

Effect of Structured Teaching Programme on Knowledge regarding Prevention of Road Traffic Accidents among Adolescents in Schools of Baramulla (Kashmir)

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Abstract

The study aimed to assess the effectiveness of structured teaching programme on knowledge regarding prevention of Road Traffic Accidents (RTAs) among adolescents (13-18 years) in selected schools of Baramulla, Kashmir. Pre-experimental one group pre-test and post-test research design was used. The sample had 62 adolescents studying in some schools of district Baramulla selected by stratified simple random sampling technique. The data collected by administering structured knowledge questionnaire was analysed and interpreted by using both descriptive and inferential statistics. Using SPSS: V-20, all the inferences were checked at 0.05 level of significance. The mean pre-test knowledge score was 19.40 which improved to 35.25 in post-test ($p < 0.001$). 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. Whereas no association was found between gender, occupation of mother and the pre-test knowledge scores ($p > 0.05$). The structured teaching programme improved the knowledge of adolescent students regarding prevention of RTAs.

Adolescence is like a bridge between childhood and adulthood, during which the individual is gaining further physical maturity, further education and training that will enable him/her to fulfill a useful role in adult society (Antonio & Matous, 2006). 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. RTAs are considered as one of the important public health problems around the world.

According to Global Status Report on Road Safety (2009), over 1.2 million people die each year on the roads worldwide and between 20 and 50 million suffer non-fatal injuries. Currently, RTAs are the 9th leading cause of death and are predicted to become the 5th leading cause of death by the year 2020. The problem of RTAs is compounded by the fact that, the age groups primarily involved in RTAs belong to the most productive age group of 15-40 years (WHO 2004, 2009). India alone accounts for 73 percent of RTA burden. Because of poor roads, ill-managed vehicles, improper rash driving, highway being the sites for play of children and inadequate teaching of traffic

rules as well as its inadequate incorporation in school curriculum leads to increased involvement of children in RTAs (Yadav, 2011).

Review of Literature

Bhat (2013) conducted an epidemiological study of road traffic accidents in Kashmir Valley. The findings revealed that 97.6 percent were grievously hurt and 60 percent had head injuries. The study recommended that young people and students should remain the priority target group for a comprehensive educational programme on driving principles, traffic rules & regulations, adoption of safe driving behaviour.

As per police records in J&K, RTAs have emerged as a major global public health problem of this century and are now recognized as "veritable neglected pandemic". In 2011, a total of 6,644 RTAs were reported of which 1,120 persons were killed and 10,108 were injured in J&K. During 2011 in Kashmir valley alone 2,164 road accidents were reported in which 326 persons were killed and 3,113 persons were injured whereas in 2009 and 2010, 319 and 264 people were killed and 3,050 and 2,077 persons were injured in 2,076 and 1,677 RTAs respectively (Bhat, Anjum & Rohul, 2013).

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The health care provider is supposed to educate the youth in order to prevent accidents. As Nurses, we have dual role to play by creating public awareness to follow the traffic rules and dealing with patients, casualties of road accidents, and help them recuperate from the trauma of suffering with moral support (Dr Lee Jong-Wook, 2004).

During clinical experience, researcher attended many adolescent patients who were RTA victims; Majority of them lost their lives and some remained disabled throughout their life. So the researcher was inspired to take up this issue for study.

Objectives

The study was carried out with the following objectives:

1. To assess the existing knowledge of adolescents regarding prevention of road traffic accidents among adolescents (a) before and (b) after implementation of structured teaching programme (i.e. pre-test and post-test).
2. To compare the pre-test and post-test knowledge scores regarding prevention of road traffic accidents among adolescents.
3. To determine the association of pre-test knowledge scores regarding prevention of road traffic accidents among adolescents with their selected demographic variables, i.e. age, gender, education, residence, occupation of parents and monthly family income.

Hypothesis

H₁: There is significant difference between the mean pre-test and post-test knowledge scores of adolescents regarding prevention of road traffic accidents at $p \leq 0.05$ percent level of significance.

H₂: There is significant association of pre-test

knowledge scores of adolescents regarding prevention of road traffic accidents with their selected demographic variables i.e age, gender, residence, education, occupation of parents and monthly family income at $p \leq 0.05$ percent level of significance.

Materials and Method

Pre-experimental one group pre-test and post-test research design. It was conducted in Government Higher secondary school Dangiwacha and Government Higher Secondary School, Behrampora, District Baramulla. The samples ($n=62$) were the adolescent students from class 9th to 12th between the age of 13-18 years studying in selected schools of Baramulla.

Data collection Tool: Structured knowledge questionnaire comprised of two sections.

Section I: Demographic variables on 6 items i.e. age, gender, education, residence, occupation of parents (father and mother) and monthly family income.

Section II: This consisted of 38 multiple choice questions related to basic knowledge of RTAs, causes, prevention and traffic rules & signs.

