

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Prevention of Road Traffic Accidents among Students of Selected College at GNSU, Rohtas

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Abstract: *India has one of the largest road networks in the world. However, Road safety is an issue of national concern. Surge in population and motorization in the country along with expansion of road network contributes to the number of road accidents, injuries and fatalities. The aim of the study was to assess the effectiveness of structured teaching program on knowledge regarding prevention of road traffic accidents among students of selected college at GNSU, Rohtas”.*

METHODOLOGY: *Methodology is the systematic, pre-experimental study to assess the effectiveness of structured teaching program on knowledge regarding prevention of road traffic accident among students of selected college at GNSU, Rohtas.” Sample population of 60 students will be selected by purposive sampling technique. Validated tools are used to assess the pre- test and post- test knowledge score on prevent of road traffic accidents among students. The data obtained will be combined tabulated to analysed using descriptive and inferential statistical methods.*

RESULTS: *Pre-test revealed that among students had poor knowledge with a mean score of 17.8. After giving structured teaching program, post test scores increased to 22.66. The association was found between the knowledge scores of among students with Age, Previous history of accidents in the last 5 years which was significant at the level of 0.05.*

CONCLUSION: *Majority of the samples have inadequate knowledge level. There was a highly significant increase in the level of knowledge among the subjects after the administration of STP. The paired ‘t’ test computed between mean pre-test knowledge score and mean post-test knowledge score, indicated a highly significant difference in the knowledge scores among students. Thus, it is concluded that the STP is effective to improve the level of knowledge among student samples in selected college at GNSU Rohtas.*

PROBLEM STATEMENT: *“A study to assess the effectiveness of structured teaching program on knowledge regarding prevention of road traffic accidents among students of selected college at GNSU, Rohtas.”*

I. INTRODUCTION

According to Global status Report 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.

According to WHO, nearly 1.7 million people lost their lives every year due to road accident and more than 26000 children die and up to 10 million are injured in road crashes each year India has the second largest road network in the world with over 3 million km of roads of which 46% are paved. The traffic contains an incredible mix of pedestrians, animal drawn vehicles, bicycles, motorcycles, cars, buses.

India alone accounts for 73% of RTA burden. Because of poor roads, ill-managed vehicles, improper rash driving, highway being the sites for the play of children and inadequate teaching of traffic rules as well as its inadequate incorporation in the school curriculum that leads to increased involvement of children in RTAs.

Although the number of lives lost in road accidents in high-income countries indicate a downward trend in recent decades, for most of the world's population, the burden of road-traffic injury—in terms of societal and economic costs—is rising substantially. Injury and deaths due to road traffic accidents (RTA) are a major public health problem in developing countries where more than 85% of all deaths and 90% of disability-adjusted life years were lost from road traffic injuries. As a developing country, India is no exception. Not a day passes without RTA happening in the roads in India in which countless number of people are killed or disabled. Often members of the whole family are wiped out. Those who are affected or killed are mostly people in their prime productive age.

Motorization has enhanced the lives of many individuals and societies, but the benefits have come with a price. Although the number of lives lost in road accidents in high-income countries indicate a downward trend in recent decades, for most of the world's population, the burden of road-traffic injury -in terms of societal and economic costs-is rising substantially. Injury and deaths due to road traffic accidents (RTA) are a major public health problem in developing countries where more than 85% of all deaths and 90% of disability-adjusted life years were lost from road traffic injuries.

As a developing country, India is no exception. Not a day passes without RTA happening in the roads in India in which countless number of people are killed or disabled. Often members of the whole family are wiped out. Those who are affected or killed are mostly people in their prime productive age. The highest burden of injuries and fatalities is borne disproportionately by poor people, as they are mostly pedestrians, cyclists, and passengers of buses and minibuses.

II. MATERIAL AND METHOD

Methodology is the systematic, pre-experimental study to assess the effectiveness of structured teaching program on knowledge regarding prevention of road traffic accident among students of selected college at GNSU, Rohtas.”

Research Approach

Research approach is quantitative approach empirical and critical investigation of natural phenomenon guided by theory and hypothesis. In view of nature of the nature of problem under study and to accomplish the objectives of the study, quantitative approach was found to be appropriate to describe the knowledge of students regarding prevention of road traffic accidents.

Research Design

A one group pre-test and post-test pre-experimental design was used to assess the effectiveness of structured teaching programme regarding the prevention of road traffic accidents among the students. A research design is a systematic plan to study a scientific problem. Research design helps the researcher in selection of subjects, manipulation of experimental variables, control of extraneous variables, procedure for data collection and the type of statistical analysis to be used to interpret data.

Setting of the Study

Setting is the location and conditions in which data collection takes place. The study was conducted in GNSU College Rohtas (BIHAR), Bommanahalli, Bangalore. The selection of college was done on the basis of

- ❖ Geographical proximity
- ❖ Feasibility of conducting study
- ❖ Availability of sample

III. POPULATION

A research population is also known as a well-defined collection of individuals or objects known to have similar characteristics. In the present study the population comprises of adolescents between the age of 18-26 year.

Sample Technique:

Simple random Sampling Technique was used to select the sample for the study. It is a type of non-probability sampling method in which the researcher selects participants for the study on the basis of personal judgement about which ones will be most representative or productive.

