

## Knowledge on Road Safety Measures among Eleventh and Twelfth Standard Students of Senior Secondary School at Selected Rural School

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### Abstract:

**Background:** Accident is an unexpected, unplanned occurrence which may involve injury. According to WHO Advisory group in 1956, Accident is an "unpremeditated resulting in recognizable damage." Generally there are too many kinds of accidents like industrial accidents, railway accidents, burns, domestic accidents and road traffic accidents. Road traffic accidents are one of all kinds of accidents that lead to injury and death of person. It has greater mortality and morbidity rate in the World and in the India.

**Aims and Objectives:** To assess the knowledge on road safety measures of eleventh and twelfth standard students of senior secondary school, Mangalwad, Dist. - Chittorgarh, Rajasthan. To find out the association between the knowledge score and with selected demographic variables.

**Material and Methods:** The research design used in the study is descriptive design. The study will be conducted on the four sections of eleventh and twelfth standard students, two sections of both standards of rural govt. senior secondary school. The sample of the study comprises of 100 students studying in XI and XII standard in a rural govt. senior secondary school. Cluster sampling techniques will be used among the four sections of XI and XII standard students of a rural govt. senior secondary school. 25 students will be selected from each section of eleventh and twelfth standard students of govt. senior secondary school.

**Results:** The overall mean score was 22.33%. The highest (74.33%) score was found regarding the aspect of cycling on roads, and the least score was found in walking on the road aspect. The level of significance was set at 0.05 levels.

**Conclusion:** The findings showed that none of the subjects had adequate knowledge on road safety measures. The mean scores found to be average in most areas of knowledge aspect and was below average in one area. In general, the knowledge was poor among the eleventh and twelfth standard students of senior secondary school studying at the 4 sections. Majority of the subjects had more knowledge score related to cycling on roads aspect but the knowledge score was relatively less when compared to the knowledge score on walking on the road aspect.

**Keywords:** Assess, Knowledge, Road Safety Measures, Eleventh And Twelfth Standard Students, Senior Secondary School, Selected Rural School.

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### I. Introduction

According to World Health Organization (WHO), nearly 1.18 million people lose their lives every year due to road accidents. Road Safety was treated as a transportation issue, which is becoming major health related concern worldwide. The World Health Day 2004, focuses on this issue. The "Road Safety is "No Accident" is a message to the public and it was the solution to such problem lies in the hands of public. Death is manmade disaster which is preventable with our own efforts<sup>(1)</sup>.

Currently, more alarming are trends and if they continue, by 2020, the number of people killed and disabled everyday on the world's roads and will have grown by more than 60%, making road traffic injuries a leading contribution to the global burden of diseases and injuries. This burden falls mostly on low-income and middle-income countries. Today, they account for 90% of the deaths and disabilities which is resulting from road traffic injuries<sup>(2)</sup>.

In Bangalore City, 628 people died in 2000 and 659 were killed in 2001. Near about 9,000 people have been injured due to accidents in 2002. While the number of injured in the last two years was around 8,400<sup>(3)</sup>.

A study was conducted by Manna N, Mallik S, Mandal PK, Chakraborty D, Sardar JC, Pritibikash H, Gupta SD (2013) epidemiological factors of road traffic accidents: a study in a tertiary care setting in India. J Pak Med; Of the 206 study participants, 154 (75%) were younger than 40 years; 184 (89.32%) were males with a male to female ratio of 8.3:1; 108 (52.43%) were from rural areas; 62 (30.69%) read up to grade 10 and 42

(20.79%) had never been to a school; 104 (50.38%) and 40 (19.41%) were laborers and students, respectively. In 114 (55.33%) cases of RTAs, victims did not have any faults, but they were inexperienced drivers and unprotected by safety measures in 28 (13.59%) and 24 (11.65%) episodes, respectively. Vehicles and road conditions were not responsible for RTAs, in 118 (57.28%) and 94 (45.63%) participants, but excessive speed, overloaded vehicles, broken roads, narrow roads and poor lighting were contributory factors in 64 (31.06%), 32 (15.53%), 52 (25.24%), 36 (17.48%) and 24 (11.65%) of the RTAs, respectively<sup>(4)</sup>.

