A Study to Evaluate the Effectiveness of Structured Teaching Program on Child to Child Approach on Knowledge Regarding Prevention of Accidents among High School Children at Selected High School

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Abstract: *<u>Aim</u>: The research approach used for this study was evaluation approach and the design selected Quasi Experimental study with pre-test–post-test design. A total of 50 students of high school children were participated in the study as sample. Out of 50 students, 41 (82 %) were under below average knowledge level in pre test whereas in post-test were found nil, 9 (18 %) were under average knowledge level in pre test whereas 8 (13.3 %) were average knowledge level in post-test, above average knowledge level in pre test were found nil whereas 42 (84. %) were under above average knowledge level in post-test. These differences indicate that structured teaching programme was highly affected in students of high school children. Reveals that there was significant association between pre-test knowledge scores on prevention of accidents with education, income and source of information among mothers where the obtained chi square values significant at 0.05 level of significance. Whereas there was no significant association between age, religion and type of family where they obtained chi square values were not significant. . . By this study high school children gain knowledge regarding effectiveness of prevention of accidents.*

Keywords: prevention of accidents, high school children, structured teaching programme, effectiveness

1. Introduction

India is a global leader of deaths in road accidents. Accident can be defined as "An event that occurs on a way or street open to public traffic resulting in one or more persons being injured or killed, where at least one moving vehicle is involved". Accidents are an outcome of the interplay of various factors, some of which are ignorance, carelessness, thoughtlessness, over confidence, length of road network, vehicle population and human population etc. Accident causes injuries, fatalities, disabilities and affects children's growth and development[1]According to the global status report on road safety 2015, reflecting information from 180 countries, indicates that worldwide the total number of road traffic deaths has plateau at 1.25 million per year with millions more sustaining serious injuries and living with long-term adverse health consequences. Globally, road traffic crashes are a leading cause of death among young people, and the main cause of death among those aged 10–14 years and second leading cause of death in these 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[2] Globally, 1.2 million people die and another 20-50 million sustain injuries from road accidents every year. Road accidents are 9 leading cause of deaths and are estimated to become the 5-leading cause of death by 2020. Globally road traffic injuries are the leading cause of death among young people aged 15-19 years and second leading cause among 10-14-year olds[3] Among children aged 1–5 years, injuries are the leading cause of death in the developed world Additionally, there is an unequal distribution between the developed and the developing world, with the mortality rate from unintentional injuries in developing countries being nearly twice that of the developed world According to the World Health Organization (WHO), up to 50 % of the children presenting to a hospital with unintentional injuries are left with some form of disability More than 95 % of all the injury deaths in children occur in the Low and Middle Income countries children in Southeast Asia have the second highest rates (49/100, 000) of unintentional injuries in the world.3 According to World Health Statistics 2015, overall under 5 mortality rate (U5MR) in India in 2013 is 52.7 per 1000 live births and injury specific mortality rate is around 2.1 per 1000 live births contributing to 4 % of the total Under 5 MR. In a national survey based on verbal autopsy, the mortality rate related to injuries among children under 5 years was 302 per 100, 000 live births Studies from rural Andhra Pradesh and Tamil Nadu have documented injury rates of 307 and 342 per 1000 child-years respectively.

2. Need for the Study

As children grow and their world extends beyond the home and out into local roads, they are exposed to hazards and risks. Despite the fact that children use roads as pedestrians, cyclists, motorcyclists and vehicle passengers, the road environment is rarely developed with consideration for their needs. Children work, play or live on the road and this exposure along with other risk factors inherent to childhood makes them particularly vulnerable in traffic.[10]Accident is as an unfortunate incident that happens unexpectedly and unintentionally, resulting in damage or injury. Increased number of vehicles drinks

driving, inadequacies of the road, over confidence, distracted driving, ignorance, increased speed of the vehicles and child restraints are the commonest causes for increased road accidents. Each year more than 20 million people are injured and 1.25 million are killed due to road traffic accident.[1][1]Urgent action is needed to achieve the determined target for road safety reflected in the newly adopted 2030 agenda for sustainable development and halving the global number of deaths and injuries from road traffic crashes by 2020.[2] India a middle income country with a population of more than a billion witnessed 31.3 % of the road traffic deaths among 15 to 29 years individuals in the year 2011 as reported by national crime records bureau (NCRB).[1][3] Simple measures like awareness and practice of road safety measures can effectively reduce the impact of RTAs on the lives of people. if these adolescents who are going to be adults of tomorrow are made aware of road safety measures[15]. Economically disadvantaged families are hardest hit by the losses arise from cost of treatment and reduced/lost productivity for the killed or disabled, and for their family members who need to take time off to care for the injured. Road traffic injuries are increasing, notably in low-and middle-income countries, rates being twice than those in high-income countries. Over a third of road traffic deaths in low and middle-income countries like India occur among pedestrians and cyclists. Current trends suggest that road traffic injuries will become the fifth leading cause of death by 2030. Hence, this study will be carried out with an objective to assess the knowledge regarding prevention of accidents among high school children[16]

Statement of the Problem: "A study to assess the effectiveness of child to child approach on knowledge regarding prevention of accidents among high school children at selected high school.1[7].

