



Knowledge and Practice of Road safety Measures in Medical Students

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Abstract

Background: Developing countries like ours are facing burden of road traffic accidents which causes unnatural deaths primarily involving the age group of 15-40 years, the most productive group. Being young generation in the community, medical students will be able to spread awareness of road safety measures to prevent RTA. Hence, the present study was focused to assess the current knowledge and practice of road safety measures among medical students.

Material and Method: A questionnaire based, cross-sectional study was conducted among 300 medical students (133 Males and 167 Females). The data was analyzed for percentage, mean, standard deviation, t test and Chi-square test. **Results:** We observed that 295(98.3%) of the students were aware about the term road safety measures, the common source of information was media 203(67.7%). Almost all students used their own vehicles for transport instead of public transport services. In our study, we found that overall knowledge of road safety measures among medical students was satisfactory, but practice of road safety measures was not satisfactory. **Conclusion:** We concluded that road traffic accidents are avoidable by proper sense of road safety measures. Safe driving practices should be encouraged. Orientation programs should be conducted periodically to reinforce not only the knowledge but also the safe practices in youngsters along with strict implementation of legislative measures.

Keywords: Knowledge, Practice, Road safety measures, Medicals students, Questionnaire based.

Introduction

One of the most important public problems around the world is road traffic accidents (RTAs). Apart from non-communicable diseases, developing countries such as India are facing burden of RTAs. According to World Health Organization Global Report, approximately 1.25 million people die each year in RTA worldwide. Of these, 90% belong to the low and middle income countries. [1]

Data suggests association between the attitude of the driver, seatbelt use, speed limit compliance, drunk driving, and demographic characteristics (age, gender,

income and education), as certain factors responsible for RTA. [2] According to some studies [3-7] conducted in our country, overpopulation, increased number of vehicles on roads, disregard for the traffic rules and regulations are some of the major causes of increased injuries and fatalities. With greater growth and development in terms of motorization and urbanization, RTAs are also likely to increase in India. The major point which needs to be taken into consideration is that RTA which causes an unnatural death primarily involves the age group of 15-40 years, the most productive group.

One of the simple measures to bring down the morbidity and mortality would be to bring about a behavioral change among young adults. For this, the first step would be to assess the current knowledge and attitude of the young generation regarding road safety and traffic rules. Moreover, road safety educated students will

help in averting the risk in developing RTA. Simple awareness and practices of road safety measures can effectively reduce the impact of RTA. Being young generation in the community, medical students will be able to communicate the awareness regarding precautions to be taken to prevent RTA. With this in mind, the present study was focused to assess the current knowledge and practice of road safety measures among medical students.

Material and Method:

A questionnaire based, cross-sectional study was conducted among 300 medical students (133 Males and 167 Females) from May 2016 to May 2017 in a medical institute. Simple random sampling technique was used to select the participants. Students present during the data collection period were included and those who did not give consent were excluded. Ethical clearance was obtained from the Institutional Ethics Committee prior to the study. All participants were fully informed about the study and written informed

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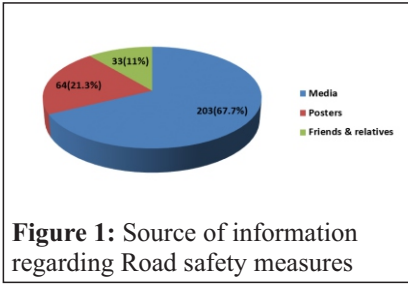


