

To Assess the Effectiveness of Video Assistant Teaching Method On Knowledge Regarding Road Safety Measures Among School Going Children in Selected School in Vidarbha.

Mr. Subodh Shalikram Rathod¹, Ms. Rutuja Babarao Sontakke²

^{1,2}B. Sc. Nursing Final Year, Dr. Panjabrao Deshmukh Nursing Institute Shivaji Nagar, Amravati, Maharashtra

Abstract—Background: Road traffic accidents are an important public health problem and school-going children are particularly vulnerable to road traffic injuries. Lack of awareness regarding traffic rules, road signs, safe crossing practices and other road safety measures may increase the risk of accidents. Therefore, effective and interesting educational strategies are needed to improve children's knowledge regarding road safety. Aim: The present study was conducted to assess the effectiveness of video-assisted teaching method on knowledge regarding road safety measures among school-going children in selected schools of the Vidarbha region. Objectives: The objectives were to assess the pre-test knowledge regarding road safety measures, assess post-test knowledge after video-assisted teaching, compare pre-test and post-test knowledge scores, and determine the association between post-test knowledge and selected demographic variables. Methods: A quantitative research approach with a quasi-experimental two-group pre-test and post-test design was adopted. A total of 120 school-going children were selected by non-probability convenient sampling technique, with 60 children in the experimental group and 60 in the control group. Data were collected using a self-structured knowledge questionnaire consisting of 30 questions. The experimental group received video-assisted teaching regarding road safety measures. Data were analyzed using frequency, percentage, mean, standard deviation, paired 't' test, unpaired 't' test and chi-square test. Results: In the experimental group, the mean pre-test knowledge score was 13.20 ± 2.48 , which increased to 19.23 ± 2.63 in the post-test, with a mean difference of 6.03 ± 3.22 . The calculated paired 't' value was 14.51 with $p = 0.0001$, indicating a statistically significant improvement in knowledge. In the control group, the mean knowledge score increased from 12.48 ± 2.31 to 13.06 ± 2.20 , with a mean difference of 0.58 ± 1.06 .

The post-test mean knowledge score was higher in the experimental group (19.23 ± 2.63) than in the control group (13.06 ± 2.20). The unpaired 't' value was 13.90 with $p = 0.0001$, demonstrating a statistically significant difference between the groups. Conclusion: The findings demonstrate that video-assisted teaching was effective in improving knowledge regarding road safety measures among school-going children. The intervention can therefore be considered a useful educational strategy for school health programmes and road safety education.

Index Terms—Road safety measures, video-assisted teaching, school-going children, knowledge, road traffic accidents, health education.

I. INTRODUCTION

Traffic crashes are regarded as one of the world's most painful problems, and contribute to the main leading of injuries and fatalities in the 0- 19 age group. In India, traffic crashes are the second most primary cause of fatalities for students who aged 5 to 14 years, and more than half of fatalities is related to children. This could be explained by the fact that they are in the process of physical and cognitive development which continue to develop until young adulthood. Accidents have been found among Indian adolescents who use different transport modes, including walking, bikes, two wheelers, cars, private/public buses, and rickshaw to go to schools. Road safety education has been used to enhance traffic safety for students in many countries. When appropriate teaching methods were employed, traffic safety education demonstrated its major contributions to raising knowledge of traffic signs and situation awareness. Traffic crashes are

more likely to occur among students who exhibit higher levels of hazardous behavior and less awareness of traffic rules.¹

The challenges surrounding school zone safety are often intensified by factors such as mixed traffic flow, inadequate infrastructure, and poor lane discipline. In India, for instance, nearly 30 % of children are found to have witnessed a road crash while travelling to school, whereas 6 % of them were found involved in such collisions. Statistics also reveal that 8 % of road accidents in India have occurred near schools, colleges, or other educational institutions which account for 7.4 % of fatal road crashes near schools and other educational institutions. Similar trends are observed in various other developing nations also, where the absence of dedicated school zone safety measures and effective enforcement mechanisms places the lives of countless children in danger.²

Road traffic injuries claim more than 1.25 million lives each year and have a huge impact on health and development. They are the leading cause of death among young people aged between 15 and 29 years globally. In the South East Asian region of the World Health Organization, India alone accounted for 73 percent of these Road traffic accidents (RTA) burden. The importance of road safety measures needs to be emphasized in the prevention of the road traffic accidents.³

