Journal of Clinical and Biomedical Sciences

Original Article

Awareness and Practice of Traffic Rules in Preventing Accidents among Orthopedic Patients.

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Abstract

Background of the study : Road Traffic Accidents (RTA) has come out as a prime health concern in India and Abroad which needs multifaceted approach to reduce it. As we all know that nearly 1.35 million people die every year globally due to RTA and every 24 second someone dies on the road. Road traffic injuries are the main cause of death among children and young adults between 5 to 29yrs. One of the most important preventive measures to reduce RTA is following Traffic rules. It's designed to protect all those who pass on road and if it's followed nearly 99% of accidents can be prevented. The Aim of this study was to assess the awareness and practice of traffic rules in preventing RTA. Setting and design: A Descriptive survey approach with non-experimental research design was adopted to conduct the study on patients admitted at orthopedic wards at R.L.J Hospital & R.C

Methods and Material: 100 samples who fulfilled inclusion criteria were selected using purposive sampling technique admitted at orthopedic wards of R.L.J. Hospital & R.C Kolar. The data was collected by using structured questionnaire on awareness and practice checklist.

Statistical analysis: Data was analyzed using Descriptive and Inferential Statistics like mean, percentage, standard deviation, co-relation and chi-square.

Results: The study showed that, out of 100 samples, 46(46%) had moderate awareness regarding RTA and majority54 (54%) had average level of practice and there was positive co-relation between awareness and level of practice.

Conclusion: Even though people are having adequate awareness about road traffic rules, negligence in following road traffic rules was the major cause of RTA. Hence an awareness program regarding risk of accidents, impact of accidents on individual, family and society is essential in reducing RTA.

Keywords: Road Traffic Accidents, Awareness, Traffic rules, Practice.

Introduction

India is a fast-growing country both in Urbanization and Economic ways. This results in increasing the number of vehicles which in turn increases Road Traffic Accidents (RTAs).[1] RTA is the Eighth leading cause of death in the World, and is predicted to become the Seventh leading cause of death by 2030.[2] Every day, almost 3,700 deaths are occurring globally due to Road Traffic crashes.[3]

More than half of all road traffic deaths are among vulnerable road users like: pedestrians, cyclists, and motorcyclists. It is estimated that 93% of the world's fatalities on the roads occur in under developed and developing countries, even though these countries have approximately 60% of the world's vehicles. [4]

In India, the second leading cause of deaths among 15-39yrs is RTA. When we see the death toll for last decade, more than 2.2 Lakh deaths had

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Conflict of Interest: None
Financial Aid: Nil

occurred due to RTA in India. Majority were among pedestrians and motorcyclists. The annual death population due to RTA in India estimated to lose one small city every year.[5] "Road injury is an economic and societal burden. If this trend continues, no state in India is likely to meet the SDG 2020 target of reducing the road injury deaths by half from 2015 to 2020 or even by 2030.[2]

It is reported that, main cause of accidents and crashes are due to human errors like Over Speeding, Drunken Driving, and Distractions to Driver, Red Light Jumping, and Avoiding Safety Gears like Seat belts and not wearing Helmets, Non-adherence to lane driving and overtaking in a wrong manner.[6] Deaths from RTA are preventable by implementing strict laws and policies by state governments and implementing agencies." Hence this study was conducted to assess the awareness and practice of Road traffic rules among public with a view to prepare an information pamphlet.

Objectives

The objectives of the study are:

1. To assess the level of awareness regarding road traffic rules among orthopedic patients admitted in hospital by using structured questionnaire on road traffic rules.
2. To assess level of practice among orthopedic patients admitted in hospital by using checklist on road traffic rules.
3. To find-out the correlation between awareness and practice among orthopedic patients.
4. To determine the association between levels of awareness regarding road traffic rules and selected demographic variables.
5. To determine the association between levels of practice regarding road traffic rules and selected demographic variables.

