

Effectiveness of Educational Intervention on Road Safety Rules

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Abstract

Background: Children are generally care free and like to travel park and surroundings. A lot of children get hurt while cycling and crossing the road. The Awareness of road safety rules among high School children, help them to get an overall idea about road traffic rules and it also help them to practice in their daily life. In view of this fact, we aimed to assess the effectiveness of educational intervention on road safety rules among high school children in Thrissur.

Objective: Assess the pre and post interventional level of knowledge on road safety rules, evaluate the effectiveness of educational intervention on road safety rules and associate the pre interventional level of knowledge of high school children regarding road safety rules with their selected demographic variables.

Materials and Methods: The research approach used in the study was quantitative approach. Pre experimental pre test and post-test design was adapted. The setting of the study was St. Thomas Higher Secondary School, Thope, Thrissur. The sample were selected from 8 to 10 standard by using purposive sampling technique (150). Structured questionnaire was used for the study. After pre-test educational intervention regarding road safety rules was provided post test were collected.

Result: Findings of the study revealed that among the high school children 76 (50.7%) of the children belonged to the 14 years of age 35 (23.3%) of children to 13 and 15 years of age respectively and only 2.7% of high school children were in the age group of 12 years. 130 (86.77%) of children mode of travelling were using bus to reach the school; 16 (10.7%) of children were using cycle and only 2.6% were coming to the school by walking. Among the high school children 76 (50.7%) children were belongs to urban residence and 74 (49.3%) were belongs rural residence. In the pre-test, 19.3% have poor knowledge, 49.4% have average knowledge and 31.3% have good knowledge regarding road safety rules. In the post-test, 52% have good knowledge, 36% have average knowledge and 12% have poor knowledge regarding road safety rules. There is significant association between pre interventional level of knowledge among high school children with their age, mode of travelling and occupation of their father.

Conclusion: Mean post interventional knowledge (19.71%) was higher than pre interventional level of knowledge (17.10%). Here there is significant difference in the pre interventional and post interventional level of knowledge. This reveals that educational intervention regarding road safety rules was effective.

Keywords: Educational intervention; High school children; Road safety rules; Pre and post interventional knowledge; Demographic variables.

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INTRODUCTION

Children are generally care free and like to travel around parks and surroundings. Usually they don't pay much attention to their surroundings and do not know how to act when they are outdoors. Road safety is a major concern in young individual in India as well as other developed and developing countries. Implementation of new road safety regulations and law would not be able to reduce the number of deaths. Road safety is the term for preventing road accidents by obeying road safety rules and regulations.¹

The road crashes in the country from 2018 to 2019 shows an alarming increase in the number of children dying in such accidents. According to latest report by the ministry of road transportation and highways 11,168 children lost their lives in road crashes in 2019, which is an increase of 11.94% over the previous year, the global status report on road safety 2015 road traffic accident is a developmental issue for low and middle income countries that has lost approximately 3% of GDP. According to WHO the road accidents involving pedestrians constitute almost 50% of all accidents.²

The awareness of the road safety among school children help them to get an overall idea about the principles of crossing roads, importance of helmets, how to use zebra crossing and it also helps them to practice these rules in their daily life. Practicing the rules at a young age leads to habit formation which makes them responsible adults in future.

MATERIALS AND METHODS

A quantitative approach with pre experimental one group pre-test post-test design selected for conducting study among 150 high school children's who were studying in 8 to 10th Std. at St. Thomas higher secondary school Thope, Thrissur. The objective of the study were to assess the effectiveness of educational intervention on knowledge regarding road safety rules. The samples (150) were selected from 8 to 10th std. by using purposive sampling technique. Students between the age group 13 to 15 who were willing to participate included on the study. Students were absent during the time of data collection were excluded from the study.³

The informed consent was taken from the sample and assured anonymity and confidentiality of information provided them. The data were collected by using 2 tools which includes demographic

data of the high school student and structured questionnaire it took about 20 to 30 minutes to assess the knowledge regarding traffic rules. The pre test data from the samples were collected on 21/11/2022 following a educational intervention was given regarding road safety rules by using variety of AV aids, after a week using the same questionnaire the post test were collected from the same sample. The level of knowledge were assessed as either poor, average, good.³

Data analysis was carried out by using differential and inferential statistics. The mean and standard deviation was used to analysis the effectiveness of educational intervention on road safety rules among high school children's and fisher exact test was used to associate the pre interventional level of knowledge of high school children regarding road safety rules with their selected demographic variables.

