



A study to assess the effectiveness of planned teaching programme on knowledge regarding road safety measures among schoolers in the selected school of city

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Abstract

To assess the existing knowledge regarding Road Safety Measures among Schoolers in the selected school of city.2.To evaluate the effectiveness of Planned Teaching Programme on Knowledge regarding Road Safety Measures among Schoolers in the selected school of city.3.To find out the association between knowledge score with selected demographic variables

Methodology: One group pre test and post test research design used for the study. It was conducted over 60 scholars by using Non probability Convenient sampling technique.

Results: Assessment was done by using Semi structured questionnaire on Demographic variables and self structured questionnaires on knowledge regarding road safety measures. Analysis showed that in pre test the mean score for the pretest was 6.66 ± 3.53 with a mean percentage score of 26.66 ± 14.12 . Where the mean score for the posttest was 8 and the maximum score was 25, the mean score for the pretest was 19.56 ± 3.51 with a mean percentage score of 78.26 ± 14.07 . the finding shows that post test score was significantly higher at 0.05 level than that of pre test score.

Conclusion The schoolers have very less knowledge regarding road safety measures. There was a significant increase in the knowledge of schoolers after the introduction of planned teaching programme. To find the effectiveness of planned teaching programme paired 't' test was applied and post test score was significantly higher at 0.05 level of significance than pre test score. The findings shows that in post test 63.33% of the schoolers had excellent level of knowledge, 26.67% had very good knowledge, 8.33% of them had good and 1.67% of the schoolers were having average knowledge.Thus it was concluded that planned teaching programme on road safety measures among schoolers was found to be effective as a teaching strategy. So researcher accepts research hypothesis H₁.

Keywords: planned teaching programme, knowledge, road safety measures, schoolers

Introduction

Life is a precious gift by God and it should be handled with care. Nursing profession is one of the main professions responsible to care the life of people by providing preventive, curative, promotive, restorative and rehabilitative care. [1] Accidents are the largest single cause of mortality and disability in children's. In today's high tech world, there are dangers for children's everywhere, on roads, at home, at school and on play grounds. Boys tend to have more accidents than girls because they are more daring. India has one of the highest road traffic accidents in the world. The investigative, curious child of either sex has more accidents than the lethargic, uninterested child. Accidents tend to occur whenever the young child is unsupervised and neglected by parents. If the child does accidentally become injured, the parent, while sympathizing, can also point out in understandable language the reason why the accident occurred. Common injuries due to accidents include; injury to head, eyes, nose, ears, fractured bone and vital organs ultimately leading to disability and death. So its utmost responsibility of parents to safe guard and educate their children to keep them safe against injuries.

Between the ages of 6 and 12 years, motor vehicle accidents are the most common cause of accidental injury and death. Children may cross a street against the light or from between parked cars or be injured while riding, running, playing. Accidents can occur everywhere, whenever he/she is left unsupervised. So it is utmost duty of parents, teachers, elders to teach their childrens basic safety measures.

Deaths are caused either when children are passengers with in the motor vehicle or are strucked by such a vehicle while on streets, parking lot. Many accidents in schoolers are due to lack of knowledge about road safety and Unsupervision. With childrens broadening scope of activity during the elementary school years, parents cannot hope to be with them constantly to prevent accidents. If the parents and teachers have emphasized safety measures, a child should be ready to build on past experience and further develop the ability to meet the accident hazards common to school children [2].

Background

Road traffic accidents are one of the main causes of death and injury/disability to children of school age from age group 6 to 12 years. Accidents tragically are often due to ignorance, carelessness, thoughtlessness and over confidence. The consequences of accidents affect seriously the children's health and growth, interferes in their study and future.^[3]

Accidents are one of the five leading causes of death in industrialized and developing countries. Injuries arising from accidents are an increasing public health problem. Yearly, 10% of children suffer an accident for which it is necessary to contact the health services.^[4]

Globally road traffic injuries are the leading cause of death among young aged 6-18 years and second leading cause among 5-14 year olds. The UN General Assembly has declared 2011 to 2020 as the "Decade of Action for Road Safety" which seeks to halt the increasing trends in road traffic deaths and injuries worldwide. The starting point for any interventions aimed at achieving the United Nation declaration especially with regard to young people would be to first know their understanding and behaviour patterns with respect to road safety^[5]. The World Health Day 2004 focused on this rapidly growing public health problem of accidents. The "Road Safety is no accident" is a message to the public that the solution to this grave problem lies in their own hands. Action can be taken on a number of fronts to prevent these needless deaths and disabilities, and the immense loss and suffering they cause. Many programmes and policies exist to prevent road traffic crashes.^[6]

