

## **AWARENESS OF ROAD SAFETY MEASURES AMONG UNIVERSITY STUDENTS**

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### **ABSTRACT-**

Road Traffic Accidents are one of the foremost causes of death among the young population of age group 18-25 years of age all around the world. Many people die every day because of Road Traffic Accidents every day. Many rules and regulations have been made by the governments in order to reduce the Road Traffic Injuries and Deaths. This study was conducted among the university students of age group 18-25 years of age. The awareness of rules and regulations of Road Traffic, knowledge about them and the measures practiced by the students was being studied. It was concluded that the students were well-aware of the rules and regulations of road traffic but did not practice these measures. They had the knowledge about the safety equipment and the causes of road traffic accidents. Majority of the students agreed on the development of road safety initiatives by the government and the community. So strict road traffic laws, rules and regulations must be made and must be followed by the people.

### **KEY WORDS-**

Road Safety, Road Traffic Accidents, Road Safety Measures, Road Safety Initiatives, Safety Equipment.

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## 1. INTRODUCTION

In India, about 400 people die every day in road traffic accidents and more than 150,000 people die each year. (The Economic Times).

Around 1.24 million of the population die every year worldwide because of road traffic accidents, which is almost 3400 deaths a day. Most of the population who die on the roads consists mainly of the vulnerable road users such as the pedestrians, the cyclists and the motorcyclists. Road traffic injuries are the foremost cause of death all around the world among the population of age group 15–29 years. The death ratio between men and women is 3:1 respectively. Deaths due to diseases such as HIV/AIDS, tuberculosis and diarrhoeal diseases are left behind by the number of deaths that occurs due to road accidents and it has become eighth leading cause of death. The vulnerable users and the ones who live in low- and mid-income countries carry an excessive load of road traffic injuries and deaths. The number of road traffic accident deaths have not reduced that are being observed in any of the low-income country between 2013 to 2016. (Global status report on road safety 2018 by WHO), even though a little amount of decrease is observed in 48 mid-income and the high-income countries. Overall, the number of deaths increased at this time period in 104 countries. (Global status report on road safety 2018 by WHO).

Establishment of legislation in order to pacify the key risk factors, is admitted by the majority of governments as an important strategy to improve the road safety and are evidenced by the 149 countries that have appointed lead agencies with responsibilities that include ratification and evaluation of the traffic laws. Even though so many countries still lack legislation that can suitably address the risks such as breaking the speed limit, drink-driving, the use of helmets, use of seatbelts and child restraints, since 2014, some sort of progress has been made in a number of these areas. All around the world, 22 more countries have upgraded their laws on one or more risk factors in order to bring them in line with the best practice. This leads to increase in one billion people who are now under effective road traffic laws.

Increasing number of deaths due to road accidents has become one of the major concerns in many countries. Young Population of age group 15-29 are the main constituents of the road accidents.

Individuals, communities and the countries are awfully impacted because of road traffic injuries and deaths. They are the reason for a large cost to the overburdened health care systems that occupies scarce hospitals and its beds, also consumes a greater number of resources and thus results in significant losses of productivity and wealth with deep social and economic repercussions.

The media portrays road traffic crashes simply as an event and not as one of the most common killer of people and a huge drain on any country's human population, health and financial resources. Road accidents these days can happen anywhere, at anytime in any situation, be it road traffic, parking area, road side or the neighbourhood. The impact of the accident depends upon the type of accident that has happened and the severity of the accidents

There can be different types of road accidents such as:

- Vehicle Rollover- Vehicle rollovers are very complex and violent in nature. They reflect the interaction of driver, vehicle, road and the environment.
- Single Car Accident- Single vehicle is involved in this type of road crash which is generally due to run-off-road collision, collision with fallen debris and animals and rollovers.
- Rear End Collision- Rear end collision is the type of road accident in which the front part of one vehicle collides with the back side of another vehicle.
- Side-Impact Collision- They are also known as broadside or T-bone collision. These are the collisions in which one or more than one sides of the vehicles collides with each other. According to the IIH - "This kind of accidents take place at parking lots, intersections, and when two vehicles pass on a roadway accounting for about a quarter of passenger vehicle occupant deaths",

•Head-on Collision- It is the kind of accident in which two vehicles collapse with each other from front side that is face to face.

There is dearth of studies that have been conducted regarding the knowledge, attitude and perception of university students about road safety measures. India despite of being the second most populous country subsidized only 0.7% articles on road traffic injuries globally. Youth awareness about the safety is important as the number of road accidents, injuries and deaths are increasing among the youth.

