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Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Yoga Eye Exercises to Prevent Digital Eye Strain Among High School Students at Selected Schools in Mysuru

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Abstract:-

- ***Aims & Objectives:***

The goal of the research study is to assess the effectiveness of video assisted teaching programme on knowledge regarding yoga eye exercises to prevent digital eye strain among high school students.

- ***Methods:***

Pre-experimental one group pre-test post-test design was used to assess the effectiveness of Video Assisted Teaching Program on knowledge regarding yoga eye exercises to prevent digital eye strain among high school students in selected schools at Mysuru.

A structured knowledge questionnaire was prepared and used to assess the effectiveness of Video Assisted Teaching Program. Reliability (R=0.92) of the tool was tested.

The study was carried out in Shanthala Vidya Peetha at Mysuru by Non probability convenient sampling technique, 60 high school students were selected. Structured knowledge questionnaire was administered to collect the needed data. Data was analysed by using descriptive and inferential statistics.

- ***Result:***

With regard to the knowledge assessment, the mean pre test score was 15.3 and post test score was 25.75. The mean difference between pre-test score and post test score was 10.42. The computed Paired 't' value was 16.63 and it was significantat 5% level. This showed that VAT on knowledge regarding yoga eye exercises to prevent digital eye strain was effective. Therefore the research hypothesis (H_1) is accepted, i.e. there is significant difference between mean pre-test and mean post-testknowledge score.

- ***Interpretation and Conclusion:***

This study revealed that the VATP on knowledge regarding yoga eye exercises to prevent digital eye strain among high school students was effective.

Keywords:- *VATP; Knowledge; Yoga Eye Exercise; Digital Eye Strain.*

I. BACKGROUND OF THE STUDY

Children are still developing; they are merely little adults. As a result, they are especially susceptible to the effects of their environment, including the radiation produced by mobile phones, iPods, tablets, Smartphones, and other wireless devices. Children are exposed to technology at younger ages than ever before in the modern era.[1]

Smartphones are used by kids all around the world for a variety of things. While some kids are observed conversing to their buddies for hours at a time, others are seen playing endless phone games. Children can find a wealth of information on the internet. Ongoing exposure and use may be hazardous to the youngster.[2] Overuse of cell phones has a number of possible negative effects on mental and physical health, including sleep deprivation, brain tumours, psychiatric disorders, and low IQ and poor mental development in children.[1]

While staring at digital screens for extended periods of time, many people endure eye irritation and visual issues. The amount of time spent on digital screens seems to raise the pain level.

Several eye and vision-related issues are referred to as "digital eye strain." Although eye problems are occasionally ignored, eye deterioration can be halted and even reversed. This is challenging because persistent eye strain and stress seem natural. A habit of poor vision is difficult to break since it affects our fundamental structures and is unconscious.[3]

Yogic techniques have been used for thousands of years and can both relax the eyes and keep eye muscles alert. These exercises are designed for adults with usually healthy eyes who experience eye strain or excessive eye fatigue, commonly as a result of frequent heavy use of electronic devices.[4]

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Eye yoga will improve the practise of yoga and has advantages like improved vision and increased focus. By improving the performance of the extra ocular muscles, eye yoga lessens the symptoms of eye tiredness. Therefore, it could be viewed as a therapeutic and non-pharmacologic intervention to lessen the strain on the eyes from using computers.

II. NEED FOR THE STUDY

Children are looking at digital screens on computers, tablets, TVs, smartphones, and other devices for longer than ever. Due to their excessive use of technology, many children are experiencing a number of health problems. Due to their frequent use of electronic devices, children and youth now frequently suffer from eye-related problems.[5]

According to a Deccan Herald report, an ophthalmologist in his private practise discovered that while before his patients were adults over 40, today's complaints about eye problems come from young individuals and youngsters. More cases occurred throughout the lockdown. In addition, he stated that the number of cases he used to get each day had nearly doubled.[6]

During the COVID-19 pandemic, a study was undertaken on the prevalence and risk factor assessment of digital eye strain (DES) in children utilising online e-learning. Responses were gathered using a questionnaire tool for computer vision syndrome. The questionnaire received 261 responses from parents, of which 217 individuals completed it, according to the results. The prevalence of DES was 50.23% (109/217) in this study. Out of them, 11.1% were classified as severe, 12.9% as moderate, and 26.3% as light. Itching and headache were the most prevalent symptoms (n = 117, 53.9%). The study came to the conclusion that DES was more common among kids during the COVID era.[7]

➢ *Objectives:*

- To assess the pre-test knowledge score regarding yoga eye exercises to prevent digital eye strain among high school students.
- To assess the effectiveness of video assisted teaching programme on knowledge regarding yoga eye exercises to prevent digital eye strain among high school students.
- To find the association between the pre-test knowledge score and the selected demographic variables.