## **II. Statement of the Problem**

“A study to assess the knowledge on road safety measures among eleventh and twelfth standard students of senior secondary school at selected rural school of Mangalwad, Tehsil- Dungla, Dist. - Chittorgarh, Rajasthan.”

## **III. Objectives of the Study**

To assess the knowledge on road safety measures of eleventh and twelfth standard students of senior secondary school, Mangalwad, Dist. - Chittorgarh, Rajasthan. To find out the association between the knowledge score and with selected demographic variables.

### **Hypothesis:**

H<sub>1</sub>: There will be less knowledge among eleventh and twelfth standard students of senior secondary school on road safety measures.

H<sub>2</sub>: There will be significant association between knowledge score and with selected demographic variables.

H01: There will not be less knowledge among eleventh and twelfth standard students of senior secondary school on road safety measures.

H02: There will not be significant association between knowledge score and with selected demographic variables.

## **IV. Materials and Methods**

**Research Approach:** The descriptive survey approach was adopted for the study.

**Research Design:** The research design used in the study is descriptive design.

**Setting of the Study:** The study will be conducted on the four sections of eleventh and twelfth standard students, two sections of both standards of rural govt. senior secondary school.

**Target Population:** The population of the study comprises the students studying in XI and XII standard in rural govt. senior secondary school.

**Sample:** The sample of the study comprises of 100 students studying in XI and XII standard in a rural govt. senior secondary school. Cluster sampling techniques will be used among the four sections of XI and XII standard students of a rural govt. senior secondary school. 25 students will be selected from each section of eleventh and twelfth standard students of govt. senior secondary school.

**Sampling technique:** Cluster sampling technique was used for the study.

**Development of tool for data collection:** The interview schedule was used for data collection. It consisted of three sections.

Section – A consisted of items on demographic data.

Section – B consisted of 36 items to assess the knowledge level among the eleventh and twelfth standard students of senior secondary school on road safety measures. The tool was translated to Hindi by subject expert and was validated.

**Validity of instrument:** In the preliminary phase, content validity was obtained by discussing the tool with 7 experts from community health nursing. Content validity was done in 2 stages. In the preliminary stage, it was given to experts before pilot study to judge the appropriateness of items for inclusion in the questionnaire and to add other items which is missing. On the basis of experts' suggestions, few questions were added and some questions were modified. In the second stage validity was done after pilot study. Modifications were made based on experts suggestions by analyzing the responses obtained during the pilot study. The tools were found to be practicable and feasible to collect data. The tool was given to language experts for editing the items and for Hindi translation.

**Reliability:** The reliability of the measuring instrument is a major criterion for assessing its quality and adequacy (Pilot & Hungler, 1998). The reliability of the tool was computed by using split Half- technique. The reliability co-efficient found to be 0.8414 and validity coefficient worked out to be 0.9173, revealing that the tool is feasible for conducting main study.

Data collection procedure: A formal written permission was obtained from the school. The data was collected from 21-07-2014 to 24-07-2014 among four sections of the eleventh and twelfth standard students of govt. senior secondary school. The interview schedule was conducted for 15 minutes. Before conducting the study consent was taken from them by explaining the purpose of the study.

Analysis of data: The data was planned to analyze on the basis of objective and hypothesis of the study. The obtained data was analyzed using descriptive and inferential statistics and interpreted in terms of objectives and hypothesis of the study. The level of significance was set at 0.05 levels.

## V. Results

To begin with, the data was tabulated for statistical processing. In order to find the relationship, the data were tabulated, analyzed and interpreted using descriptive and inferential statistics. The data are presented under the following headings:

**Section - A:** Sample characteristics

**Section - B:** Knowledge of eleventh and twelfth standard student of rural govt. senior secondary school, Village- Mangalwad, Tehsil - Dungla, Dist. - Chittorgarh, Rajasthan on road safety measures. Knowledge in relation to specific areas of road safety measures.

**Section - C:** Association between the level of knowledge and demographic data

### 1. Findings related to demographic variables.

- Majority of the respondents were in the age group of 17 years (33%)
- Majority (53%) of mothers were illiterate.
- Majority (72%) of fathers were educated up to primary school..
- Majority (44%) of the mothers were belonging to agriculture.
- Majority (40%) of the fathers were belonging to agriculture.
- Majority of the respondents (44%) had the family income between Rs.10,001- Rs 20,000.