Sampling Criteria:

Inclusion Criteria

- Students between age group of 18-26 years
- Students who are willing participate in the study.
- Students who can speak and read English.

Exclusion Criteria

- Adolescents who are not willing to participate in the study.
- Adolescents who are not available at the time of data collection.

Variable

Variable is an attribute of a person or object that varies that it takes on different values. **Independent Variable**-Planned teaching program **Dependent Variable**- Knowledge level. **Demographic variables**- Age, Gender, Religion, History of accident in 5year, Place of Residence, Educational status, Source of information, Mode of transportation use to come for college.

Extraneous Variables- Extraneous variables under the study are age, sex, educational level of parents, occupation of parents, monthly income, religion and source of information.

Method of Sample Collection

Simple random Sampling Technique was used to select the sample for the study. It is a type of non-probability sampling method in which the researcher selects participants for the study on the basis of personal judgement about which ones will be most representative or productive.

Ethical Consideration

The approval of the research proposal was obtained from the Ethical Committee, NMCH. Informed written consent of each participant was given freedom to withdraw from the study at any period. The assurance was given to the study participants that anonymity and confidentiality would be maintained.

IV. DESCRIPTION OF THE TOOL

Part A- Demographic data

Age, Gender, Religion, History of accident in 5year, Place of Residence, Educational status, Source of information, Mode of transportation use to come for college.

Part B-Structured Knowledge questionnaire on prevention of road traffic accidents

Check lists was used to assess the knowledge regarding college student. It consists of 15 multiple choice questions and 10 questions True and False including factors. Items analysis. There is total 25 items.

Scoring procedure

It consists of 25 statement which include tick out the right answer and true and false. In optional question we give 15 question and in true and false we give 10 questions. In optional question who gave right answer we give as 1 mark and those give wrong answer, we give 0 marks. Total score of 25.

Criteria of level of knowledge Score/ tool Scoring.

Good Knowledge- 16-25

Average Knowledge- 09-15

Poor Knowledge- 0-8

Validity of the Tool

The prepared blue print of the tool along with objectives of the study was submitted to 5 experts for content validity who included three experts from Nursing faculty and two Doctor. The suggestions given by them were incorporated and the tool was modified. The final tool got its shape after modification based on the opinion of the guide. It consisted of socio demographic data 8 items and knowledge 25 items which had 100% agreement.

Procedure of Data Collection

Formal administrative permission was obtained from the principal of the college prior to data collection. The final study data was collected from 20th December, 2021 to 27th December, 2021 in GNM students Narayan Nursing College Jamuhar Rohtas Bihar The investigator contacted all the respondents before conducting the study.

The investigator introduced herself and explained the purpose of the study to the college students, then obtained the consent and planned the time schedule for collecting data. Seating arrangements were made and data was collected in classroom.

V. PRE-TEST

Pre-test was conducted on 20th December, 2021 using structured knowledge questionnaire.

Implementation of Self-Instructional Module

After pre-test the investigator was administered STP on second day with the following instructions:

- Keep the structured teaching program (STP) with them for 7 days
- Read the structured teaching program (STP) thoroughly 33
- Come for the post test on the 8 th day to find out the effectiveness of structured teaching program (STP).

Post- Test

Post test was conducted 7 days after the administration of STP. All the respondents were cooperated well with the investigator in both Pre-test and post-test. The process of data collection was completed by thanking the respondents for their participation, interest and cooperation.

Pilot Study

A pilot study is a research project that is conducted on a limited scale that allows researchers to get a clearer idea of what they want to know and how they can best find it out without the expense and effort of a full-fledged study. The function of pilot study is to obtain information for improving the project or assessing its feasibility

The pilot study was conducted from 06 th December 2021 to 13th December 2021. An administrative approval was obtained from the principal of college to conduct the pilot study.

Six students were selected by simple sampling. The subjects for pilot study possessed the same characteristics as that of sample for the main study. On day 1, (06 th December 2021) pre-test was administered and day two structured teaching program was administered. Post-test was administered (13th December 2021), which was 7days after the administration of STP. Pilot study findings indicate that the tool and STP were found feasible, practicable and acceptable and therefore investigator proceeded for the main study.

Data Analysis

- Coding was done for each item.
- In master sheet coded data were entered.
- They were again entered in master sheet with key for coding.
- Frequency and percentage distribution for socio-demographic characteristics of sample was done.
- Analysis of knowledge regarding prevention of road traffic accidents among college students.

Results

- Out of 60 students 45(75%) students are having 18-20 years 14(23.30%) of the age 20-22 years 14(23.30%) are having 22-24 year 1(1.67%) are between 24-26 0(0.10%).

- Out of 60 students 35(58.33%) students are having Urban area and 21(35%) of the Rural area 4(6.67%) are having semi urban
- Out of 60 students 9(15%) students are having Text book Journal 17(28.33%) of the Mass media 18(30%) students are between Friends 16(26.67%) students are having Teachers
- Out of 60 students 20(33.33%) students are having Buses 14(23.33%) of the Motorcycles 7(11.67%) are between Car 19(31.67%) students are having Auto

Implication of Nursing Education

- Nurses must be encouraged to give public education, life support training should be looked into, as possible means of improving the current situation.
- Introduce the preventive measures to reduce the burden of mortality and morbidity due to road accidents.
- Integration of health education on both knowledge on road traffic accidents and the knowledge on practices on prevention of road traffic accidents were significant.