Material and Methods

A descriptive survey approach with non-experimental research design was adopted. The study was carried out on orthopedic patients admitted at R.L.Jalappa Hospital & Research Centre, Kolar. The samples were chosen by using non-probability purposive sampling technique with the sample size of 100 patients admitted in orthopedic wards. A structured questionnaire on road traffic rules with 15 multiple choice questions to assess awareness and a checklist with 28 questions on practice were developed by the investigator. The questionnaire was validated with nursing experts. The right answer was scored as one and wrong answer as zero in both awareness questionnaire and practice checklist respectively**.** Questionnaire which was graded as scores >75% - adequate awareness, 50- 74%- moderately adequate awareness and <49% as inadequate awareness. In practice level >75% was graded good, 50-74% was graded average and <49% was graded poor practice level. Formal permission was obtained from the institutional ethics committee and permission was taken from the medical superintendent of Hospital. Patients who were willing to participate and fulfilled the inclusion criteria were selected and explained on the purpose of the study and written informed consent was taken from the participants. One to one interview technique was used to collect the data. Each interview took 45min to 1 hour. Further pamphlet was distributed to all the patients. Throughout the study confidentiality and anonymity was maintained. Further data was coded and processed for statistical analysis by using descriptive and inferential statistics.

Results

Among 100 participants, Majority 36(36%) of the participants were above 30 years of age. Maximum 93(93%) were males. Major 53(53%) participants had secondary education. Majority 66(66%) of them were from rural area. Majority 56(56%) participants were self-employed. regarding the time spent to ride the vehicle daily showed that majority 82(82%) of the study participants ride the vehicle for approximately 0-5hrs. Maximum 80(80%) participants had two- wheeler. Major 66(66%) participants drive their vehicle for work purpose. Majority 52(52%) of the study participants graded the road condition as good.

Study findings related to level of awareness on traffic rules among orthopedic patients revealed that 46 (46%) had equally adequate and moderately adequate awareness and only 8 (8%) had inadequate level of awareness. Study findings related to practice level on Road traffic rules showed that majority 54 (54%) had good level of practice and 46 (46%) had average level of practice Figure 1.

The overall mean and standard deviation on awareness level was 9.3 with SD 2.0 and Practice level mean was 20.67 and SD was 2.6 among orthopedic patients Table 1.

The correlation between awareness and practice level reveled that there was positive correlation ($r=0.64$, $p<0.05$). Which showed to increase practice level, awareness on road traffic rules should be increased.

Association between level of awareness with selected socio-demographic variables of orthopedic patients showed statistically significant association between age and hours of travel at P<0.05 level of significance Table 2.

And the association between practice level with socio-demographic variables showed that there was statistically significant association between education, occupation, type of vehicle, purpose of drive, condition of road at P<0.05 level of significance. Table 3.

Figure 1: Percentage distribution on level of awareness and practice among orthopedic patients.