The road traffic injuries were responsible for the maximum mortalities, i.e., 38.4% among the children and adolescents when compared with other reasons. There was more than two-fold increase in injury-related mortalities from the childhood to adolescence. In gender wise, the mortalities are high in males, i.e., 45.2% and 37.4% in females. 2.5 million people are hospitalized, 8–9 million people were suffered with minor injuries and nearly 1030 of the hospital registrations are due to road traffic injuries. The study suggests a clear road safety policy, a central coordinating agency, allocation of adequate resources, strict implementation of proven interventions and reliable information systems are urgently required.⁴

II. OBJECTIVES

General objective: -

- To assess the effectiveness of video-assisted teaching on knowledge regarding road safety measures among school-going children.

Specific objectives: -

- To assess the pre-test knowledge regarding road safety measures.
- To assess the post-test knowledge after video-assisted teaching.
- To compare pre-test and post-test knowledge scores.
- To find the association between knowledge scores and selected demographic variables.

III. HYPOTHESIS

H_0 = There is significant difference between pre-test and post-test knowledge score on road safety measures among school-going children in experimental and control group.

H_1 = There is significant difference between post-test knowledge score on road safety measures among school-going children in experimental and control group.

H_2 = There is significant association between post-test knowledge score on road safety measures among school-going children in experimental group.

IV. METHOD

The present study was conducted to assess the effectiveness of a Video-Assisted Teaching Method regarding road safety measures among school-going children in selected schools of the Vidarbha region. A quantitative research approach was adopted for the study. The research methodology included the research approach, research design, study setting, population, sample, sample size, sampling technique, data collection tool, data collection procedure and plan for data analysis.

The study used a two-group pre-test and post-test design, consisting of an experimental group and a control group. A pre-test was conducted to assess the existing knowledge of school-going children regarding road safety measures. The Video-Assisted Teaching Module was administered to the experimental group, followed by a post-test on the seventh day. The control group received no intervention during the intervention period. Knowledge was assessed using a structured knowledge questionnaire regarding road safety measures.

The data were analyzed using descriptive and inferential statistics. Frequency, percentage, mean and standard deviation were used for descriptive analysis, while appropriate inferential tests such as the t-test and chi-square test were used to determine differences and associations.

Sample Size

The sample size of the present study was 120 school-going children from selected schools of the Vidarbha region.

Sampling Technique

The study adopted a Non-Probability Convenient Sampling Technique. Using this technique, school-going children who were available and fulfilled the inclusion criteria were selected for participation in the study. The PDF also states that an equal sample was selected from the selected schools during data collection.

Group| Sample

Experimental Group| 60

Control Group| 60

Total| 120

V. DATA COLLECTION TOOLS AND TECHNIQUES

Data collection is a crucial aspect of research. The study aims to assess the effectiveness and knowledge regarding on road safety measures among school-going children in selected schools of vidarbha region, and for this purpose, a self-structured questionnaire was developed.

Data Analysis –

The data collected from 120 school-going children was systematically organized, coded, tabulated and analyzed according to the objectives of the study. The study included 60 children in the experimental group and 60 children in the control group. The data were analyzed using descriptive and inferential statistics. Frequency and percentage were used to describe the demographic characteristics and levels of knowledge regarding road safety measures. Mean and standard deviation were used to determine the overall knowledge scores. Paired t-test was used to compare pre-test and post-test knowledge scores within the experimental and control groups, while an unpaired t-

test was used to compare the post-test knowledge scores between the experimental and control groups. Chi-square test was used to determine the association between post-test knowledge and selected demographic variables among children in the experimental group. The level of significance was considered at $p < 0.05$.

The knowledge scores were categorized into five levels, namely very poor, poor, average, good and very good. The frequency and percentage distribution of children in each category were calculated separately for the experimental and control groups during the pre-test and post-test. The mean and standard deviation of knowledge scores were also calculated to assess the change in knowledge following the video-assisted teaching intervention.

