



Effectiveness of road safety intervention on knowledge regarding road traffic accident among adolescent boys.

Author:

1. R.Jayalakshmi, Professor, Vignesh Nursing College, Tiruvannamalai, The Tamil Nadu Dr. M.G.R. Medical University, Chennai

Co -Author:

1. Dr. S. Vijayalakshmi. Principal. Vignesh Nursing College, Tiruvannamalai, The Tamil Nadu Dr. M.G.R. Medical University, Chennai

ABSTRACT

Road traffic accidents (RTAs) are one of the leading causes of death, disabilities and serious injuries among adolescents (WHO, 2018). Adolescents are the population group that presents one of the highest risks of RTA and the participation in risky driving behaviors (RDBs) can be identified as one of the main determinants of the high risk of RTA in adolescents (Williams AF, 2003). A Quasi experimental study was conducted to assess the effectiveness of safety intervention on knowledge regarding road traffic accident among adolescent boys (16 to 18 years of age) in Government boys' higher secondary school, Manalurpet, Kallakurichi District, Tamilnadu, India. Non equivalent control group pre test and post test design were used and total of sixty samples were selected through convenience sampling technique based on the sample collection criteria. The level of knowledge regarding road traffic accident among adolescent boys was assessed by using structured questionnaire. The study findings revealed that majority, in experimental group 28(93.3%) subjects and in control group 27(90%) subjects had inadequate knowledge. In experimental group, mean and SD value of pretest is 8.3 with 2.99 and post test value is 25.8 with 3.97. The calculated paired 't' value = 14.16 was found to be statistically significant at $P < 0.001$ level. In control group pretest value of mean and SD is 8.2 with 3.25 and posttest value is 8.5 with 3.9. The calculated paired 't' value = 0.87 was found to be statistically non- significant at $P < 0.05$ level. This study concluded that the finding could be used as a primordial prevention to reduce the risk of road traffic accident among adolescent boys.

Key words: Road safety, Knowledge, Road traffic accident and Adolescent boys

INTRODUCTION

“It is better to loss one minute in life then to loss life in a minute”

Road traffic accidents are routine occurrences throughout the world. Thousands of people lose their lives on the roads every day. Many more left with disabilities or emotional scars that they will carry for the rest of their lives. Every hour of every day, forty adolescents die as a result of road traffic crashes. This means that every day another one thousand families have to cope with the unexpected loss of a loved one. Losing a child is never easy. Knowing that a child was lost to a preventable incident may add to the pain and suffering, and can leave families and communities with emotional wounds that take decades to heal. The future of a country is its young people **(Kenith S, 2004)**.

Globally, road traffic crashes are a leading cause of death among young people, and the main cause of death among those aged 15–29 years and second leading cause of death in 10–14 years and 20–24 years age groups. Motorcycle crashes are the leading cause of mortality and morbidity among teenagers. Road traffic injuries are currently estimated to be the ninth leading cause of death across all age groups globally, and are predicted to become the seventh leading cause of death by 2030 **(WHO, 2015)**.

A few study were reported that most of secondary schools student had average knowledge so strict rules need to be create for giving more awareness and motivate them to follow the road traffic rules. Road traffic injury prevention must be incorporated in to a broad range of activities in the research such as human factors, environmental factors, road design/infrastructure, legal framework and post crash hospital care.

STATEMENT OF THE PROBLEM:

A study to evaluate the effectiveness of safety intervention on knowledge regarding road traffic accident among adolescent boys in selected school at Kallakurichi District.

OBJECTIVES

- To assess and compare the knowledge regarding road traffic accident among adolescent boys within experimental & control group.
- To compare the knowledge regarding road traffic accident among adolescent boys between experiment & control group.
- To associate the mean difference score of knowledge regarding road traffic accident among adolescent boys in experimental & control group with their selected demographic variables.

NULL HYPOTHESIS

- NH₁-There is no significant difference of knowledge score regarding road traffic accidents among adolescent boys within experimental & control group at $p < 0.05$ level.

- NH₂- There is no significant difference of knowledge score regarding road traffic accidents among adolescent boys between experimental & control group at $p < 0.05$ level.
- NH₃. There is no significant association of post-test level of knowledge regarding road traffic accidents among adolescent boys in experimental & control group with their selected demographic variables at $p < 0.05$ level

RESEARCH METHODOLOGY

Research design - Quasi experimental - Non equivalent control group pre test and post test design.

Variables:

Independent variable: Safety intervention

Dependent variable: Knowledge

Extraneous variable: The extraneous variable consists of age, educational status, family income, family structure, religion, residence, mode of transport & road type.

Setting of the study

The study was conducted in Government boys higher secondary school, Manalurpet, Kallakurichi District, Tamilnadu, India.