Objectives of the study:

- To assess the knowledge regarding prevention of accidents among high school children.
- To evaluate the effectiveness of child to child approach regarding prevention of accidents among high school children.
- To associate the post-test level of knowledge scores regarding prevention of accidents with selected demographic variables.

3.Review of Literature

Dilshada Rashid, Aisha Akhter (2017)

Conducted an experimental study on Effectiveness of Structured Teaching Programme on Knowledge Regarding Prevention of Road Traffic Accidents Among Adolescents (13-18years) in Selected Schools of Baramulla, Kashmir. Pre-experimental one group pre-test and post-test research design were used. The Sample was 62 adolescents studying in selected schools of district Baramulla selected by stratified simple random sampling technique and data was collected by administering structured knowledge questionnaire. Results found that the mean pre-test knowledge score was (19.40) which improved to (35.25) in

post-test at (p< 0.001). A significant association was found between Age (p≤ 0.010), Education (p≤0.004), Residence (p≤0.001), Occupation of Father (p≤0.014), Monthly family income (p≤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). It was concluded that structured teaching program improved the knowledge of adolescent students regarding prevention of RTAs.

Rajasthan Maharaja Singh (2017) conducted a cross sectional study on awareness and practice of Road Safety Rules among Secondary School Students in Jaipur. Samples of 150 secondary school students aged between 13-17 years were selected through simple random sampling technique. A pre-designed and pre-tested structured multiple choice questionnaire and checklist was used for assessment of awareness and practice of road safety rules. The collected data was analysed by using descriptive and inferential statistics. Results found that with regards to awareness regarding road safety rules, 9 (6 %) had had poor awareness, 103 (68.7 %) had average awareness and 38 (25.3 %) had good awareness. With regards to practice regarding road safety rules, 6 (4 %) had had unsatisfactory practice, 108 (72 %) had partially satisfactory practice and 36 (24 %) had satisfactory practice. It was concluded that majority of secondary school students had average awareness and partially satisfactory practice regarding road safety rules. Education reminding and strict enforcement of traffic rules can increase awareness and motivate them to strictly adhere to the traffic norms and help to reduce the morbidity and mortality due to road traffic accidents.

Thenmozhi P (2016) conducted a cross sectional research study to assess the Knowledge and Practice on Road Safety Regulations among Primary School Children in Rural Community. A sample of 50 primary school children of rural community was selected by using purposive sampling technique. Data was collected through knowledge questionnaire and practice checklist. Collected data were analyzed by using descriptive and inferential statistics. Results revealed that out 50 samples, 16 (32 %) of them had inadequate knowledge, 20 (40 %) of them had moderately adequate knowledge and 14 (28 %) of them had adequate knowledge. Regarding practice on road traffic regulations Out 50 samples, 22 (44 %) of them had poor practice, 24 (48 %) had good practice and 4 (8 %) had best practice. It was concluded that the primary school children have lack of knowledge on road traffic regulations and few students though they have the knowledge but have poor practice in day today life

4.Material and Methods

Research design: In this study, the researcher had selected the pre experimental design i. e. one group pre-test post-test design. **Research approach**: The investigator selected "Quantitative approach **Dependent variables:** . In this study dependent variables were Knowledge of high school children regarding prevention of accidents. **Independent variables:** In this study independent variable was the child to child approach regarding prevention of accidents.

Sampling Technique: The sampling technique obtained was by the for the Non-probability convenience Sampling Technique Sampling Criteria **Inclusion Criteria:** All high school children from Government High School willing to participate in the study. High school children present at the time of data collection. **Exclusion Criteria:** High school children absent on the particular day of data collection. High school children not willing to participate in the study. **Population:** In this study the target population was high school children, Amalapuram. In this study the accessible population was high school children of 7 and 8th standard from Government High School, Amalapuram **Sample and Sample Size:** The sample for the present study consisted of 50 children from Government High School, High School Center, Amalapuram. **Description of tools for data collection:** Tool for data collection is a device used to measure the concept of interest in research project that a researcher uses to collect data. In the present study tool consisted of two sections: Section – A, Section – B. **Section – A:** Demographic profile of sample It contained demographic variables of VII class and VIII class students such as age in years, gender, type of family, area of living, mothers occupation, fathers occupation, mode of transportation to school, distance between school and home, Previous knowledge on Road accidents, source of information, History of road traffic accidents, and If 'Yes' specify. **Section – B**: Structured knowledge questionnaire It consisted of 30 questions to assess the knowledge of VII class and VIII class students regarding prevention of accidents. The score for correct answer was "one" and for the wrong answer "zero". The minimum score was '0' the maximum score was 'one' for each question and the total score was 30. The level of Knowledge was categorized based on the scores obtained by the samples in terms of percentage as: Below average: $\leq$ 50 % Moderately average: 51-75 % Above average: $\geq$76 %.