VI. RESULTS

1. Pre-test Level of Knowledge in the Experimental Group =

The pre-test findings showed that none of the children in the experimental group had very poor knowledge regarding road safety measures. Forty percent of children had poor knowledge, while 58.33% had average knowledge. Only 1.67% of children had good knowledge, and none had very good knowledge.

The pre-test knowledge score in the experimental group ranged from a minimum of 7 to a maximum of 19. The mean pre-test knowledge score was 13.20 with a standard deviation of 2.48, corresponding to a mean percentage score of $44\% \pm 8.27\%$. These findings indicate that the majority of children had inadequate or moderate knowledge regarding road safety measures before administration of the video-assisted teaching module.

2. Pre-test Level of Knowledge in the Control Group =

In the control group, none of the children demonstrated very poor or very good knowledge during the pre-test. About 46.67% of children had poor knowledge and 53.33% had average knowledge. No child was classified under the good knowledge category.

The pre-test knowledge scores ranged from 7 to 17. The mean pre-test knowledge score was 12.48 ± 2.31 , with a mean percentage score of $41.61\% \pm 7.70\%$. The findings demonstrate that the control group also had

predominantly poor to average knowledge regarding road safety measures before the intervention.

3. Comparison of Pre-test Knowledge between Experimental and Control Groups =

The pre-test findings of both groups indicate that the baseline knowledge levels were relatively comparable. The experimental group obtained a mean score of 13.20 ± 2.48 , whereas the control group obtained a mean score of 12.48 ± 2.31 . The difference between the two groups at baseline was relatively small. This indicates that both groups had generally inadequate knowledge regarding road safety measures before the intervention.

4. Post-test Level of Knowledge in the Experimental Group =

The post-test findings demonstrated a considerable improvement in knowledge among children who received the video-assisted teaching module. None of the children remained in the very poor or poor knowledge categories after the intervention. Twenty-five children, representing 41.67%, had average knowledge. Thirty-two children, representing 53.33%, achieved good knowledge, while three children, representing 5%, achieved very good knowledge. The post-test knowledge score ranged from 15 to 26. The mean post-test knowledge score increased to 19.23 ± 2.63 , with a mean percentage score of $64.11\% \pm 8.77\%$. Compared with the pre-test mean score of 13.20, there was a substantial increase in knowledge following the video-assisted teaching intervention.

5. Post-test Level of Knowledge in the Control Group =

In the control group, the post-test findings showed only a small change in the level of knowledge. No child was classified as having very poor knowledge. However, 33.33% of children remained in the poor knowledge category and 66.67% were in the average knowledge category. None of the children achieved good or very good knowledge.

The post-test scores ranged from 7 to 17. The mean post-test knowledge score was 13.06 ± 2.20 , corresponding to a mean percentage score of $43.55\% \pm 7.36\%$. The increase from the pre-test mean of 12.48 to the post-test mean of 13.06 was relatively small.

6. Effectiveness of Video-Assisted Teaching Module in the Experimental Group =

To determine the effectiveness of the video-assisted teaching module, the pre-test and post-test knowledge scores of the experimental group were compared using a paired t-test. The mean pre-test score was 13.20 ± 2.48 , whereas the mean post-test score increased to 19.23 ± 2.63 .

The mean difference between pre-test and post-test knowledge scores was 6.03 ± 3.22 . The calculated paired t-value was 14.51 with 59 degrees of freedom. The reported p-value was 0.0001, which is less than the significance level of 0.05. Therefore, the increase in knowledge was statistically significant.

These findings demonstrate that the children who received the video-assisted teaching module showed a significant improvement in knowledge regarding road safety measures. Thus, the video-assisted teaching module was effective in improving the knowledge of school-going children.

7. Comparison of Pre-test and Post-test Knowledge in the Control Group =

The pre-test mean knowledge score in the control group was 12.48 ± 2.31 , whereas the post-test mean score was 13.06 ± 2.20 . The mean difference was 0.58 ± 1.06 .

The calculated paired t-value was 4.25 with 59 degrees of freedom, and the reported p-value was 0.0001. According to the statistical values reported in the study, this change was statistically significant. However, the magnitude of improvement was much smaller than that observed in the experimental group.

8. Comparison of Post-test Knowledge between Experimental and Control Groups =

The post-test knowledge scores of the experimental and control groups were compared to determine the effectiveness of the intervention. The experimental group had a mean post-test knowledge score of 19.23 ± 2.63 , whereas the control group had a mean score of 13.06 ± 2.20 .

