

Original Articles

Belief & Behaviour regarding road safety discipline among college going two-wheeler riders in Ahmedabad city - a cross sectional study

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KEY WORDS : Belief & behaviour; Road safety discipline; Two-wheeler riders

ABSTRACT

Background : Road Traffic Accident (RTA) refers to any accident involving at least one vehicle on road open to public circulation in which at least one person is injured or killed. Road traffic injuries constitute a major public health burden with significant consequences on mortality and morbidity, and significant health and socioeconomic costs. The majority of two-wheeler riders involved in road accidents are young people, who generally tend to adopt risky attitudes and behaviors. **Materials & Methods** : A cross-sectional study was conducted among randomly selected 502 college going two-wheeler riders from, the then, six zones of Ahmedabad city. A pre-tested, pre-designed proforma was used to assess belief & behaviour of participants.

Results : Out of 502 participants 47.81% were boys and 52.19% were girls with mean age of 19.4(±1.5) years. There were gaps between belief and actual behaviour on road regarding road safety discipline in study group. The gap was 45 % regarding mobile phone use, 30.9% regarding valid licence and 22.9 % regarding standard ISI mark helmet use while driving. In study, 84 % participants agreed for basic life support training to help casually at road side.

Conclusion : There was gap between what the youngsters believe and how they actually behave on road regarding road safety discipline. This could be reduced by sensitization and proper training / retraining on road safety.

INTRODUCTION

An accident has been defined as "An unexpected, unplanned occurrence which may involve injury".^[1] Road Traffic Accident (RTA) refers to any accident involving at least one road vehicle occurring on road open to public circulation and in which at least one person is injured or killed.^[2] The Global Status Report on road safety (2018) counted 1.35 million annual deaths due road traffic accidents.^[3] India accounts for almost 11% of the accidents related deaths in the world.^[4]

Over 30 % of those killed and injured in RTAs belongs to younger age group.^[5] Young age, over speed, reluctance to wear helmet, drink & drive, using mobile while driving are some of the important human factors associated with RTAs. There is a strong relationship between the increased vehicle speed and risk of crash and injuries.^[6] Head injury is very common in two wheelers.^[7] A study among motorcyclists in Kerala, India by Shreedharan J et al. revealed that only 31.4% participants used a helmet.^[7] A study among traffic accident victims of all age

group in New Delhi, India by Banerjee et al. revealed that 31% were the victims of head injury.^[8] Failure to use helmet, use of non-standard helmet or improperly secured helmet is a factor for injury or death in RTA seen in a number of Asian countries, including India.^[6]

Hence, it is very important to identify the gaps between belief and actual behavior among young generation regarding road safety. This could help to bridge this gap for prevention of injury and death due to RTAs in this group. With this background this study was conducted.

METHODS

This cross-sectional study was conducted in year 2018, among, the then, 6 zones of Ahmedabad, the largest city of Gujarat. Sample size was calculated based on 22.6% population-based prevalence of helmet use in motorcyclists as studied in India.^[9] After collecting list of colleges available in Ahmedabad city from Gujarat university, one/two colleges were selected from each zone by random number method. From each college one / two classes from among the 1st, 2nd and 3rd years were

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Results :

Figure - 1 : Gender distribution of study group (N=502)

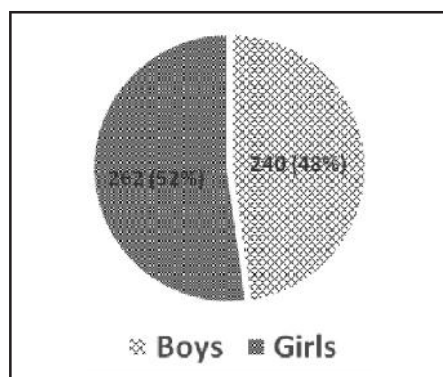


Figure -1 : shows that out of 502 participants, 240 (47.8%) were boys and 262 (52.2%) were girls. The mean age of study participants was 19.4(±1.5) years.

