"A STUDY TO ASSESS THE KNOWLEDGE AND EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON DIGITAL DEVICE SYNDROME AMONG JUNIOR SECONDARY STUDENTS OF SELECTED SCHOOL AT LUCKNOW, U.P."

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ABSTRACT

The word digital includes and describe the advancement in the field of technology. Due to various new researches and upgrading, the upcoming era will be a world of technology only. This advancement has its benefit such as use of internet services for the purpose of studies, data handling, accounts management and many more. The digital devices are available at every place and in every people surrounding,

for example: laptops, tablet, iPad, mobile phones, computer, digital watches and many more. Because of facilities that are available through these devices, people are using them every time.

This study was conducted using quantitative approach at Shri Yogeshwar Rishikul Inter College Lucknow, U.P. with 80 samples using pre experimental (one group pretest post test) research design, selection of samples was done via non-probability purposive sampling technique.

The study was conducted through an offline mode with structured knowledge questionnaire in which junior secondary school students were selected. Pre-existing knowledge was assessed by using structured knowledge questionnaire after that structured teaching program was conducted regarding digital device syndrome in order to increase the knowledge and develop preventive attitude, after 6 days post test was conducted to assess the effectiveness of structured teaching program.

The overall knowledge level of junior secondary school students regarding digital device syndrome after implementation of structured teaching program shows that 2 (2.5%) students had inadequate knowledge, 57 (71.25%) students had moderate knowledge and 21 (26.25%) students had adequate knowledge.

Hence, the present study reveals that structured teaching programme was effective, appropriate and feasible to impart knowledge to junior secondary school students. It hadhelp the students to acquire knowledge and develop preventive attitude regarding digital device syndrome.

KEYWORDS:

Assess, Knowledge, Effectiveness, Digital Device Syndrome, Structured Teaching Programme, Junior Secondary Students

INTRODUCTION:

The word digital includes and describe the advancement in the field of technology. Due to various new researches and upgrading, the upcoming era will be a world of technology only. This advancement has many benefits such as use of internet services for the purpose of studies, data handling, accounts management and many more.

The new upcoming world is a digital world with lots of devices that will get operated digitally and will make human beings to be in more interaction with them, which benefit as well as harm them. This harm will be more in terms of health, a glance of which the world has already seen during the Covid-19 pandemic.

A persons health is a matter of great concern for him and this use of digital devices for a large duration deteriorated it in many aspects.The growing use of computers in the home and office brings with it an increase in health risks, especially for the eyes, an eye problem known as Digital Device syndrome.

Digital devices processes electronic signals that represents either a one ("on") or a zero ("off"). Digital devices are the devices that can receive, process and send digital information such as laptops, mobile phone and tablet computers. The digital devices are available at every place and in every people's surrounding **for example:** laptops, tablet, iPad, mobile phones, computer, digital watches and many more. Because of facilities that are available through these devices people are using them every time.

Apart from the facilities and benefits available because of them. There are certain drawbacks also, which are posing impact on the health of the users. There are many harmful effects such as shoulder pain, back ache, stiff neck, leading people' towards sedentary lifestyle and the most significant effect is on eyes which includes: eye strain, blurred vision, dry eyes, headache etc.

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This all is deteriorating the health of individuals physically and mentally, which was already seen in Covid-19 pandemic and it has replaced human contact with a digital connection . Jobs have moved online number of web meetings and video conference classes are being held, doctors are going for teleconsultations . Binge-watching, gaming, social media usage all contribute to digital device syndrome with screen time more than 3h/day.

This is high time that for maintenance of good health, peoples have to take stern steps and for that they should have knowledge regarding what is happening to them and how they can treat it.

As in various studies it is found that peoples using digital devices for a long duration were prone for the development of Digital Device Syndrome.

Digital Device syndrome (DDS) is defined as "a group of visual and ocular problems related to the prolonged use of computers and devices with video terminals.Currently it is estimated that there are 60 million people who suffer from DDS , this is due to the fact that spending more than 3 h a day in front of video terminal devices increases the prevalence of DDS the hours spent in front of an electronic screen are more constant, in order to meet the demands of the modern world.The effect of prolonged digital device use on sleep has now become a concern . Prolonged digital device use results in significant reduction in sleep amount and quality. Inadequate sleep is associated with poor work and school performance, reduced productivity, lack of energy, higher risk of weight gain, and depression.Use of digital devices disrupts the circadian rhythm by suppressing the release of melatonin, a sleep-inducing hormone.