The mean difference between the two groups was reported as 6.16 ± 0.44 . The calculated unpaired t-value was 13.90, with 118 degrees of freedom, and the reported p-value was 0.0001. The tabulated t-value was 1.98 at the stated level of significance.

Since the calculated t-value of 13.90 was greater than the tabulated value of 1.98 and the reported p-value

was less than 0.05, the difference between the post-test knowledge scores of the experimental and control groups was statistically significant. Therefore, the findings provide evidence that the video-assisted teaching module was effective in improving knowledge regarding road safety measures among school-going children.

9. Association between Post-test Knowledge and Age =

The study examined the association between post-test knowledge regarding road safety measures and selected demographic variables among children in the experimental group. A significant association was found between age and post-test knowledge.

The calculated chi-square value was 32.90, with a reported p-value of 0.0001. The calculated value exceeded the reported tabulated chi-square value of 12.59 at 6 degrees of freedom. Therefore, age was found to have a statistically significant association with post-test knowledge regarding road safety measures.

10. Association between Post-test Knowledge and Gender =

The association between gender and post-test knowledge was also examined. The calculated chi-square value was 2.97, with a reported p-value of 0.22. Since the p-value was greater than 0.05, the association between gender and post-test knowledge was not statistically significant.

This indicates that the post-test knowledge scores did not differ significantly according to gender in the experimental group.

11. Association between Post-test Knowledge and Religion =

The relationship between religion and post-test knowledge was assessed using the chi-square test. The calculated chi-square value was 2.52, with a reported p-value of 0.86.

As the p-value was greater than 0.05, there was no statistically significant association between religion and post-test knowledge regarding road safety measures.

12. Association between Post-test Knowledge and Educational Status =

A statistically significant association was observed between educational status and post-test knowledge. The calculated chi-square value was 27.87, with a reported p-value of 0.0001.

Since the p-value was less than 0.05, the association was statistically significant. This indicates that educational status was associated with the level of knowledge regarding road safety measures among children in the experimental group.

13. Association between Post-test Knowledge and Monthly Family Income =

The study also assessed the association between monthly family income and post-test knowledge. The calculated chi-square value was 15.45, and the reported p-value was 0.017.

As the p-value was less than 0.05, a statistically significant association was found between monthly family income and post-test knowledge regarding road safety measures.

14. Association between Post-test Knowledge and Source of Information =

The association between source of information and post-test knowledge was assessed using the chi-square test. The calculated chi-square value was 3.62, with a reported p-value of 0.72.

Since the p-value was greater than 0.05, there was no statistically significant association between the source of information and post-test knowledge.

15. Association between Previous Road Safety Programme Attendance and Post-test Knowledge =

The study also assessed whether previous participation in a road safety programme was associated with post-test knowledge. The calculated chi-square value was 2.75, with a reported p-value of 0.25.

The p-value was greater than 0.05; therefore, no statistically significant association was found between previous attendance at a road safety programme and post-test knowledge.

Table 4.1: Percentage wise distribution of road safety measures according to their demographic characteristics
n=120

Demographic Variables	Experimental Group (n=60)	Control Group (n=60)
1.Age (years)		
05-07 years	16 (26.7%)	16 (26.7%)
08-10 years	17 (28.3%)	17 (28.3%)
11-13 years	16 (26.7%)	16 (26.7%)
14 years and above	11 (18.3%)	11 (18.3%)
2.Gender		
Male	27 (45%)	27 (45%)
Female	33 (55%)	33 (55%)
3.Religion		
Hindu	36 (60%)	36 (60%)
Buddhist	08 (13.3%)	08 (13.3%)
Muslim	10 (16.7%)	10 (16.7%)
Christian	06 (10%)	06 (10%)
4.Education Status		
5 th - 6 th standard	23 (38.3%)	23 (38.3%)
7 th – 8 th standard	25 (41.7%)	27 (45%)
9 th – 10 th standard	12 (20%)	10 (16.7%)
5. Family Income (Monthly)		
Below 10000 Rs	24 (40%)	24 (40%)
11000-20000 Rs	12 (20%)	12 (20%)
21000-30000Rs	15 (25%)	15 (25%)
30000 Rs and Above	09 (15%)	09 (15%)
6. source of information		
Friends, family, teachers	23 (38.3%)	22 (36.7%)
Mass media	05 (8.3%)	05 (8.3%)
Health personnel	10 (16.7%)	11 (18.3%)
Newspapers & books	22 (36.7%)	22 (36.7%)
7. Have you attended any previously road safety measures program		
Yes	24 (40%)	25 (41.7%)
No	36 (60%)	35 (58.3%)

