

Effectiveness of Video Assisted Teaching Knowledge Regarding First Aid Management of Road Traffic Accidents in Adolescents in Selected Schools of the City

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Abstract—BACKGROUND OF THE STUDY First aid assistance is one of the important life-saving skills. According to World Health Organization, over 50 million people are injured or disabled and over 1.2 million people die following Road Traffic Accident (RTA) every year. Providing the basic care until emergency medical services arrive is the essence of first aid, which will prevent a number of RTA-related mortality and morbidity. Road traffic accidents are a significant and increasing nowadays in youngsters which leading to increasing the major or minor injuries, mortality rates in India. Therefore, this study was designed to evaluate effectiveness of video assisted teaching on the first aid management of road traffic accidents among adolescents. Teaching regarding the first aid management for road traffic accidents may be helpful for the students so they can at least do or give first aid management which may reduce minor or major injuries among the youngsters. Many deaths and impact of injuries can be prevented with first aid if casualties are treated immediately. First Aid is the initial care given to an injured person; first aid starts immediately when the injury or illness occurs. The annual number of road traffic deaths dropped by 5 per cent to 1.19 million per year, according to the latest Global Status Report on Road Safety by the World Health Organization, even as the numbers continue to rise in India. While the numbers have slightly reduced globally, with more than two deaths occurring per minute and over 3,200 per day, road traffic crashes remain the leading killer of children and youth aged five to 29 years, the report said. Researcher felt to need of the study of first aid management for road traffic accidents in adolescents because of the increasing incidence of road traffic accidents involving young individuals, the lack of adequate first aid knowledge among adolescents, and the critical role early intervention plays in reducing morbidity and mortality. Empowering adolescents with proper first aid knowledge

through effective teaching strategies, such as video-assisted learning, can enhance their preparedness to respond to emergencies, potentially saving lives and promoting community health awareness. **OBJECTIVES OF THE STUDY** *Primary* To evaluate effectiveness of video assisted teaching on knowledge regarding first aid management of road traffic accident among adolescents in selected school of city. *Secondary* Objective To assess the existing (pre-test) knowledge of adolescents regarding first aid management of road traffic accidents before the administration of video-assisted teaching. To compare the pre-test and post-test knowledge score regarding first aid management of road traffic accidents among adolescents in selected school of the city. To find out the association between post-test knowledge score with that of demographic variable regarding video assisted teaching on first aid management of road traffic accidents among adolescents in selected school of the city. **RESULT** 26.7% of Adolescents in pre-test had average level of knowledge score, 56.7% had good and 13.3% of Adolescents had very good level of knowledge score. Minimum knowledge score in pretest was 5 and maximum knowledge score in pre-test was 20. Mean knowledge score in pretest was 12.33 ± 3.19 and mean percentage of knowledge score in pre-test was 49.33 ± 12.79 . 56.67% of Adolescents in post-test had very good level of knowledge score and 41.67% of Adolescents had excellent level of knowledge score. Minimum knowledge score in post-test was 13 and maximum knowledge score in post-test was 24. Mean knowledge score in post-test was 19.98 ± 2.09 and mean percentage of knowledge score in post-test was 79.93 ± 8.38 . The comparison of pretest and post-test Knowledge score of Adolescents regarding first aid management of road traffic accidents in selected school of the city. 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. 16.32 are much higher than the tabulated value at 5% level of significance for overall knowledge score of Adolescents which is statistically acceptable level of significance. Hence it is statistically interpreted that Video Assisted Teaching Programme on knowledge regarding first aid management of road traffic accidents among Adolescents from selected schools of the city was effective. Thus, the H₁ is accepted. By using Parallel form method of reliability, it is found to be 0.9621 for knowledge score and hence tool is reliable and valid.

CONCLUSION The present study is evaluated the efficacy of a Video-Assisted Teaching Programme on knowledge regarding first aid management of road traffic accidents among adolescents. The findings showing an improvement in post-test knowledge scores and pre-test scores, shows that the learning this educational intervention was very effective. Paired t-test analysis validated a statistically significant difference, which shows that the increase in knowledge was not done by any chance variation but the impact of the teaching program. The investigator brings the importance of organized educational interventions in improving adolescents' preparedness to manage road traffic accidents. The increasing incidence of road accidents, appoint young people with first aid skills can lead to improved emergency management and it save lives. The reliability of the study was continued through a standardized questionnaire, controlled study design, and statistical validation.