Validity: were submitted to eight experts including seven nursing personnel in the field of child health nursing, and one expert from the field statistics.

Pilot study: The child to child approach was administered to six of VIII class who fulfilled the sampling criteria. After obtaining their consent, pretest was assessed from Two students of VIII class, on the same day teaching on prevention of accidents was given for all students of VIII class. Two students of VIII class who score high in pretest and are willing to participate is selected as trainee group. Posttest of trainee group was taken after seven days. and on the same day pretest and education to experimental group of four students of VII class by trainee group. After seven days posttest was conducted to four students of VII class and the study findings was assessed by using the same tool.

Data collection procedure: Permission was obtained from the concerned authority prior to the data collection process. Prior to data collection the investigator familiarized herself with the teachers, VIII class, VII class students and explained the purpose of the study to them. Confidentiality was assured to all subjects. Using non probability convenience sampling 50 subjects will be selected from Government high school, Amalapuram. .

After obtaining their consent pretest was assessed for **25** students of **VIII** class and experimental students group and 25 VII class students control group. VIII class students as experimental group given pretest. Control group not given any type of interventions after 7 days Posttest given to experimental group students. duration of time takes for two weeks VII class and VII class students were thanked for their cooperation.

Chapter 3: Analysis and Interpretation

Section-I: This section deals with distribution of socio-demographic variables of children's.

Section-II: This section deals with distribution of levels of knowledge and practice scores regarding prevention of accidents at school among 6-12 years of school going children

Section-III: This section deals with the effectiveness of structured teaching programme on levels of knowledge and practice scores regarding prevention of accidents at school among children's of six to twelve years school going children

Section-IV: This section deals with association between post-test levels of knowledge and practice scores of children with their selected socio demographic variables.

Section-I

This section deals with distribution of socio-demographic variables of children's.

Out of 50 Children 42 % were in the age group of 10-11 years, 50 % were in the age group of 12-13 years, 8 % were in the age group of 14.-15 years. Related to gender of the children48 % were belongs to female, 52 % were belongs to males. Related to religion of the children 58.3 % belongs to Hindu 8.3 % were Muslim and Christian were33.3 % Regarding to Type of family among Children majority 41.7 % were from nuclear family, 33.3 % were from joint family and extended family. Related to educational status of the children 56 % were 7th class and 44 % were 8th class. Regarding area of the children were majority of the children are living in urban were 100 % Pertaining to Educational status of mother, 30 % were with primary education, 40 % were with secondary education, 30 % were illiterates and none of them were with graduation Pertaining to Educational status of father, 28 % were with primary education, 22 % were with secondary education, 30 % were intermediate30 % were illiterates and none of them were with graduation. In regard to mode of transportation of the school majority of the children were going to school by bus were 40 % bicycle 40 % and 10 % were by auto. In respect of previous knowledge on accident all have knowledge among them 20 % had information from through person, 10 % had information from posters/pamphlets 20 % had information from mass media, 50 % had information from internet. In view of the majority of the accidents exposed were majority of the children had exposed to the falls were 60 % 30 % were

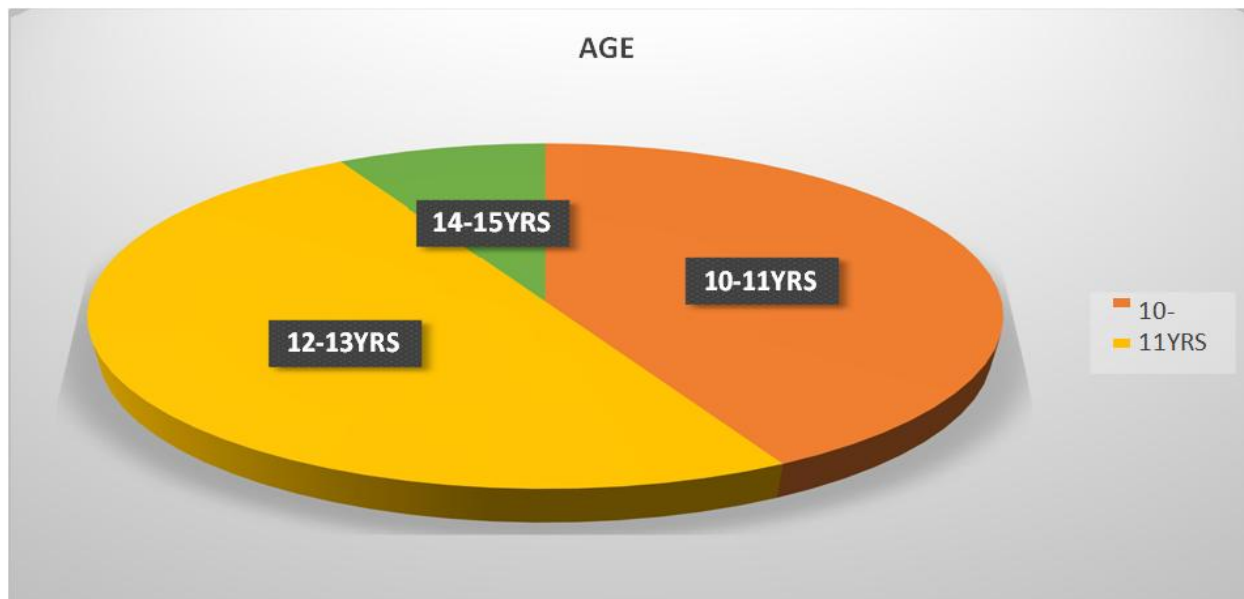sports injury and10 % were exposed to road traffic accidents.