Implication of Nursing Administration:

- Nursing administrator plan the interventions in Road traffic accidents should include combined efforts from the community, public and private sector, governmental and non- governmental organizations.
- Further road traffic injury prevention interventions should be performed in Low- and middle-income countries with patient-centered outcomes in order to guide injury prevention in these complex settings.
- Facilitating free distribution of booklets, handouts, charts regarding awareness of road traffic accidents and safety traffic rules regularly to school and college students.

Implications for Nursing Research

- The results of the study contribute to the body of knowledge of nursing. Future investigators can use the methodology as reference material. The suggestions and recommendations can be utilized by other researchers conducting further studies in the same field.
- There is a need to promote research activities that focus on exploring and identifying factors constraining as well as facilitating knowledge, relevant to prevention of road traffic accidents.

Recommendations for Future Research

- A Pre- experimental study can be conducted between the various age groups of children.
- A similar study can be conducted to assess the practice of among student towards utilization of road safety practices.

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Description of Table and Figures

PART-A

N=60

DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF STUDENTS

S.NO	Demographic variables	Frequency(n)	Percentage (%)
1.	Age		
a	18-20 (years)	45	75%
b	20-22 (years)	14	23.3%
c	22-24 (years)	1	1.67%
d	24-26 (years)	0	0.1%
2.	Gender	Frequency(n)	Percentage (%)
a	Male	38	63.33%
b	Female	22	36.67%
3.	Religion	Frequency(n)	Percentage (%)
a	Hindu	55	91.67%
b	Christian	1	1.67%
c	Muslim	4	6.67%
d	Other	0	0%
4.	Previous history of accidents in the last 5 years	Frequency(n)	Percentage (%)
a	Yes	11	18.33%
b	No	49	81.67%
5.	Place of Residence	Frequency(n)	Percentage (%)
a	Urban area	35	58.33%
b	Rural area	21	35%
c	Semiurban	4	6.67%
6.	Educational status	Frequency(n)	Percentage (%)
a	Diploma	42	70%
b	UG (Under Graduate)	18	30%

c	PG (Post Graduate)	0	0%
7.	Source of information	Frequency(n)	Percentage (%)
a	Text book Journal	9	15%
b	Mass media	17	28.33%
c	Friends	18	30%
d	Teachers	16	26.67%
8.	Mode of transportation use to come for college	Frequency(n)	Percentage (%)
a	Buses	20	33.33%
b	Motorcycles	14	23.33%
c	car	7	11.67%
d	Auto	19	31.67%

N=60

AGE

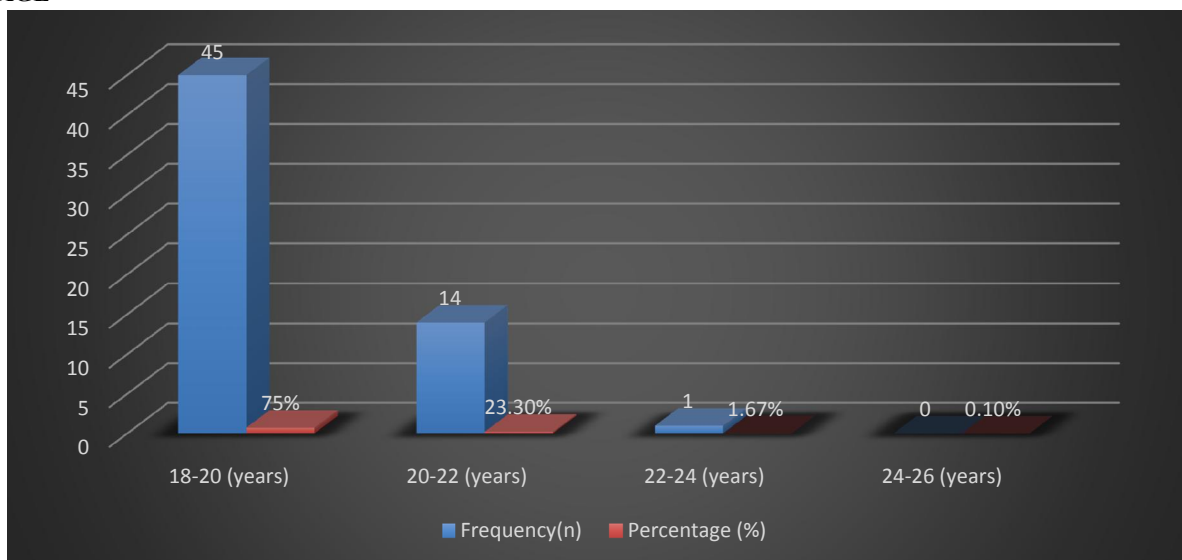


Fig1: - Percentage distribution according to age

Findings:- Out of 60 students 45(75%) students are having 18-20 years 14(23.30%) of the age 20-22 years 14(23.30%) are having 22-24 year 1(1.67%) are between 24-26 0(0.10%).

