

Awareness on Road Safety among young adults with a view to develop a Road Safety Infographic.

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Abstract—Background: Road traffic accidents remain a major public health concern, particularly among young adults who are more prone to risk-taking behaviors. Adequate awareness of road safety measures is essential to reduce morbidity and mortality related to traffic injuries.

Aim: To assess the level of road safety awareness among young adults and to develop a road safety infographic based on identified needs.

Methods: A quantitative descriptive research design was adopted for the study. The research was conducted at Holy Spirit Institute of Nursing Education among 76 young adults, aged 18–25 years were selected using simple random sampling. Data was collected using a structured questionnaire assessing knowledge on traffic rules, road signs and signals, pedestrian safety, and safety measures while travelling in vehicles. Data was analysed using descriptive statistics and tests of association.

Results: The findings revealed that 86% of participants demonstrated high levels of road safety awareness. Most respondents were knowledgeable about helmet and seat belt use. However, 22.63% exhibited occasional gaps between knowledge and practice. No significant association was found between awareness levels and selected demographic variables.

Conclusion: Although young adults showed high awareness regarding road safety, knowledge alone does not always translate into safe practices. Continuous education, enforcement of traffic regulations, and development of targeted road safety infographics are recommended to promote sustained behavioral change.

Index Terms—Road safety awareness, young adults, traffic rules, preventive measures, infographic development, nursing education.

I. INTRODUCTION

Road traffic injuries remain a major public health challenge worldwide and are a leading cause of preventable death and disability across all age groups. Global reports consistently indicate that young people are disproportionately affected by road traffic crashes, highlighting their increased vulnerability on the roads. According to World Health Organization, road traffic crashes are among the leading causes of death for individual aged 5-29 years, emphasizing the seriousness of the problem among younger populations and the urgent need for effective road safety intervention. Within the broader age group, young adults particularly between 18-25 years, are at heightened risk due to their frequent engagement in high-risk road behaviours. These behaviours include distracted driving, non-adherence to traffic rules, and unsafe use of mobile phones while riding or driving. Evidence from multiple studies suggests that risky behaviours are common among young drivers, even when they perceive themselves to be compliant with road safety rules.

In the Indian context, the burden of road traffic injuries among young adults is especially concerning. Young riders aged 18-25 years account for a significant proportion of road traffic crash victims, contributing substantially to injury and mortality statistics. Qualitative research in India indicates that a clear understanding of current road user's behaviours is essential for enforcement of agencies, including traffic police, to effectively understand unsafe practices and promote safer road use among. Despite ongoing government initiatives and road safety awareness campaigns, notable gaps in knowledge, attitudes and practices related to road safety continue to persist

among young adults. Recent educational efforts targeting students have stressed the importance of cultivating safe driving habits from an early age through structured and systemic road education.

More specifically, recent empirical evidence has highlighted the role of distracted driving in cash risk among young drivers. A study published in Accident Analysis and Prevention (2024) examined the impact of mobile use on gap-acceptance behaviour, defined as a driver's ability to judge whether it is safe to proceed through intersections or roundabouts. The study found that young drivers who use mobile phones while driving exhibited reaction times, impaired judgement of traffic gaps, and reduced safety margins. Consequently, these drivers faced a significantly higher risk of collisions compared to non-distracted drivers. The finding underscores mobile phones use risk as a critical risk factor for road traffic accidents among young adults and highlight the need for strict enforcement and targeted awareness strategies addressing distracted driving.

1.1 Aim of the study

To assess the level of road safety awareness among young adults and to develop a road safety infographic based on identified needs.

1.2 Research objectives

The objectives of this study were to assess level of road safety awareness among young adults, to find out the association between the level of road safety awareness and selected demographic variables of young adults and to develop road safety infographic based on the identified needs of young adults. Employing a descriptive research design, the study focused on young adults in the age group of 18-25 years. A total of 76 students were selected using a simple random sampling technique. Knowledge was evaluated using a structured questionnaire validated by subject experts. Data were analysed using descriptive and inferential statistics and Chi-Square to determine the level of road safety awareness and develop a road safety infographic based on the learning needs.