Figure 1: Source of information regarding Road safety measures

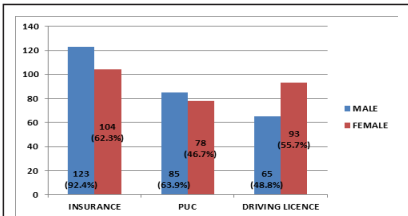


Figure 2: Awareness about renewal of documents in medical students

Table 1: Knowledge of students regarding road safety measures

Sr. No	Knowledge of road safety measures	Male	Female	Chi-square test	P value
1	Legal age for driving	125(93.9%)	157(94.1%)	0.00065	0.97965
2	Traffic signs and signals	110(82.7%)	147(88.1%)	3.43723	0.06374
3	Wearing helmet and seatbelt	130(97.7%)	158(94.6%)	24.2912	0.16859
4	Overtaking from right side	96(72.1%)	114(68.3%)	0.21061	0.64628
5	Speed limit	116(87.2%)	126(75.4%)	9.17268	0.00245
6	Prohibition of use of mobile while driving	128(96.2%)	161(96.4%)	0.06974	0.79171
7	Prohibition of driving after alcohol consumption	112(84.2%)	142(85.1%)	0.06978	0.79164
8	Use of zebra crossing	107(80.1%)	138(82.7%)	0.30883	0.57839
9	Regular maintenance of vehicle	88(66.1%)	135(80.8%)	5.01136	0.02518

consent from each participant was obtained. Pilot study was conducted to validate the study tool. A structured and validated questionnaire was used to collect

the information from the participants. The data was entered in the excel sheet and analyzed by using Epi-Info 7 statistical software for percentage, mean, standard

deviation, t test and Chi-square test. Pearson Chi-square test was used to find out statistical significance of differences in proportions. A p-value of <0.05 was

Table 2: Practice of road safety measures by medical students

Sr. No	Practice of road safety measures	Male	Female	Chi-square test	P value
1	Driving without license	39(29.3%)	43(25.7%)	0.23907	0.62487
2	Follow traffic signals and signs	46(34.5%)	38(22.7%)	2.35127	0.12518
3	No use of helmet while driving	105(78.9%)	134(80.2%)	0.08144	0.77534
4	No use of seatbelt while driving	114(85.7%)	148(88.6%)	1.391	0.23823
5	Drive on left lane	94(70.6%)	113(67.6%)	0.1075	0.743
6	Overtake from right side	92(69.2%)	53(31.7%)	0.00918	0.00023
7	Look both sides before crossing road	84(63.2%)	103(61.7%)	0.009	0.92438
8	Exceed speed limit	99(74.4%)	110(65.8%)	1.01136	0.31457
9	Use of music while driving	109(81.9%)	123(73.7%)	2.66876	0.10233
10	Talking on mobile while driving	93(69.9%)	141(84.4%)	8.16171	0.00427
11	Use of indicator while turning	86(64.6%)	116(69.5%)	0.20317	0.65217
12	Drunk and drive	21(15.7%)	08(4.8%)	41.6862	0.001245
13	Regular maintenance of vehicle	97(72.9%)	88(52.6%)	1.97176	0.00029

considered to be significant.

Results:

The present study was conducted among 300 medical students, 133 (44.3%) males and 167 (55.7%) females, of age group 18 years to 23 years (Mean= 19.203, SD =±1.38). We found that 295 (98.3%) of the students were aware about the term road safety measures. The common source of information as media was mentioned by 203 (67.7%) followed by posters on roads 64 (21.3%) and by friends and relatives 33 (11%) (Fig. 1).

Almost all students used their own vehicles for transport instead of public transport services. Of which, 229 (76.3%) used two wheelers, 71 (23.7%) used four wheelers, and 67 (22.3%) used both type of vehicles. Regarding driving experience, it was 2 years in 161 (53.7%), 4 years 97 (32.3%), and 3 years 42 (14%). We tested the knowledge and practice of medical students regarding road safety measures and the correct responses are tabulated (Table 1 and Table 2).

The response from participants regarding renewal of documents like vehicle insurance, pollution under control (PUC) certificate and driving license was gathered which is depicted in Fig. 2.

We observed that 218 (72.6%) participants were driving vehicles carrying license with them while driving. In all, 124 (41.3%) participants were caught by police for violation of traffic rules for not wearing helmets and seatbelts 83 (66.9%), for not having valid documents 25 (20.2%), and others were caught for over speeding 16 (12.9%).