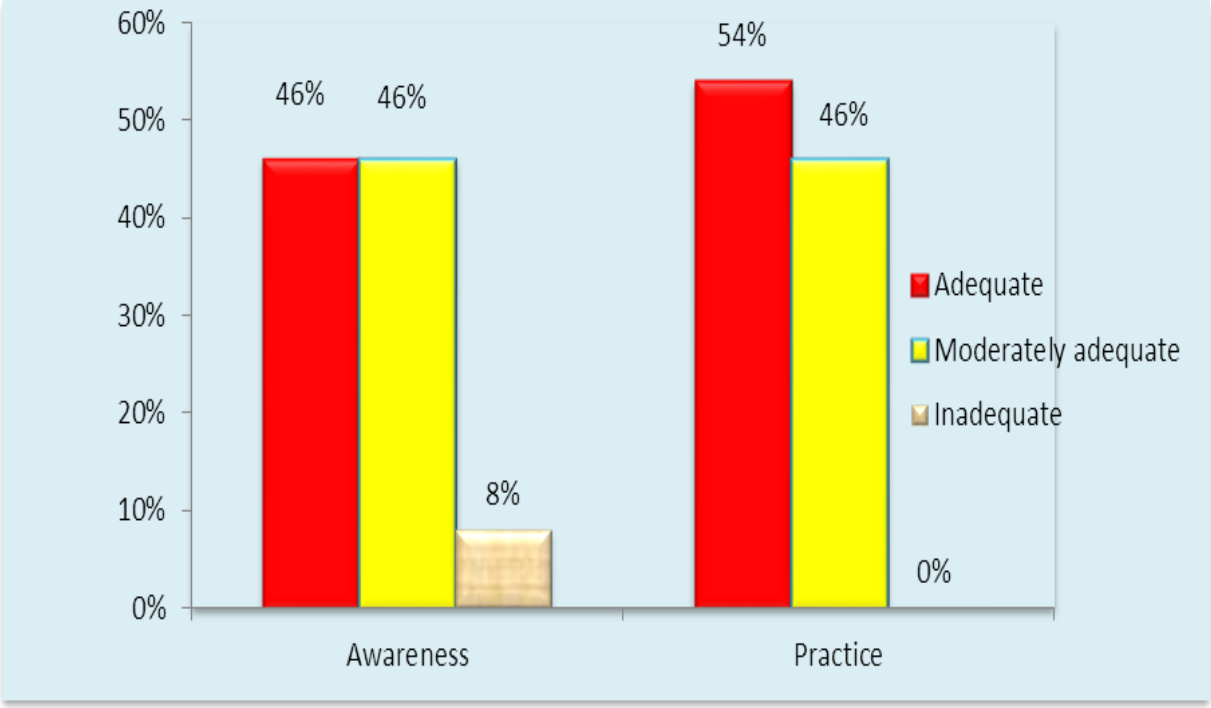

Table 1: Mean and standard deviation of awareness and practice level on road traffic rules among orthopedic patients.

n=100

Aspect	Mean	SD
Awareness	9.3	2
Practice	20.67	2.6

Table 2: Association of awareness level among orthopedic patients with selected socio demographic variable. n=100

Sl.No	Demographic variable	Overall awareness level		Table value	X^2 Calculated value	Inference
		Above median >8	Below median <9			
1.	**Age** 1.1) Below 18 years 1.2) 19-24 years 1.3) 25-29 years 1.4) Above 30 years	 01 11 15 19	 04 16 17 17	7.82	12.182	SS
2.	**Gender** 2.1) Male 2.2) Female	 41 05	 51 03	3.84	0.982	NS
3.	**Education** 3.1) No formal education 3.2) Primary education 3.3) Secondary education 3.4) Graduation	 0 14 21 11	 0 18 32 04	7.82	5.437	NS
4.	**Place of residence** 4.1) Urban 4.2) Rural	 15 31	 19 35	3.84	0.072	NS
5.	**Occupation** 5.1) Student 5.2) Self employed 5.3) Govt. employed 5.4) Private employed	 07 23 04 12	 12 33 03 06	7.82	4.6	NS
6.	**How many hours approximately do you ride the vehicle** 6.1) 0-5 hrs 6.2) 6-10 hrs 6.3) 11-15 hrs 6.4) Above15hours	 42 03 01 0	 40 10 02 02	7.82	11.86	SS
7.	**What type of vehicle are you owning** 7.1) Two wheeler 7.2) Three wheeler 7.3) Four wheeler 7.4)Sixwheeler 7.5) Others	 36 02 08 0 0	 44 01 06 03 0	9.49	3.801	NS
8.	**Do you drive vehicle for** 8.1) Work purpose 8.2) Non work purpose	 35 11	 31 23	3.84	3.64	NS
9.	**How is the road condition in the area where you drive daily** 9.1) Good 9.2) Average 9.3) Poor	 24 20 02	 30 21 03	5.09	0.231	NS

