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Research Article

"A PRE-EXPERIMENT STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON ROAD SAFETY MEASURES AMONG SCHOOL AGE CHILDREN IN SHRI GURU RAM RAI PUBLIC SCHOOL, PATEL NAGAR DEHRADUN UTTRAKHAND"

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A R T I C L E I N F O

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A B S T R A C T

A pre experimental study was carried out To Assess the Effectiveness of Structured Teaching Programme on Road Safety Measures among school age children in Shri Guru Ram Rai Public School, Patel Nagar Dehradun."A pre- experimental one group per-test post-test design was used to evaluate the effectiveness of structured teaching programme on Road Safety Measures among school age children in Shri Guru Ram Rai Public school, Patel Nagar Dehradun uttrakhand. The sample consists of 40 school age children. Who are available at the time of study. Purposive sampling technique was used for the selection of samples. The data collected through self-developed questionnaire. Result shows the major findings indicated that school children had inadequate knowledge. structured teaching programmewas found to be very effective method of provide knowledge regarding Road Safety Measures The mean post-test level of knowledge is significantly higher than the mean pre-test knowledge score that is 15.87 in pre-test and 24.37 in post-test with paired "t" =17.05 (df 39) at P= 0.05 significance. There was no association between the knowledge and demographic variables estimated by chi square , chi square wih Yates correction and fisher.. Findings of the study showed that the knowledge scores of school age children were very less before the administration of structured teaching programme. On the basis of findings, it is recommended that a similar study may be replicated using a large number of participants. More intervention studies should be carried out for improving the knowledge regarding road safety measures

INTRODUCTION

Children are the biggest assets of a nation. They represent country's future. They continue to learn those values and competencies, they will bring into the adult world in the family. School children learn to think themselves as persons in their own right and desire to engage in tasks in the real world. The move from primary school to secondary school gives a new independence to school children of 10-12 year . But greater independence brings increased risk of being killed or injured in a road traffic accident (RTA). Road traffic accidents are leading cause of death among children aged from 6-12 years. Devon, Cornwall 2003 [1]

An accident is an undesirable incidental and unplanned event that could have been prevented had circumstances leading up to the accident been recognized, and acted upon, prior to its occurrence. Most scientists who study unintentional injury avoid using the term "accident" and focus on factors that

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Road traffic accidents are the most common type of accidents that leads to death of children. Boys between the ages of 5 to 12 years are mostly confronting this type of accidents . Children of this age group are school going and will not able to estimate the speed of vehicle or awareness of safety measures. During crashes, unrestrained children become missiles and get injuries or they may not be able to escape like that of adults. Most of these accidents are preventable. Children must be taught the practical aspects of road safety through demonstration classes. Assuma Beevi T M 2009 [3]

Some of the road safety rules for children are as follows – always use the zebra crossing, look to the right and left before crossing a road, never board from a moving vehicle, never run while crossing a road, follow traffic rules, always concentrate on the road, use subway and over bridge whenever there is one, never play on the roads, never dash through moving traffic[6], walk on the sidewalks, when walking on road without sidewalks always walk on the left side of the road facing the traffic. One of the premier road rules for children are "Stop, Look and Listen". Swami H M Puri 2008 [4]

Accidents occur not only due to ignorance but also due to carelessness, thoughtlessness and over confidence. Human, vehicular and environmental factors play role before, during and after a Road Traffic Accidents (RTA). Road traffic injuries are partially predictable and hence preventable. The consequence of accidents seriously affects the growth and health of children and interferes in their study and future. So it is important to protect the life of the children and to provide safer environment. S D Kandpal 2015 [5]

Need for Study

According to the statistics, it is found that there are most of the road accidents cases in which children are involved, so they are at high risk than other age group people. They need road safety knowledge and education from their early ages. It should be started from their home and schools by adding this subject to their syllabus. Some points are mentioned below proving the fact that why road safety is so important for kids and children:

- Children are children, no one can be sure about what they will do next at home or other crowded place especially road during traffic situation.
- Children become completely innocent, they cannot judge the vehicles speed moving on the road.
- Drivers also cannot recognize their mood to move on the road especially when they try to cross the road in front of the vehicle because of their small height.
- They cannot judge how often vehicles can come on the empty road.
- They can cross road from anywhere on the road because they have no idea about proper place to cross the road.
- They become fearful soon and do not understand what they should do when they see vehicles coming to their direction. Road Safety Statistic WHO 2015 [6]