I. INTRODUCTION

"Take some time to learn first aid and CPR. It saves lives, and it works."

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Bobby Sherman

Road traffic accidents (RTA) are defined as "any occurrence that arises on a way or road open to public traffic causing in one or more person's being wounded or killed, where at least one moving means of transportation is involved". Road traffic accidents (RTA) represent a significant public health and safety concern worldwide, characterized by their potential to cause serious injuries and fatalities. Defined as incidents occurring on public roads involving at least one moving vehicle, Road traffic accidents can have devastating impacts not only on the individual directly involved but also on families, communities, and healthcare systems. With the increasing number of vehicles on the road. According to recent tale, India

contributes 27 of global road business accidents. India stands on alternate number. Every time there are 1, 05,725 deaths due out of which 84 males and 16 ladies in 12- 19time age group. In general, adolescents have utmost of their accidents in buses when being driven by people of their parents' age. But adolescents of 12 and 13 thresholds to travel with motorists only a couple of times aged than they are. numerous of these 14 and 15-time-old motorists show off, generally by driving too presto-frequently because they believe this will impress their musketeers. According to protuberance tale of India, 2009, children age 14 time and youngish comprise 7 of the losses. According to the WHO, "Over 50 of deaths are among adolescents in the age of 13 – 20 yrs. In other words, the WHO believes that the maturity of RTA victims are youthful. thus, the issue needs further attention and support from every existent in all communities around the world. Youth are the endless wealth and health of any society. They're the precious treasure of any developing nation: Road traffic accidents are a significant and increasing nowadays in youngsters which leading to increasing the major or minor injuries, mortality rates in India. Therefore, this study was designed to evaluate effectiveness of video assisted teaching on the first aid management of road traffic accidents among adolescents. Teaching regarding the first aid management for road traffic accidents may be helpful for the students so they can at least do or give first aid management which may reduce minor or major injuries among the youngsters. Many deaths and impact of injuries can be prevented with first aid if causalities are treated immediately. First Aid is the initial care given to an injured person; first aid starts immediately when the injury or illness occurs for large numbers of persons caught in road traffic accidents. First aid literally means the very first assistance or immediate care given to a person who is injured or suddenly becomes ill. In an emergency situation, lack of first aid knowledge can lead to injury and disability and even unnecessary death, as first aid includes recognizing life-threatening conditions and taking appropriate action to keep the injured or ill person alive and in the best possible condition until medical treatment can be acquired. Adolescents are exposed to various injuries and illnesses and require first aid more often than adults and very importantly they are the future of this country and if we educate the adolescents, it will be long-lasting knowledge for them, and they can educate others as well, they experience

accidents and injuries more frequently relating to physical activities at school and in their neighborhoods. Therefore, in the spirit of the phrase “Better safe than sorry”, it is essential to teach younger generations first aid in order to equip and prepare them to deal with the traumatic effects of an accident, which can prevent them from acting. Researcher felt to need of the study of first aid management for road traffic accidents in adolescents because of the increasing incidence of road traffic accidents involving young individuals, the lack of adequate first aid knowledge among adolescents, and the critical role early intervention plays in reducing morbidity and mortality. Empowering adolescents with proper first aid knowledge through effective teaching strategies, such as video-assisted learning, can enhance their preparedness to respond to emergencies, potentially saving lives and promoting community health awareness.

II. OBJECTIVES OF THE STUDY

Primary Objective

To evaluate effectiveness of video assisted teaching on knowledge regarding first aid management of road traffic accident among adolescents in selected school of city.

Secondary Objective

- To assess the existing (pre-test) knowledge of adolescents regarding first aid management of road traffic accidents before the administration of video-assisted teaching.
- To compare the pre-test and post-test knowledge score regarding first aid management of road traffic accidents among adolescents in selected

school of the city.