Road traffic injuries are one of the most popular reason for death globally. Most common age group involved is 15-29 years which is the most productive age group. The road safety has become a topic of concern worldwide. Majority of the population is knowledgeable about road safety measures, various road traffic rules and regulations but the implementations of these measures are not practiced by them. This study was done in order to check the awareness and the attitude of the university students towards road safety measures and practices. The study can provide recommendations to other researchers who would be working on road safety measures and practices in university students in other parts of our county.

## 1.2 STATEMENT OF RESEARCH PROBLEM

- What is the knowledge and the attitude of university students towards road safety measures?
- What is the opinion of the university students regarding the road safety initiatives that may help to reduce road traffic accidents?

## 1.3 OBJECTIVES

Followings are the objectives of the study:

- To find out the knowledge and attitude of university students towards road safety measures.
- To find out the opinion of the university students regarding the road safety initiative that may help to reduce road traffic accidents.

## 2. LITERATURE REVIEW

A study by Shruthi et al. in 2013 concludes that road traffic accident (RTA) is one of the most common reasons for unnatural death and it is the third major avoidable issue amongst all the deaths. In India, road accidents, injuries and death are evident publicly, still, road safety is professionally absent and politically mislaid in our country. In between January 2010 to December 2012, a retrospective observational study was conducted in the Department of Forensic Medicine and Toxicology, Kempegowda Institute of Medical Sciences, Bangalore, with an objective to study the injury profile, demographic and the mortality pattern in autopsy cases with the suspected history of the RTA and to gain public attention and awareness in order to prevent and control the RTA. 225 victims of RTA were being studied. It was seen that the maximum number of accidents took place during day time in between 6 AM to 12 PM. About 55.11% of the total victims were of age group 21-30 years out of which about 78.22% of the total victims were males and 68.44% of the road accidents consisted of four-wheeler vehicles. 63.11% of the deaths were caused due to Haemorrhagic shock and about 30.22% of the deaths were because of head injuries followed by abdomen injuries, limb injuries and thorax injuries. The highlights of the study were that the interventions in road accidents must include collective efforts from the government and non-government organisations also from the public and private sectors and the community (Shruthi et al, 2013). A study by Ranganathan. B. A in 2016 concludes that the condition of India is such that there are a greater number of deaths due to road accidents than deaths due to terrorism. It is one of the most common loss to our country which is being caused by a human error. This leads to pain for lifetime to the families. Implementation of various road safety programs, through awareness programs, and distribution of posters, pamphlets, short movies etc to decrease the accident rate, by the government of India and by various NGO's. In India there is 1.5% increase in road accidents every year. The number of road accidents is more than 6 lakhs approximately, for every minute one road accident takes place and in every four minutes one death due to road accident takes place. Maximum number of deaths are in age group of 16 to 30 years of age in India. America, European countries and midlist countries have adopted multi approach road safety and traffic management due to which they have less amount of road accidents. In different countries there is a rule that in every 2 years the driving licence must be renewed after the licence holder attend a training program along with a driving test. Improvement in the design and the quality of the roads during construction is taking place. A

toll-free number that is 108 is being used for quick accident response. Supreme Court has passed an order that all the hospitals have to treat the road accident victims as soon as possible and no police intervention must be there until the treatment of the victim also not to create any kind of difficulty to the person who has brought the victim to the hospital. The study on road accidents provides us the information about making suitable changes that are being required for the safety of life.(Ranganathan. B. A, 2016)

A study by V. Kulkarni et al in 2013 concluded that 2011-2020 is declared as the “Decade of Action for Road Safety” by the UN general assembly. This declaration is of great importance as the road accidents have become one of the major reasons for mortality and morbidity, mostly among adults and the mid-aged population that constitutes the most efficient and productive age group of the society economically. The purpose of his study was to find out the knowledge and practice of the road traffic safety measures among the medical students. Total number of participants were 260 in which 149 were females (57.3%) and 111 were the male participants (42.7%). It was seen that the awareness among the females were slightly higher than the males about the road safety measures. Low awareness among the participants was seen regarding the alcohol drinking and driving that was 19.9%, the use of seat belts was 20% and the use of mobile phones was 6.1%. There was a better knowledge seen among the students about the traffic signs and most of them were able to identify the signs correctly. As per the road safety practices are concerned, 68% of the participants mentioned of crossing speed limit on various occasions. 25% of the total student participants were involved in the drunken driving in last one year of time period. 20% of the participants stated the use of mobile phones with free hand devices. It was concluded that there is an immense need to create awareness among the students through IEC activities and training to limit the epidemics of road traffic accidents. (V. Kulkarni et al, 2013). Study by Redhwan AA and Karim AJ in 2010 concluded that more than 20 million of population is being injured in India and about 1.17 million of population is being killed due to road accidents every year. About 85% deaths are reported in the developing countries and 90% of the people suffers from disabilities due to road accidents worldwide. The main motive of the study was to find out the attitude, knowledge, practice and the factors affecting the students of university in Malaysia about road accidents. Out of 109 participants 39 students (35.7%) had gone through either one or more than one road accidents. 93.6% of the students were either