Need of the Study

The importance of knowledge and practice of road safety measures needs to be emphasized in the prevention of Road Traffic Accidents. Road accidents have left nearly 70 children dead and many injured since the start of 2013, a NGO has said. More than 60 students were also injured in 11 accidents spread over seven states since January 2013 till July this year. In all instances, the victims were travelling in school buses which were either hit by other vehicles, trains, rolled down mountain slopes and negligence. According to NGO Save Life Foundation, which works for road safety, the accidents are highest in Punjab, Maharashtra, Uttar Pradesh, Jammu and Kashmir, Tamil Nadu, Rajasthan, and Telangana. Although the number of school children is a miniscule part of the total number of Indians dying daily on the roads, activists say most accidents are avoidable.

Three children died when their school bus collided with a truck at Malkapur in Maharashtra Jan 10 this year. According to the foundation, all the accidents involving school buses in 2013 led to deaths. Six students lost their lives on the Solapur-Dhule highway while on an excursion in Maharashtra Dec 7, 2013.^[7]

Every day as many as one lakh forty thousand people are injured on the world's roads. More than three thousand die and some fifteen are disabled for life. According to World Health Organization, nearly 1.18 million people lost their lives every year due to road accidents. Almost 18000 young people are injured on Indian roads every year. In India, 958 persons were killed in the year 2001, 989 persons killed in the year 2002, and 931 persons were killed in the year 2003.^[8]

In Maharashtra, 1628 young died in 2009 and 1659 were injured. Nearly 9000 young children have been injured in accidents since 2010, while the number of injured in the last two years was around 8,000 and 900 death in 2011, seven hundred and four people died in 2009. Nearly 4000 childrens died in road accidents annually in Maharashtra and the numbers alarmingly increasing.^[9] As a social need to prevent the road traffic accidents and to provide knowledge to the schoolers, making a contribution, the researcher felt need for this study.

Problem Statement

"A Study To Assess The effectiveness of Planned Teaching Programme on Knowledge regarding Road Safety Measures among Schoolers in the selected school of city"

Objectives

1. To assess the existing knowledge regarding Road Safety Measures among Schoolers in the selected school of city.
2. To evaluate the effectiveness of Planned Teaching Programme on Knowledge regarding Road Safety Measures among Schoolers in the selected school of city.
3. To find out the association between knowledge score with selected demographic variables.

Hypothesis

1. **H₀**- There will be no significant difference in pre test and post test knowledge score among schoolers regarding road safety measures.
2. **H₁**- There will be significant difference in pre test and post test knowledge score among schoolers regarding road safety measures.

Objectives

1. To assess the existing knowledge regarding Road Safety Measures among Schoolers in the selected school of city.
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Operational Definition

- **Assess**

“Find out the knowledge regarding road safety measures”.

- **Effectiveness**

“The extent to which plan teaching programme have achieved the desired effect on knowledge of schoolers regarding road safety measures”.

- **Planned Teaching Programme**

“The process of giving systematic information about road safety measures”.

- **Knowledge**

“The information possessed by teachers regarding road safety measures assessed by self-structured questionnaires”.

- **Road safety measures**

“Precautions that should be taken by school children while crossing or walking on road”.

- **Schoolers**

“The children between age group of 8 years to 12 years”.

Hypothesis

1. **H₀**- There will be no significant difference in pre test and post test knowledge score among schoolers regarding road safety measures.
2. **H₁**:- There will be significant difference in pre test and post test knowledge score among schoolers regarding road safety measures.

Dilimitations

1. The study will be limited to Schoolers age group between 8 to 12 years and in school only.

Ethical Aspect

The study was approved by the Institutional Ethical Committee and the study will be conducted in accordance with the ethical guidelines prescribed by Central Ethics Committee on Human Research.