Table 4.2.1: Assessment with level of pre-test knowledge
n=120

Level of pre-test knowledge	Score Range	Level of Pre-test Knowledge Score	
		Experimental Group (n=60)	Control Group (n=60)
Very Poor	0-6(0-20%)	0(0%)	0(0%)

Poor	7-12(21-40%)	24(40%)	28(46.67%)
Average	13-18(41-60%)	35(58.33%)	32(53.33%)
Good	19-24(61-80%)	1(1.67%)	0(0%)
Very Good	25-30(81-100%)	0(0%)	0(0%)
Minimum score		7	7
Maximum score		19	17
Mean knowledge score		13.20 ± 2.48	12.48 ± 2.31
Mean % Knowledge score		44 ± 8.27	41.61 ± 7.70

The above table shows that 40% of road safety measures from selected schools in experimental group and 46.67% in control group had poor level of knowledge score, 58.33% in experimental group and 53.33% in control group had average level of knowledge score and 1.67% of road safety measures in experimental group had good level of knowledge score. Minimum knowledge score in pretest in experimental group was 7 and in control group it was 7 and maximum knowledge score in pretest in experimental group was 19 and in control group it was 17. Mean knowledge score in pretest in experimental group was 13.20± 2.48 and in control group it was 12.48±2.31 and mean percentage of knowledge score in experimental group was 44 8.27 and in control group it was 41.61±7.70.

Table 4.2.2: Assessment with level of post-test knowledge
n=120

Level of post-test knowledge	Score Range	Level of Post-test Knowledge Score	
		Experimental Group (n=60)	Control Group (n=60)
Very Poor	0-6(0-20%)	0(0%)	0(0%)
Poor	7-12(21-40%)	0(0%)	20(33.33%)
Average	13-18(41-60%)	25(41.67%)	40(66.67%)
Good	19-24(61-80%)	32(53.33%)	0(0%)
Very Good	25-30(81-100%)	3(5%)	0(0%)
Minimum score		15	7

Maximum score	26	17
Mean knowledge score	19.23 ± 2.63	13.06 ± 2.20
Mean % Knowledge score	64.11 ± 8.77	43.55 ± 7.36

The above table shows that 33.33% of road safety measures from selected schools in control group had poor level of knowledge score, 41.67% in experimental group and 66.67% in control group had average level of knowledge score and 53.33% of road safety measures in experimental group had good level of knowledge score. Minimum knowledge score in post-test in experimental group was 15 and in control group it was 7 and maximum knowledge score in post-test in experimental group was 26 and in control group it was 17. Mean knowledge score in post-test in experimental group was 19.23±2.63 and in control group it was 13.06±2.20 and mean percentage of knowledge score in experimental group was 64.11±8.77 and in control group it was 43.55±7.36.

Table 4.3.1: Significance of difference between knowledge score in pre and post test of road safety measures of experimental group.

n=60

Test	Mean	SD	Mean Difference	t-value	p-value
Pre-test	13.20	2.48	6.03 ± 3.22	14.51	0.0001 S.p<0.05
Post-test	19.23	2.63			

This table shows the comparison of pretest and post-test knowledge scores of road safety measures among school-going children in selected schools. Mean, standard deviation and mean difference values are compared and student's paired 't' test is applied at 5% level of significance. The tabulated value for n-60-1 i.e., 59 degrees of freedom was 2.00. The calculated 't' value i.e., 14.51 are much higher than the tabulated value at 5% level of significance for overall knowledge score of students which is statistically acceptable level of significance. Hence, it is statistically interpreted that the Video Assisted Teaching Module (VATM) on knowledge regarding road safety measures among school-going children in selected schools. Thus, the H₁ is accepted.

