

Original article

Prevalence of road traffic accidents and driving practices among young drivers.

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Abstract

Background: Each year, nearly 1.3 million people die as a result of a road traffic collision— more than 3500 deaths each day, moreover twenty to fifty million more people sustain non-fatal injuries from a collision, and these injuries are an important cause of disability worldwide. Road traffic injuries are among the three leading causes of death for young people (5 to 44 years of age). If timely actions are not taken, road traffic injuries are predicted to become the fifth leading cause of death in the world, resulting in an estimated 2.4 million deaths each year. Considering the issue and concern about younger age group, this study was carried out.

Objectives: To find out prevalence of major and minor Road Traffic Accidents and its relation with Driving practices among young drivers. **Methodology:** A Cross Sectional Study among the school students of 11th and 12th standard going to the tuition classes of Ahmedabad and Vadodara city and students of S.B.K.S. Medical College. Data was collected with the help of a Pre-designed, Pre-tested questionnaire for road traffic accidents and driving practices. **Results:** Majority of drivers were in 18 to 19 years of age (49.7%), Male and from Vadodara city. Total Prevalence of Accidents was 41.4%, 20.4% had major accidents and 29.2% had minor accidents. Safe Driving practices like use of Helmets and Seat Belt while driving was less followed (11.5% and 40.2% respectively) while unsafe practices like use of mobile while driving was practiced by 42.4% of drivers and it was related with high prevalence of RTAs. Fault of Pedestrian and Poor road condition are the major reason of their RTAs for young drivers. **Conclusion:** Prevalence RTAs are high (41.4%) among young drivers and it is related with high speed of driving, use of mobiles with driving and not following safety measures while driving. Fault of pedestrian and poor road condition are the main reason for the RTA for the young drivers.

Keywords : Road Traffic Accidents, Young Drivers,

Introduction

Due to the fast pace of modernization, basic needs including the requirement of a vehicle for transportation are expanding rapidly and resulting in an epidemic situation of injury everywhere including developing countries¹. Each year nearly 1.3 million people die as a result of a road traffic collision, more than 3500 deaths each day. Moreover, twenty to fifty million more people sustain non-fatal injuries from a collision, and these injuries are an important cause of disability worldwide. Ninety percent of road traffic deaths occur in low- and middle-income countries, which claim less than half the world's registered vehicle fleet².

Unless immediate and effective actions are taken, road traffic injuries are predicted to become the fifth leading cause of death in the world, resulting in an estimated 2.4 million deaths each year².

According to the World Health Report 2002, of the global burden of injury, 30.3% morbidity and 28.7% mortality occurred in the South-East Asia Region³. Road traffic injuries are among the three leading causes of death for people between 5 and 44 years of age and most common cause of death for people between 5 to 25 years of age².

The reasons for higher rate of RTIs amongst young drivers are minimal information about road safety and limited practice, Immaturity and inexperience particularly in the necessary driving skills and capabilities⁴. Apart from these, young drivers are having “risk-taking behaviour”, high levels of ‘Sensation Seeking’ or ‘Thrill Seeking’ behaviour. Such sensation-seeking frequently focuses on risky behaviours, including while driving a vehicle or crossing a road. Sensation-seeking has been shown to rise between the ages of 9 and 14 years, peaking in late adolescence or the early 20s, and then declining steadily with age^{5,6}.

These deaths are largely preventable through the concerted efforts of institutions and civil society and by implementing effective road safety measures that tackle leading risk factors and enable a comprehensive and safe road traffic system all over the world. Considering the importance of the Road Traffic Accident (RTA) issue, World Health Organization had taken the “Road Safety Is No

Accident” as a theme for World Health Day -2004. First United Nation Road Safety Week was observed from 23rd to 29th April, 2007 and the United Nations General Assembly resolution in March-2010, proclaimed period from 2011 to 2020 as a “Decade of Action for Road Safety” with the goal to stabilize and reduce the fatalities due to Road Traffic Accidents.

With official launching of the campaign on 11th May, 2011, activities have been launched as national events in each and every part of world.

Keeping in mind the importance of RTAs for young people this study was planned to find out RTA prevalence and driving practices among young drivers.

Objectives of Study:

To find out the prevalence of Road Traffic Accidents among young drivers.

To find out the driving practices and its relation with Road Traffic Accidents among them.