Figure No 1: Percentage distribution of children according to age
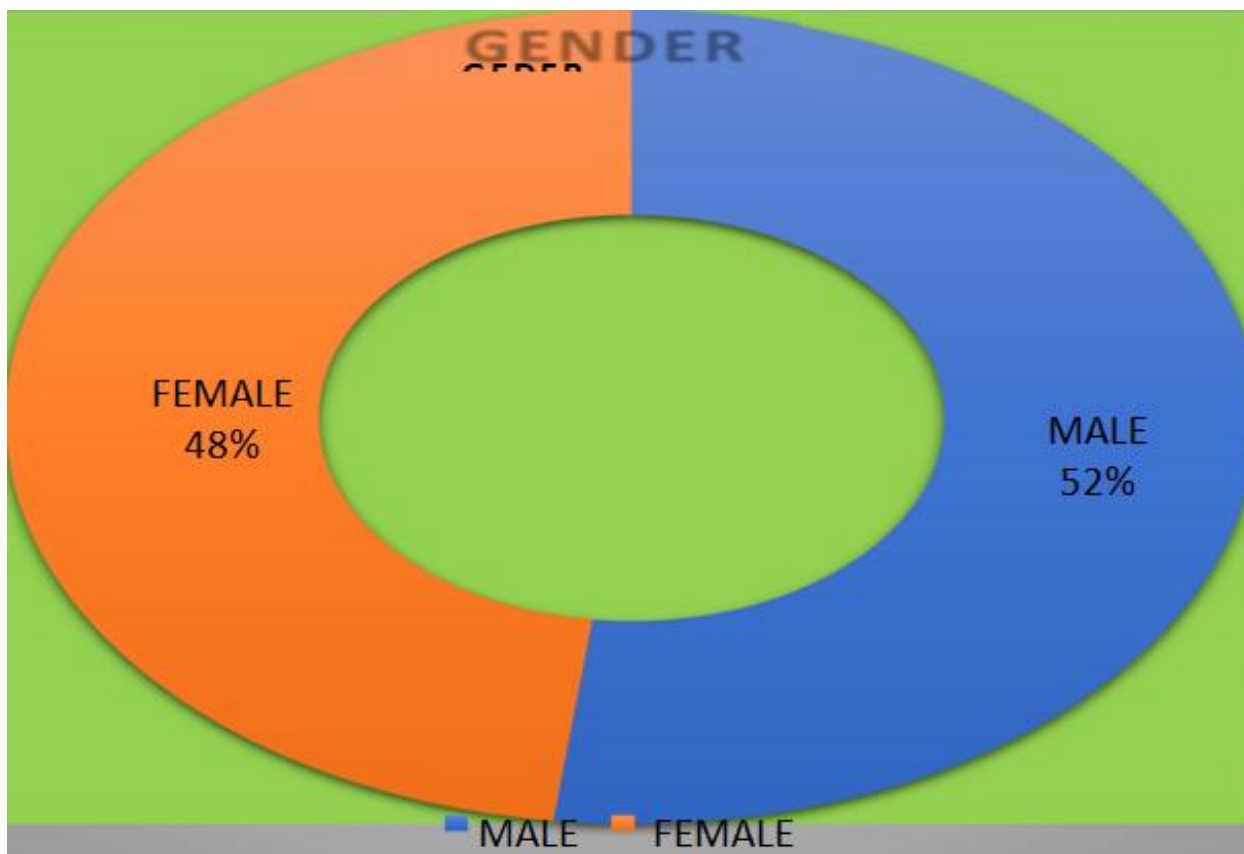