METHOD :

Research Approach – quantitative research approach was adopted in present study.
Research Design - Pre-experimental (one group pre-test post-test) research design.

Research Setting – The present study was conducted in Shri Yogeshwar Rishikul Inter College at Lucknow. It has classes upto intermediate with playground, library and other facilities.

Sample, Sample Size And Technique - Non-probability - Purposive sampling technique was used to select the 80 students as sample for the study from class VI, VII, and VIII of Shri Yogeshwar Rishikul Inter College.

Tools For Data Collection –

Tool 1: Demographic variables consist of age group, gender, educational level, type of family, previous knowledge about DDS, specification about how the knowledge was obtain.

Tool 2: self structured questionnaire was used to assess the knowledge regarding digital device syndrome among junior secondary students of selected school at lucknow

Process – Data for the main study was collected from the selected subjects. After ethical clearance written consent was taken from each participants after giving information about the nature of the study and use of the data. The pre-test was conducted with the help of self structured questionnaire. Structured teaching program was given to all the sample after pre-test. Post-test knowledge was assessed by self- structured questionnaire

Plan For Data Analysis – Following test were done for analysing the data

- Frequency and percentage
- Mean
- Standard deviation
- Paired t-test
- Chi square test

RESULTS :

Table 1: Frequency, percentage, distribution of demographic variables of school students

Sr.no	Demographic Variables	Category	Frequency	Percentage
1.	Age	8-11 12-15 16-19	4 62 14	5% 75% 16.25%
2.	Gender	Male Female	55 26	68.75% 32.5%
3.	Educational Level	VI VII VII	21 21 38	26.25% 26.25% 47.5%
4.	Type of Family	Nuclear Joint Co-joint	52 29 00	65% 36.25% 00%
5.	Previous Information	Yes No	58 23	72.5% 28.75%
6.	Source of previous information	Peer Group Family Internet Others	03 03 00 51	3.75% 3.75% 00% 63.75%

The above table depicts the frequency and percentage of the demographic profile of the sample group:

1. Majority of junior secondary school students 75% belongs to 12-15 years of age group, 16.2% belongs to 16-19 years of age group and 5% belongs to 8-11 years of age group.
2. Majority of junior secondary school students 68.75% are male and 32.5% are female in this study.
3. Majority of the junior secondary school students 47.5% belongs to class vii whereas vi and vii class students hold 26.25%each.
4. Majority of junior secondary school students belongs to nuclear family 65%, 36.25% belongs to joint family.
5. Majority of the junior secondary school students 72.5% had previous knowledge about digital device syndrome and 28.75% did not hadany previous information.
6. Majority of junior secondary school students who had knowledge about dds, their source of information is others 63.75% whereas 3.75% students had information source from peer group and 3.75% from family.

Table 2: Comparison of pre-test and post-test knowledge scores

Practice area	Mean score	Mean difference	SD	t-value
Pre-test	9.17	8.45	3.19	2.156
Post-test	17.62		3.44	

This data depicts that overall mean of post-test knowledge score were 17.62 when compared to pre-test score of 9.17, the obtained t-value = 2.156 is highly significant at $p<0.05$ (2.05) level

Table 3: Association between demographic profile and pre-test knowledge score of students.

Sr.no	Demographic Profile	Category	Inadequate	Moderate	Chi-square	Df	P. Value	Remarks
1.	**Age**	8-11 12-15 16-19	03 31 06	01 31 08	0.2307	2	5.991	Not Significant
2.	**Gender**	Male Female	25 14	31 10	3.031	2	5.991	Not Significant
3.	**Educational Level**	VI VII VII	06 05 28	15 17 09	18.196	2	5.991	Significant
4.	**Type of Family**	Nuclear Joint Co-joint	24 15 00	28 13 00	0.036	1	3.841	Not Significant
5.	**Previous Information**	Yes No	31 08	26 15	1.231	1	3.841	Not Significant
6.	**Source of previous information**	Peer Group Family Internet Others	00 01 00 34	03 02 00 21	5.082	3	7.815	Not Significant

The above table depicts the significant association exists between the educational level and pre-test knowledge score of students about DDS.