A descriptive study was conducted in Chandigarh on road safety awareness and practices among school children. Eight schools were chosen randomly. Systematic random sampling method. The sample comprised of 787 students. The results showed that 40% of students lacked correct knowledge of traffic safety rules. Girls were more aware of traffic rules to be followed at traffic lights (63%) and while crossing zebra lines (41.2%), whereas boys were more versed with rules for pedestrians (49.8%). So researcher found a great need for giving safety education for those who lacks awareness Swami H M, Puri S., Bhatia V. 2006 [7]

As the researcher being in nursing profession felt the need to educate school children of a selected urban school to impart appropriate knowledge regarding vehicle safety measures and selected to do a planned teaching programme for school age children as they are more prone to get road traffic accident. So, that they will be more aware about rules and practices followed. So the researcher planned to conduct a pre-experimental design study.

Objectives of the Study

- To assess the level of knowledge among school age children students regarding road safety measures before and after structured teaching programme.
- To determine the effectiveness of structured teaching programme among school age children regarding road safety measures.
- To compare the level of pre test and post test knowledge among school age children regarding road safety measures.
- To find out the association between socio demographic variables and level of knowledge regarding road safety measures.

Hypothesis

- **H0:** There may not be any significant difference between the level of knowledge among school age children regarding road safety measures before and after structured teaching programme.
- **H1:** There may be a significant difference in the level of knowledge school age children students regarding road safety measures before and after structured teaching programme.
- **H2:** There may be a significant association between socio demographic variables and level of knowledge regarding road safety measures among school age children.

Review of Literature

Review of literature is considered as an essential step of research process. It involves systematic identification, location, scrutiny and summary of written materials that contain information on a research problem. (Polit and Hungler 1995). [8]

Studies Related to Structure Teaching On Road Safety Measures

Dr David C. Schwebel, 2009 conducted study in Birmingham, Alabama, USA. To test the efficacy of virtual reality to train child pedestrians in safe street crossing. A randomised controlled trial is underway with an expected sample of four groups of 60 children aged 7–8 years (total N=240). One group receives training in an interactive, immersive virtual pedestrian environment. A second receives pedestrian safety training via widely used video and computer strategies. The third group receives what is judged to be the most efficacious treatment currently available, individualised behavioural training at streetside locations. The fourth group serves as a no-contact control group. All participants are exposed to a range of field and laboratory-based measures of pedestrian skill during baseline and post-intervention visits, as well as during a 6-month follow-up assessment. Outcome Primary analyses will be conducted through linear mixed models testing change over time in the four intervention groups. Three pedestrian safety measures will serve as primary outcomes: temporal gap before initiating crossing, temporal gap remaining after crossing and attention to traffic while waiting to cross.[9]

Zhonghua Liu Xing Bing Xue Za Zhi.2008 conducted a study on the effects of education regarding road safety among middle school students in Grade 1 and Grade 2 from 7 junior and senior middle schools in Jinan city were selected as

intervention group and students from a middle school in Hefei city served as control group. Education was provided to the intervention group and all the middle school students in Jinan city. Changes of Knowledge, Attitude and practice (KAP) on road safety were measured for both groups during the follow-up period, and comparison on KAP for the two groups was carried statistically. Program on road safety education significantly improved the relative knowledge for middle school student and it exerted positive effects in road safety attitude to some extent. However, no significant effect was found in the improvement on their behaviour. Education on road safety should be carried out in the early stage of childhood with newer and more effective intervention approaches .[10]

Verma PK, Tiwari KN.2007 conducted a study in 2007 on Road safety education: Spatial decentring and subjective or objective picture processing in France. This study examined children's ability to analyze pictures of a risky situation, both in relation to the characteristics of the pictures and in relation to the centring/decentring process of cognitive development. Sixty children aged 6,9 or 11 years were given an objective or subjective version of a story about a risky situation involving road crossing and were asked to reconstruct it by putting six pictures in chronological order . The type of picture series objective or subjective had a different effect on the children's understanding and performance according to the age. The older children were better at ordering the pictures but on the subjective version only. The picture –version effect on planning time was decreased with age: only the younger children took more time to start touching the pictures. On one hand it is concluded that for the youngest children objective representations are essential to analyzing pictures showing a risk, whereas oldest children will profit more from subjective view. [11]