Table 4.4.1: Comparison of post-test knowledge score of road safety measures of experimental and control group
n=120

Test	Mean	SD	Mean Difference	t-value	p-value
Experimental Group	19.23	2.63	6.16 ± 0.44	13.90	0.0001 S.p<0.05
Control Group	13.06	2.20			

This table shows the comparison of post-test knowledge scores of road safety measures among school-going children in selected schools in experimental and control group. Mean, standard deviation and mean difference values are compared and student's unpaired 't' test is applied at 5% level of significance. The tabulated value for n-60+60-2 i.e., 118 degrees of freedom was 1.98. The calculated 't' value i.e., 13.90 are much higher than the tabulated value at 5% level of significance for overall knowledge score of students which is statistically acceptable level of significance. Hence, it is statistically interpreted that the Video Assisted Teaching Module (VATM) on knowledge regarding road safety measures among school-going children in selected schools was effective. Thus, the H₂ is accepted.

VII. DISCUSSION

The present study was undertaken to assess the effectiveness of video-assisted teaching method on knowledge regarding road safety measures among school-going children in selected schools of the Vidarbha region. The study adopted a quantitative approach and a quasi-experimental two-group pre-test and post-test design. A total of 120 school-going children participated in the study, with 60 students in the experimental group and 60 students in the control group. A structured knowledge questionnaire containing 30 questions was used to assess knowledge regarding road safety measures.

Objective 1:

The first objective was to assess the pre-test knowledge regarding road safety measures. The findings showed that the experimental and control groups had comparatively similar baseline knowledge. In the experimental group, the mean pre-test

knowledge score was 13.20 ± 2.48 , whereas in the control group it was 12.48 ± 2.31 . In the experimental group, 40% of students had poor knowledge, 58.33% had average knowledge and only 1.67% had good knowledge. These findings indicate that there was considerable scope for improving knowledge regarding road safety measures before the educational intervention.

Objective 2:

The second objective was to assess post-test knowledge after video-assisted teaching. A considerable improvement was observed in the experimental group. The post-test means knowledge score increased to 19.23 ± 2.63 , compared with the pre-test mean of 13.20 ± 2.48 . In the post-test, 53.33% of students in the experimental group achieved good knowledge and 5% achieved very good knowledge, while 41.67% had average knowledge. In contrast, the control group had a post-test mean score of only 13.06 ± 2.20 , with 66.67% remaining at the average level and 33.33% at the poor level.

Objective 3:

The third objective was to compare the pre-test and post-test knowledge scores. In the experimental group, the mean knowledge score increased by 6.03 ± 3.22 marks. The calculated paired 't' value was 14.51, which was greater than the tabulated value of 2.00 at 5% level of significance, with $p = 0.0001$. Thus, the improvement in knowledge after the intervention was statistically significant.

In the control group, the mean knowledge score increased only slightly from 12.48 ± 2.31 to 13.06 ± 2.20 , with a mean difference of 0.58 ± 1.06 and a calculated 't' value of 4.25. Although the dissertation reports this change as statistically significant, the magnitude of improvement was considerably smaller than that observed in the experimental group.

The comparison of post-test knowledge between the two groups provides stronger evidence regarding the effectiveness of the intervention. The experimental group obtained a mean post-test score of 19.23 ± 2.63 , whereas the control group obtained 13.06 ± 2.20 . The mean difference between the groups was 6.16 ± 0.44 , with an unpaired 't' value of 13.90 and $p = 0.0001$. Since the p-value was less than 0.05, the difference between the two groups was statistically significant. Therefore, the video-assisted teaching module was

effective in improving knowledge regarding road safety measures.

Objective 4:

The fourth objective was to determine the association between post-test knowledge and selected demographic variables. The findings showed that age, educational status and monthly family income were significantly associated with post-test knowledge. Age showed a significant association, while educational status had a chi-square value of 27.87 with $p = 0.0001$, and monthly family income had a chi-square value of 15.45 with $p = 0.017$.

On the other hand, gender, religion, source of information and previous participation in a road safety programme were not statistically associated with post-test knowledge. Gender had $p = 0.22$, religion $p = 0.86$, source of information $p = 0.72$, and previous participation in a road safety programme $p = 0.25$.