Structured Teaching Programme covered meaning and definition of RTAs, types of roads, types of

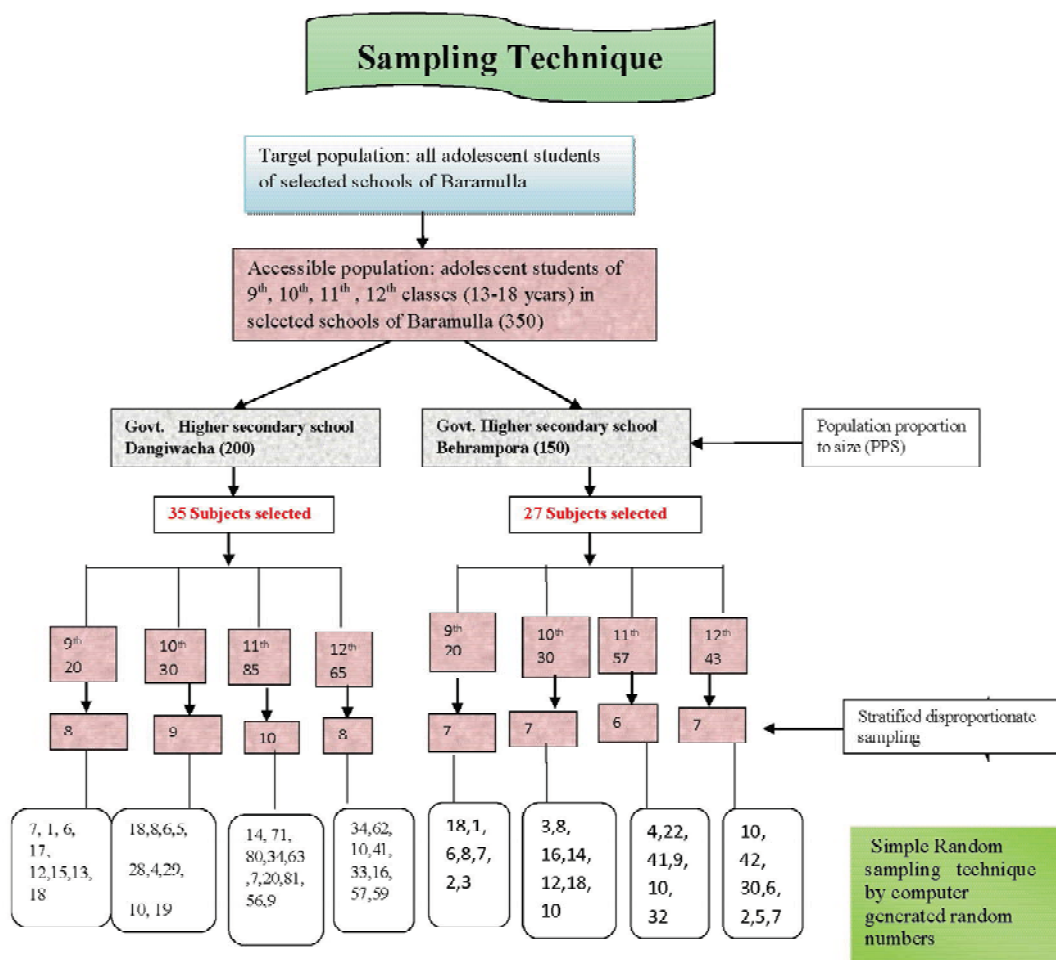


Table 1: Scoring System

Score	Amount of Knowledge
0-19 (≤ 50%)	Inadequate Knowledge
20-29 (51- 75%)	Moderately Adequately Knowledge
> 30 (> 75%)	Adequate Knowledge

RTAs, location of RTAs, causes or factors leading to RTAs, prevention of RTAs and traffic rules & signs.

Score Interpretation: Each correct response was given a score of (1) and incorrect or unanswered response was given a score of (0). According to the scores attained, the criterion of interpreting the scores was developed (Table 1).

Reliability: Reliability of the tool was established by using test re-test method. Scores of the tool administered at two different occasions were compared and calculated by using the formula of Karl Pearson's correlation coefficient:

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 \sum_{i=1}^n (Y_i - \bar{Y})^2}}$$

Where 'r' is reliability co-efficient.

The reliability of questionnaire was found $r = 0.96$.

Data analysis: Descriptive and inferential statistics were used. Descriptive statistics such as frequency and percentage was used to describe sample characteristics. Mean, SD, Median, Minimum, Maximum and Range was used to assess the knowledge of study subjects. Inferential statistics, paired 't' test was used to compare pre-test & post-test knowledge and ANOVA used to determine the association of pre-test knowledge scores with selected demographic variables.