Review of Literature

The review of literature is done under following areas

1. Literature related to road safety measures.
2. Literature related to knowledge regarding road safety measures among schoolers.
3. Literature related to effectiveness of planned teaching programme

Conceptual Framework

The conceptual framework used for the present study is based upon general open system model

Methodology

- Research approach- Quantitative research approach
- Research design- One group pre test and post test research design
- Setting of the study-The study is conducted in selected schools of the city.
- Research variable- The dependant variable is Knowledge regarding road safety measures and Independent Variable is Planned teaching programme.
- Demographic variables- Age, Gender, Education of parents, Place of living, Type of family, Income of parents, Occupation of parents, Information about road safety measures and Source of information about road traffic accidents respectively.
- Population – Schoolers
- Target population: It includes all the schoolers
- Accessible population: In the present study the accessible population includes the schoolers in selected school and present at the time of data collection.
- Sampling
- Sample size: 60 schoolers
- Sampling technique: Non probability convenient sampling technique
- Sampling criteria
- Inclusion criteria:

The criteria that specify characteristics that a population does have.

1. Students who can understand English.
2. Students who are willing to participate in the study.
3. Students who are available during data collection.
4. Student between the age group of 8 to 12 years.

- Exclusive criteria:
 1. It is the criteria that involve people who do not possess the population characteristics.
 2. The exclusion criteria for this study are-
 3. Students who are above 12 years and below 8 years.
- Description of Tools
 1. Section I - Semi structured questionnaire on demographic variables
 2. Section II – Self Structured Questionnaire on knowledge regarding road safety measures

- Validity

Validity refers to an instrument or test actually testing what it suppose to be testing.

The tool was given to 21 experts for the content validity; including Paediatric subject experts, community health nursing experts, OBG subject expert, and Statistician and Professors of MET unit. Valuable suggestions were given and necessary corrections were made after the consultation of guide.

- Reliability

In this study, by using Guttman Split Half method of reliability, it was found to be 0.92 and hence tool is reliable and valid.

- Pilot study

Pilot study was conducted from 1/11/14 to 7/11/14 for a period of 7 days. A sample of 6 schoolers was selected from selected school. The investigator approached the sample individually, discussed the objectives of study and obtains consent for participation in study. Knowledge of schoolers regarding road safety measures was assessed by administering the questionnaire. Planned teaching programme was given following the pre test. On 7th day, the knowledge was reassessed by post test on the same subjects. The collected data was coded, tabulated and analyzed by using descriptive statistics (mean, mean percentage, standard deviation correlation coefficient) was used to find out the association between the demographic variables and knowledge scores. The data was represented in the form of tables and graphs. The data regarding knowledge of schoolers was analyzed statistically by using paired 't'-test. It was found to be significant at 0.05 levels.

- Data collection

The main study data was gathered from 18th November to 14th December 2014. Permission from the principal was taken before conducting the study. The investigator introduced her and explained the purpose of the study and consent was obtained. The questionnaires were distributed to the samples. The questionnaires were completed in the presence of the investigator to avoid contamination and bias in the collection of data.

Results

Section A

Table 1: Percentage wise distribution of schoolers according to their demographic characteristics n=60

Demographic Variables	No. of schoolers	Percentage (%)
Age (yrs)		
8-9 yrs	0	0.00
9-10 yrs	54	90.0
10-11 yrs	6	10.0
11-12 yrs	0	0.00
Gender		
Male	35	58.3
Female	25	41.7
Educational Status of parents		
Primary	4	6.7
Secondary	21	35.0
Higher Secondary	27	45.0
Graduate & Above	8	13.3
Place of living		
Urban	24	40.0
Semi Urban	0	0.00
Rural	36	60.0
Type of family		
Nuclear	34	56.7
Joint	26	43.3
Extended	0	0.00
Monthly income of the family		
5000-10000 Rs	5	8.3

10001-15000 Rs	40	66.7
15001-20000 Rs	8	13.3
20001 Rs and above	7	11.7
Occupation of parents		
Private	25	41.7
Govt	6	10.0
Business	29	48.3
Others	0	0.00
Information about Road Safety Measures		
Yes	18	30.0
No	42	70.0
Source of information		
Parents	15	25.0
Teachers	3	5.0
Health Personnel	0	0.00
Friends	0	0.00
Mass Media	0	0.00
Others	0	0.00

Section B

Assessment of Existing Knowledge Regarding Road Safety Measures Among Schoolers In The Selected School of City

Table 2: General assessment with pre test

n=60

Level of knowledge score	Percentage score	Pre Test	
		Frequency	Percentage
Poor	0-5(0-19%)	20	33.33
Average	6-10(20-39%)	24	40.00
Good	11-15(40-59%)	15	25.00
Very Good	16-20(60-79%)	1	1.67
Excellent	21-25(\geq 80%)	0	0.00
Minimum score		1	
Maximum score		15	
Mean score		6.66 \pm 3.53	
Mean %		26.66 \pm 14.12	

The above table shows that in pre test 20(33.33%) of the schoolers were having poor knowledge, 40% had average, 25% good and only 1.67% of the them had very good level of knowledge score. The minimum score in pretest was 1 and the maximum score was 15, the mean score for the pretest was 6.66 \pm 3.53 with a mean percentage score of 26.66 \pm 14.12.

