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EFFECTIVENESS OF 20-20-20 RULE ON EYE STRAIN AMONG THE ADOLESCENT STUDENTS IN SELECTED SCHOOL AT TIRUNELVELI DISTRICT

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ABSTRACT

Digital eye strain has become a common problem among adolescents due to prolonged use of digital devices. This study aimed to evaluate the effectiveness of the 20-20-20 rule in reducing eye strain among adolescent students in a selected school at Tirunelveli district. A pre-experimental one-group pretest-posttest design was adopted with 30 adolescent students selected through purposive sampling. Eye strain was assessed using a modified eye strain scale before and after practicing the 20-20-20 rule for seven days. The mean pretest score was 28.17 ± 7.30, which reduced to 17.57 ± 3.15 in the posttest, showing significant improvement ($t = 12.33$, $p < 0.05$). The findings revealed that the 20-20-20 rule was effective in reducing eye strain among adolescents. The study emphasizes the importance of simple preventive measures to promote eye health in students.

INTRODUCTION

Adolescence can be defined biologically as the physical transition marked by the onset of puberty and the termination of physical growth cognitive, as change in the ability to think abstractly and multi-dimensionally or socially, as a period of preparation for adults' roles. Eye strain is a temporary condition that occurs when the eyes become tired and uncomfortable due to prolonged use often resulting in symptoms such as dryness blurred vision and headache. A study investigated in India (2018) report that 576 adolescent students had significant correlation in the practice of lying down using a screen enabled devices to symptoms of digital eye strain (27%) by the end of the day 185 of students experience eye strain, attribute to digital screen use. Eye strain (67%), dry eye (26.6%) double vision (28.9%) and blurred vision (51.6%) moderate eye burning (55.1%). Addressing eye strain is essential at the personal, social, and institutions level. Preventive strategies such as 20-20-20 rule (looking at an object 20feet away for 20 second every 20minutes), yoga and regular eye exercises have been shown to be effective in reducing symptoms of eye strain.

A study investigated that effect of 20-20-20 rule on eye stress among adolescence. An experimental was conducted on 50 adolescence age 15-18 of non-randomized control group. Pretests and posttest design was used. Bisht battery of scale of Likert scale was used. Experimental group students were practicing 20-20-20 rule for 7 days was an effective practice to reduce eye strain of adolescence.

Statement of the problem

A pre-experimental study Assess the effectiveness of 20-20-20 rule on eye strain among the adolescent students in selected school at Tirunelveli district.

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Objective of the study

- To assess the pretest and posttest level eye strain among the adolescent students in experimental group.
- To evaluate the effectiveness of 20-20-20 rule on eye strain among the adolescent students in experimental group.
- To find out the association between the pretest level of eye strain among adolescent students with their selected demographic variables in experimental group.

Hypotheses

H1- There is significant difference between the pretest and posttest level on eye strain among adolescent students in experimental group.

H2- There is significant association between the pretest level of eye strain among adolescent students with their selected demographic variables.

Research methodology

Pre- experimental one group pretest post-test design was employed in this research. Purposive sampling methods was adopted to get a sample of 30 adolescent students who met the inclusion criteria were selected for the study. Pré assessment on the degree of eye strain was measured by modified eye strain scale followed by 20-20-20 techniques was administered by the research for a duration of 7 days. The Post test was done on the 7th day by the same modified eye strain scale at the end of the intervention. The ethics aspect of this study was maintained.