strongly or very strongly agreed of using seat belts and its importance. The age and the attitude of the students were importantly related with exposure to the road accidents. There was a moderate amount of knowledge in the students about the road traffic rules and regulations. Most of the students stated that the high speed, the drivers who lack awareness about the traffic rules and regulations, and the drivers who refuses to follow the traffic rules and regulations were the common causes of road traffic accidents. (Redhwan AA and Karim AJ, 2010)

Manjula R et al in 2017 explained that road traffic accidents causes about 1.25 million deaths worldwide. Road accidents are the major cause of the deaths in young population aged 15-29 years. About 90% of the total world's fatalities takes place in the low income and the mid-income countries. The main purpose was to identify the socio-demographic profile and knowledge, also the attitude and the practices of road safety among the students of the S.N. Medical College. Out of 90 students 82.2% of the students had a good knowledge of road safety and its practices. 88.9% (around 80) students had a good attitude about road traffic accidents. 41.1% (37 students) had a poor practice pf road safety measure. The study concluded that there must be strictness towards the rules and regulations of road traffic and the knowledge of road safety measures must be implemented by the people practically. (Manjula R\*, Vijaylaxami B. H, Ashok S. Dorle, 2017). Another study by Dr. J Mukhopadhyay in 2017 depicts that road accidents had been posing an incredible public health challenge. Road accident related mortality rate got a new apogee that needs attention. The study was conducted by him for finding out the awareness and road safety measures among the college students. 200 undergraduate students were studied. Approximately 80% of the students knew about the road safety measures, girls were more knowledgeable than the boys. Common traffic signs were being identified by about 90% of the girls and 73% of the boys. 20.76% to 66.98% of non-compliance of the traffic rules was seen and it was higher in boys and unexperienced students. Among the road traffic awareness defaulters, 85.7% did not follow the speed limit rule, about 82.1% of the students did not follow the lane discipline and 60.7% students overtook wrongly. Around 32.1% of the road traffic accidents happened because of faulty overtaking and 25% accidents happened because of use of mobile during driving. Almost 21.4% of the accident cases occurred due to high speed skids and collision while changing the lane each. Actions according to the safety conventions

were suggested through regular road safety programs to motivate students and stimulate the knowledge. (Dr. J Mukhopadhyay,2017)

A study by Lakshmi R in 2018 concluded that road accident injuries have an enormous impact on the health and development of the population and claims almost more than 1.25 million lives each year. It is the leading reason of death among the young age group of 15-29 years worldwide. India alone in the South East Asian region of WHO, accounted for about 73% of the road accident burden. The study was directed to study the knowledge and practices of the road safety measures among the medical students. Sample of 310 undergraduate students was being studied out of which 54.19% were male students and 45.81% were the female students. On comparison between males and female students, female students had more knowledge of road safety measures than male students. 90.9% of the participant students had driving licence, 32.1% of the student participants had undergone training for driving the cars and 66% of the student participants did not wear the helmets. The overall road safety measures knowledge was seen high among the participants. Road safety measures behaviours such as wearing helmets and exceeding the limits of speed were not desirable. Undertaking proper road safety measures strictly are the best accessible interventions to control the epidemic of RTA. (Lakshmi R. Kalbandkeri\*, Boramma G., Shreeshail Ghooli,2018)

A study by Ramya M et al in 2017 shows that road traffic accidents currently has been the 8<sup>th</sup> foremost cause of death worldwide and is predicted that it is going to become the 5<sup>th</sup> foremost cause of death by 2030. It has become an important global issue causing 20-50 million non-fatal injuries and 1.25 million deaths every year. The deaths among the age group of 15-29 years, that is the productive age group of the population, costs billions of dollars in dealing with its consequences. Their objective of this study was to find out the awareness and behavioural patterns among the students about road safety measures. 540 undergraduate students were included in the study. 99.2% of the participants were aware of traffic signal rules and regulations also 98.8% of the students knew the importance of the wearing helmets while driving. About 87.7% of the students knew that the consumption of alcohol is dangerous while driving, around 67% of the participants were aware of using seat belts and just 64.8% of the students were aware of the usage of hand-free devices while driving. Among 362 students who drove two wheelers

only 36.2% used helmets and among 178 four wheelers driving students only 50% of them used seatbelts. And 70% of them followed the lane rules. Practices like riding hand free, drunken driving, jumping traffic signals and drag racing were noted. The knowledge among the students was high but practicing the knowledge practically was found out to be poor. Strictness towards the practice of road safety measure can only help restricting the epidemics of road accidents. (Ramya M. S., Jyothi Jadhav, Ranganath T. S.,2017)

### **3. RESEARCH METHODS**

#### **a. Inclusion and exclusion criteria**

Both male and female students of a private university of age group 18-25 years were included in the study. Only the questionnaires that were fully filled were included in the study.