- To find out the association between post-test knowledge score with that of demographic variable regarding video assisted teaching on first aid management of road traffic accidents among adolescents in selected school of the city.

III. MATERIAL AND METHOD

The approach was chosen to evaluate the effectiveness of video-assisted teaching on knowledge regarding first aid management of road traffic accidents among adolescents. a pre-professional one-group was adopted a pre-test- post-test design. This design is suitable for evaluating the effectiveness of video- assisted teaching on knowledge about first aid management of road traffic accidents among adolescents in selected schools in the city. The total population in this school was 480, As per the records, the school had 60 students at the time of data collection. For the present study, a non-probability purposive sampling technique was used. This method was chosen because it allows the selection of participants based on specific criteria relevant to the study objectives. A blue print of 25 items was prepared prior to the construction of the questionnaire which showed the distribution of the items according to the content are as well as knowledge and psychomotor domains. In this study, the reliability of the tool was determined by administering the questionnaire to 10 samples to assess the knowledge, attitudes, or skills, you can calculate Cronbach’s alpha using SPSS 27.0. The questionnaire was said to be reliable A Cronbach’s alpha ≥ 0.7 indicates acceptable reliability.

III. RESULT

Demographic Variables	No. of Adolescents	Percentage (%)
Age in years		
15 yrs	53	88.3
16 yrs	6	10.0
17 yrs	1	1.7
Gender		
Male	26	43.3
Female	34	56.7
Area of living		

Urban	50	83.3
Rural	10	16.7
Grade Level		
9 th Grade	24	40.0
10 th Grade	36	60.0
11 th Grade	0	0
12 th Grade	0	0
Frequency of receiving education about RTA		
Frequently	21	35.0
Occasionally	13	21.7
Rarely	20	33.3
Never	6	10.0
Involved in RTA		
Yes	30	50.0
No	30	50.0
Importance of first aid training for adolescents		
Very Important	38	63.3
Somewhat Important	17	28.3
Not Important	5	8.3

Table 4.2.2: Assessment with level of pre-test knowledge score

Level of Pre-Test Knowledge Score	Score Range	Level of Pre-Test Knowledge Score	
		No of Adolescents	Percentage
Poor	0-5	2	3.3
Average	6-10	16	26.7
Good	11-15	34	56.7
Very Good	16-20	8	13.3
Excellent	21-25	0	0
Minimum score		5	
Maximum score		20	
Mean Knowledge score		12.33±3.19	
Mean % Knowledge score		49.33±12.79	

Table 4.2.3: Assessment with level of post-test knowledge score
n =60

Level of Post Test Knowledge Score	Score Range	Level of Post Test Knowledge Score	
		No of Adolescents	Percentage
Poor	0-5	0	0
Average	6-10	0	0
Good	11-15	1	1.67
Very Good	16-20	34	56.67
Excellent	21-25	25	41.67
Minimum score		13	
Maximum score		24	
Mean Knowledge score		19.98±2.09	
Mean % Knowledge score		79.93±8.38	

Table 4.2.4: Significance of difference between Knowledge Score in pre and posttest of Adolescents
n=60

Overall	Mean	SD	Mean Difference	t-value	p-value
Pre-Test	12.33	3.19	7.65±3.63	16.32	0.0001
Post Test	19.98	2.09			S, p<0.05

Table 4.2.5: Association of pre-test knowledge score regarding First Aid Management of RTA among Adolescents in relation to their Age in year
n=60

Age in years	No of Adolescents	Poor	Average	Good	Very Good	Excellent	χ ² value	p-value
15 yrs	53	1	13	31	8	0	31.85	0.0001
								S, p<0.05

Table 4.2.6: Association of pre-test knowledge score regarding First Aid Management of RTA among Adolescents in relation to their Gender
n =60

Gender	No of Adolescents	Poor	Average	Good	Very Good	Excellent	χ ² - value	p-value
Male	26	1	4	14	7	0	8.64	0.034
								S, p<0.05

Table 4.2.7: Association of pre-test knowledge score regarding First Aid Management of RTA among Adolescents in relation to their area of residence

n=60

Area of residence	No of Adolescents	Poor	Average	Good	Very Good	Excellent	χ2-value	p-value
Urban	50	1	12	31	6	0	4.30	0.23
Rural	10	1	4	3	2	0		NS, p>0.05