A.Water 2006 conducted a study on "Road to Safety" in Irish children over the past five years. The "Road to Safety" Government strategy was put in place with the aim of reducing deaths and serious injuries from road traffic accidents by at least 20%. Age-standardized mortality rates for road accidents in children (0 – 14 years old) in Ireland are 3.61 per 100,000 as compared to 2.31 per 100,000 in Sweden and thus much need to be done to reduce this unacceptably high road toll in Ireland. .[12]

Athani Praveen 2009 study of pattern of accidental deaths conducted at M.S. Ramaiah Medical College, Bangalore, between October 2007 and September 2009 in the age group of 1–18 years with aims and objectives to study percentage of accidental deaths in children, age and sex distribution, various patterns, manner of death and other factors associated with accidental deaths. Detailed information regarding the circumstances of death was sought from the police, relatives and friends, visits to the scene of occurrence or deduced by the photograph of the scene of occurrence. Accidental deaths in children constituted 3.24% (57 cases) of the total autopsies conducted. Maximum number of child deaths occurred in the age group of 15–18 years in males and 5–9 years in females. Male outnumbered the females. Majority of the children were preschool and school going and from middle and lower socioeconomic status. Road traffic accident accounted for 53% of the cases. Most of the children were pedestrians. Heavy motor vehicle was involved in majority of the cases and most of the children died due to head injury. Drowning accounts for 32% of the cases. Most of the children died due to accidental drowning while playing. Pond was the commonest place of drowning followed by sump. Thermal deaths accounts for 6.34% of the cases followed by fall from height, which accounts for the 6.34% of the cases, and only one case was due scorpion sting.[13]

Dandona R, Mishra 2004 study conducted revealed; nearly 80% of those killed in Delhi and Mumbai are vulnerable road users. Collision of heavy vehicles like buses and trucks with these road users results in greater number of severe injuries and deaths. In urban and sub urban areas, buses and trucks are involved in higher proportion of fatal crashes with VRUs. Among fatalities during peek hours, 62% of responsible vehicles for crashes were buses are trucks, while those killed were primarily pedestrians, bicyclists or motor cyclists. Even on national highways, pedestrians constitute 30% of fatalities and 65% f all deaths occur among VRUs. [14] Patil SS, Kakade RV, Durgawale PM 2008 A descriptive survey was conducted to estimate the burden of traffic injuries among children and adolescents in urban South Asia in the year 2008. This study selected 26 studies for review and data extraction out of 1505 published articles. Data from the studies pooled to calculate the proportion and characteristics of child and adolescent RTI, regional RTI incidence and mortality rates,and an estimates of the burden of disease caused by these injuries through the use of the healthy life years lost (HeaLY) composite measures. Their findings showed that the majority of injuries occurred in males (67-80%) and the most frequent age group injured was between ages 0 and 9 representing 40% of cases. Children and adolescents represent an average of 22% of all those with RTI whom seek care. Children and adolescents represented an average of 13% of all RTI deaths. Regional RTI incidence rate was calculated at 880/100,000 urban persons aged 0 to 19. Mortality due RTI was at 17 deaths per 1 lakh urban persons aged 0 to 19 in South Asia. Burden of disease was calculated 16 HeaLYs per1,000 general population from Road Traffic Mortality alone. With disability data added, then 27.7 Healy per 1,000 general populations are lost from road traffic injuries in South Asia . [15]

RESEARCH METHODOLOGY

Research Approach

A quantitative research approach is used for this study. "A quantitative research is an applied form of research that involves finding out how well a programme, practice, and policy is working". The main goal is to assess or evaluate the success of the intervention.

Research Design

The investigator has employed the pre-experimental design. The design used in experimental studies where the aim of the research is to generate new facts.

The study has analysed the effectiveness of structured teaching programme among school age children regarding road safety measures.