#### **b. Sampling technique and sample size**

Non-probability convenient sampling technique was used. A sample of 100 students was selected for the study.

#### **c. Data collection tool**

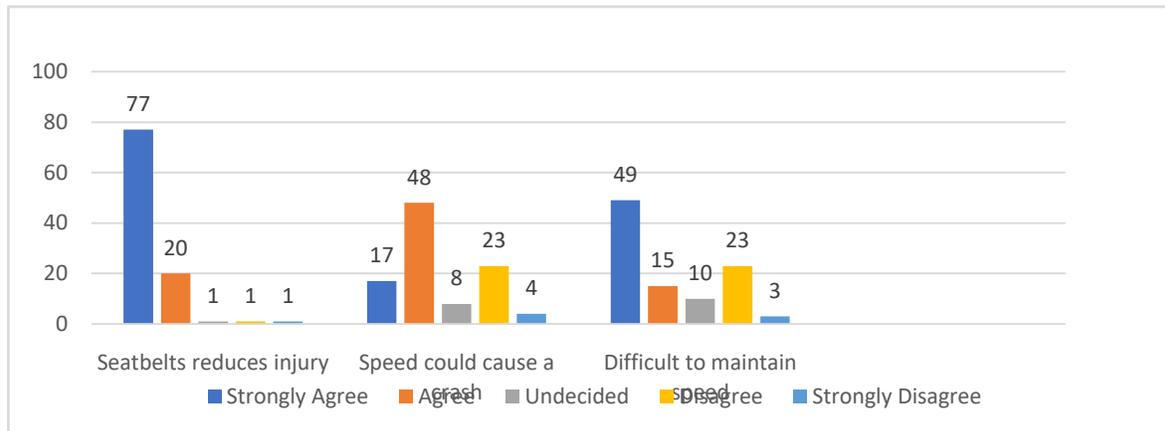
A structured and standardized questionnaire had been used.

#### **d. Procedure**

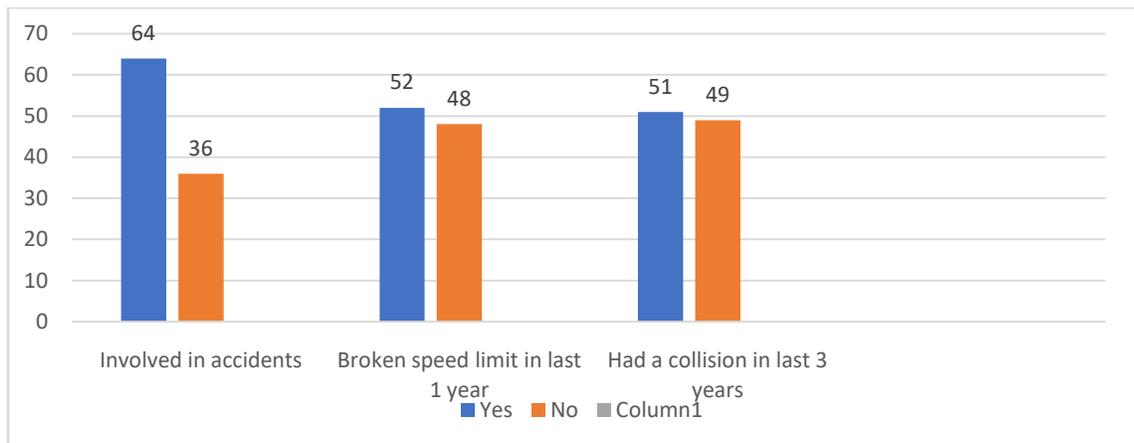
A preliminary questionnaire was prepared and then subjected to validity and reliability test. Validity was checked by a panel of five experts. For testing of reliability Cronbach's alpha was calculated with the help of SPSS software. Questions with Cronbach alpha values more than 0.75 were included in the study. Final questionnaire thus prepared was distributed among 100 male and female students. Data was collected and organised in Ms Excel.

### **4. Results**

About 56% of the participants were females and 44% were males.