### 2. Findings related to assessment of knowledge level on Road Safety.

The overall mean score was 22.33%. The highest (74.33%) score was found regarding the aspect of cycling on roads, and the least score was found in walking on the road aspect.

**Table – 1**  
Overall Mean Knowledge of Students on Road Safety Measures  
N=100

Sr. No.	Aspect	Max. Score	Median	Respondent response		
				Mean	Mean %	SD
I	Knowledge	36	22	22.33	62.02%	1.3942

The overall mean knowledge is 62.02 % where the maximum score were 36 and mean is 22.33.

**Table – 2**  
Area Wise Knowledge of Students on Road Safety Measures  
N=100

Sr. No.	Aspect	Max. Score	Median	Respondent knowledge		
				Mean	Mean %	SD
I	Introduction	09	6	5.66	62.88%	1.1566
II	Walking on road	06	3	2.87	43.83%	0.9282
III	Travel by bus	07	5	4.88	69.71%	0.8321
IV	Cycling	06	4	4.46	74.33%	0.9147
V	Signs	04	2	2.1	52.5%	1.0298
VI	Prevention	04	2	2.36	59.00%	0.7319

The above table reveals that the respondents had the preliminary knowledge on road safety measures. The findings indicate that the overall mean knowledge found to be 51.44% with S.D. 16.6%. The aspect wise mean knowledge scores on road safety measures range between 28.25 to 56.54% in different areas under study. The highest mean knowledge of respondents (56.54%) found on walking on roads followed by travel by bus (56.00%) of knowledge in travel by bus. Further, the mean knowledge found on introduction aspect of road safety measures (51.83) and on cycling 50.17% respondents had knowledge. However, the less mean knowledge noticed on signs of road safety measures.

**Table – 3**  
Knowledge level of respondent on road safety measures

Sr. No.	Knowledge level	Category	Respondent	
			Number	Percent
1	Poor	Below 50 %	00	00%
2	Average	51-65 %	71	71%
3	Good	66-80 %	29	29%
4	Excellent	Above 81 %	00	00%
Total			100	100%

Represent the knowledge respondent on road safety measures. The overall mean percentage of knowledge (62.02%). The result showed that majority (71%) of the respondent had average knowledge and only 29% had good knowledge.

### 3. Findings related to assessment of knowledge level on road safety measures of children and with selected demographic variables.

- The relation between the knowledge and the age of the children is significant (P value = 0.0185).
- The relationship between the knowledge with sex is not significant (P value = 0.624).
- The relationship between the knowledge with impact of Religion is significant (P value = 0.0139).
- There is not significant relationship between the knowledge with standard of studying (P value = 0.8414).
- There is significant relationship between the knowledge with the education of the mothers (P value = 0.002).
- There is not significant relationship between the knowledge with the education of the fathers (P value = 0.1978).
- There is not significant relationship between the knowledge with the occupation of the mothers (P value = 0.2044).
- There is significant relationship between the knowledge with the education of the fathers (P value = 0.004).
- The relation between the knowledge with family income is not significant (P value = 0.290).

## VI. Conclusion

The following conclusions were drawn on the basis of the findings of the study. The findings showed that none of the subjects had adequate knowledge on road safety measures. The mean scores found to be average in most areas of knowledge aspect and was below average in one area.

In general, the knowledge was poor among the eleventh and twelfth standard students of senior secondary school studying at the 4 sections. Majority of the subjects had more knowledge score related to cycling on roads aspect but the knowledge score was relatively less when compared to the knowledge score on walking on the road aspect.

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## Limitations of the Study

The limitations recognized in the study were:

- The size of the sample was small, which imposes limitation on generalization.
- The information booklet was not planned on the basis of the learning needs of the subjects under study but on reports of previous studies.

## VII. Recommendations

Based on the findings of the study the following recommendations are made:

- A similar study can be replicated on a large sample with different demographic characteristics.
- A similar study may be replicated with a control group.
- A similar study can be replicated on different samples
- An extensive teaching program may be conducted including all aspects of road.

## Ethical Standards:

This study was successfully conducted after getting approval from the Institutional Committee and after obtaining written consents from all subjects.

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**Conflict of interest:** The authors had no relationship/condition/circumstances that present a potential conflict of interest.

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