Criteria for sample selection

Inclusion criteria

Adolescent students who are

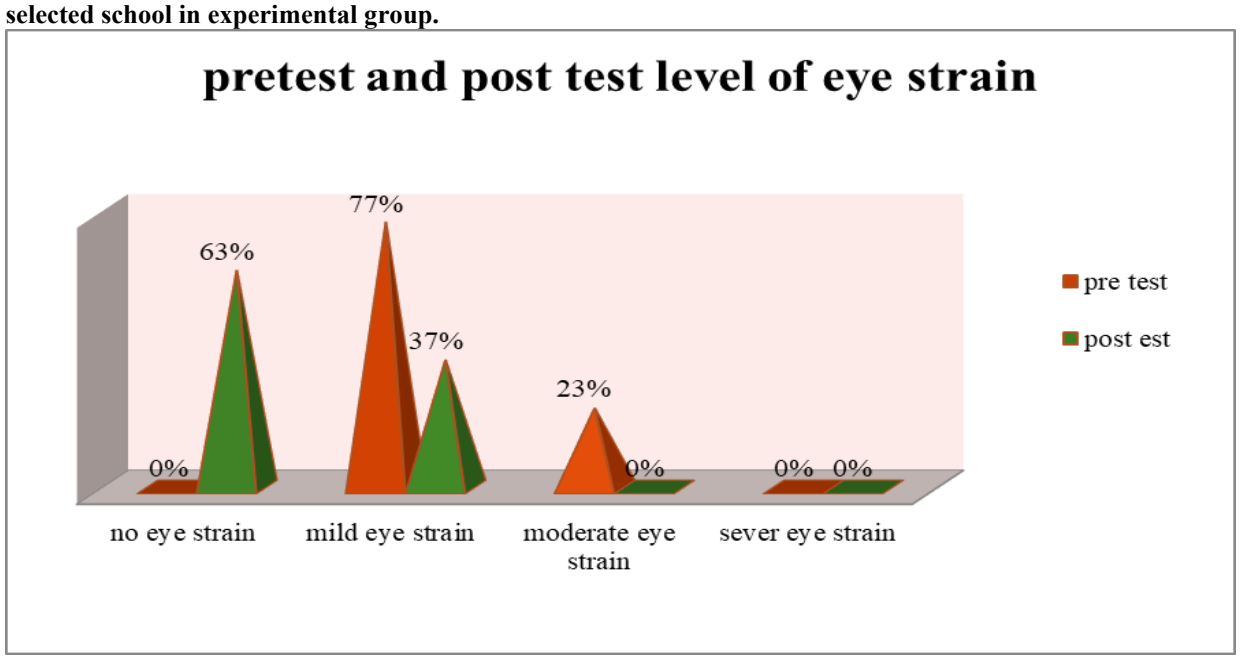
- Aged between15to17 years.
- Willing to participate in the study.
- Having mild and moderate eye strain.

Exclusion criteria

Adolescent students who

- Have undergone eye surgery
- Are absent on the day of data collection
- Havesevere eye strain
- Have refractive error problem
- Wear contact lenses.

Result 2: Frequency and percentage distribution of pretest and posttest level of eye strain among adolescent students at selected school in experimental group.



Result 1: The frequency and percentage distribution of demographic variables of adolescence at selected school in the experimental group.

According to the age majority of the sample in experimental group 7(23%) of them were 25 years and 21(70%) of them were 16 year and 2(7%) of them were 17year. While considering the sex majority of the sample in experimental group 30(100%) of them were males. Regarding the education majority of the sample 30(100%) of them were 11th. Regarding the duration of usage of digital device majority of the sample 15(50%) of them were less than 2hour and 13(43%) of them were 3-4 hours and 2(7%) of them were 5-6hours. While considering the occupation of parent's majority of the sample 21(70%) of them were

private employed and 6(20%) of them were daily wage and 3(10%) of them were government employed. Considering to the income of the family majority of the sample 2(7%) of them were less than Rs. 10.000 and 12(40%) of them were between the Rs. 10.000-15,000 and 16(53%) of them were more than Rs. 15.000. Regarding the caretaker to the children grow up. Majority of the sample 28(93%) of them were living with the parents and 2(7%) of them were living with guardian.

The result indicates the pretest and posttest level of eye strain among adolescent students in pretest. In indicates 0(0%) of them had no eye strain and 23(77%) of them had mild eye strain and 7(23%) of them had moderate eye strain and after the 20-20-20 rule the posttestindicates 19(63%) of them had no eye strain and 11(37%) of them had mild eye strain.

Result 3: Comparison of pretest and Post test level of eye strain among adolescent students at selected school.

The findings indicate that the mean score of eye strain among adolescent students in selected school was 28.17 with the standard deviations of 7.30 and the posttest mean score of eye strain was 17.56 with the standard deviations of 3.15 and that calculated paired 't' test value is t= 12.33 was found to be statistically significant at p>0.05 level.

Result 4: Association between the selected demographic variables on the adolescent students with their pre test scores in experimental group.

The findings indicate that there is no statistical relationship between the pretest eye strain level among the adolescent students with their chosen demographic variables. Therefore, the hypothesis (H2) is rejected.

CONCLUSION

The mean score of effectiveness of 20-20-20 rule on the level of eye strain among the adolescent students was 28.17 pretest and 17.57 posttest. The paired 't' test was 12.33 which significant at p>0.05. Hence hypothesis (H1) is accepted. It was concluded that 20-20-20 rule was effective in reducing the level of eye strain among adolescent students in selected school at Tirunelveli district.

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