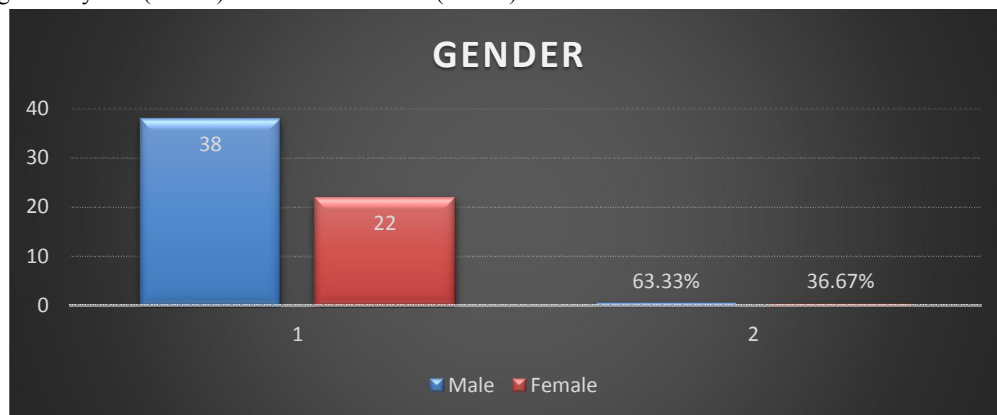


Fig 1.2: - Percentage distribution according to gender

Findings:- Out of 60 students 38(63.33%) students are having 22(36.67%)

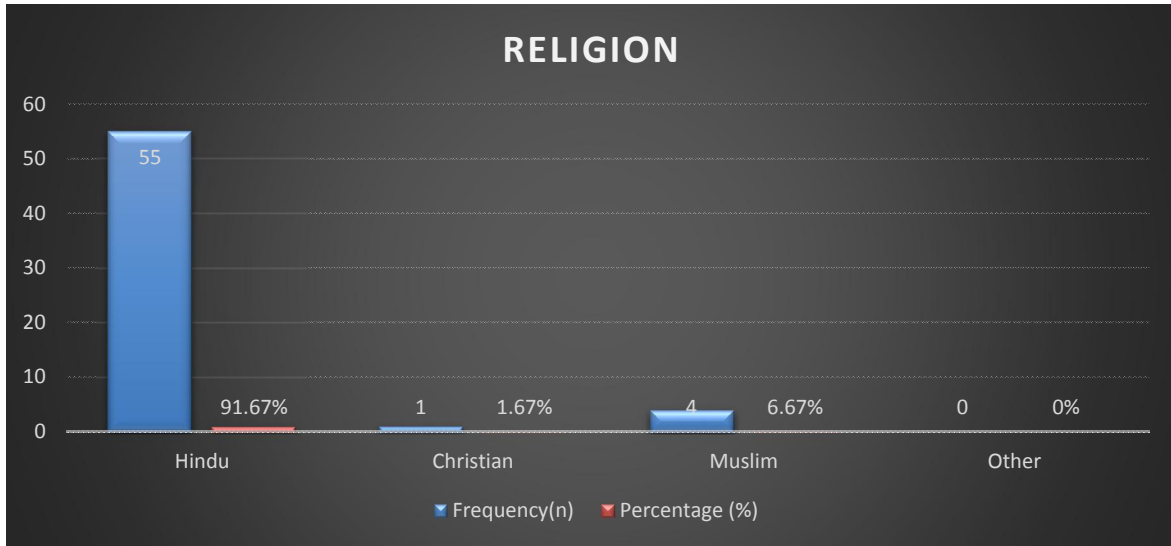


Fig 1.3: - Percentage distribution according to religion

Findings:- Out of 60 students 55(91.67%) students are having hindu of the religion 1(1.67%) are having christian 4(6.67%) are between Muslim and only 0(0%) are other