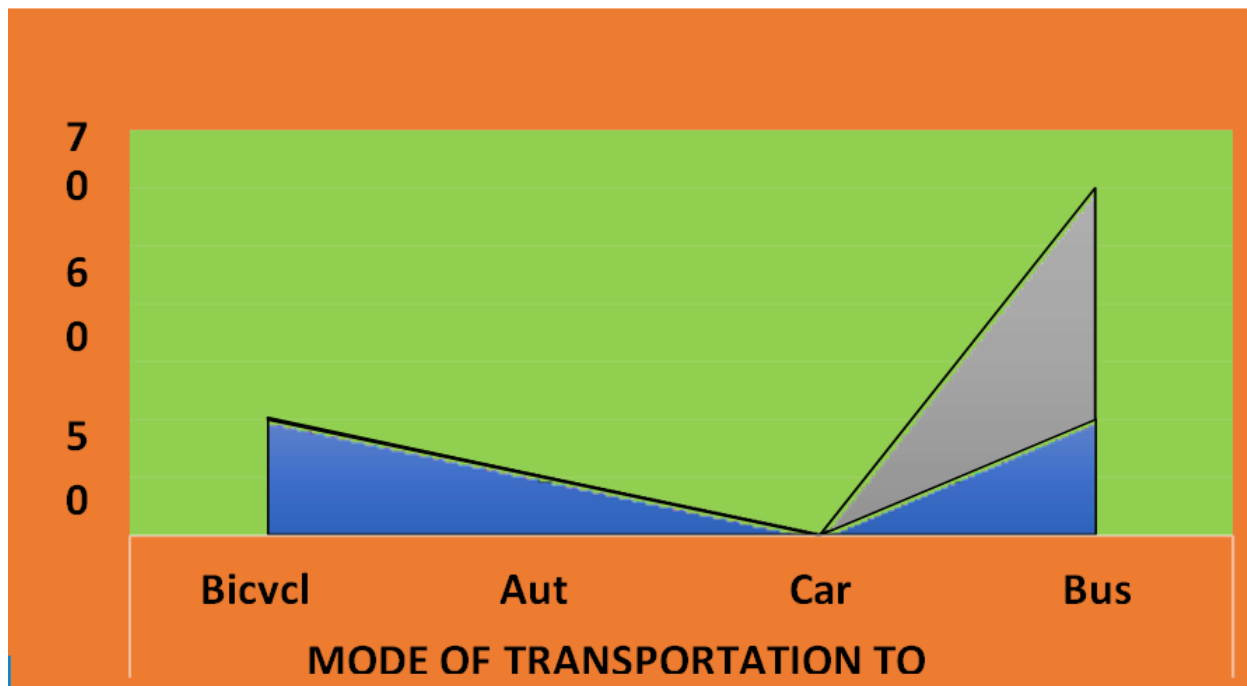**Figure No 2:** Percentage distribution of Children according to gender

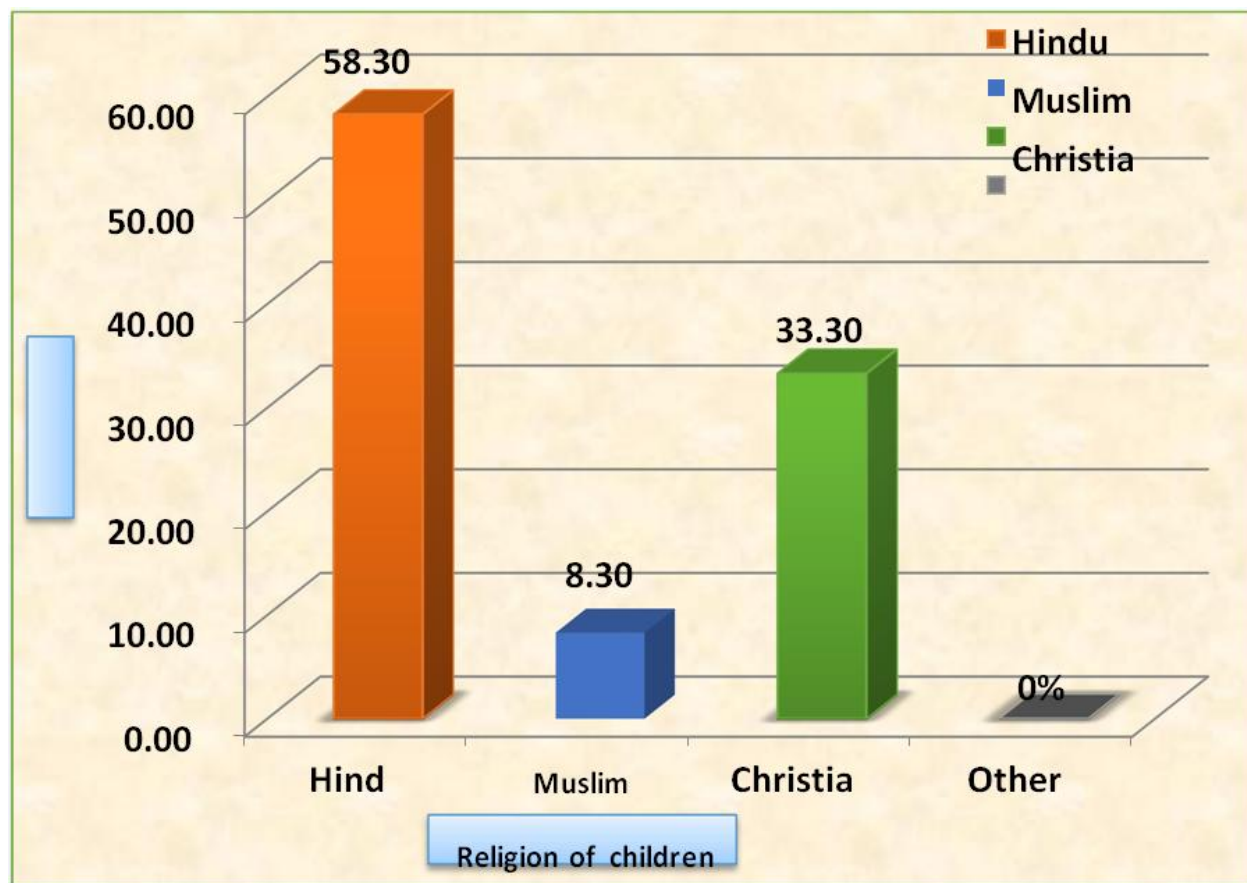**Figure No 3:** Percentage distribution of mode transportations to school