There was no significant association between age, gender, type of family, previous information and source of previous information with the pre-test knowledge score of students about DDS.

DISCUSSION :

The purpose of the study was to assess the knowledge and effectiveness of structured teaching program on digital device syndrome among junior secondary students.

Findings of the study are discussed according to the objectives with other study findings:

Sample Characteristics:

Selected sample were (5%) between age group of (8 to 11 years) and most of the students (75%) between age group of (12 to 15 years) and (16.25%) were between age group of (16 to 19 years). Most of the students were male (68.75%) and females were (32.5%). Students of VI and VII class were (26.25%) respectively and in VIII class were (47.5%). There were (65%) of students belongs to nuclear family and (36.25%) of students from joint family and there were no students (0%) who belongs to co-joint family. Most of the students (72.5%) were having previous information regarding digital device syndrome and (28.75%) of students were not having previous information regarding digital device syndrome. (3.75%) of students had obtained knowledge regarding digital device syndrome from peer group, and (3.75%) of students gained knowledge from own family, and (63.75%) of students gained knowledge from other sources there were no students (0%) who gained knowledge regarding digital device syndrome from internet.

Effectiveness Of Structured Teaching Program On Digital Device Syndrome:

The study findings illustrated that mean was 9.72 and standard deviation was 3.19 of school students in pre-test knowledge assessment. Whereas in post-test knowledge assessment mean was 17.625 and standard deviation was 3.44. paired 't'-test was performed to find the difference between pre-test knowledge and post-test knowledge score of school students. The calculated 't' value was 2.156 which was higher than the tabulated value at 0.05 level of significance. Thus, it can be inferred that the structured teaching program was effective in enhancing the knowledge of school students. Hence the null hypothesis was rejected and research hypothesis was accepted. Thus, it can be interpreted that effectiveness of structured teaching program in post-test was not by chance but it was due to intervention.

This result was supported by study done by **Abdulrahman, Aldarrah., (2021)** was conducted cross sectional study on "To review the knowledge of ocular health and practice of digital device usage among adolescent Saudi Arabia " total 521 participating ,knowledge about CVS and its relation to digital device usage were excellent in 41 students (7.9%), good in 161 (39%), poor in 300 (57.6%), and very poor in 19 (3.6%). Twenty-eight (5.4%) students scored an "excellent" grade on practices for digital device usage, 216 (41.4%) scored "good," and 277 (53.2%) scored "poor." The knowledge score median was 1.0 (interquartile range 1.0; 2.0), and the practice score median was 6.0 (4.0; 9.0).

Association Between Pre-Test Knowledge Score With Their Selected Demographic Variable The study findings showed that there was significance association between pre-test knowledge score of school students and their demographic variable (educational level) at the level of significance $p<0.05$.

The study was supported by Alatawi SK, 2022, was conducted a descriptive cross-sectional design and a convenient sample of 310 (80.0% male) students drawn from Al Baha University campuses. Data were collected using self-administered questionnaires 'Self-Reported Student Awareness and Prevalence of Computer Vision Syndrome During COVID-19 Pandemic at Al-Baha University' aims to ascertain university students' awareness of computer vision syndrome at Al-Baha University, including the nature, sources, accuracy, and completeness of information the result of this study was mean age of the participants was 23.51 years (SD=5.42). The results show that 78.7%, 66.1%, and 11.6% received CVS information from social media, mass media, and family, respectfully. Despite 70% of respondents being aware of CVS and the conclusion was CVS awareness is acceptably high, but there is a low preventive/mitigative behaviors as well as a low realization of CVS' long-term health problems.

CONCLUSION :

Computer vision syndrome is very common for students. The overall findings of the study indicates that the school students have adequate knowledge regarding digital device syndrome which they can use to take appropriate preventive measures in order to reduce the impact on eyes heath from using digital devices

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