Table 1 : Belief Regarding Road Safety Discipline Among Study Participants. (N=502)

No	Belief (Yes response only)	Boys (n=240)	Girls (n=262)
1	One should have valid license for driving two wheeler	230 (95.8%)	254 (96.9%)
2	One should wear helmet while driving two wheeler	234 (97.5%)	254 (96.9%)
3	One should use helmet with ISI mark while driving two wheeler *	209 (87.1%)	183 (69.8%)
4	Normal speed limit should be 40 to 60 km/hourwhile driving two wheeler	213 (88.8%)	223 (85.1%)
5	One should not use mobile phone while driving two wheeler	226 (94.2%)	248 (94.7%)
6	One should show side light indicator for turn while driving two wheeler*	224 (93.3%)	219 (83.6%)
7	Young people are most affected in RTA	212 (88.3%)	228 (87.0%)
8	Drink & drive can lead to accidents	233 (97.1%)	249 (95.0%)
9	Basic life support training should be given to youngsters for saving life in RTA	201 (83.8%)	220 (84.0%)
10	Only two persons should ride on two wheeler vehicle	219 (91.3%)	234 (89.3%)
11	Pedestrian should be given priority while crossing road	222 (92.5%)	244 (93.1%)

* p-value is <0.05

Table 2 : Behaviour Regarding Road Safety Discipline Among Study Participants.(n=502)

No	Behaviour (Yes response only)	Boys (n=240)	Girls (n=262)
1	Do you have a valid license for driving ?*	154 (64.2%)	175 (66.8%)
2	Are you wearing helmet while driving ?	214 (89.2%)	232 (88.5%)
3	Are you wearing helmet with ISI mark ?*	151 (62.9%)	126 (48.1%)
4	Are you frequently over-speedingvehicle ?*	222 (92.5%)	199 (76.0%)
5	Are you using mobile while driving ?*	140 (58.3%)	108 (41.2%)
6	Are you using side light while taking a turn ?	231 (96.3%)	256 (97.7%)
7	Are you performing stunts while driving ?	18 (7.5%)	10 (3.8%)
8	Are you regularly following the traffic signal ?	218 (90.8%)	242 (92.4%)
9	Ever held by traffic police for violating any traffic rule ?*	104 (43.3%)	58 (22.1%)
10	Ever suffered from an accident in past ?	44 (18.3%)	36 (13.7%)

*p-value is <0.05

Table 3 : Gap Analysis Regarding Belief & Behaviour about Road Safety Discipline Among Study Participants According to Gender. (N=502)

No	Variable	Boys (n=240)			Girls (n=262)		
		Belief	Behaviour	Gap	Belief	Behaviour	Gap
1	Regarding valid licence	95.8%	64.2%	31.6%	96.9%	66.8%	30.1%
2	Regarding helmet wearing	97.5%	89.2%	8.3%	96.9%	88.5%	8.4%
3	Regarding standard / ISI mark helmet	87.1%	62.9%	24.2%	69.8%	48.1%	21.7%
4	Regarding normal speed limit	88.8%	7.5%	81.3%	85.1%	24%	61.1%
5	Regarding mobile phone use	94.2%	58.3%	35.9%	94.7%	41.2%	53.5%

selected randomly. All the students of these classes were included in study, excluding those who didn't give consent or those who remained absent on the day of data collection. A pre-tested & predesigned proforma was used for collecting data to know belief & behaviour regarding road traffic accidents, traffic rules & regulations and road safety measures among study group. The proforma included socio-demographic characteristics like age, gender, belief & behaviour towards helmet use, driving license, normal speed limit, drink & drive, mobile phone use while driving etc. Total 502 students were requested to fill the proforma after taking informed consent. Data entry was done by using Microsoft Excel 2016. The data obtained were analyzed using Epi-info software. Proportion and Chi-square tests were applied for statistical analysis. Tests were considered significant when 'p' value was <0.05.

Table -1 shows that 95.8% boys and 96.9% girls believed to have valid driving licence for riding two wheelers. More boys (87.1%) compared to girls (69.8%) believed that standard (ISI marked) helmet should be worn while driving two wheelers which was statistically significant. Equal number of boys and girls (94.2 % Vs 94.7%) believed not to use mobile while driving two wheelers. 83.8 % boys and 84 % girls believed that basic life support training should be given to youngsters for saving life in RTA.

Table- 2 shows that out of 240 boys only 154 (64.2%) and out of 262 girls only 175 (66.8%) had a valid license for driving two wheelers. Only 151(62.9%) boys and 126 (48.1%) girls were wearing ISI mark helmet while driving which was statistically significant. 140 (58.3%) boys and 108 (48.2%) girls used mobile while driving. 104 (44.3%) boys and 58 (22.1%) girls were ever held by traffic police for violating traffic rules.