Methodology:

Type of study: A Cross sectional study among young drivers selected from the tuition classes in the city of Ahmedabad and Vadodara and students of SBKS Medical College.

Sample Size: Total sample size was 197, out of that 67 were students from tuition classes and 130 are students of SBKS Medical College.

Out of total 197, 6 students were not driving any type of the vehicle, so they were excluded from the study.

Method of study: Two Tuition classes, one from Ahmadabad and one from Vadodara, were selected based on the permission given from their authority. Remaining subjects were selected from the students of SBKS, Medical College. Data Collection was carried out by Intern Doctors posted in Community Medicine department with the use of a predesigned –pretested questionnaire. Questionnaire was having questions about personal details, Road Traffic Accident details and driving practices.

Data collected was analyzed by Epi-info, Version 3.5.

Ethical Issues:

Prior Permission of the authority of tuition classes was obtained before starting the study. Confidentiality of the data was ensured.

Ethical Clearance was obtained from Local Ethics Committee before starting the study.

Results and Discussion

Age of drivers was ranging from 15 years to 25 years with Mean age of 20.28 ± 2.21. Most of the drivers (49.7%) were in age group of 18 – 20, 15 drivers were under 18 years of age, majority of them were male (60%) and were from Vadodara

(71.7%) and 68% were medical students of SBKS Medical Institute and Research Center.

Table-1 Demographic Profile of Young Drivers

Age Group	Number of Drivers	Mean ± SD
15 – 17 years	15 (7.9%)	20.28 ± 2.21
18 – 19 years	95 (49.7%)	
20 – 21 years	44 (23.0%)	
22 – 25 years	37 (19.4%)	
Gender	Number	
Male	115(60.2%)	
Female	076(39.8%)	
City	Number of students	
Vadodara	137 (71.7 %)	
Ahmedabad	054 (28.3%)	
Category	Number of Students	
Medical Students	130 (68.1%)	
Student from Tuition classes	061 (31.9%)	

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Table-2 Vehicle driving patterns of young drivers:

Type of Vehicle Driven	Number
Two Wheelers	79 (41.4%)
Four Wheelers	08 (4.2%)
Both	104 (54.5%)
Avg. Speed of Driving	Number of drivers
<40 km / hr	30(15.7%)
40–50 km/hr	64 (33.5%)
50-60 km/hr	63 (33%)
>60km	34 (17.8%)

More than 54% of drivers drive both “Two Wheeler” and “Four Wheeler” while only 4.2% drive only a four wheeler. Almost half of the drivers drive with the average speed of >50 k.m. / hour.

As per the table-3, total prevalence of accident among young drivers was 41.4%, 17 (8.9%) had both major and minor accidents while driving, 56(29.3%) had minor accidents and 40 (20.9%) had major accidents which involved hospitalization for at-least one day. Major accidents mainly involved fracture (45.9%) and

Cut injury (32.4%) requiring suturing of the wound.

Table-3 Prevalence of Accidents and its relation with driving practices

Type Accidents	Number	
Minor Accident	56 (29.3%)	
Major Accident	40 (20.9%)	
All types	79 (41.4%)	
Relation of Accident With type of Vehicle driven		
Two Wheeler	33 (41.8%)	X ² = 0.96 , P = 0.63
Four Wheeler	02 (25%)	
Both	44 (42.3%)	
Relation of Accident with Avg. speed of driving		
<40 km / hr	13 (43.3%)	X ² = 1.33 , P = 0.72
40-50 km/hr	23 (35.9%)	
50-60 km/hr	27 (42.9%)	
>60km	16 (47.1%)	

While comparing the RTA among young drivers with the type of vehicles they are driving, RTA prevalence is higher among two wheeler drivers.

While comparing with average driving speed, the prevalence was higher among drivers whose average speed of driving was > 60 km/hr., though the data is not statistically significant, but if we compare the average driving speed with prevalence of major accident, it was significantly higher among drivers with higher speed of driving.

Table -4 Prevalence of Safe driving practices:

Use of Helmet while driving	Number
Two wheeler	
Always	21 (11.5%)
Sometimes	67 (36.6%)
Never	95 (51.9%)
Use of Seat Belts	Number
Always	45 (40.2%)
Sometimes	51 (45.5%)
Never	16 (14.3%)
Other Practices	Number
Use of Mobile while driving	81 (42.4%)
Driving without License	30 (15.7%)
Driving with Learning license	23(12.1%)

Regular use of safety measures like helmet and seat belts while driving was less prevalent among young drivers, only 21 (11.5%) are using helmets regularly while driving two wheelers and only 45 (40.2%) use seat belt regularly while driving four wheeler.