➢ *Hypotheses:*

The following hypothesis was formulated for the study and tested at 0.05 level of significance.

- *H_1:*

There is a significant difference between pre-test and post-test knowledge score regarding yoga eye exercises to prevent digital eye strain among high school students.

- *H_2:*

There is a significant association between pre-test knowledge score regarding yoga eye exercises to prevent digital eye strain among high school students and selected demographic variables.

III. MATERIALS AND METHODS USED

➢ *Sources of Data:*

Study was conducted in Shanthala Vidya Peetha, Siddartha Nagara, Mysuru.

➢ *Demographic Variable:*

Demographic variables of the high school students in the study were age, gender, religion, sports activity, place of residence, educational status of parents, occupational status of parents, family type , duration of using electronic gadgets.

➢ *Research Design*

The research design used in this study is Pre-experimental One group pre test post-test design.

➢ *Research Setting*

Study was conducted at Shanthala Vidya Peetha, Siddartha Nagara, Mysuru.

➢ *Population:*

In this study the High School students were the population.

➢ *Sampling:*

- *Sample Size:*

The sample size was 60 high school students who fulfilled the inclusion criteria.

- *Sampling Technique:*

Non probability convenient sampling technique was used to collect the data.

- *Sampling Criteria:*
- *Inclusion Criteria:*

✓ High school students studying in selected high schools at Mysuru.
✓ High school students willing to participate in the study.

- *Exclusion Criteria:*

✓ High school students not available at the time of the study.

- *Instruments used:*
- *Description of the Tool:*

✓ Section 1: Demographic variables
✓ Section 2: Structured knowledge questionnaire
✓ Section 3: Development of VATP

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- *Organization of the Findings:*

The analysis of the data were organized and presented as follows:

✓ **Section A:** Description of demographic variables.
✓ **Section B:** Knowledge of high school students related to yoga eye excises to prevent digital eye strain among high school students.
✓ **Section C:** Effectiveness of video assisted teaching program on knowledge regarding yoga eye exercises to prevent digital eye strain among high school students.

✓ *Section A: Description of Demographic Variables*

Table 2 Distribution of Frequency and Percentage Analysis of Demographic Variables N = 60

Sl.no	Characteristics	Participant Frequency	Percentage %
1	**Age group (years)**		
	a) 13-14	20	33
	b) 15-16	40	67
2	**Gender**		
	a) Male	19	32
	b) Female	41	68
3	**Religion**		
	a) Christian	15	25
	b) Hindu	30	50
	c) Muslim	15	25
4	**Residence**		
	a) Rural	20	33
	b) Urban	40	67
5	**Sport Activity**		
	a) Outdoor Game	20	33
	b) Indoor Game	15	25
	c) Internet Game	25	42
6	**Education status of parents**		
	a) SSLC or Below	18	30
	b) PUC	19	32
	c) Graduation and above	23	38
7	**Occupation status of parents**		
	a) Skilled worker	15	25
	b) Professional	30	50
	c) House wife	15	25
8	**Family Type**		
	a) Nuclear	37	62
	b) Joint	23	38
9	**Duration of using Electronic Gadgets**		
	a) 2 Hour	15	25
	b) 3 Hour	15	25
	c) > 4 Hour	30	50
		60	**100**

Table-2 shows that40(67%) participants were in the age group of 15-16 years, most of them were females41(68%),majority of them were Hindus30(50%), many of them resided in urban area40(67%),most of them were using internet games25(42%),graduates mother were more23(38%) most of them were professional30(50%) graduate fathers were 29(48%),they were also professionals 27(45%),majority of them belong to nuclear family 37(62%),many of them were using electronic gadgets more than 4hrs30(50%).