It was noted that 103 (34.3%) participants had been involved in road traffic accident, the type of vehicle involved was motorbike 73 (70.9%), followed by a car 17 (16.5%), however 11 (10.7%) were pedestrians and 2 (1.9%) were using bicycles. Majority of participants 287 (95.7%) were of opinion that use of traffic rules and regulations and road safety measures should be made compulsory practice by law.

Discussion:

Now-a-days, road safety has become a growing concern due to alarming increase in road traffic accidents, mainly in young people. To prevent this, the young generation like medical students needs to be educated for same. The first step was to assess the current knowledge and practice of road safety measures in them.

In our study, we observed female preponderance which is comparable with findings of Jogdand KS et al [5], and Lalitha D et al [6]. On the contrary, other investigators [7, 8, 9] observed male preponderance and males and females were almost equally distributed in a study by Kulothungan K [10]. We found that 98.3% students were aware about the term road safety measures, the common source of information being media which is in conformity with a study by Emmily MK et al. [11] Thus media can be a good platform to spread awareness of road safety measures amongst general population.

Maximum students used their own vehicles for transport instead of public transport services. The reason may be the fact that most of them belonged to families of higher socio-economy. Similar findings were noted by Jogdand KS et al [5], Al-Khaldi YM [12], Phanindra D et al [13], and Kulkarni V et al [14]. However, Trivedi A et al [7] noted that participants used both type of vehicles most.

Regarding driving experience, it was since last 2 years in majority of students followed by 4 years in spite of better awareness regarding legal age for driving which is in conformity with previous studies. [9, 15]

In current study, the overall awareness of road safety measures was more in males as compared to females which is in harmony with findings of other investigators [6, 16, 17] except few. [5, 14, 18] Present study has showed that about 70% participants knew that they should drive on left and should overtake from right side only which was supported by prior researchers [8, 11, 17], but in a study by Phanindra D et al [13] only 24% were aware of the fact. About 70% participants of present study were driving vehicles with license with them. Similar findings were observed by

Ratna HVK et al [8], Phanindra D et al [13], and Redhwan AA et al [15], Kollis SKM et al [19]. Only 37% participants had a driving license in a study by Kulothungan K. [10]

Regarding seatbelt and helmet use, comparable results were observed by previous studies [5, 7, 10, 11, 13, 14, 15, 19, 20, 21], however, in contrast, 52.17% participants used helmet in a study by Lalitha D et al [6], Ratna HVK et al [8] reported 74% used helmet and 81.5% used seatbelt while driving, Reang T et al [17] reported that 90% used helmet, and 85% used seatbelts in a study by Al-Zahrani AH et al [22]. Regarding violation of traffic rules, our findings are in concordance with study by Jogdand KS et al [5]. This proves the tendency of youngsters of violation of traffic rules which can be rectified by law enforcement.

In our study, the prevalence of RTAs was 34.3%. In various studies conducted in India and abroad, the prevalence of RTAs ranged from less than 5% to 55%. [7, 9, 11, 12, 15, 19, 20]

Conclusion:

Road traffic accidents are avoidable by proper sense of road safety measures. Safe driving practices should be encouraged to reduce morbidity and mortality due to RTAs. In our study, we found that overall knowledge of road safety measures among medical students was satisfactory, but practice was not satisfactory. The knowledge didn't translate into practice. Considering the high prevalence of RTAs in students, traffic rules should be followed strictly by them. To create awareness, a guest lecture regarding road safety measures was organized for them. This was done in collaboration with the Regional Transport Office to motivate and create awareness about road safety measures in youngsters, which will definitely help to keep check on risky driving practices in them. Such kind of orientation programs should be conducted periodically to reinforce not only the knowledge but also the safe practices in youngsters along with strict implementation of legislative measures which is the need of hour.

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