

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Road Traffic Rules Among Children in the Age Group of 6 to 13 Years in a Selected School

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How to cite this article:

Rebecca Jadhav. A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Road Traffic Rules Among Children in the Age Group of 6 to 13 Years in a Selected School. *Int J Practical Nurs.* 2019;7(3):139-142.

Abstract

In this study effectiveness of structured teaching program on knowledge regarding road traffic rules among children in the age group of 6 to 13 years in a selected school was studied using structured questionnaire on road traffic accidents. The research design used in the study was one group pre-test and post-test pre-experimental design. The knowledge regarding road traffic rules was assessed before and after the conduction of structured teaching program on road traffic rules. The conceptual framework of the study was based on Modified General System Theory by Ludwig von Bertalanffy. The study was conducted among 30 children whose age was between 6 to 13 years. The data was collected and analysed based on objectives of the study using descriptive and inferential statistics based on the objectives of the study. The obtained mean post-test 21.8 was much higher than the mean pre-test 7.5. The obtained 't' value 17.48 was significant. The study revealed that the knowledge regarding road traffic rules was significantly improved after the conduction of structured teaching program. Thus the structured teaching program was effective in improving the knowledge of children on road traffic rules. The effectiveness of the structured teaching program was independent of the selected demographic variables. The study concluded that the structured teaching program on road traffics rules can play an important role in imparting knowledge to the school children.

Keywords: Structured teaching program; Road traffic rules; Knowledge; School children.

Introduction

Road traffic accident is a sudden unexpected event or injury occurring without any forewarning or it is a sudden cause of death or an emergency of the victim.

Road traffic accident is one of the main causes of the death and injury to children of school age.

Accident tragically is often due to ignorance, carelessness, thoughtlessness and over confidence. The consequences of accidents affect seriously the health and growth of children and interfere in their study and future.

Every year more than 1.17 million people die in road accidents around the world. The majority of this death, about 70% occur in developing countries 65% of death involves pedestrians and 35% of pedestrian death in children.

Road safety education aims to promote knowledge and understanding of traffic rules and situations, to improve skills through training and experience and to strengthen or change attitudes

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Received on 24.10.2019, **Accepted on** 25.11.2019

towards risk awareness, personal safety of other road users.

Problem Statement

A study to assess the effectiveness of structured teaching program on knowledge regarding road traffic rules among children in the age group of 6 to 13 years in a selected school.

Objectives

1. To assess the pre-test knowledge regarding road traffic rules.
2. To assess the effectiveness of structured teaching program on awareness regarding road traffic rules.
3. To find out the association between the selected demographic variables and post-test score.

Research Hypothesis

For the purpose of study the research hypothesis formulated was as given below:

H_1 : Their will be a significant difference between pre-test and post-test knowledge before and after implementation of structured teaching program.

H_2 : Their will be a significant association between the post-test knowledge score and selected demographic variables.

Materials and Methods

In this study effectiveness of structured teaching program on knowledge regarding road traffic rules among children in age group of 6 to 13 years was studied using structured questionnaire on road traffic accidents.

Research design is considered as the blueprint of the study. It is detailed outline of how an investigation will take place. It can be thought of as outline detailing with what will be done and how this will be accomplished.¹

The research design used in the study was one group pre-test and post-test quasi-experimental design.

Quasi-experimental research design also called as non-randomized control trail involves the manipulation of the independent variables to observe the effect of independent variable, but it lacks randomization of participants in experimental groups, which is one of the essential characteristics

of the randomized control trail. In addition some of the quasi-experiments even lack a control group for comparison.³

The knowledge regarding road traffic rules was assessed before and after the conduction of structured teaching program on road traffic rules. The conceptual framework of the study was based on Modified General System Theory by Ludwig von Bertalanffy.

Sampling is considered with the selection of subjects of individuals from within a population to estimate characteristics of the whole population. A sample is representative when it allows the result of the sample to be generalized to the population. Sample is a subset of the population element.² Convenience sampling technique was used for the selection of samples. The study was conducted among 30 children whose age was between 6 to 13 years. The data was collected and analyzed based on objectives of the study using descriptive and inferential statistics.

Inferential statistics are mainly concerned with the samples of data for making a conclusion and drawing inference on entire population and test the hypothesis under investigation. It helps the analyst and researcher to find out whether there is any statistically significant difference or significant association between the variables. It is usually carried out with the help of test of significance along with the help of inferential statistical methods.⁴

Description of the tool

The structured questionnaire was prepared as a tool for the study. It consists of three sections.

Part A: Demographic variables of children.

Part B: Baseline characteristics of children.

Part C: This consists of 30 questions regarding road traffic rules.

Content validity is the extent to which a question or scale is measuring the concept in other word it measures the gap between what a test actually measures and what it is intended to measure.⁵

The content validity of the tool was established in terms of relevance and accuracy by sending the tool to experts from the field of child health nursing and incorporating their suggestions in the tool.

Reliability is the measurement of ability of an instrument to create reproducible result. It is the degree of consistence or dependability with which an instrument measures the attribute for which it is designed to measure.⁶

The reliability was tested using Karl Pearson's method and the tool was found to be reliable.