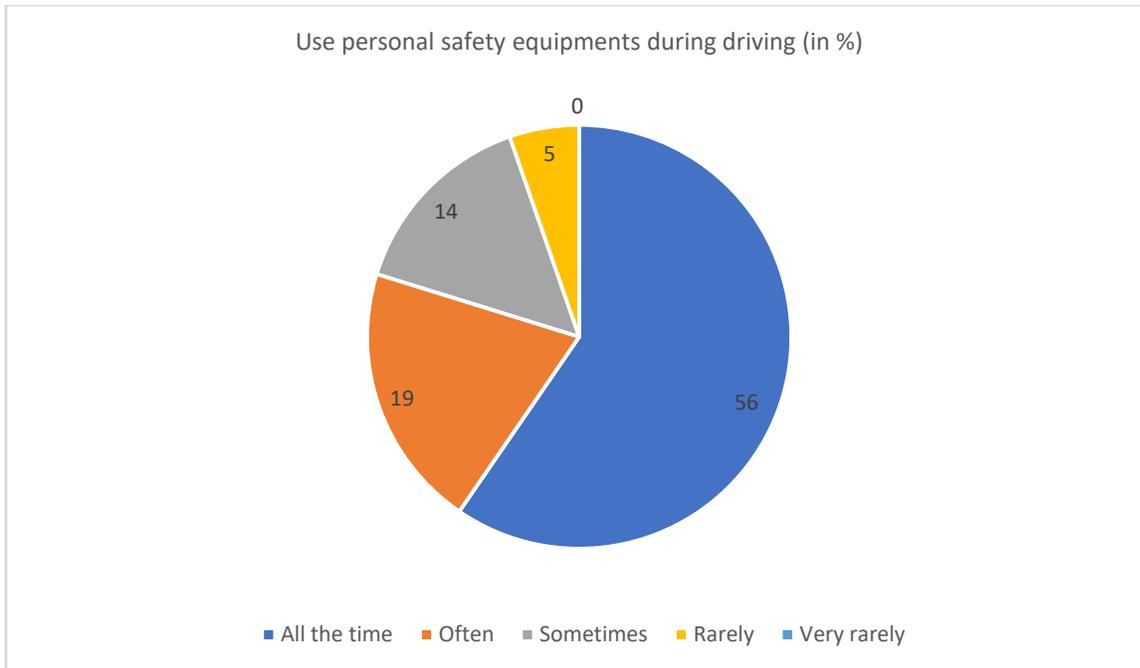


77% of the total participants strongly agreed to the fact that wearing a seat belt could reduce the chances of injury. Only 48% of the students agreed to the statement that speed could likely cause a crash. 49% students said that it was difficult for them to maintain the speed.

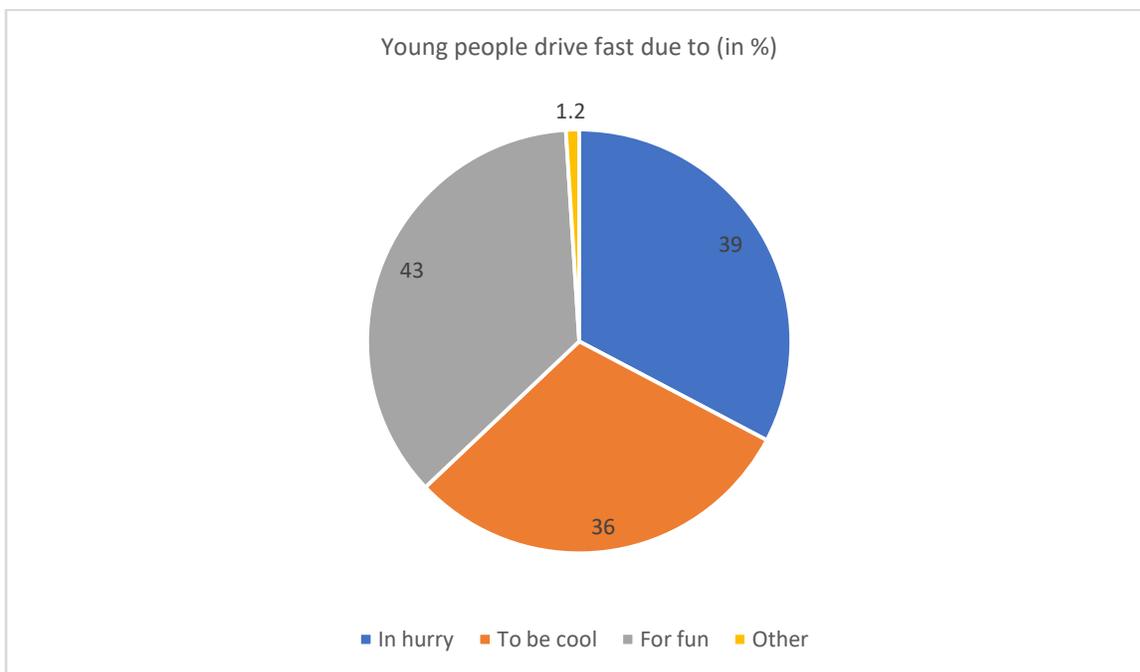


64% of the students had been involved in road accidents. 52% of them had broken the speed limit in last 1 year. 51% of them had a collision or near miss in last 3 years.