II. METHODOLOGY

2.1 Research Methodology

Research methodology is a collective term for the structured process of conducting research; the part is

concerned with how the research is conducted and tells the reader about technical aspects of the study. It explains the research approach and design of the study in detail. It is the way to systematically solve the research problem

This chapter deals with the description of different steps that were taken for the study. It includes research approach, setting, design and tool for data collection and data analysis.

2.2 Research Approach

The research approach in plan that consists of the steps of broad assumption to detailed method of data collection, analysis, and interpretation. It is therefore, based on the nature of the research problem being addressed. A quantitative research approach was adopted for this study. It helps by providing precise, measurable, and replicable results, enabling researchers to quantify behavior, trends, and correlations across large samples, reducing personal bias and supporting data- driven decision.

2.3 Research Design

The study utilized a non-experimental study.

According to S. K. Sharma (2011) it refers to a type of quantitative research where the researcher does not manipulate or control the independent variable; instead, the study observes phenomena as they naturally occur.

2.4 Data Collection Technique

The data collection was done. The subjects for the study were selected from Holy Spirit Institute of Nursing Education, Andheri East Mumbai. A total of 76 samples were enrolled for the data collection the random sampling technique was used.

2.5 Data Collection Instrument

The research instrument are the devices used to collect data. The tool facilitates the observation and measurement of variable of interest in this study the tool for data collection was developed by the investigator. The investigator developed the tool based on the objectives of the study it was based on review of literature, journals, internet resources and discussion with experts in order to develop a suitable and an appropriate observation tool. The tool reliability was done by interobserver reliability and the r value is 0.71 the tool was validated by 4 experts.

2.6 Data Analysis Methods

Quantitative data were obtained through perceived contribution of young adults

Multiple Questions were asked regarding their knowledge towards road safety, which included sections on demographic variables, Section A and Section B.

- Descriptive Analysis of Demographic Variable
 - The collected data was entered into a master sheet and Excel spread sheet
 - Data were cross- checked for completeness
- Descriptive Analysis of Perceived Variable
 - Each item was scored on a 5- point Likert scale ranging from Strongly Disagree to Strongly Agree
 - The total score range was 100
 - Interpretation categories were established as follows

- ✓ 20-46: Low
- ✓ 46-76: Moderate
- ✓ 76-100: High

- Frequency and Percentage Distribution
 - Frequency and percentage were calculated to determine the perceived level of young adults' knowledge regarding road safety awareness.
- Plan For Data Analysis
 - The data was analyzed using a descriptive statistic in a stepwise manner. The step taken to analyze data.
 1. Organize the detail on master sheet and excel sheet
 2. Calculate the frequency and percentage to show distribution of the subject according to the demographic variables

III. RESULTS

3.1. Demographic Data

Table 1: Frequency and percentage distribution of subjects according to demographic variables

Sr. no	Variables	Frequency (f)	Percentage
1.	Age group		
	18-20	28	36.8%
	20-22	36	47.4%
	22-25	12	15.8%
2.	Educational Qualification		
	B.Sc. (N) Semester 6	23	30.3%
	B.Sc. (N) Semester 8	28	36.8%
	3 rd GNM	23	30.3%
3.	Mode of commute to college		
	Private transport	0	0
	Public transport	27	35.5%
	walking	41	53.9%
	All of the above	8	10.5%
4.	Do you possess diving license?		
	Yes	7	9.2%
	No	69	90.8%
5.	Are you aware of all the rules and regulations with respect to traffic and traffic rules?		
	Yes	58	76.3%
	No	18	23.7%
6.	Previous history of road traffic accidents		
	Yes	8	10.5%
	No	68	89.5%
7.	Have you received any road safety education before?		
	Yes	42	55.3%
	No	34	44.7%

