), tired eyes (41.30%), blurred vision (21.73%), double vision (4.34%), oversensitivity of eyes (23.91%), twitching of eyelids (15.21%), heaviness of eyelids & forehead (19.56%), back pain (45.65%), wrist pain (19.56%), back & shoulder pain (45.65%)
In our study total number of female patients were 30(65.21%) & male patient were 16(34.78%)
In our study the most common age group was 18-24years who had been diagnosed with DVS so the result showed effectiveness of Ruta 30CH. From this study we observed that Quality of life of patient was improved after the medication and interventions suggested to them.
There is huge further scope of studies in this as the population size chosen was small compared to the incidence rate, so the study should be done with more sample size. Even the medicine should be given in various potencies on all the age group to know the effectiveness. In homoeopathy there are other medicines which also might be effective i.e physostigma, Argentum nitricum, Duboisinum, senega, Euphrasia and many other more.

Conclusion- Based on study from 46 patients, 45(97.82%) patients were improving, and 1(2.18%) patient was improved. Ruta 30CH is effective in cases of Digital Vision Syndrome. Most common symptom observed watery eyes (69.56%) in Digital Vision Syndrome.

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