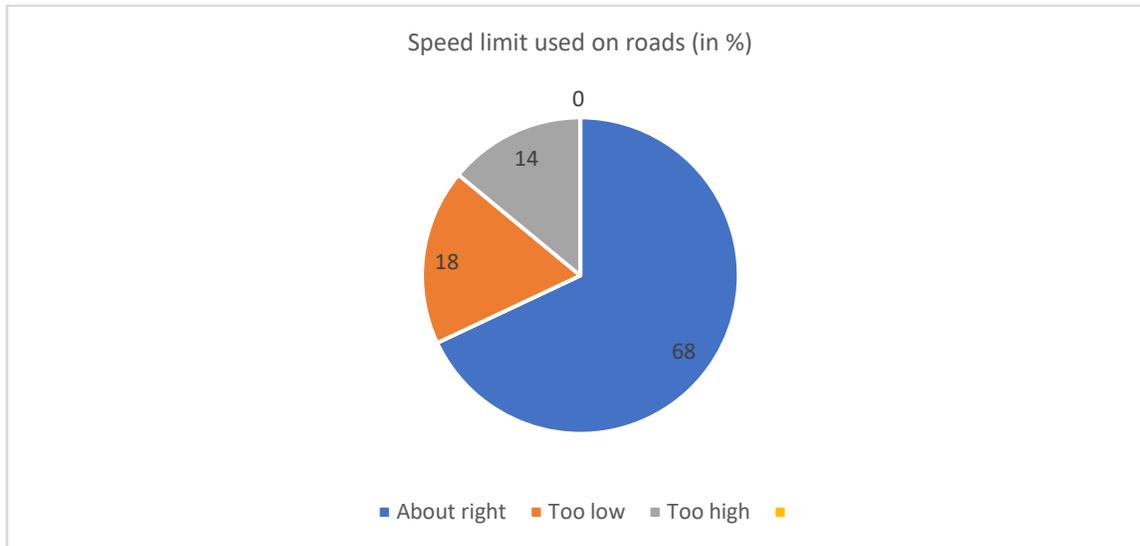
59% students mentioned careless driving to be the most common cause of accidents followed by mental distraction to be 35% and 28% said it is because of ignoring the road traffic signs.



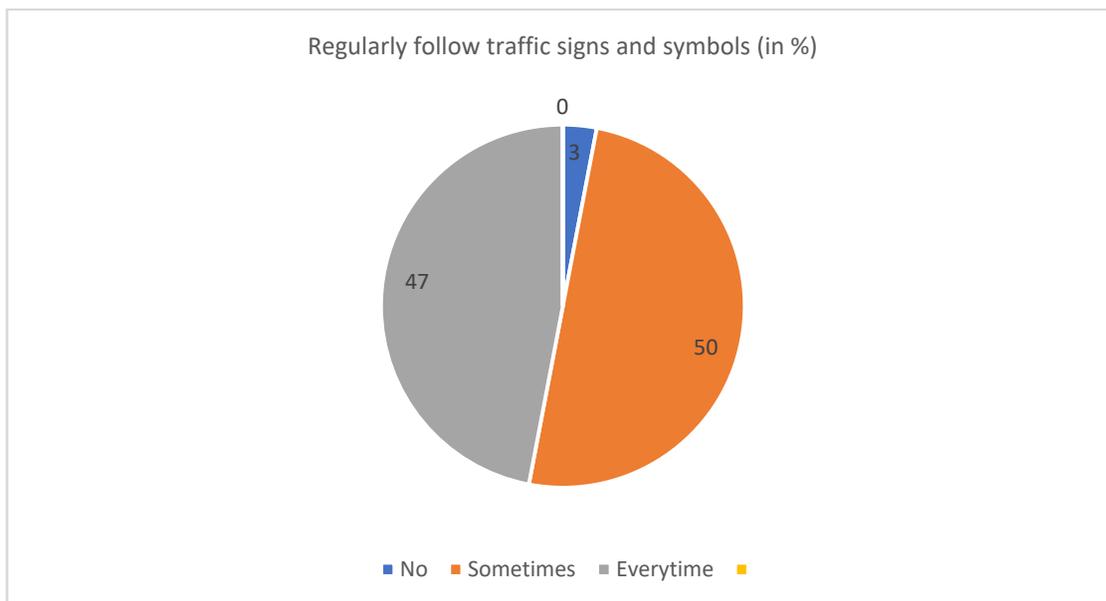
56% of the participants mentioned of using the safety equipment while driving and the rest of the measures taken by the students were not up to the expectations.