✓ *Section B: Knowledge regarding yoga eye excises to prevent digital eye strain among high school students.*

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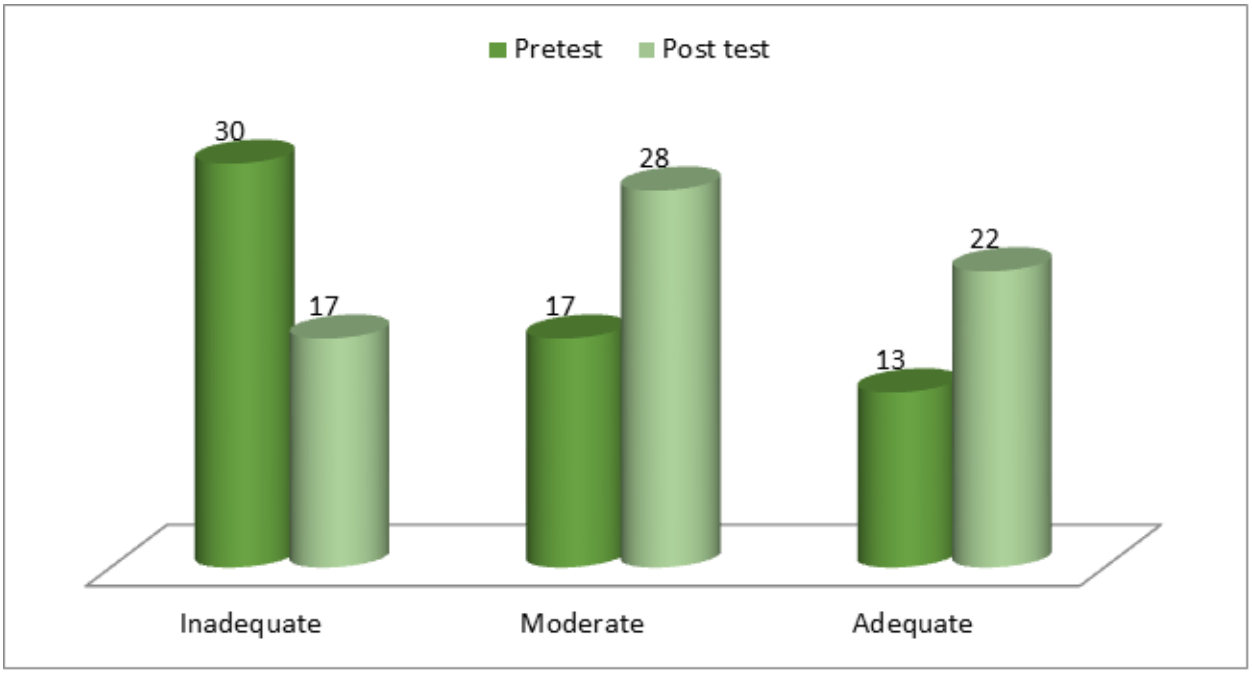

Fig 3 Distribution of High School Students According to Pre-Test and Post-TestLevel of Knowledge Score

Data from the above figure 3 depicts that in pre-test out of 60 high school students, 30(50%) had inadequate knowledge,17(28%) had moderate knowledge and 13 (22%)adequate knowledge regarding yoga eye excises. In post-test 10(17%) had adequate knowledge and 28(47%) had moderate knowledge and 22(36%) had inadequate knowledge regarding yoga eye exercises.

✓ *Section C: Effectiveness of video assisted teaching programme on knowledge related to yoga eye exercises to prevent digital eye strain among high school students.*

The paired 't' value was computed to determine the effectiveness of video assisted teaching programme on knowledge related to yoga eye exercises to prevent digital eye strain among high school students The following research hypothesis was stated.

- *H_1:*

There is significant difference between mean pre-test and mean post-test knowledge score.

Table 3 Effectiveness of Video Assisted Teaching Programme on Knowledge Related to Yoga Eye Exercises to Prevent Digital Eye Strain Among High School Students

						n = 60
Aspects	**Max. Score**	**Participants Knowledge**				
		Mean	**SD**	**Mean%**	**SD%**	**Paired 't' test**
Pre-test	30	15.3	5.12	51	17.06	16.63
Post-test	30	25.75	2.38	85.8	7.96	
Enhancement	30	10.42	4.9	34.8	9.13	
Significance at 5% level			't' (0.05,59df) = 1.96			

Data in table 3 illustrates that the mean post-test knowledge score (25.75) was higher than the mean pre-test knowledge score (15.3). The mean difference between pre-test score and post test score was (10.42). Paired 't' test knowledge score was 't'=16.6 is significant at 0.05% level. Hence research hypothesis H_1 was accepted. This infers that the VATP was effective in increasing the knowledge related to yoga eye exercises to prevent digital eye strain among high school students.