RESULTS

Among the high school children 76 (50.7%) of children belonged to 14 years of age, 5 (23.3%) of children to 13 and 15 years of age respectively and only 2.7% of high school children were in the age group of 12 years. 130 (86.7%) of children's were coming to school by bus and 16 (10.7%) of children's were using cycle and only 2.6% were coming to the school by walking. Among the high school children 76 (50.7%) children were belongs to urban residence and 74 (49.3%) were belongs rural residence. Among 150 samples 130 (86.7%) students have previous knowledge regarding traffic rules and 30 (13.3%) students does not previous knowledge regarding traffic rules. In the pre test, 49.4% have average knowledge about road safety rules. In post test, majority 52.0% have good knowledge regarding road safety rules. Mean post interventional knowledge (19.71%) was higher than pre interventional level of knowledge (17.10%). The standard deviation of pre interventional level of knowledge was 5.54% and post interventional level of knowledge was 5.94%. The calculated 't' value is greater than the table value ($t=-6.21$, $p=0.000$). Here there is significant difference in the pre interventional and post interventional level of knowledge. This reveals that structured teaching program regarding road safety rules was effective and H1 is accepted.

- There is significant association between pre interventional level of knowledge among high school children with their age, mode of travelling and occupation of their father.

Hence H_2 is accepted

Percentage wise distribution of High school Children based on Pre and Post interventional level of knowledge regarding Road Safety Rules

According to the results, in the pre-test, 49.4% of high school children had an average knowledge

about road safety rules. However, in the post-test, the majority (52.0%) of children had good knowledge regarding road safety rules. This indicates that the educational intervention program was effective in improving the knowledge of high school children regarding road safety rules.

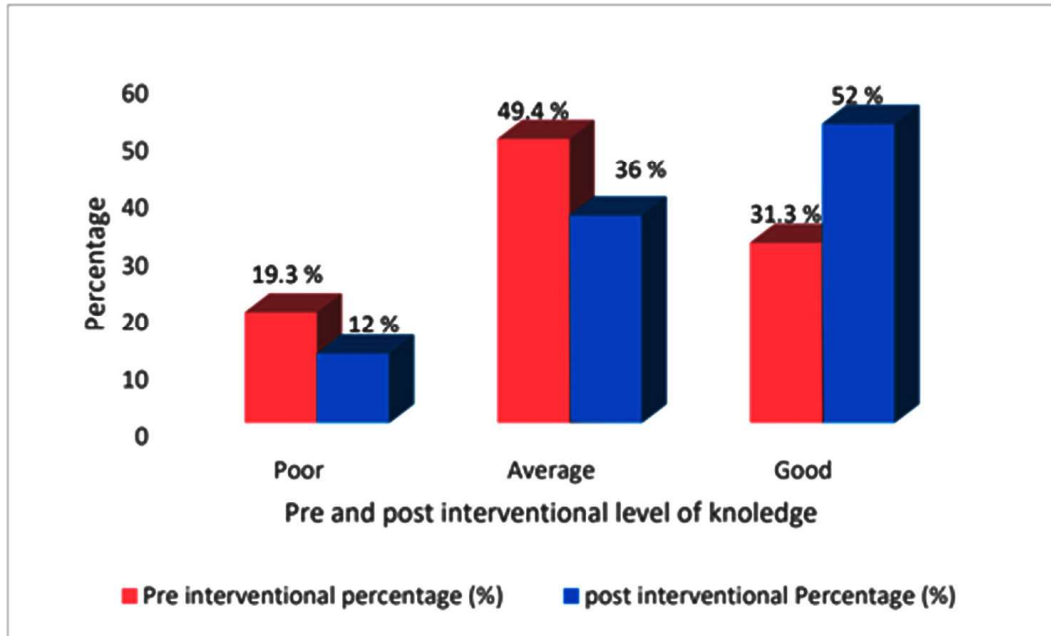


Fig. 1: Pre and post interventional level of knowledge

Comparison of Pre and Post Interventional level of knowledge on Educational Intervention on Road Safety rules among High School Children

The mean Post-interventional knowledge (19.71%) was higher than the Pre-interventional level of knowledge (17.10%). Additionally, the standard deviation of pre-interventional knowledge

was 5.54%, and post-interventional knowledge was 5.94%. The calculated 't' value is greater than the table value ($t=-6.21, p=0.000$). These results indicate that there is a significant difference between the pre and post interventional levels of knowledge. Therefore, the structured teaching program regarding road safety rules was effective.