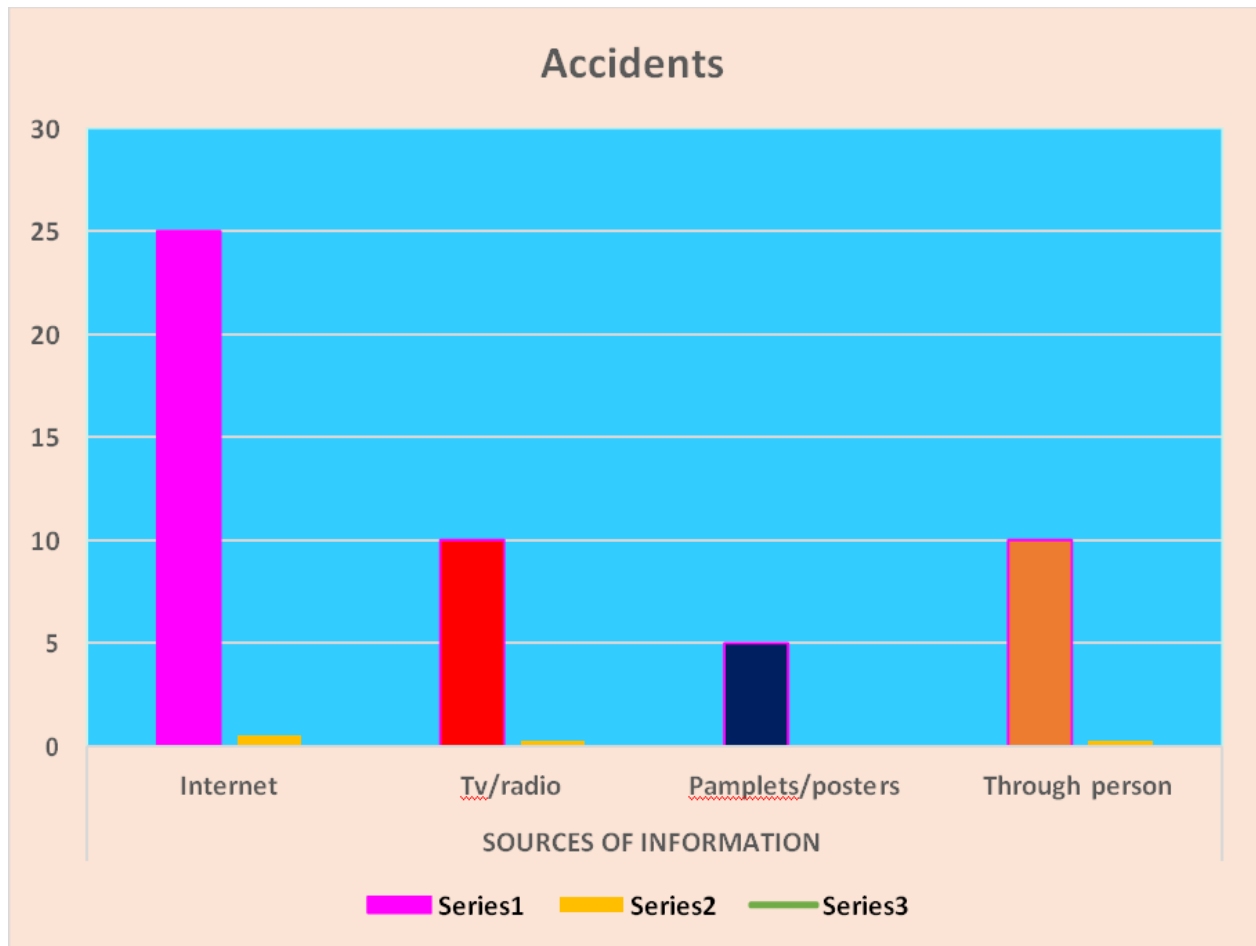**Figure No 4:** Percentage distribution of children according to religion