Instrument

An instrument termed as "self-structured questionnaire on knowledge regarding road safety measures" was used to assess the knowledge regarding road safety measures among school age children and other section consist of socio demographic variables. In this way there were two tools used

1. Socio demographic variables
2. Structured questionnaire on road safety
3. measures among school age children

Data collection

Prior written permission was obtained from the concerned authority. Informed consent obtained from the participants. Data was collected from 40 school age children, who are available at the time of study. Purposive sampling technique was used for the selection of samples. The data was collected through self- developed questionnaire.

Table 1 Frequency and Percentage Distribution of sample according to demographic variable

N=40

S. No	Demographic variables	Frequency (f)	Percentage (%)
1.	Age (in year)		
	7-8 yrs	11	27.5%
	9 - 10 yr	20	50%
	11 - 12 yrs	9	22.5%
2	Education		
	3 standard	10	25%
	4 standard	10	25%
	5 standard	10	25%
	6 standard	10	25%
3.	Types of family		
	Nuclear	18	45%
	Joint	19	47.5%
	Extended	3	7.5%
4.	Parents literacy status		
	Literacy	34	85%
	Illiterate	6	15%
5.	Influence of mass media		
	T,V/radio	11	27.5%
	Newspaper/magazine	22	55%
	Cinema	02	5%
	Internet	05	12.5%
6.	Area of living		
	Urban	36	90%
	Rural	4	10%
7.	Availability of vehicle		
	Yes	31	77.5%
	No	9	22.5%

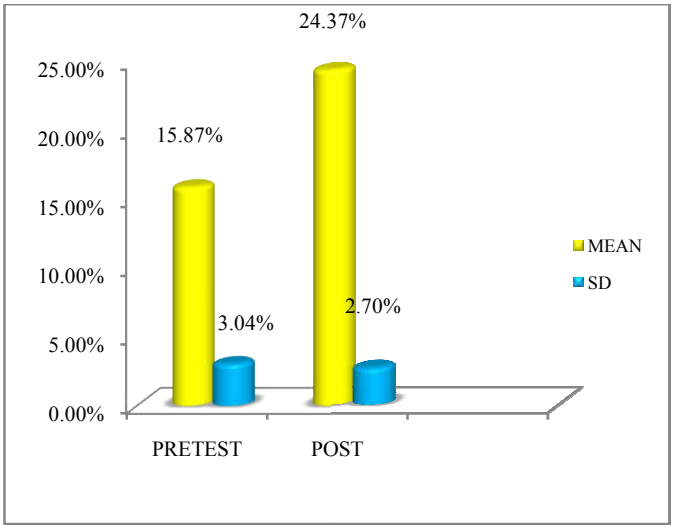
RESULT

The data was tabulated analysed and interpreted using inferential and descriptive statistics methods

The table 1 shows that the majority (27.5% %)of the school age children were in the age group of 7 - 8 years. And they were living in (47.5%) joint family .Highest percentage (85%) of parents had literate and majority (55 %) of school age children get the information from newspaper/magazine .Highest percentages (90 %) of school age children were living in urban area and 77.5% of school age children had vehicle in home

Table 2 Comparison of Pre-Test and Post-Test Level Of Knowledge

pertest		posttest		DF	't'-Value
MEAN	SD	MEAN	SD		
15.87	3.04	24.37	2.70	39	17.05*



Data shown in table revealed that the mean post test knowledge score value among school age children were significantly higher than the mean pre test value. The calculated "t" value (17.05) is more than the table value (2.05) at 0.05 level of significance. Therefore it can be said that the structured teaching programme was effective in increasing knowledge level among school age children.

CONCLUSION

The study concluded that the structured teaching programme on knowledge regarding road safety measures was an effective method for providing knowledge regarding prevention of road accidents. Findings of the studies showed that knowledge score of school age children were very less before the administration of the structured teaching programme. This study has a great implication in nursing practice, education, research and administration. The result of the study shows the great need for the school age children to educate regarding road safety. Use of pre experimental design and small sample size executes limits to generalization of the result. On the basis of findings, it is recommended that a similar study may be replicate during a large number of participants and experimental design. More intervention studies should be carried out for improving the knowledge regarding road safety measures

Recommendation

This study can be replicated with different population on large sample there by generalizing the study for large population.

The study can be conducted in different parts of the country.

A study can be carried out using other teaching strategies like video teaching programme and computed assisted instruction on road safety measure.

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