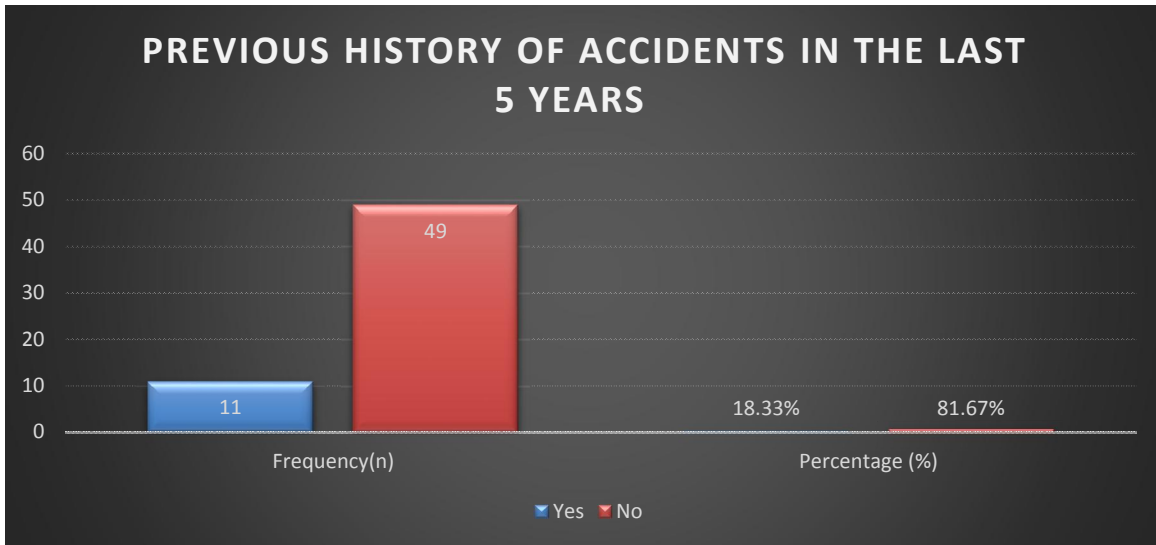


Fig 1.4: - Percentage distribution according to previous history of accidents in the last 5 years

Findings:- Out of 60 students 11(18.33%) students are having YES of the 49(81.67%) are having NO.

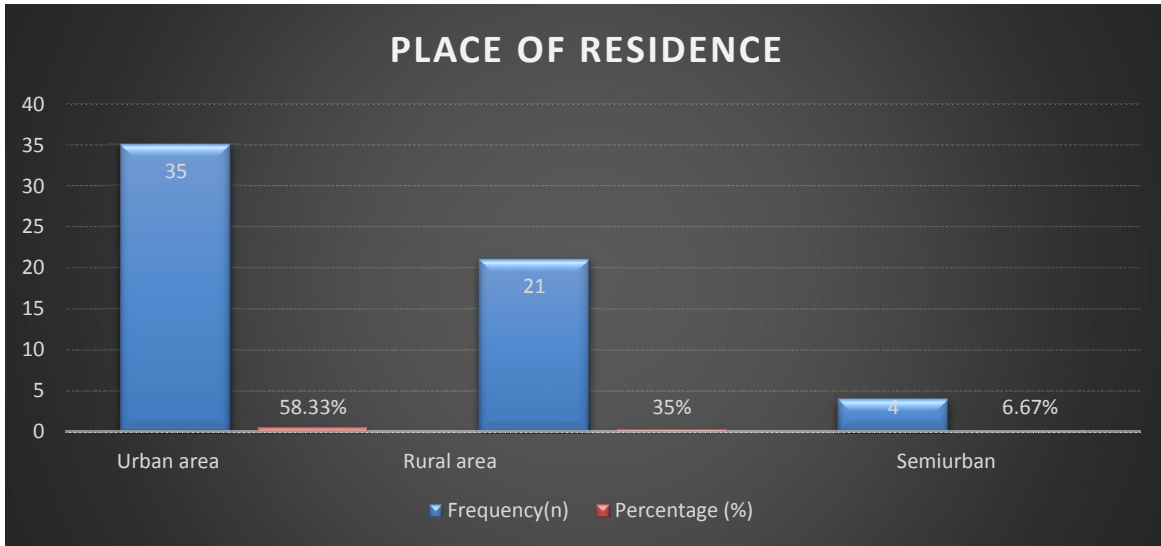


Fig1.5: - Percentage distribution according to place of residence

Findings:- Out of 60 students 35(58.33%) students are having Urban area and 21(35%) of the Rural area 4(6.67%) are having semi urban

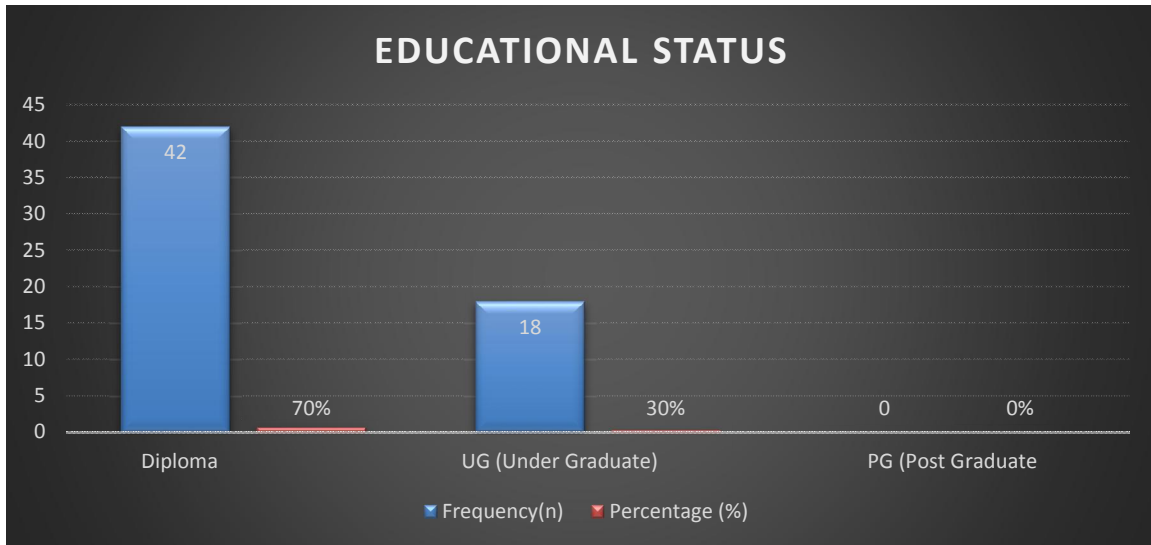


Fig 1.6: - Percentage distribution according to educational status

Findings:- Out of 60 students 42(70%) students are having Diploma and 18(30%) of the Under Graduate (UG) and only 0(0%) are having Post Graduate (PG)