Table 3: General assessment of post test

n=60

Level of knowledge score	Percentage score	Post Test	
		Frequency	Percentage
Poor	0-5(0-19%)	0	0.00
Average	6-10(20-39%)	1	1.67
Good	11-15(40-59%)	5	8.33
Very Good	16-20(60-79%)	16	26.67
Excellent	21-25(\geq 80%)	38	63.33
Minimum score		8	
Maximum score		25	
Mean score		19.56 \pm 3.51	
Mean %		78.26 \pm 14.07	

The above table shows that in post test 1(1.67%) of the schoolers were having average knowledge, 8.33% of them had good, 26.67% had very good and 63.33% of the them had excellent level of knowledge score. The minimum score in posttest was 8 and the maximum score was 25, the mean score for the pretest was 19.56 \pm 3.51 with a mean percentage score of 78.26 \pm 14.07.

Section C

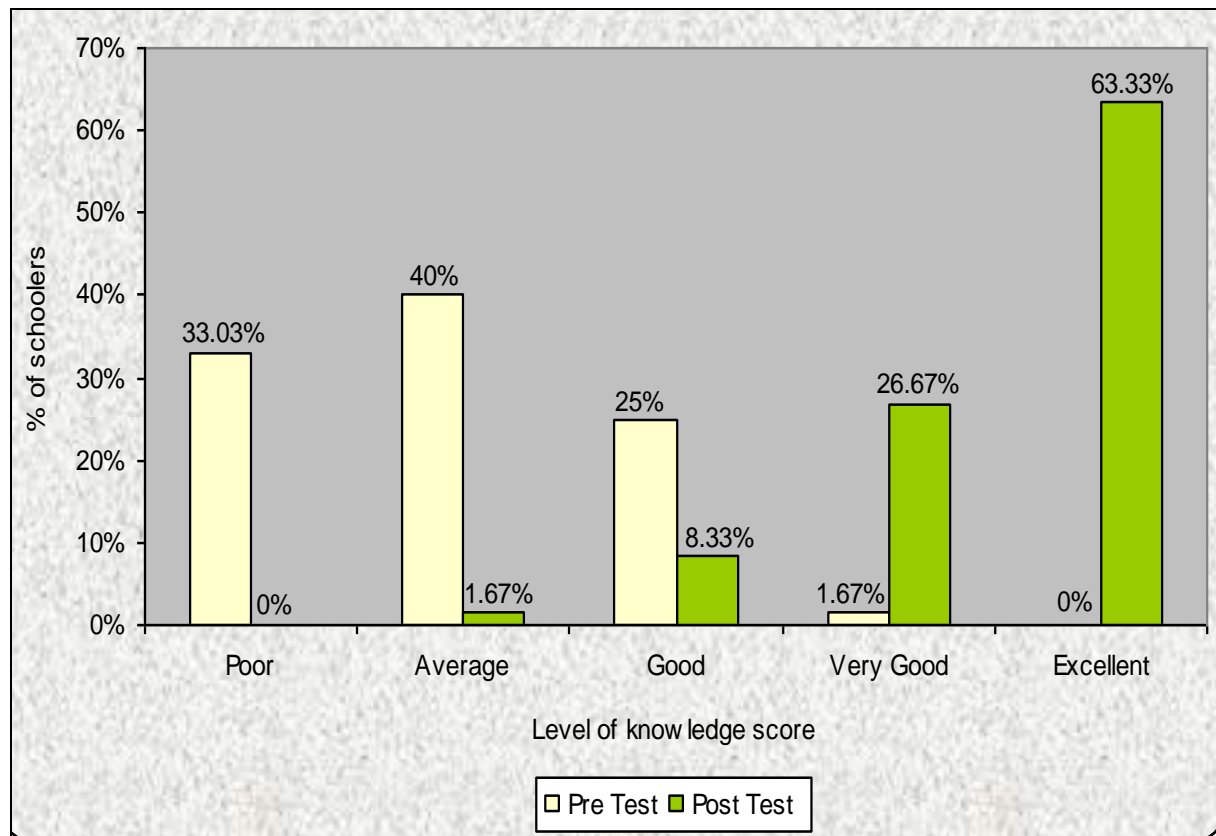
Evaluation of Effectiveness of Planned Teaching Programme on Knowledge Regarding Road Safety Measures Among Schoolers in The Selected School of The City