81 (42.4%) of young drivers use mobile phones while driving and 30 (15.7%) are driving without a driving license.

Table-5 Relation of Safe Driving practices and RTAs:

Relation between use of Helmet and RTAs		
Always	08 (10.4%)	X ² = 1.46 , P = 0.48
Sometimes	25 (32.5%)	
Never	44 (57.1%)	
Relation between use of mobile and RTA prevalence		
Using mobile while driving	38 (46.9%)	X ² = 1.79 , P = 0.18
Not using mobile while driving	41 (37.3%)	

From above table we can observe that prevalence of accident was higher among the person not wearing helmet regularly while driving and using mobile phones while driving, though the difference is not statistically significant.

Table-6 Reasons of their Accidents and for not using Helmets and Seat belts as per the young drivers.

Reason for Accident*	Number
Fault of a Pedestrian	37 (37.4%)
Poor Road Condition	34 (34.3)
High Speed	08 (8.1%)
Animal on Road	09 (9.1%)
Reason for not using Safety Measures (helmets/seat-belts)	Number
Feeling uncomfortable	32%
Not a habit	22.7%
Not required for a short distance of driving	17.4%
In hurry	17%

*Multiple answers were allowed

As per the drivers, having road traffic accidents reasons for their accidents were "Fault of a pedestrian" (37.4%), Poor Road Condition (34%), High speed (8%) and Animal on Road (9%). For not using safety measures while driving the main reasons were "Feeling uncomfortable (32%), Not a habit (22.7%), "Not requiring it for a short distance (17.4%) and forget it in hurry (17%).

Conclusions:

Prevalence of Road Traffic Accidents are high (41.4%) among young drivers, and almost 21% of total driver had a major accident involving hospitalization of at least 24 hours.

Major accidents mainly involved fracture injuries (45.9%) and cut injuries (32.4%) requiring suturing of the wound.

Unsafe driving practices like high driving speed, not using helmets and seatbelts while driving and using mobile phones while driving are very common among young drivers and higher

prevalence of RTAs was observed among drivers with this kind of unsafe driving practices.

Common reason for their RTA among young drivers was the "Fault of a Pedestrian" and "Poor Road condition" while common reasons for not using helmets and seat belts while driving are "Feeling uncomfortable", "Not a habit" and "short duration of driving"

Recommendations:

Considering the high prevalence of Road Traffic Accidents among young drivers, school based Road Safety awareness programmes should be periodically conducted.

Traffic rules and speed limits should be strictly followed by all the drivers including young age drivers. Vigilant watch and punishment system should be established by RTO department for violation of the rules.

United Nations has proclaimed year 2011 to 2020 as "Decade of Action for Road Safety : 2011 – 2020" and activities all over the world has been launched since 11th May, 2011. As a part of the global this initiative, action should be taken to make young people aware about their "major

killer" all over the world and to take preventive steps against it.

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- Almost 1.3 million people die each year on the world's roads, making this the ninth leading cause of death globally. If steps are not taken, this will rise to death of 1.9 million people annually by year 2020.
- In addition, road crashes cause about 50 million non-fatal injuries every year, many of them leading to disabilities.
- 90% of these casualties occur in Low income countries.
- RTA is the No. 1 cause of death for young people worldwide and by year 2015, it will be a leading health burden for a children > 5years in developing countries.
- ROAD TRAFFIC ACCIDENTS ARE PREVENTABLE and Considering the importance of this public health issue, U.N. general assembly resolution in March-2010, proclaims period from 2011 to 2020 as "Decade of Action for Road Safety" with the goal to stabilize and reduce the fatalities due to Road Traffic Accidents.
- Activities under the decade were launched on 11th May, 2011, in each and every part of the world.
- The Road Safety Tag is adopted as the official symbol for the United Nations' Decade of Action for Road Safety 2011-2020, which aims to reduce road deaths and injuries across the world.
- By wearing the Tag you are demonstrating your support for the Decade of Action, and your personal commitment to be safe on the road.

TOGETHER WE CAN SAVE MILLION OF LIVES