Mass media 18(30%) students are between Friends 16(26.67%) students are having Teachers

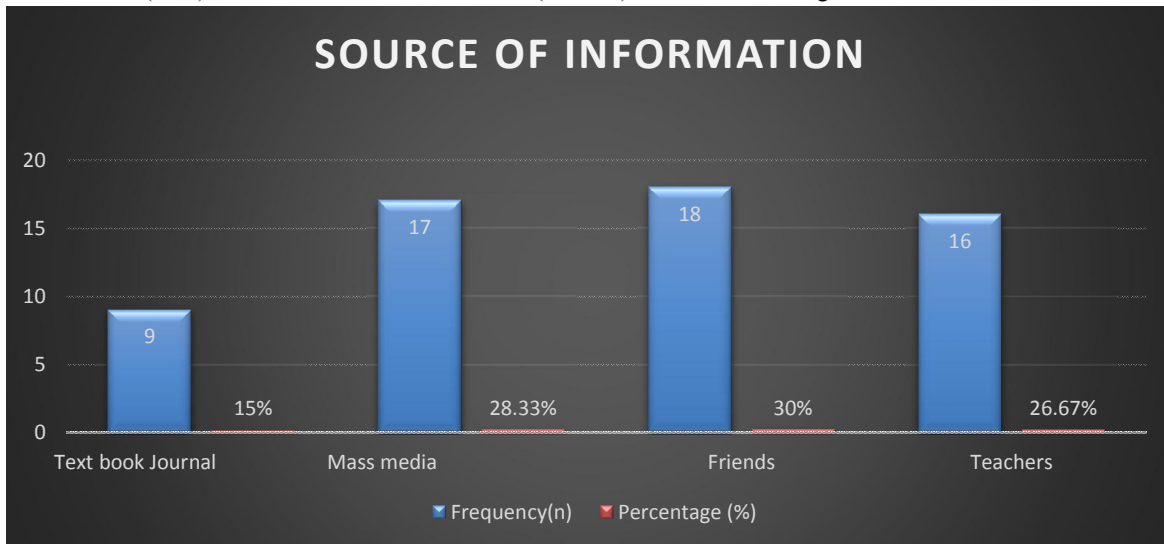


Fig 1.7: - Percentage distribution according to source of information

Findings:- Out of 60 students 9(15%) students are having Text book Journal 17(28.33%) of the Mass media 18(30%) students are between Friends 16(26.67%) students are having Teachers

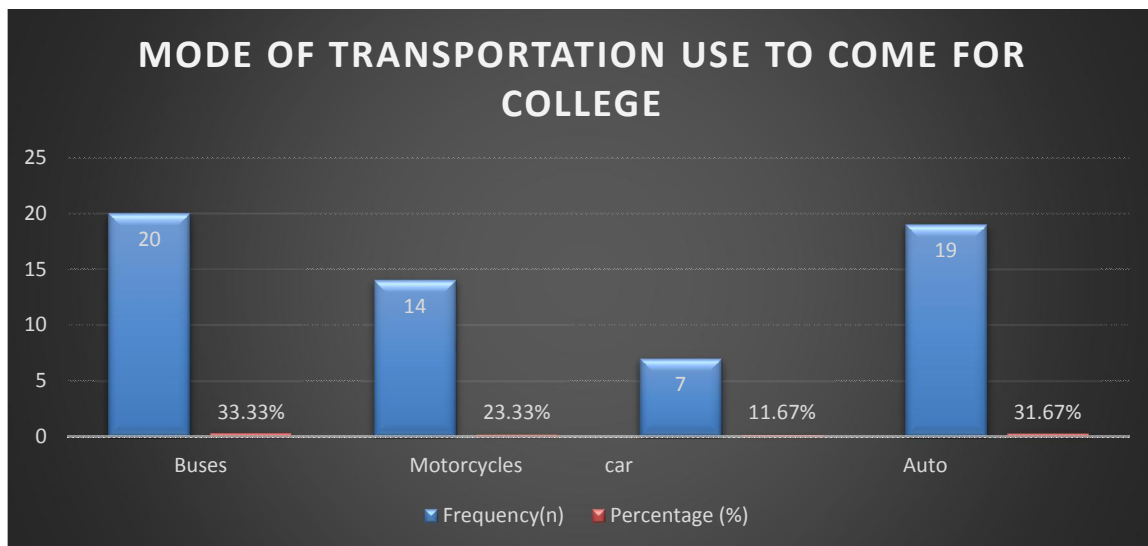


Fig 1.8: - Percentage distribution according to mode of transportation use to come for college

Findings:- Out of 60 students 20(33.33%) students are having Buses 14(23.33%) of the Motorcycles 7(11.67%) are between Car 19(31.67%) students are having Auto

PART-B N=60

KNOWLEDGE REGARDING PREVENTION OF ROAD TRAFFIC ACCIDENTS BEFORE STRUCTURED TEACHING PROGRAMME.