Table 4: Significance of difference between knowledge score in pre and post test of schoolers in selected schools of the city

n=60

Level of knowledge score	Percentage score	Knowledge Score	
		Pre Test	Post Test
Poor	0-5(0-19%)	20(33.03%)	0(0%)
Average	6-10(20-39%)	24(40%)	1(1.67%)
Good	11-15(40-59%)	15(25%)	5(8.33%)
Very Good	16-20(60-79%)	1(1.67%)	16(26.67%)
Excellent	21-25(\geq 80%)	0(0%)	38(63.33%)
Minimum score		1	8
Maximum score		15	25
Mean score		6.66 \pm 3.53	19.56 \pm 3.51
Mean %		26.66 \pm 14.12	78.26 \pm 14.07

The above table shows that in pre test 20(33.33%) of the schoolers were having poor knowledge, 40% had average, 25% good and only 1.67% of the them had very good level of knowledge score. The minimum score in pretest was 1 and the maximum score was 15, the mean score for the pretest was 6.66 \pm 3.53 with a mean percentage score of 26.66 \pm 14.12 whereas in post test 1(1.67%) of the schoolers were having average knowledge, 8.33% of them had good, 26.67% had very good and 63.33% of the them had excellent level of knowledge score. The minimum score in posttest was 8 and the maximum score was 25, the mean score for the pretest was 19.56 \pm 3.51 with a mean percentage score of 78.26 \pm 14.07.

**Fig 1:** Significance of difference between knowledge score in pre and post test of schoolers in selected schools of the city**Section D**

Association of Knowledge Score in Relation to Demographic Variables

Table 5

Demographic variables	No. of schoolers	Mean post test knowledge score	F-value	p-value
Age (yrs)				
8-9 yrs	0	0 \pm 0	2.47	0.016 S, p<0.05
9-10 yrs	54	19.92 \pm 3.06		
10-11 yrs	6	16.33 \pm 5.71		
11-12 yrs	0	0 \pm 0		
Gender				
Male	35	19.42 \pm 3.62	0.35	0.72 NS, p>0.05
Female	25	19.76 \pm 3.43		

Educational Status of parents				
Primary	4	20.50±6.40	1.82	0.15 NS,p>0.05
Secondary	21	20.38±2.20		
Higher Secondary	27	19.51±3.16		
Graduate & Above	8	17.12±5.13		
Place of leaving				
Urban	24	18.41±4.45	2.12	0.038 S,p<0.05
Semi Urban	0	0±0		
Rural	36	20.33±2.51		
Type of family				
Nuclear	34	19.61±3.06	0.12	0.89 NS,p>0.05
Joint	26	19.50±4.10		
Extended	0	0±0		
Monthly Income(Rs)				
5000-10000 Rs	5	20±2.34	2.07	0.115 NS,p>0.05
10001-15000 Rs	40	19.75±3.39		
15001-20000 Rs	8	20.87±1.24		
20001 and above Rs	7	16.71±5.40		
Occupation of parents				
Private	25	19.72±3.56	7.04	0.002 S,p<0.05
Govt	6	15±4.47		
Business	29	20.37±2.54		
Others	0	0±0		
Information about road safety measures				
Yes	18	16±3.62	6.85	0.000 S,p<0.05
No	42	21.09±2.09		
Source of Information about road traffic accidents				
Parents	15	15.86±3.96	0.89	0.38 NS,p>0.05
Teachers	3	17.75±2.36		
Health Personnel	0	0±0		
Friends	0	0±0		
Mass Media	0	0±0		

This table shows the association of knowledge scores with the age in years of schoolers. The tabulated 't' values was 1.98(df=58) which is much less than the calculated 't' i.e. 2.47 at 5% level of significance. Also the calculated 'p'=0.016 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that age in years of schoolers is statistically associated with their knowledge score.

This table shows the association of knowledge scores with gender of schoolers. The tabulated 't' values was 1.98(df=58) which is much higher than the calculated 't' i.e. 0.35 at 5% level of significance. Also the calculated 'p'=0.72 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that gender of schoolers is not associated with their knowledge score.