Table – 3 shows that there was a gap between what the youngsters believe and how they actually behave on the road. The gap is 45 % (35.9% boys & 53.5% girls) regarding mobile phone use, 30.9% regarding valid licence and 22.9 % (24.2% boys & 21.7% girls) regarding ISI mark helmet use while driving.

DISCUSSION

World-wide, road traffic injuries have been reported to be the leading cause of death among young people aged 15-29 years.^[10,11] Focus should be to identify the major road safety issues and discuss counter measures that would have potential to address the road safety problems.^[12] This study was conducted to know belief and behaviour regarding road safety among 502 randomly selected college going two wheeler riders.

In the present study 65.5% participants had valid driving license compared to the study done by Ranjan DP^[13] et al. in Raichur city of Karnataka, India among adolescent students in which only 7.7% of study participants had valid driving license. In study done by Phanindra D^[14] et al. in Guntur, Andhra Pradesh, India among college going students this result was 79.11%.

In the present study 83.86% participants drive their two wheelers at normal speed limit i.e. 40-60 km/hr. In study done by Phanindra D^[14] et al. 48.7% participants were driving two wheelers at normal speed. In study done by Ranjan DP^[13] et al. reported that 55.6% of study participants were following normal speed limit while driving. Reasons for over-speeding in present study could be due to being in hurry, to race with friends, to feel thrill and to impress others.

In the present study around 88.8% (89.2% boys and 88.5% girls) participants were found wearing helmet compared to the Ranjan DP^[13] in which only 22.4% of

study participants used helmet while in study done by PhanindraD^[14] et al. 46.0% participant used helmet. Wearing a helmet correctly can reduce the risk of death by almost 40% and the risk of severe injury by over 70%.^[5] Section 129 Motor Vehicles Act '88 states that every person driving or riding otherwise than in a side car, on a motor cycle of any class or description, shall, while in a public place, wear protective headgear conforming to the standards of Bureau of Indian Standards.^[15] Reasons for not wearing helmet could be heavy weight of helmet, feeling heat and suffocation, difficulty in holding helmet before and after ride, visual limitations while riding. Injuries to the head and neck are the main causes for severe injury, disability and death among two wheelers. In some countries head injuries are estimated to account for up to 88% of such fatalities.^[16] Helmet aims to reduce the risk of serious head and brain injuries by reducing the impact of a force or collision to the head. The correct use of a helmet considerably decreases the risk and severity of head injuries.^[16]

In present study 49.40% participants used mobile while driving and in study done by PhanindraD^[14] et al. this was 52.44%. In study conducted by apex industry body ASSOCHAM found that over 65 % of two-wheeler riders have been found to be using mobile phones, texting and listening to music while driving on Ahmedabad roads.^[17] This behaviour could be due to attending urgent calls and put them at high risk for RTA. It is also observed nowadays that most of the students use earphones for listening music while driving. This kind of behaviour is dangerous not only for driver but public also and needs corrective measures.

In present study there were significant gaps, gender wise also, between what youngsters believe and how they actually behave on roads particularly in helmet use, over speeding, use of two-wheeler indicators while turning the vehicle, use of mobile phone while driving. The non availability of standard helmet, high cost, and callous approach in implementation of traffic rules could be the reasons reflected in the behaviour regarding helmet use. In present study helmet use was seen more in boys compared to girls. Do girls with long hair face physical discomfort while wearing helmet? How can we design girl friendly helmet? These issues need to be addressed with availability of newer technology in current gender sensitive society.

In present study 83.8% boys and 84% girls believed that

basic life support training should be given to them. If proper first aid is given during "golden hour" i.e. first hour after trauma, road accident victims have a greater chance of survival and reduction in the severity of their injuries.

This cross sectional study has limitations. The findings of this study can't be extrapolated for all adolescents as it was done only on college going group. Like any other qualitative questionnaire based study there are chances of false positive (over estimation) results when addressing belief and behavior issues. Actual road side observational study can provide valid estimation of actual behavior. The authors suggest multiple observational studies with larger sample size on this issue. But findings of this study could be used as baseline for better planning and implementation of road safety guideline in large chunk of college going two-wheeler students.

CONCLUSION AND RECOMMENDATION

There is gap between belief and behaviour in connection to road safety discipline in study group. This could be reduced by proper training / retraining on road safety discipline, periodic road safety awareness campaigns and strict implementation of traffic laws. A component of first aid in training would make this group available for immediate care for casualty at road side in the event of road traffic accident.

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