Original Research Article

Prevalence of Road Traffic Accidents among Medical Undergraduates and their Behaviour Pattern towards Road Traffic Rules in Maharashtra

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Abstract

Background: World Health Organization ranked Road injuries were the 8th leading cause of death globally. According to Road Safety Annual Report 2017, young people aged 15-24 have a higher risk of fatalities than general population. As young people are most vulnerable group, so it's very important to study their behaviours towards road traffic rules and regulation. **Methods:** It is cross sectional study conducted in Maharashtra. Total 209 medical students 1st, 2nd and 3rd year who knows driving were included in the study. A semi-structured questionnaire was used to collect data. Data was entered into Excel sheet and analyzed by using SPSS-V22. **Result:** Out of 209 students, 19.6% students exposed to Road traffic accidents in last 3 years of recall period. 63% were in the age group 17-20 and 37% in 21-25. Prevalence of Road traffic accidents were more among male students (23.2%) than female. Prevalence was high (38.9%) in 1st year students which comes under age group 17-20. Higher prevalence found in students who were riding bike or motor cycle (32.4%), driving without driving license (21.1%), having Knowledge about road traffic sign less than 80%(32.1%). As more than 80% knowledge is required to pass the exam for driving license. More prevalence found in students who were having risky behavior such as never used seat belt/helmet (50%), involved in drunken drive (25.0%), Crossed speed-limit (23.0%) and involved in violation of traffic and road safety rules (23.6%). 33% students used mobile-phones while driving. **Conclusion:** Prevalence of road traffic accidents were higher in male and 1st year students. Most of the students having risky behavior which comes under very young age group.

Keywords: Road traffic accidents, Prevalence, Medical students, Behaviour, Maharashtra

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INTRODUCTION

World Health Organization ranked Road injuries were the 8th leading cause of death globally. If it goes on at current rate, then by 2030, it is expected to be the 5th leading cause of death overtaking Diabetes and HIV/AIDS.[1] According to Road Safety Annual Report 2017; young people aged 15-24 have a higher risk of fatalities than general population.[2] The United Nations General Assembly in 2010 proclaimed a "Decade of Action for Road Safety (2011– 2020)". The aim of assembly was improving safety of roads and vehicles, enhancement in the behaviour of road users and improvement in emergency services.[3] In the world 90% death on the roads occur in low and middle-

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income countries. Among young people aged 15–29 years, leading cause of death is Road traffic injuries.[4] As young people are most vulnerable group, so it's very important to study their behaviours towards road traffic rules and regulation. This study aims to see Prevalence of road traffic accidents among medical students and their behaviour towards road traffic rules and regulation.

METHODOLOGY

It is cross sectional study conducted in MGM medical college, Maharashtra. were participated in this study. Total duration of study was one year. Total 209 medical undergraduates of academic year 2013-2014 studying in 1st, 2nd and 3rd year were selected by convenience sampling method.

A Semi structured self-administrative questionnaire was prepared in English and given to student in person and under supervision of investigator. Data was collected and entered into Excel sheet.

Inclusion criteria: Students who were driving vehicle

Exclusion criteria: Students not willing to participate in the study

Statistical analysis: The data obtained from excel sheet was analyzed by using SPSS 21. Descriptive statistics was represented with Percentages. Chi-square test was applied to find associations. A value of p <0.05 was considered as significant.

RESULT

Out of 209 students, 63% students were in the age group 17-20 and 37% in the age group 21-25. 19.6% students exposed to Road traffic accidents in last 3 years of recall period (fig.1).

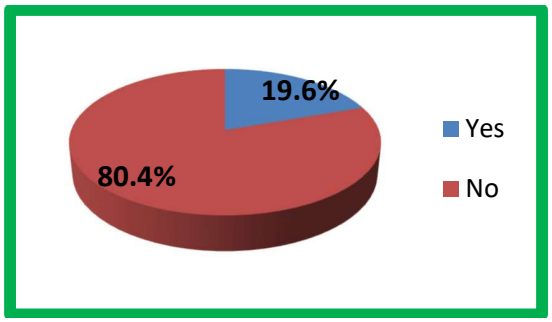

Figure1: Prevalence of Road Traffic Accidents

Around 55% (114) participants were female and 45% (95) were male and it was observed that prevalence of road traffic accidents was more among male students (23.2%) than female. 43% (90) students were from 3rd year, 40% (83) from 2nd year and 17% (36) from 1 st year and result shown prevalence was high (38.9%) in 1st year students which comes under age group 17-20. About 82% (171) students have driving license.(Fig. 2)

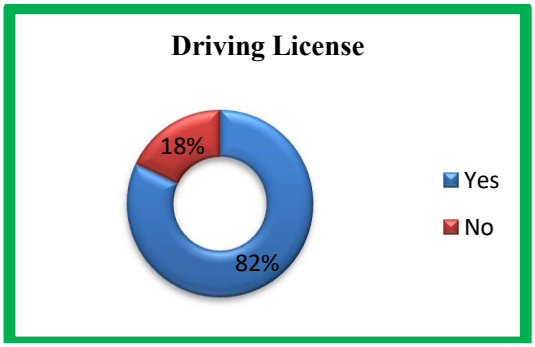

Figure 2: Participants having driving license

39% (81) students have car, 16% (34) students have bike and 26% (54) have both car and bike. Around 75% (156) students have knowledge about road traffic sign more than 80%. Higher prevalence found in students who were riding bike or motor cycle (32.4%), driving without driving license (21.1%) and (32.1%) having Knowledge about road traffic sign less than 80%. Figure 3 shows behavior of students towards road traffic rules such as using mobile phones while driving (33%), drink and drive(4%) and crossing speed limit(42%).