The findings are consistent with the literature reviewed in the dissertation, which indicates that video-assisted and other structured educational interventions can improve school children's knowledge regarding road safety measures. The reviewed study involving 60 school-age children also reported a significant improvement in road safety knowledge following a video-assisted teaching programme. Another study cited in the dissertation reported that children who received a video teaching programme showed a shift from predominantly inadequate knowledge in the pre-test to predominantly adequate and moderately adequate knowledge in the post-test. Overall, the findings of the present study demonstrate that video-assisted teaching provides an effective and engaging method of delivering road safety education to school-going children. The substantial increase in knowledge in the experimental group, together with the statistically significant difference between the experimental and control groups, supports the usefulness of video-assisted teaching in school health education.

VIII. CONCLUSION

The present study was conducted to assess the effectiveness of video-assisted teaching method on knowledge regarding road safety measures among school-going children in selected schools of the Vidarbha region. The study findings clearly

demonstrated a substantial improvement in knowledge among students who received the video-assisted teaching intervention.

The experimental group showed an increase in mean knowledge score from 13.20 ± 2.48 in the pre-test to 19.23 ± 2.63 in the post-test. The improvement was statistically significant, with a paired 't' value of 14.51 and $p = 0.0001$. The post-test knowledge score of the experimental group was also significantly higher than that of the control group, with an unpaired 't' value of 13.90 and $p = 0.0001$.

The findings indicate that video-assisted teaching was effective in improving children's knowledge regarding traffic rules, traffic signals, safe road crossing, use of helmets and other important road safety measures. The study therefore supports the use of video-assisted teaching as an innovative and useful educational strategy in school health programmes.

It can be concluded that providing road safety education at an early age may help children develop greater awareness of safe road practices. Nurses, teachers, parents and health educators can work together to reinforce road safety messages through regular educational sessions, audiovisual materials and demonstrations.

Thus, the study concludes that video-assisted teaching is an effective method for improving knowledge regarding road safety measures among school-going children, and its incorporation into school health education programmes may contribute to promoting safer road behaviour and reducing the risk of road traffic injuries.

IX. OVERALL RESULT

Overall, the findings demonstrate that the video-assisted teaching module produced a substantial improvement in knowledge regarding road safety measures among school-going children. In the experimental group, the mean knowledge score increased from 13.20 ± 2.48 in the pre-test to 19.23 ± 2.63 in the post-test, with a mean improvement of 6.03 points. The paired t-test showed a statistically significant improvement with a calculated t-value of 14.51 and reported p-value of 0.0001.

In comparison, the control group showed only a small increase in mean knowledge score, from 12.48 ± 2.31 in the pre-test to 13.06 ± 2.20 in the post-test. The post-test comparison between groups further demonstrated

a statistically significant difference, with the experimental group obtaining a considerably higher mean score (19.23 ± 2.63) than the control group (13.06 ± 2.20). The calculated unpaired t-value was 13.90 and the reported p-value was 0.0001.

Therefore, the results support the effectiveness of the video-assisted teaching module in improving knowledge regarding road safety measures among school-going children. The findings also indicate that age, educational status and monthly family income had significant associations with post-test knowledge, whereas gender, religion, source of information and previous attendance at a road safety programme did not show statistically significant associations.

REFERENCES

- [1] Borakanavar, M. I., "Empirical analysis of road safety behaviours of school-going children using structural equation modelling: A perspective from India," *European Transport*, vol. 96, pp. 1–16, 2024.
- [2] Katoch, B., Ghosh, I., and Chandra, S., "Safety of children in school zones—A systematic review," *Transportation Research Part F: Traffic Psychology and Behaviour*, vol. 113, pp. 554–569, 2025.
- [3] Sutar, S. S., "On Measuring the Multidimensional Poverty of Rajendranagar Area of Kolhapur City," *Contemporary Social Sciences*, vol. 27, no. 2, Apr.–Jun. 2018.
- [4] Maheswari, U., and Sakthivel, R., "Effectiveness of Video Assisted Teaching Program (VATP) Regarding Knowledge on Road Safety Measures Among School Age Children," *International Journal of Pediatric Nursing*, vol. 6, no. 1, pp. 25–28, 2020.