Table 4.2.8: Association of pre-test knowledge score regarding First Aid Management of RTA among Adolescents in relation to their Grade Level

n=60

Grade Level	No of Adolescents	Poor	Average	Good	Very Good	Excellent	χ^2 - value	p-value
9th Grade	24	2	12	10	0	0	20.58	0.0001 S, p<0.05
10th Grade	36	0	3	24	9	0		
11th Grade	0	0	0	0	0	0		
12th Grade	0	0	0	0	0	0		

Table 4.2.9: Association of pre-test knowledge score regarding First Aid Management of RTA among Adolescents in relation to frequency of receiving education on RTA

n=60

Frequency	No of Adolescents	Poor	Average	Good	Very Good	Excellent	χ^2 -value	p-value
Frequently	21	0	5	12	4	0	4.04	0.90 NS, p>0.05
Occasionally	13	1	3	8	1	0		
Rarely	20	1	7	10	2	0		
Never	6	0	1	4	1	0		

Table 4.2.10: Association of pre-test knowledge score regarding First Aid Management of RTA among Adolescents in relation to their involvement in RTA

n=60

Involvement in RTA	No of Adolescents	Poor	Average	Good	Very Good	Excellent	χ^2 -value	p-value
Yes	30	1	11	13	5	0	4.63	0.20
No	30	1	5	21	3	0		NS, $p>0.05$

Table 4.2.11: Association of pre-test knowledge score regarding First Aid Management of RTA among Adolescents in relation to importance of first aid training n =60

Importance of first aid training	No of Adolescents	Poor	Average	Good	Very Good	Excellent	χ^2 -value	p-value
Very Important	38	1	10	20	7	0	3.37	0.76 NS, $p>0.05$
Somewhat Important	17	1	4	11	1	0		
Not Important	5	0	2	3	0	0		

Table 10: Reliability Analysis: Parallel Form method of reliability

	Reliability
Pearson's Correlation Coefficient	0.927
Reliability (%)	0.9621

By using Parallel form method of reliability, it is found to be 0.9621 for knowledge score and hence tool is reliable and valid.

IV. CONCLUSION

The present study is evaluated the efficacy of a Video-Assisted Teaching Programme on knowledge regarding first aid management of road traffic accidents among adolescents. The findings showing an improvement in post-test knowledge scores and pre-test scores, shows that the learning this educational intervention was very effective. Paired t-test analysis validated a statistically significant difference, which shows that the increase in knowledge was not done by any chance variation but the impact of the teaching program. The investigator brings the importance of organized educational interventions in improving adolescents' preparedness to manage road traffic accidents. The increasing incidence of road accidents, appoint young people with first aid skills can lead to improved emergency management and it save lives. The reliability of the study was continued through a standardized questionnaire, controlled study design, and statistical validation. Remaining study involved larger populations and diverse populations are suggested in order to verify these results further.

Including practical demonstrations and elongate the follow-ups is also useful for determining knowledge recall and actual practice. Making first aid training an integral part of school curricula may be the key to forging a safer new generation.

V. DISSCUSSION

The findings of the study were discussed with reference to the objectives stated in chapter I and with the findings of the other studies in this section. The present study was undertaken as, "a pre-experimental study to assess effectiveness of video assisted teaching knowledge regarding first aid management of road traffic accident among adolescents in selected schools of the city". The pre-test knowledge levels indicated that 26.7% of the adolescents had an average level of knowledge, 56.7% had good knowledge, and 13.3% had very good knowledge. The mean knowledge score in the pre-test was 12.33 ± 3.19 , with a mean percentage of $49.33\% \pm 12.79$, indicating a moderate baseline understanding of first aid in RTAs among the adolescents. After the implementation of the video-

assisted teaching programme, has a significant improvement in knowledge scores was observed. The post-test results demonstrated a higher mean score, and the difference between pre- and post-test scores was statistically analyzed using a paired 't'-test at 5% level of significance, which showed a significant improvement in the knowledge scores. This confirms there is effectiveness of the intervention.

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