Sample

The study sample comprises of adolescent boys with the age group of 16 to 18 years who are studying in the Government Boys higher secondary school at Manalurpet and fulfill the sample selection criteria of this study.

Sample size

The sample size is 60 adolescent boys (30 in experimental and 30 in control group).

Sampling technique

A convenience sampling technique was adopted based on the sample collection criteria.

Data collection procedure:

The data was collected for a period of one week in the month of September 2022. Prior permission was sought from the principal by the investigators after explaining the purpose of the study. The investigator introduced her to the adolescent boys and established rapport. They were assured that no physical or emotional harm would be done in the course of the study. The adolescent boys were selected by convenience sampling technique based on sample selection criteria. A total number of 60 adolescent boys were recruited in this study (30 in experimental group & 30 in control group). The researcher was collected the information regarding demographic variables by using structured questionnaire method. The pretest was conducted to assess the level of

knowledge regarding road traffic accident among adolescent boys by using structured questionnaire in experimental & control group. The researcher has implemented the road safety intervention includes human factors, environmental factors, road design/infrastructure, legal framework and post crash hospital care on road traffic accident through lecture cum discussion. Slideshow, pamphlets & lived experience video presentation were used as audio visual aids and given to subjects with the duration of 45 minutes in experimental group & routine activities were followed by control group. The post test was conducted on 7th day in experimental & control group with the same tool used in pretest.

Ethical approval and consent to participate

The study was approved by the intuition ethical committee and informed consents were received from all participants.

RESULTS AND DISCUSSION

The major findings of the demographic variables are,

In experimental group, more than half 16(53.3%) of subjects were in the age of 17 years, most of 16(53.3%) subjects were studying in 12th standard, majority 26(86.7%) subjects belongs to in hindu, many 22(73.3%) subjects of their family income is Rs.>10,000, nearly half 14(46.7%) of subjects were living in nuclear family, maximum 28(93.3%) of subjects were residing in urban area and most 12(40%) of subjects were using bicycle as a mode of transport.

In control group, most of 17(56.7%) subjects were in the age of 17 years, many 17(56.7%) subjects were studying in 12th standard, maximum 25(83.3%) of subjects were belongs to hindu, more 19(63.3%) subjects of their family income is Rs.>10,000, nearly half 13(43.3%) of subjects were living in joint family, majority 25(83.3%) of subjects were residing in rural area and regarding mode of transport greater part 10(33.3%) of subjects were using bicycle.

FIGURE 1: Percentage distribution of pre and post level of knowledge among adolescent boys in experimental and control group.

n =30+30

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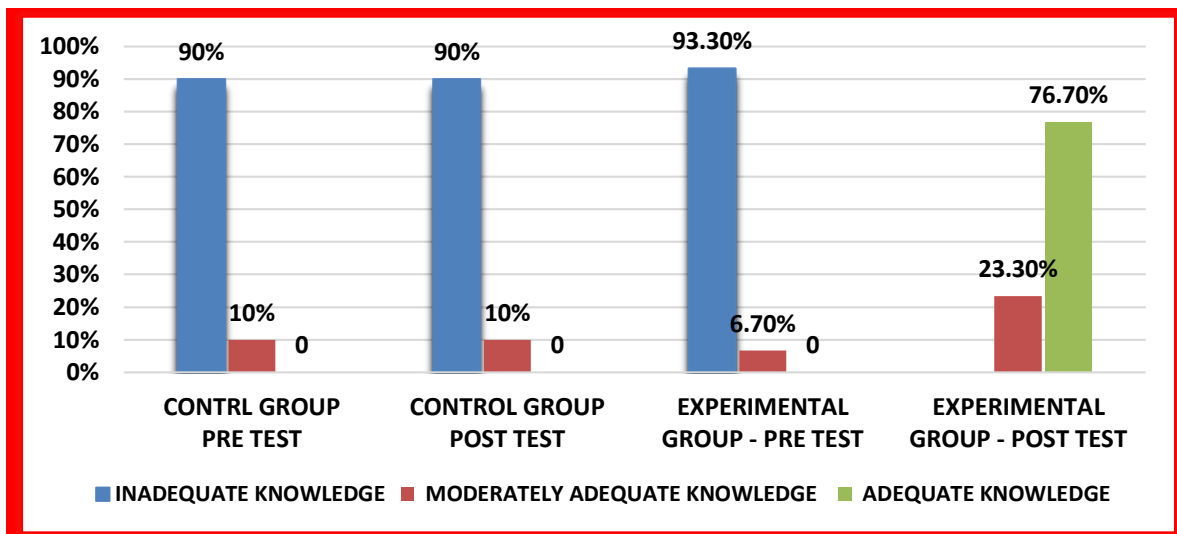