Figure No 5: Percentage distribution according to source of information

Section B

Table 1: Frequency and percentage of distribution of knowledge score of Children according to level in pre test and post test on prevention of accidents (n=50)

Categorization	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
Below average (0-50 %)	41	82 %	0	0 %
Average (51-75. %)	9	18	8	15.3 %
Above average (76-100 %)	0	0 %	42	84.7 %

Shows that frequency and percentage based on knowledge scores of the Children about prevention of accidents. Below average (0-34.9 % %) indicates the scores in between 0 to 10, Average (35-64.9 %) indicates the score between 11-19 and Above average (65-100 %) indicates the scores between 20-30.

Table no.2, 51 (85 %) were under below average knowledge level in pretest whereas in post test were found nil, 9 (15 %) were under average knowledge level in pretest whereas 8 (13.3 %) were average knowledge level in post test, above average knowledge level in pretest were found nil whereas 52 (86.7 %) were under above average knowledge level in post test. These differences indicate that structured teaching programme was highly affected in prevention of accidents on Children.

Section C

Table 2: Pre test and post test mean knowledge scores, standard deviation and paired t-test of significance of prevention of accidents on Children (n=50)

Knowledge scores	Pre test	Post test
Mean	12.52	26.87
Standard Deviation	2.24	2.36
Paired t-test	32.99	

59df Table t-value 2.66 P<0.001

Shows that the pre test mean was 12.52 with 2.24 standard deviation and that of post test was 26.87 with 2.36 standard deviation. The calculated 't' value was 32.99, which is higher than the table 't' value 2.66 at 59df with 0.001 level of significance. It shows that there is significant difference (p<0.001) in pre test and post test knowledge scores. Hence it concluded after Structured teaching programme on prevention of accidents the knowledge scores of the High School Children have been increased. The formulated hypothesis for the present study "there will be significant difference in the pre test and post test knowledge scores of High School Children on prevention of accidents has been accepted because of the significant difference in the pre test and post test knowledge scores which is evident by the 't' values. Hence H_1 is accepted.

Section D

This part dealt with identifying the association between knowledge of Children on prevention of accidents according to the selected demographic variables by using the chi-square test.

Table 3: Association of pre test knowledge scores regarding prevention of accidents with demographic variables of the high school Children

S. No	Demographic variables	f	%	Pre test Level of Knowledge						Chi Square	Sig.
				Below average <35 %		Average 35-65 %		Above average >65 %			
				f	%	F	%	f	%		
1	Age in years										
	10-11years	21	42	18	36	3	6	-	-	6.77 [at]df-3	Ns
	12-13years	25	50	22	44	2	4	-	-		
	14-15 years	4	8	4	16	1	2				
2	Religion										
	Hindu	35	70	30	60	6	12	-	-	0.11 [at]df-2	Ns
	Muslim	5	10	03	06	1	2	-	-		
	Christian	10	80	07	14	3	6	-	-		
3	Type of family										
	Nuclear	25	50	13	26	2	4	-	-	5.31 [at]df-2	NS
	Joint	20	40	14	28	6	12	-	-		
	Extended family	05	10	14	28	1	2	-	-		
4	Education										
	7th class	28	56	30	60	4	8	-	-		**
	8th class	22	44	15	30	1	2	-	-		
5	Previous knowledge of accident										
	yes	35	70	31	62	4	8	-	-	4.84 [at]df-1	**
	No	15	30	10	20	5	10	-	-		
6	Source of information										
	internet	25	50	4	8	0	0	-	-	8.86 [at]df-3	**
	Tv/radio	10	20	24	44	5	10	-	-		
	Pamplets/posters	5	10	2	4	1	2	-	-		
	Through person	10	20	11	22	3	6	-	-		

NS= Not significant ** Significant at 0.05 level

Reveals that there was significant association between pre test knowledge scores on prevention of accidents with education, Previous knowledge on accident and source of information among children's where the obtained chi square values significant at 0.05 level of significance. Whereas there was no significant association between age, religion and type of family where the obtained chi square values were not significant.