This table shows the association of knowledge scores with gender of schoolers. The tabulated 'F' values was 4.13(df=3,56) which is much higher than the calculated 'F' i.e. 1.82 at 5% level of significance. Also the calculated 'p'=0.15 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that educational status of parents of schoolers is not associated with their knowledge score.

This table shows the association of knowledge scores with place of living of schoolers. The tabulated 't' values was 1.98(df=58) which is much less than the calculated 't' i.e. 2.12 at 5% level of significance. Also the calculated 'p'=0.038 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that place of living of schoolers is statistically associated with their knowledge score.

This table shows the association of knowledge scores with type of family of schoolers. The tabulated 't' values was 1.98(df=58) which is much higher than the calculated 't' i.e. 0.12 at 5% level of significance. Also the calculated 'p'=0.89 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that type of family of schoolers is not associated with their knowledge score.

This table shows the association of knowledge scores with monthly family income(Rs) of schoolers. The tabulated 'F' values was 4.13(df=3,56) which is much higher than the calculated 'F' i.e. 2.07 at 5% level of significance. Also the calculated 'p'=0.115 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that monthly family income(Rs) of schoolers is not associated with their knowledge score.

This table shows the association of knowledge scores with occupation of parents of schoolers. The tabulated 'F' values was 4.98(df=2,57) which is much less than the calculated 'F' i.e. 7.04 at 5% level of significance. Also the calculated 'p'=0.002 which was much less than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that occupation of parents of schoolers is statistically associated with their knowledge score.

This table shows the association of knowledge scores with information about road traffic accidents of schoolers. The tabulated 't' values was 1.98(df=58) which is much less than the calculated 't' i.e. 6.85 at 5% level of significance. Also the calculated 'p'=0.000 which was much less than the acceptable level of significance i.e.

'p'=0.05. Hence it is interpreted that information about road traffic accidents of schoolers is statistically associated with their knowledge score.

This table shows the association of knowledge scores with source of information about road traffic accidents of schoolers. The tabulated 't' values was 1.98(df=58) which is much higher than the calculated 't' i.e. 0.89 at 5% level of significance. Also the calculated 'p'=0.38 which was much higher than the acceptable level of significance i.e. 'p'=0.05. Hence it is interpreted that source of information about road traffic accidents of schoolers is not associated with their knowledge score.

Discussion

The present study was conducted to assess the effectiveness of planned teaching programme on knowledge regarding road safety measures among schoolers in the selected school of city

In this study, the findings revealed that, the overall calculated t value was 20.40. 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 2.45. The calculated 't' value are much higher than the tabulated value at 5% level of significance for overall and area wise knowledge score of schoolers which is statistically acceptable level of significance. Hence it is statistically interpreted that the planned teaching programme on overall and area wise knowledge score regarding road safety measures among schoolers was effective. Thus the H₁ is accepted.

The findings were compared with the study which was conducted by Emmanuel Geoffrey on structured teaching programme on traffic rules, in which the Findings of the study revealed that the overall post -test mean score was 36.86 (89.32%) with standard deviation 3.89 and the respondents knowledge were significantly higher than, the overall mean pre-test knowledge scores 9.76 (25.87%) with standard deviation 1.3and computed paired-t' value 23.78 is higher than table value 2.56 at P<0.001 level. Hence the findings of the study shows that structured teaching programme on traffic rules were effective and statistically significant.

Conclusion

After the detailed analysis, this study leads to the following conclusion:

The schoolers have very less knowledge regarding road safety measures. There was a significant increase in the knowledge of schoolers after the introduction of planned teaching programme. To find the effectiveness of planned teaching programme paired 't' test was applied and post test score was significantly higher at 0.05 level than that of pre test score. The findings shows that in post test 63.33% of the schoolers had excellent level of knowledge, 26.67% had very good knowledge, 8.33% of them had good and 1.67% of the schoolers were having average knowledge. Thus it was concluded that planned teaching programme on road safety measures among schoolers was found to be effective as a teaching strategy.

Hence, based on the above cited findings, it was concluded undoubtedly that the written prepared material by the investigator in the form of planned teaching programme helped the schoolers to improve their knowledge about road safety measures.

Also analysis revealed that there is very high association between knowledge score with age, place of living, occupation of parents, and information about road safety measures and there is no association with the gender, educational status of parents, type of family, monthly family income and source of information.

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