43% participants said that just for having fun, young people drive fast, 39% said that young drive fast because they are in hurry followed by 36% who said just to act cool, the young people drives fast.

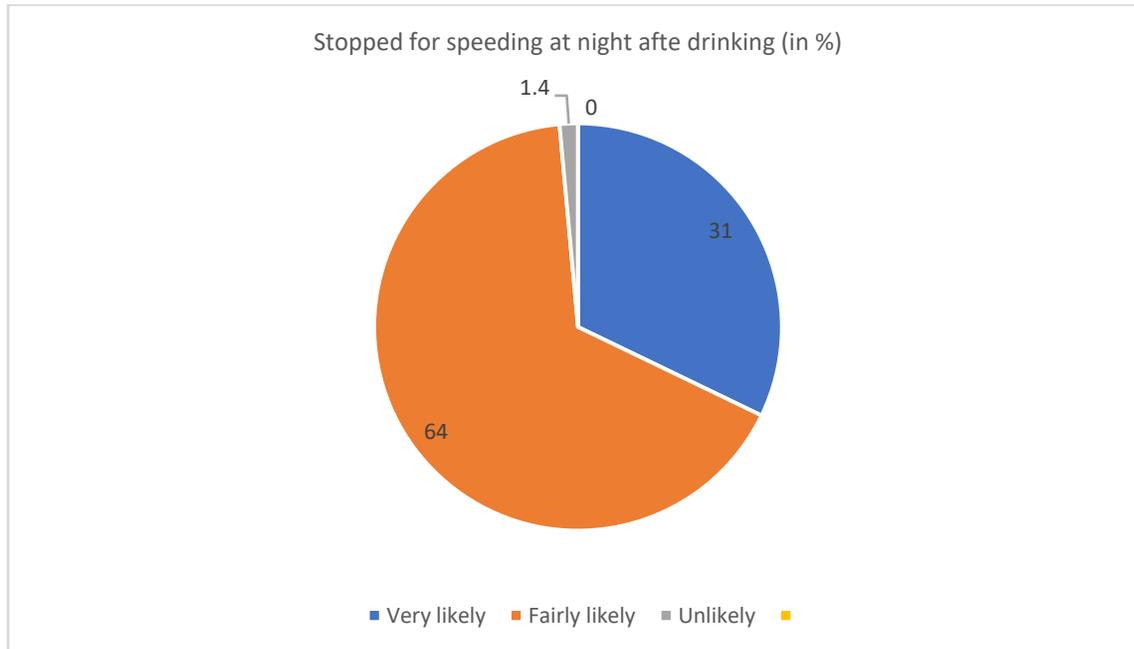


68% students said they drive their vehicle at about the right speed.