Total score and item wise analysis of knowledge with regarding on Road traffic accidents in pre-test and post-test among college students. Percentage distribution of knowledge of Road traffic accidents.

Pre-test

SI. NO.	VARIABLES	MAX SCORES	LEVEL OF KNOWLEDGE					
			POOR		AVERAGE		GOOD	
			f	%	f	%	f	%
1	Overall	25	0	0%	14	23.33%	46	76.66%

Post-test

SI. NO.	VARIABLES	MAX SCORES	LEVEL OF KNOWLEDGE					
			POOR		AVERAGE		GOOD	
			f	%	f	%	f	%
1	Overall	25	0	0%	5	8.33%	55	91.66%

PART-C

Level of knowledge of college students in pre – test and post- test with regards to Road traffic accident

Table: Level of knowledge of college students in pre-test with regards to Road traffic accident

SI. NO	VARIABLES	MAX SCORES	MEAN		STANDARD DAVIATION		MEAN PERCENTAGE	
			Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
			1	Overall	25	17.8	22.66	3.11

SI. NO	VARIABLES	MAX SCORES	MEAN		STANDARD DAVIATION		MD	PAIRED T TEST
			Pre-test	Post-test	Pre-test	Post-test		
			1	Overall	25	17.8		

PART-D

TO FIND ASSOCIATION BETWEEN POST-TEST KNOWLEDGE SCORE OF STUDENTS ON PREVENTION OF RTA WITH SELECTED DEMOGRAPHIC VARIABLES.

Demographic variables	LEVEL OF KNOWLEDGE						df	P	
	AFTER STRUCTURE TEACHING PROGRAMME								
	>60%		32-60%		<32%				X ²
	F	%	F	%	F	%			
1.Age a. 18- 20 b. 20-22 c. 22-24 d. 24-26	42	70	3	5	0	0	0.9038	2	0.043 S
	12	20	2	3.33	0	0			
	1	1.66	1	0	0	0			
	0	0	0	0	0	0			
2. Gender	35	58.33	3	5	0	0			

a. Male	20	33.33	2	3.33	0	0	0.0260	1	0.871
b. Female									N ^S
3. Religion	50	83.33	5	8.33	0	0	0.4958	2	0.780
a. Hindu	1	1.66	0	0	0	0			
b. Christian	4	6.66	0	0	0	0			
c. Muslim	0	0	0	0	0	0			
d. Other									
4. Previous history of accidents in the last 5 years.	11	18.33	0	0	0	0	1.2244	1	0.036S
a. Yes	44	73.33	5	8.33	0	0			
b. No									
5. Place of Residence	31	51.66	4	6.66	0	0	3.8025	2	0.149
a. Urban area	21	35	0	0	0	0			
b. Rural area	3	5	1	1.66	0	0			
c. Semiurban									N ^S

6. Educational status	39	65	0	0	3	5	0	0	0.2597	1	0.610
a. Diploma	16	26.66	0	0	2	3.33	0	0			
b. UG (Under Graduate)	0	0	0	0	0	0	0	0			
c. PG (Post Graduate)											
7. Source of information	9	15	0	0	0	0	0	0	2.4607	3	0.482
a. Text book	16	26.66	0	0	1	1.66	0	0			
b. Mass media	16	2.66	0	0	3	5	0	0			
c. Friends	15	25	0	0	1	1.66	0	0			
d. Teachers											
8. Mode of transportation use to come for college	19	31.66	0	0	1	1.66	0	0	3.2710	3	0.351
a. Buses	14	23.33	0	0	0	0	0	0			
b. Motorcycles	6	10	0	0	1	1.66	0	0			
c. car	16	26.66	0	0	3	5	0	0			
d. Auto											N ^S