Table 1: Association of pre-interventional level of knowledge on educational intervention on road safety rules among highschool children N=150

Interventional Level of knowledge	Mean	SD	t-value	p-value	Inference
Pre	17.1	5.54	-6.21	0.000**	S
Post	19.71	5.94			

**0.01 Level of Significance, S-Significant

The results show that there is a significant association between the pre-interventional level of knowledge among high school children and their age, mode of traveling, and occupation of their father. Therefore, the hypothesis (H_2) that there is a significant association between pre-interventional level of knowledge and these factors is accepted. This suggests that these factors may have an impact on the pre-interventional level of knowledge

regarding road safety rules among high school children.

Table 2 and 3 shows that there is significant association between pre interventional level of knowledge with age, mode of travelling to school and occupation of father. There is no significant association with other variables. Hence H_2 is accepted.

Table 2: Association between pre interventional level of knowledge among high school children with their age, mode of travelling and occupation of their father

N = 150

Demographic Variables	Pre-Interventional level of knowledge			Fisher exact test value	P-value	Inference
	Poor	Average	Good			
Age						
12	0	3	1	19.22	0.002**	S
13	2	27	6			
14	18	34	24			
15	9	10	16			
Mode of Traveling to School						
Bus	22	65	43	8.48	0.04*	S
Cycle	7	5	4			
Waling	0	4	0			
Area of Residence						
Urban	14	34	28	2.22	0.34	NS
Rural	15	40	19			
Education of Father						
Primary/Secondary	25	53	35	2.84	0.58	NS
Gaduate	4	16	9			
Post graduate	0	5	3			

*0.05 Level of Significance, S-Significant-Not Significant

Table 3: Association between pre-interventional level of knowledge among high school children with their age, mode of travelling and occupation of their father

N=150

Demographic Variables	Pre-Interventional level of knowledge			Fisher Exact Test value	P-value	Inference
	Poor	Average	Good			
Education of Mother						
Primary/Secondary	19	46	30	1.22	0.89	NS
Graduate	8	21	15			
Post Graduate	2	7	2			
Occupation of Father						
Own business	16	15	13	17.71	0.01*	S
Government job	6	8	6			
Private job	4	35	20			
Others	3	16	8			
Occupation of Mother						
Own business	4	2	3	12.63	0.1	NS
Government job	3	9	2			
Private job	4	16	15			
Home maker	13	42	25			
Others	5	5	2			
Previous knowledge Regarding Traffic Rules						
Yes	26	64	40	0.31	0.95	NS
No	3	10	7			

*0.05 Level of Significance, S-Significant-Not significant

DISCUSSION

The study assessed the effectiveness of educational intervention on road safety rules among high school children. In pre-test 49.4% of school children have good knowledge and in Post-test 52% got knowledge. Age and mode of traveling to school is significant to the pre interventional level of knowledge.

In this study Fisher exact test was used for the association of pre international level of knowledge on educational intervention on road safety rules among high school children. The findings revealed that there is significant association between pre interventional level of knowledge with age, mode of traveling to school and occupation of father. No significant association was elicited between area of residence, education of mother, occupation of mother and previous knowledge regarding traffic rules. Another study done at Kanyakumari on 2016 to assess the effectiveness of child to child program on school children regarding road safety measures. The study result also showed that educational intervention enhance the knowledge of children.⁴

CONCLUSION

Total of 150 samples were selected for the study. Out of them 76 (50.7%) of children were belongs to 14 years of age; 35 (23.3%) of children belongs to 13 and 15 years of age only 2.7% of children were

in the age group of 12 years of age. Majority of 130 (86.7%) of children's reach by bus 16 (10.7%) of children's were using cycle to reach the school and only 2.6% were coming to school by walking. 50.7% of high school children were lives in urban area and 49.3% of high school children were rural area. In the pre-test, 19.3% students have poor knowledge, 49.4% have average knowledge and 31.3% have good knowledge about roadsafety rules. In post-test, 12.0% students have poor knowledge, 36.0% have average knowledge and 52.0% have good knowledge.

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