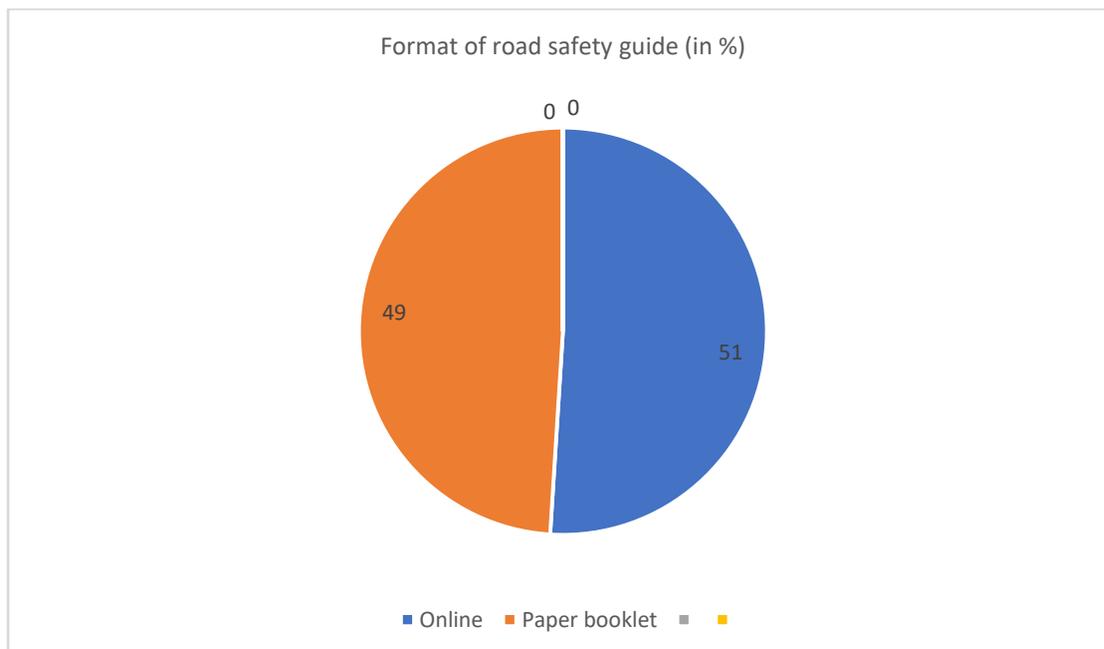


Only 47% of the students mentioned of following traffic signs and symbols regularly.

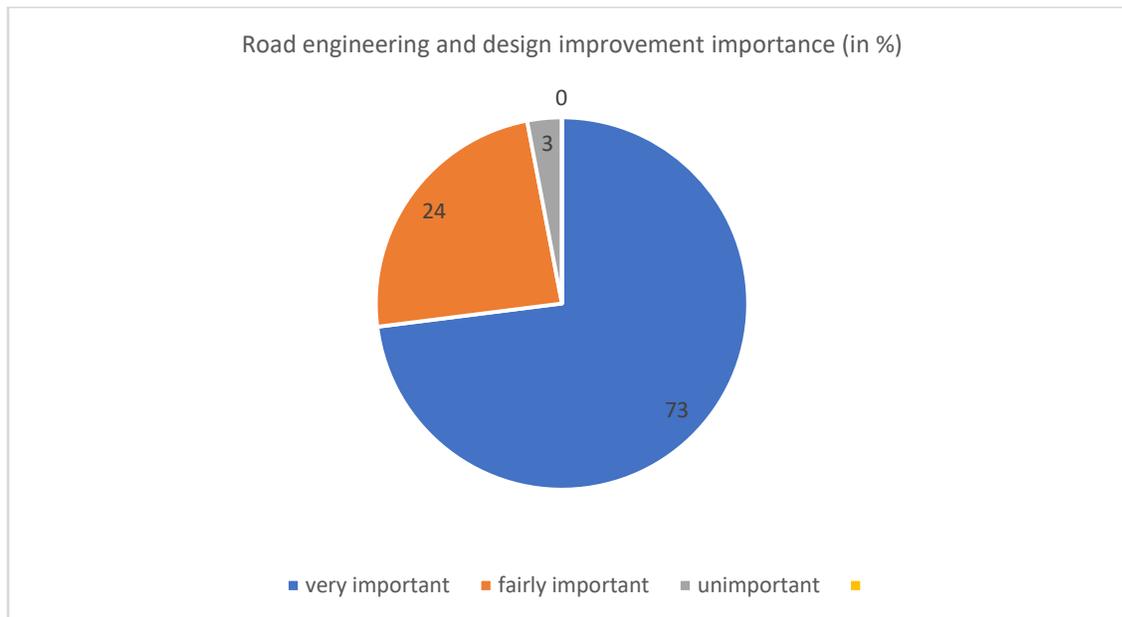
Around 50-80% of the students agreed on developing road safety initiatives.



64% participants mentioned of getting stopped by the police for speeding after drinking at night.



51% students preferred online format of road safety guide rather than paper booklet (49%).



73% of them knew the importance of road engineering and design improvement for avoiding road traffic accidents.

Road safety should be kept into the consideration and actions must be taken to promote and aware people about it. Road safety initiatives must be taken such as more police efforts for catching people breaking road safety rules and laws, penalties for breaking rules and drunk driving, speeding etc

## 5. Discussion, conclusion and recommendations

The study concluded that the students were well-aware about the various rules and regulations of road traffic, but they did not practice these rules and regulations regularly. They knew the importance of safety equipment and about the causes of accidents. But still fair practices of road safety and its laws are important. Half of the participants had broken the speed limit in last one year knowing its consequences. Majority of them agreed on development of road safety initiatives by the government and the community. So strict road safety laws and rules and regulations must be made and must also be followed by the population strictly. India had signed the Brasilia declaration in 2015, in which India committed itself to reduce road accidents and

fatality by half. In 2017, road crashes deteriorated by 3.27% and fatalities even more lesser by 1.9%. More awareness about the road traffic safety must be provided to the community.

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