Table 4: Association of post test knowledge scores regarding prevention of accidents with demographic variables among high school children (n=50)

S. No	Demographic variables	F	%	Post test Level of Knowledge						Chi Square	Sig.
				Below average <35 %		Average 35-65 %		Above average >65 %			
				F	%	F	%	f	%		
1	Age in years										
	10-11years	21	35	-	-	2	3.3	19	31.7	2.38 [at]df-3	NS
	12-13years	25	41.7	-	-	3	5	22	36.7		
	14-15years	8	13.3	-	-	1	1.7	7	11.7		
2	Religion										
	Hindu	35	58.3	-	-	2	3.3	33	55	11.23 [at]df-2	**
	Muslim	5	8.3	-	-	3	5	2	3.3		
	Christian	20	33.3	-	-	3	5	17	28.3		
3	Type of family										
	Nuclear	25	41.7	-	-	4	6.7	21	35	0.35	NS

	Joint	20	33.3	-	-	2	3.3	18	30	[at]df-2	
	Extended family	15	25	-	-	2	3.3	13	2.7		
4	Education										
	7th	28	46.7	-	-	4	6.7	24	40		
	8th	16	26.7	-	-	2	3.3	14	23.3		
5	Previous knowledge of accident										
	yes	35	58.3	-	-	5	8.3	30	50	4.07 [at]df-1	**
	No	25	41.7	-	-	3	5	22	36.7		
6	Source of information										
	internet	5	8.3	-	-	2	3.3	3	5	9.73 [at]df-3	**
	Tv/radio	29	48.3	-	-	4	6.7	25	41.7		
	Pamplets/posters	3	5	-	-	1	1.7	2	3.3		
	Through person	23	38.3	-	-	1	1.7	22	36.7		

NS= Not significant ** Significant at 0.05 level

Reveals that there was significant association between post test knowledge regarding scores on prevention of accidents with religion, education, income and source of information among mothers where the obtained chi square values significant at 0.05 level of significance. Whereas there was no significant association between age and type of family where the obtained chi square values were not significant.

5.Discussion

A study was conducted to evaluate the effectiveness of structured teaching program on prevention of accidents among school going children of under 7th-8th govt school, Amalapuram. The sample size was 50. The discussion of the study is based on the findings obtained from the statistical analysis. The findings were discussed in relation to the objectives of the study. In regard to Occupation of mother, all of the Mothers of children were house wives. In view of Monthly income per month of sample, majority 58.3 % were getting Rs3000-5000/-per month and 41.7 % were Rs.5001-10000/-per month. In respect of previous knowledge on prevention of accidents among Children, all have knowledge among them 38.3 % had information from Word of mouth, 28.3 % had information from mass media, 8.3 % had information from health camps and 5 % had information from internet.

1. To evaluate the effectiveness of structured teaching programme on prevention of accidents among Children: Out of 50 children's 51 (85 %) were under below average knowledge level in pretest whereas in post test were found nil, 9 (15 %) were under average knowledge level in pretest whereas 8 (13.3 %) were average knowledge level in post test, above average knowledge level in pretest were found nil whereas 52 (86.7 %) were under above average knowledge level in post test. These differences indicate that structured teaching programme was highly affected in Childrren **2. To find out association between knowledge scores regarding prevention of accidents with demographic variables of the Children:** Reveals that there was significant association between pre test knowledge scores on prevention of accidents with education, income and source of information among mothers where the obtained chi square values significant at 0.05 level of significance. Whereas there was no significant association between age, religion and type of family where the obtained chi square values were not significant. Reveals that there was significant association between post test knowledge scores

on lung cancer with religion, education, income and source of information among children's where the obtained chi square values significant at 0.05 level of significance. Whereas there was no significant association between age and type of family where they obtained chi square values were not significant

6.Summary, Findings, Implications and Conclusions

Out of 50 students, 41 (85 %) were under below average knowledge level in pretest whereas in post test were found nil, 9 (15 %) were under average knowledge level in pretest whereas 8 (13.3 %) were average knowledge level in post test, above average knowledge level in pretest were found nil whereas 42 (86.7 %) were under above average knowledge level in post test. These differences indicate that Structured teaching programme was highly affected in Mothers of Under five Children. Reveals that there was significant association between pre test knowledge scores on prevention of infections with education, income and source of information among mothers where they obtained chi square values significant at 0.05 level of significance. Whereas there was no significant association between age, religion and type of family where the obtained chi square values were not significant. Reveals that there was significant association between post test knowledge scores on prevention of infections with religion, education, income and source of information among mothers where the obtained chi square values significant at 0.05 level of significance. Whereas there was no significant association between age and type of family where the obtained chi square values were not significant.

7.Implications

Nursing education:

Teachers working in schools, college, and organization setting should be given in se education to update and improve their abilities, in terms of education, skills, attitudes, in identifying the knowledge, and prevention of accidents.

Nursing practice:

Structured teaching programme should be made integral component of nursing practice. nursing personnel should

conduct structured teaching programme on prevention accidents for health education to the children regarding prevention of accidents.

Nursing Research

The researchers should focus attention on skills and knowledge acquired by mothers regarding revised immunization programme and their effectiveness of various methods of health education as well as through structure teaching programmers.

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