Results

Out of 62 study subjects, in pre-test 31 (50%) of the subjects had inadequate knowledge, 30 (48.39%) had moderately adequate knowledge and only 1 (1.61%) had adequate level of knowledge regarding prevention of RTAs. In post-test, majority of the subjects ($n=61$, 98.38%) had adequate knowledge, only 1 (1.61%) had moderately adequate level of knowledge and none had inadequate level of knowledge regarding prevention of RTAs (Table 2). The mean pre-test knowledge score was 19.40 which improved to (35.25) in post-test at ($p < 0.001$) as shown in Table 3. A significant association was found between age ($pd \leq 0.010$), education ($pd \leq 0.004$), residence ($pd \leq 0.001$), occupation of father ($pd \leq 0.014$), monthly family income ($pd \leq 0.010$) of study subjects and

the pre-test knowledge scores. Whereas no association was found between gender, occupation of mother and the pre-test knowledge scores ($p > 0.05$) shown in Table 4.

Discussion

The first objective of the study was to assess the existing knowledge regarding prevention of RTAs among adolescents before implementation of structured teaching programme [pre-test] as in Table 1. These findings are supported by Nirmala & Padmaja (2012) to assess the effectiveness of Planned Health Education on Prevention of RTAs among School Children at Tirupati. Out of 50 children (in pre-test), 43 (86%) had inadequate knowledge, 7 (14%) had moderately adequate knowledge and none were having adequate knowledge.

The second objective of the study was to assess the knowledge regarding prevention of RTAs among adolescents after implementation of structured teaching programme [post-test] Table 1. The findings have been supported by the same study conducted by Nirmala, Padmaja (2012) to assess the effectiveness of Planned Health Education on Prevention of RTAs. Out of 50 children (in post-test), 1 (2%) had inadequate knowledge, 6 (12%) had moderately adequate knowledge and 43 (86%) had adequate knowledge which indicates the effectiveness of health education on knowledge regarding prevention of RTAs at $p < 0.01$ level of significance.

The third objective was to compare the pre-test and post-test knowledge scores regarding prevention of RTAs among adolescents (Table 2). The findings are supported by a study conducted by Jayavel & Lizy

Table 2: Comparison between pre-test and post-test Knowledge level of study subjects regarding prevention of road traffic accidents (N=62)

Knowledge level	Pre-test		Post-test	
	(f)	%	(f)	%
Adequate (30-38)	1	1.61%	61	98.39%
Moderately adequate (20-29)	30	48.39%	1	1.61%
Inadequate (0-19)	31	50%	0	0.0%

Table 3: Comparison between pre-test and post-test mean knowledge score of study subjects regarding prevention of road traffic accidents (N=62)

Knowledge score	Mean / Standard deviation	Mean difference	p-value
Pre-test knowledge score	19.40 ± 4.66	15.85	<0.001*
Post-test knowledge score	35.25 ± 2.51		

* Significant

Table-4: Association of pre-test knowledge scores of study subjects with their selected demographic variables

Variables	Category	Mean / SD	Mean difference	p-value
Age	≤15 years >15 years	20.90± 4.36 17.90 ± 4.54	3.0	0.010 *S
Gender	Male Female	19.50 ± 5.24 19.20± 3.25	0.30	0.784 NS
Education	9th 10th 11th 12th	19.20 ± 4.54 22.68 ± 3.40 17.00 ± 5.11 18.67 ± 3.79	3.48 2.2 0.53 5.68 4.01 1.67	0.004 *S
Residence	Rural Urban	17.65± 4.21 23.37± 2.93	5.72	<0.001 *S
Occupation Of Father	Employee Business Farmer/Labour	22.90 ± 4.01 19.03 ± 4.72 17.94 ± 4.04	3.87 4.96 1.09	0.014 *S
Occupation Of Mother	Employee Housewife	23.00± 3.86 19.09 ± 4.63	3.91	0.072 NS
Monthly Family Income	≤20,000 20,000-50,000 >50,000	17.64 ± 4.309 21.07 ± 4.69 21.75 ± 1.50	3.43 4.11 0.68	0.010 *S

NS- Not Significant (p > 0.05) ; * S- Significant (p≤0.05)

between knowledge score and residence (F=0.32). But in present study, researcher found significant association between pre-test knowledge scores and residence of study subjects at pd*0.001 level of significance. Results may vary because of small sample size.

Conclusion

The study concluded that the structured teaching programme improved the knowledge of adolescents regarding prevention of RTAs.

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(2014) to assess effectiveness of structured teaching programme on prevention of RTAs among 150 adolescent students in Sri Krishna International School and PU College at Bangalore. The average pre-test knowledge score was found 34.753. After the STP, the mean post-test knowledge score was 49.033. The mean difference between pre-test and post-test knowledge score was 14.28. This was statistically significant at p<0.001.

The fourth objective was to determine the association of pre-test knowledge scores regarding prevention of RTAs (Table 3). These findings are supported by a study conducted by Shampalatha (2006) to assess the knowledge on road safety among 100 primary school children at selected urban and rural schools of Bangalore.

The results revealed that there was significant association between knowledge scores and selected demographic variables i.e. age, sex, number of siblings, medium of instruction, family income and education of mothers (F=8.95, 6.37, 5.87, 50.06, 6.72, 11.04), the F test value revealing significance at 5 percent level (p<0.05). While no association found

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