RELIABILITY OF THE TOOL

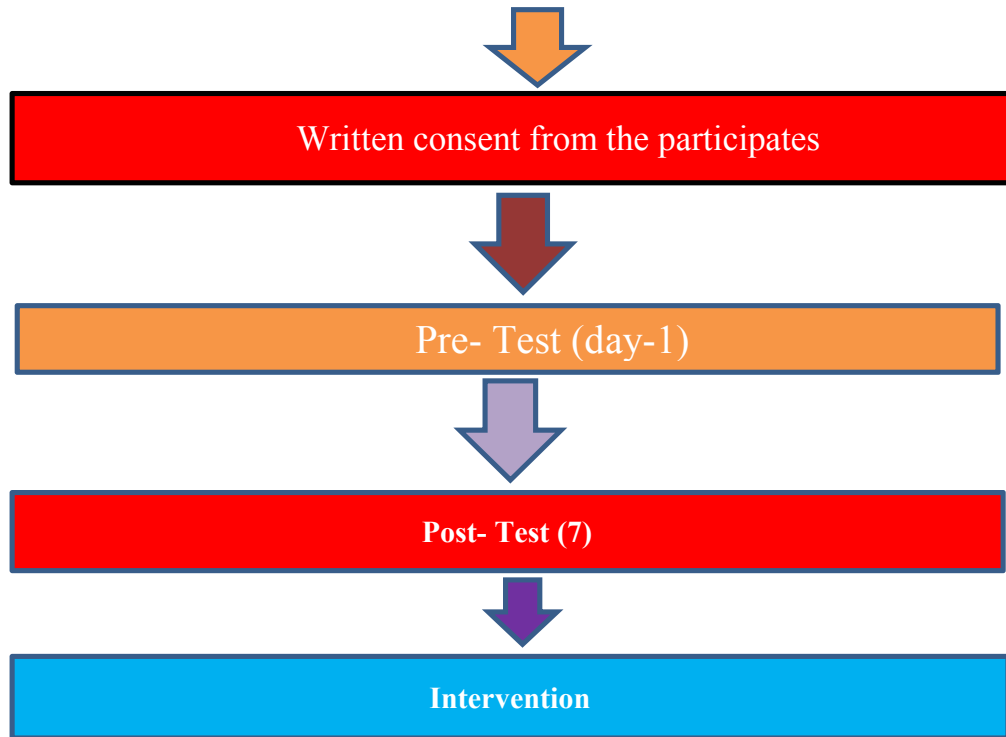
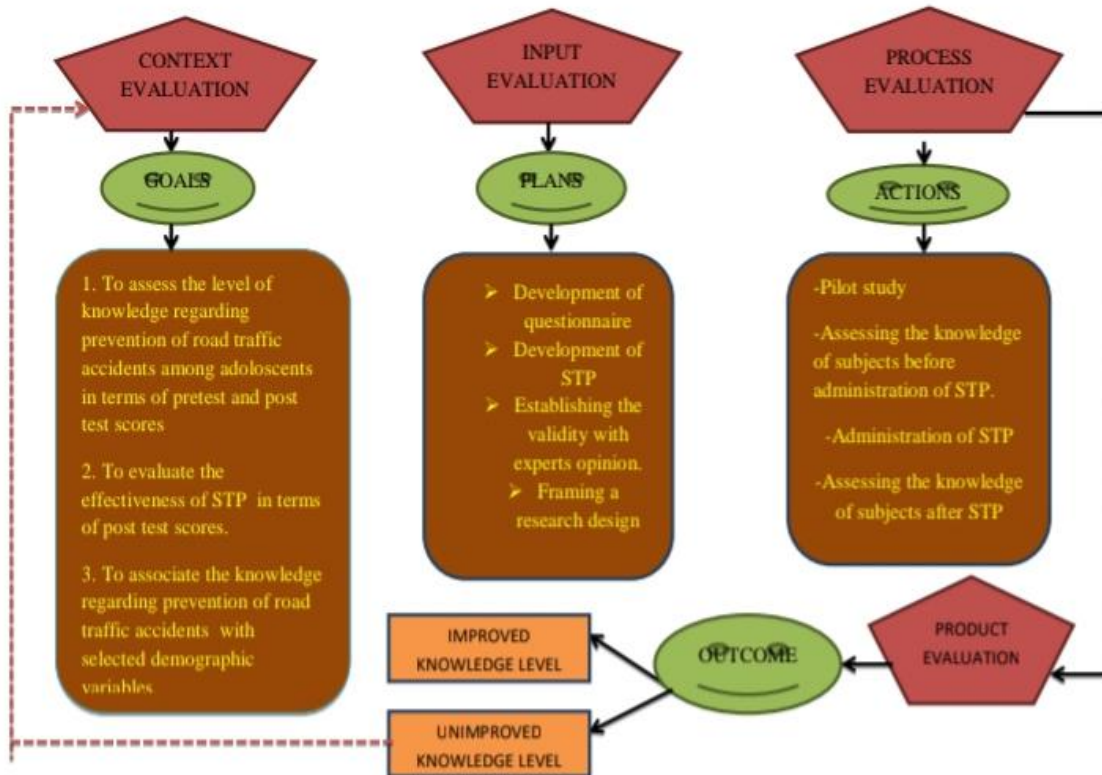


Fig: -1.9

CONCEPTUAL FRAME WORK

Conceptual framework is the abstract logical structure which enables the researcher to link the findings to the nursing body of knowledge. It is a group of concepts and set of propositions that spell out relationship between them. The present study is aimed at evaluating the effectiveness of structured teaching programme on prevention of road traffic accidents. The conceptual framework of this study is based on the context, Input, process and product (CIPP) model of Daniel stuffle beam (1971). An evaluation is a systematic investigation of some objects value. Evaluation is the process of delineating, obtaining, reporting and applying descriptive or judgemental information about some object merit and probity in order to guide decision 9 making, disseminate effective practices and increase understanding of the involved phenomena



Daniel Stuffle beam Program Evaluation Model (1971)

FIG: - 2.0

LIST OF ABBREVIATIONS

1. < : Less than
2. > : Greater than
3. n : Frequency
4. N : Total Number
5. df : Degree of frequency
6. NS : Not Significant
7. S : Significant
8. SD : Standard Deviation
9. χ^2 : Chi square
10. NO : Number of
11. IEC : Information Education Communication
12. % : Percentage
13. r : Coefficient and Co- relation