Results

1. *Findings related to demographic variables and baseline characteristics of children*

- Majority of the children in the study were in the age group of 10-11 and 12-13 years and above 13 (43.33%), females 18 (60%), Hindu by religion 18 (60%), studied in V and IVth standard 29 (96.67%), and considered mother as their loved one 20 (66.67%).
- *Findings about baseline characteristics:* Majority of children 27 (90%) had heard about road traffic rules, 27 (90%) had heard about zebra crossing, 27 (90%) were taught about road traffic rules in school, 24 (80%) had seen road traffic accidents, 30 (100%) considered knowledge about road traffic rules important. 26 (86.67%) had read about road traffic accidents and 20 (66.67%) had seen program video, on internet or on television or by other media about road traffic rules.

2. *Findings related to pre-test knowledge regarding road traffic rules*

- The pre-test result demonstrated that majority of the children 27 (90%) had poor knowledge regarding road traffic rules (Table 1).

3. *Findings related to effectiveness of structured teaching program on knowledge regarding road traffic rules among children*

- The obtained mean post-test 21.8 was much higher than the mean pre-test 7.5.
- The obtained 't' value 17.48 was higher than the table value at $p < 0.05$ level of significance.
- Thus the null hypothesis was rejected and the research hypothesis was accepted.
- The study revealed that the knowledge regarding road traffic rules was

significantly improved after the conduction of structured teaching program.

- Thus the structured teaching program was effective in improving the knowledge of children on road traffic rules (Table 2).
- 4. *Findings related to the association between selected demographic variables and post-test knowledge regarding road traffic rules.*
 - The obtained chi-square values - 0.33; 0.15;0.56;0.25; and 4.07 at ($p < 0.05$) regarding age, sex, religion; standard of study and loved one were not significant. Therefore the null hypothesis was accepted and research hypothesis was accepted.
 - It is inferred that there is no significant association between selected demographic variables and post-test knowledge on road traffic accidents among children.
 - The effectiveness of the structured teaching program was independent of the selected demographic variables (Table 3).

Table 1: Frequency and percentage distribution of pre-test on Knowledge regarding road traffic rules. N=30

Knowledge score	Pre-test score	
	Frequency	Percentage (%)
Poor	27	90
Average	03	10
Good	00	00

Discussion

The structured teaching programme helped the children to improve their knowledge regarding road traffic rules. The present study motivated the researcher to undertake similar study in other areas. The pre-test result demonstrated that majority of the children had poor knowledge regarding road traffic rules. The study revealed that the knowledge regarding road traffic rules was

Table 2: Data on effectiveness of structured teaching program on knowledge regarding road traffic rules among children. N=30

S. n.	Knowledge score	Mean	SD	MD	t - value	Level of significance
1	Pre-test	7.5	22.6			
2	Post-test	21.8	42.2	10.64	17.48	P < 0.05

Table 3: Data on the association between post-test knowledge score and selected demographic variables.

N = 30

S.N.	Demographic data	Level of knowledge						Chi square χ^2
		Poor		Good		Excellent		
		F	%	F	%	F	%	
1.	<i>Age</i>							
	a) 6-7 years	0	0	0	0	0	0	$\chi^2=0.33$ N.S.
	b) 8-9 years	0	0	1	3.33	3	10	d.f. = 2
	c) 10-11 years	0	0	2	6.67	11	36.67	
	d) 12-13 years	0	0	3	10	10	33.33	
2.	<i>Sex</i>							$\chi^2=0.15$ N.S.
	a) Male	0	0	2	6.67	10	33.33	d.f. = 0
	b) Female	0	0	4	13.33	14	46.67	
3.	<i>Religion</i>							$\chi^2=0.56$ N.S.
	a) Hindu	0	0	4	13.33	14	46.67	d.f. = 1
	b) Muslim	0	0	0	0	1	3.33	
	c) Christian	0	0	0	0	1	3.33	
	d) Others	0	0	2	6.67	8	26.67	
4.	<i>Standard</i>							$\chi^2=0.25$ N.S.
	a) I-II	0	0	0	0	0	0	d.f. = 3
	b) III-IV	0	0	0	0	0	0	
	c) V-VI	0	0	6	20	23	76.67	
	d) VII-VIII	0	0	0	0	1	3.33	
5.	<i>Loved one</i>							$\chi^2=4.07$ N.S.
	a) Father	0	0	2	6.67	5	16.67	d.f. = 1
	b) Mother	0	0	4	13.33	16	53.33	
	c) Brother and sister	0	0	1	3.33	0	0	
	d) Others	0	0	0	0	2	6.67	

significantly improved after the conduction of structured teaching program. The effectiveness of the structured teaching program was independent of the selected demographic variables.

Conclusion

The study revealed and school children do not have sufficient knowledge regarding road traffic rules. This can lead to problems when children move on roads among traffic. It is very essential to teach road traffic rules and related safety precautions to the children. The result of this study proves that the structured teaching program on road traffic rules was effective in improving the knowledge of the children.

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