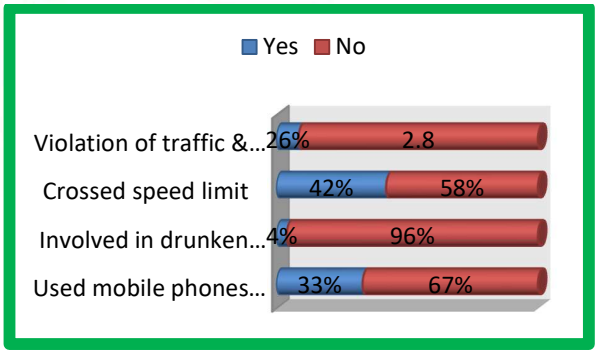

Figure 3. Behaviour of participants towards road traffic rules

More prevalence of RTA found in students who were having risky behaviour such as never used seat belt/helmet (50%), involved in drunken drive (25.0%), Crossed speed-limit (23.0%) and involved in violation of traffic and road safety rules (23.6%).

Table 1. Association between various variables and road traffic accidents

Variable	Category	Exposed to RTA				Total	%	P-value
		Yes		No				
			%		%			
Class	Ist year	14	38.9%	22	61.1 %	36	17%	**<0.001**
	IInd year	5	6.0%	78	94.0 %	83	40%	
	IIIrd year	22	24.4%	68	75.6 %	90	43%	
Knowledge	<80%	17	32.1%	36	67.9 %	53	25%	**0.02**
	GE 80%	24	15.4%	132	84.6 %	156	75%	
Follow traffic and road safety rules	Always	17	13.4%	110	86.6 %	127	61%	**0.02**
	Sometime	10	23.8%	32	76.2 %	42	20%	
	Usually	11	42.3%	15	57.7 %	26	12%	
	Rarely	2	20.0%	8	80.0 %	10	5%	
	Never	1	25.0%	3	75.0 %	4	2%	
Use seat belt / helmet	Always	17	12.4%	120	87.6 %	137	66%	**0.006**
	Sometime	12	35.3%	22	64.7 %	34	16%	
	Usually	7	31.8%	15	68.2 %	22	11%	
	Rarely	3	25.0%	9	75.0 %	12	6%	
	Never	2	50.0%	2	50.0 %	4	2%	

Academic year, knowledge, Following traffic and road safety rules and Using seat belt / helmet were found significant ($p<0.05$) with exposure to road traffic accidents. While having driving license, crossing speed limit and using mobile phones was not significant.

DISCUSSION

In this study, prevalence of road traffic accidents was 19.6% in last 3 years of recall period. It is consistent with study of Manjula R et al.[5] where 13.3% students got exposed to RTA in last year. Study of Zaidi et al.[6], Rasool et al.[7] and Al-Khaldi YM [8] shows contradict result i.e. 4.73% , 62%, and 54% respectively. These difference in prevalence is due to differences in recall period of road traffic accidents. 82% of students had driving license, this finding is in contradict to study done in Karnataka[5] (42.2%) and similar to study of Zaidi et al (69%)[6], Rasool et al. (98%).[7] and Al-Khaldi YM (72%)[8] In present study, 39% owned car, 16% owned bike and 26% owned both car and bike. Whereas Reang T et al study shows that 43% participants have two wheelers and 16% have four wheelers.[9] also in study of Manjula R et al 40% owned two wheeler, and 10% owned four wheeler.[5] Around 75% students have good knowledge about road traffic rules and signs. This is similar to study of Manjula R et al (82.2%).[5] In present study, 66% participants always used seat belt / helmet whereas only 23.3% and 24.3% participants always used seat belt / helmet in study of Manjula R et al[5] and

Kulothungan K[10] respectively. In this study 33% students used mobile phones while driving, this finding is almost similar to study of Raichur (46.3%)[11], Karnataka (22.2%)[5] and Tamilnadu (21.7%)[10] but in study of Agartala its only (8.2%)[9]. Only 4% students involved in drunken driving, it is similar to study of Reang T et al in which 6 participants involved.[9] Whereas in study of Kulkarni V et al. 25% students were involved in drunken driving.[12] 42% participants crossed speed limit, similar to study done by Ranjan et al (44.4%).[11] Whereas in study of Kulkarni V et al. around two third (68%) participants crossed speed limit.[12] In Reang T et al study 50 participants involved.[9]

CONCLUSION

Prevalence of road traffic accidents were higher in male and 1st year students which comes under very young age group. Most of the students having risky behavior such as not using seat belt/helmet, drunken drive, crossing speed limit and using mobile phones.

Recommendation:

It is necessary to make safety rules and laws more repressive.

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