Inference:

The study was conducted among 76 young adults with the majority of respondents (47.4%) age 20-22 years. Students from B.Sc. Nursing students, particularly from 8th semester (36.8%) form the largest group while semester 6 and 3rd GNM students were equally represented. More than half of the students (53.9%) walk to college, and (35.5%) use public transport. Only (9.2%) possess a driving license, although a majority (76.3%) reported being aware of traffic rules and regulations. A small proportion (10.3%) had a previous history of road traffic accidents. Slightly more than half (55.3%) had received road safety education, while the remaining had not received. Overall, the findings indicate good awareness of traffic rules among students, but limited possession of driving licenses and incomplete exposure to formal road safety education.

3.2. To assess the level of road safety awareness among young adults

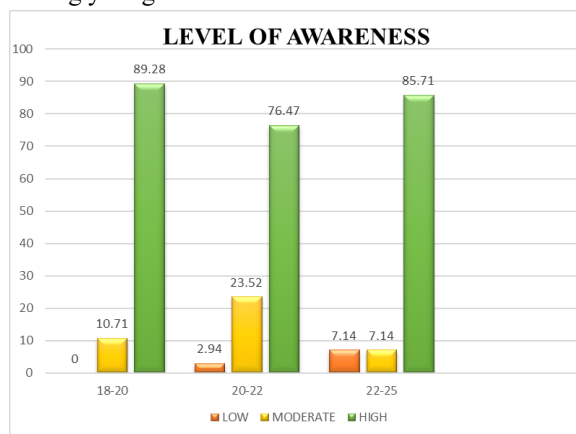


Fig 4. Distribution of students according to level of road safety awareness

Inference:

In the above figure 18-20 age group the majority of students fall under high level (25), (3) students fall under moderate level, with no students in the low category. In the 20-22 years age group, most students are also in the high level (26), followed by moderate (7) and (1) student in low level. In the year 225 years age group, the majority again fall under high level (12) and (1) student in each moderate and low. Overall, across all a groups high level predominates while the low level is very minimal.

IV. DISCUSSION

This chapter presents a summary of the study and its significant findings. It also includes implications and recommendations based on the research objectives. The primary objectives of the study were: to assess level of road safety awareness among young adults; to find out the association between the level of road safety awareness and selected demographic variables of young adults; to develop road safety infographic based on the identified needs of young adults.

The findings of the study demonstrated a large proportion of the 76 young adults exhibited a high level of awareness regarding road safety rules and regulations. Most participants were aware of the importance of wearing helmets and seat belts to prevent serious injuries. Despite high awareness levels, (22.63%) of young adults exhibited occasional gaps between their knowledge and actual road safety practices. There is no significant association between awareness level and demographic variables.

Major findings related to demographic variables are also noteworthy. A total of 76 individuals within the youth age range were randomly sampled for this study, with most of them falling within the 18-25 age range. The respondents comprised mostly college students who had previous exposure to the basic road safety rules through academic courses and media sources. It was found out from the study that these young adults have relatively good levels of awareness about road safety rules, such as traffic regulations, road signs, and safe travel practices. However, this study found out that merely being aware is not enough to ensure safe road practices by young adults, hence the need for constant educational programs and awareness campaigns to encourage safe driving practices.

V. CONCLUSION

This study aimed to evaluate the level of road safety awareness among young adults. The findings indicated that most participants possessed a strong understanding of road safety regulations and preventive practices. A majority are aware of the significance of wearing helmets and seat belts, following signals, and avoiding mobile phone use while driving. Despite the overall high level of awareness, small gap was observed between what participants knew and how consistently they followed it in practice. This

highlights the importance of continuous awareness programs to encourage safer and more responsible road behavior. In conclusion the road safety underscores that maintaining and enhancing road safety awareness among young adults is crucial for minimizing road traffic accidents and ensuring overall community well-being.

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