Table 1: Comparison of pre and posttest score of knowledge regarding road traffic accident within experimental and control group among adolescent boys.

n =30+30

S.NO	GROUP	PRE TEST		POST TEST		PAIRED 't'TEST
		Mean	SD	Mean	SD	
1.	Experimental	8.3	2.99	25.8	3.97	t= 14.16 S***
2.	Control	8.2	3.25	8.5	3.90	t= 0.87 NS

***P<0.001, S – Significant, NS – Non significant.

Above table clearly shows that the implementation of road safety intervention had a significant increase in the post test mean score of knowledge in the experimental group than in control group of adolescents. Hence the formulated hypothesis (NH_1) stated that “There is no significant difference of knowledge score regarding road traffic accidents among adolescent boys within experimental & control group at $p<0.05$ level” which was rejected in experimental group and retained in control group. The above findings were supported by **Dilshada Rashid and Aisha Akhter (2017)** conducted a study and concluded that structured teaching program improved the knowledge of adolescent students regarding prevention of RTAs.

Table 2: Comparison of pre and posttest score of knowledge regarding road traffic accident between experimental and control group among adolescent boys.

n =30+30

S.NO	ASSESSMENT	GROUP	MEAN	SD	UNPAIRED 't' TEST
1.	Pre test	Experimental group	8.3	2.99	t= 0.12 NS
		Control group	8.2	3.25	
2.	Post test	Experimental group	25.8	3.97	t= 11.19 S***
		Control group	8.5	3.90	

****P<0.001, S – Significant, NS – Non significant.

Above table result clearly shows that the implementation of road safety intervention had a significant improvement in the post test score of knowledge between experimental group and control group. Hence the formulated hypothesis (NH_2) stated that “There is no significant difference of knowledge score regarding road traffic accidents among adolescent boys between experimental & control group at $p<0.05$ level” which is rejected in posttest and accepted in pretest.

Association of posttest level of knowledge regarding road traffic accidents among adolescent boys in experimental and control group with their selected demographic variables.

In experimental, that there is a statistical significant association of level of knowledge with their selected demographic variables such as religion ($x^2=15.24$ at $p<0.001$) and family income ($x^2=8.637$ at $p<0.001$) in posttest level of knowledge.

In control, that there is a statistical significant association of level of knowledge with their selected demographic variables such as education status ($x^2=4.734$ at $p<0.05$), family income ($x^2=21.913$ at $p<0.001$), family structure ($x^2=5.804$ at $p<0.001$)& residence ($x^2=13.928$ at $p<0.001$) shows in the posttest level of knowledge.

Hence NH_3 was rejected in above variables in experimental and control group. The above findings were supported by **Dilshada Rashid and Aisha Akhter (2017)** a significant association was found between age ($p\leq 0.010$), education ($p\leq 0.004$), residence ($p\leq 0.001$), occupation of father ($p\leq 0.014$), monthly family income ($p\leq 0.010$) of study subjects and the pre-test knowledge scores.

IMPLICATION FOR NURSING PRACTICE

- Nurse Practitioner should collaborate with the other health team members for providing education to young people regarding impact of road traffic accident.

RECOMMENDATION:

- A comparative study on road traffic accident can be done in rural and urban community among adolescent boys.
- Further research needs to be done in the field of “accidentology” regarding personal attributes, human behaviour and environmental factors of accident occurrence.

CONCLUSION

The present study evaluated the effectiveness of road safety intervention on knowledge among adolescent boys regarding road traffic accident in selected school at Tiruvannamalai. The study findings concluded that there was a statistically significant difference in the level of knowledge after implementation of road safety intervention and this proved to be an effective. The finding of this study could be used as a primordial prevention to reduce the risk of road traffic accident among adolescent boys.

REFERENCE

1. Dilshada Rashid and Aisha Akhter, (2017). “Effectiveness of Structured Teaching Programme on Knowledge regarding prevention of Road Traffic Accidents Among Adolescents (13-18years) in Selected School of Baramulla,Kashmir”.International Annals of medication,1(5).
2. Joseph A,Kumar D,Bagavandas M & Nair RG,(2019). “Road Traffic Injuries in Tamilnadu”. A Growing Public Health Issue, India J Community Health,31(2),Pp-268-272
3. Kenith S, Miller Ruth. International statistical classification of diseases and related problem. 1st edition. NY: IPA; 2004.
4. Williams AF. Teenage Drivers: Patterns of Risk. J Saf Res (2003) 34:5–15. 10.1016/s0022-4375(02)00075-0
5. WHO. Global Status Report on Road Safety 2018. Geneva: World Health Organization; (2018). Licence: CC BYNC-SA 3.0 IGO.