✓ *Section D: The association between pre-test knowledge scores and selected demographic variables.*

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Table 4 Association between pre-test knowledge scores and selecteddemographic variable N = 60

Demographic variables	Pre-test knowledge score			Chi square value	df	Table value	Remarks
	Inadequate	Moderate	Adequate				
Age group (years)							
a)13-14	09	06	05	0.194	1	P<0.05 (0.907)	NS
b)15-16	20	10	10				
Gender							
a) Male	06	06	07	3.42	1	P<0.05 (0.180)	NS
b) Female	23	10	08				
Religion							
a) Christian	05	05	05	5.45	2	P<0.05 (0.243)	NS
b) Hindu	19	06	05				
c) Muslim	05	05	05				
Place of residence							
a) Urban	20	10	10	0.194	1	P<0.05 (0.907)	NS
b) Rural	09	06	05				
Sports activity							
a) Outdoor	10	05	05	2.01	2	P<0.05 (0.732)	NS
b) Indoor	05	05	05				
c) Internet	14	06	05				
Education of Parents							
a) SSLC or below	08	05	05	0.30	2	P<0.05 (0.989)	NS
b) PUC	09	05	05				
c) Graduate	12	06	05				
Occupation of parents							
a) Skilled worker	05	05	05	5.45	2	P<0.05 (0.243)	NS
b) Professional	19	06	05				
c) Unemployed	05	05	05				
Family type							
a) Nuclear	17	10	10	0.27	1	P<0.05 (0.87)	NS
b) Joint	12	06	05				
Duration of using electronic gadget							
a) 2hrs	05	05	05	5.45	2	P<0.05 (0.243)	NS
b) 3hrs	05	05	05				
c) >4hrs	19	06	05				

It is evident from the **Table.4** that the association between the level of pre test knowledge score with Age (χ^2=0.194),gender(χ^2=3.42),Religion(χ^2=5.45), Residence(χ^2=0.194), Sports activity (χ^2=2.01), educational status of parents (χ^2=0.307), occupational status of parents (χ^2=5.4), family type (χ^2=0.27),duration of using electronic gadgets(χ^2=5.4)with was statistically not significant.

IV. CONCLUSION

The present study was conducted to assess the effectiveness of video assisted teaching programme on knowledge related to eye yoga exercises to prevent digital eye strain among high school students at Shanthala vidya peetha School. The following conclusions were made on the basis of the findings of the study. It also brought out the limitations of the study in picture.

- The knowledge related to yoga eye exercises to prevent digital eye strain on children among high school students was inadequate when assessed in pre-test, whereas the knowledge level showed a significant increase during post-test.
- Video assisted teaching programme on yoga eye exercises to prevent digital eye stain on children was effective. The analysis of mean and SD of the knowledge scores in pre-test and post-test revealed that the mean pre-test knowledge score was 15.33, whereas post-test knowledge score was 25.75. The Paired ‘t’ test value16.63 showed that the knowledge level had significant increase during post-test which indicated that video assisted teaching programme was effective.
- This study showed that the association between the level of pre-test knowledge score with Age, gender, Religion, Residence, Sports activity, educational status of parents, occupational status parents, family type ,duration of using electronic gadgets was statistically not significant.

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RECOMMENDATIONS

- *On the basis of findings of the Study the following Recommendations were Made.*

- *A similar study can be replicated on a larger sample with different demographic characters.*
- *A Similar study can be conducted using other strategies like SIM, booklets and pamphlets.*
- *A similar study can be conducted among Pre-University and under graduate students.*
- *A comparative study can be conducted to assess the knowledge related to yoga eye exercises to prevent digital eye strain on children between rural and urban high school students.*
- *A follow up study can be conducted to find out the effectiveness in terms of retention of knowledge among high school students and to reinforce health promotion teaching services.*

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