NS = Not statistical significant , SS =Statistical significant, P>0.05

Table 3: Association of Practice level of orthopedic patients with selected socio demographic variable.
n=100

Sl.no	Demographic variable	Overall practice level		Table Value	X^2 calculated value	Inference
		Above median >20	Below median <21			
	Age					
	1.1) Below 18 yrs	0	05			
1.	1.2) 19-24 yrs	08	19	7.82	6.16	NS
	1.3) 25-29 yrs	10	23			
	1.4) Above 30 yrs	17	18			
	Gender					
2.	2.1) Male	34	58	3.84	1.92	NS
	2.2) Female	01	07			
	Education					
	3.1) No formal education	0	0			
		16	16	7.82	8.83	SS
3.	3.2) Primary education	11	42			
	3.3) Secondary education	07	08			
	3.4) Graduation					
	Place of residence					
4.	4.1) Urban	10	24	3.84	0.069	NS
	4.2) Rural	25	41			
	Occupation					
	5.1) Student	04	15			
5.	5.2) Self employed	20	36			
	5.3) Govt. employed	03	04	7.82	15.03	SS
	5.4) Private employed	08	10			
	How many hours approximately do you ride the vehicle					
6.	6.1) 0-5 hrs	29	53	7.82	3.18	NS
	6.2) 6-10 hrs	07	09			
	6.3) 11-15 hrs	01	02			
	6.4) Above15hours	0	02			
	What type of vehicle are you owning					
	7.1)Two wheeler	27	53			
7.	7.2) Three wheeler	03	0	9.49	18.96	SS
	7.3) Four wheeler	05	09			
	7.4) Six wheeler	01	02			
	7.5) Others	0	0			
	Do you drive vehicle for					
8.	8.1) Work purpose	31	35	3.84	12.03	SS
	8.2) Non work purpose	04	30			
	How is the road condition in the area where you drive daily					
9.	9.1) Good	17	37	5.09	5.56	SS
	9.2) Average	14	27			
	9.3) Poor	03	02			

NS = Not statistical significant, SS =Statistical significant, P>0.05

Discussion

The findings of the study revealed that majority 52%of the study participants graded the road condition as good. similar findings were found in the study conducted by Kulkarni V,[7]the results showed that, the type of road where accident took place was good and more was in National highway, that is 39%.

The study findings on awareness level showed that majority 46% of the study participants had adequate and moderately adequate awareness level regarding road traffic rules and the majority 54% of the study sample were having good practice. Whereas findings of the study by Karthekeyan K,[8] showed that the knowledge regarding the safety rules 35% and the practice of the safety rules was found to be inadequate among the study participants. Another study done by Kulkarni V,[7] with similar objective showed that 67.2% of samples had insufficient awareness on road traffic rules.

The study findings on correlation revealed that there was positive correlation between awareness and practice ($r=0.64$, $p<0.05$). Similar findings were found in the study conducted by Singh M.[9] Which showed there was positive correlation between awareness and practice score ($r=0.332$, $p<0.001$). which showed if awareness level increases, practice level also increases.

Statistically significant Association was found between level of awareness and sociodemographic variables of the participants like age, and hours of travel at $P<0.05$ level of significance and symbols this study same findings was found in the study conducted by Kalpana KS.[10] Findings showed that there was association between age, education, source of information, mode of transport.

Statistically significant association was found between level of practice and sociodemographic variables like education, occupation, type of vehicle, purpose of drive, condition of road at $P<0.05$ level of significance. Study findings were supported by the study conducted in India, which reported that there was association between, age, type of vehicle used, profession.[7]

Limitations

1. The study findings cannot be generalized since samples were limited to orthopedic patients admitted in selected setting.
2. Practice was assessed by using knowledge on practice checklist.

Conclusion

Creating awareness among public on road traffic rules is the essential element in preventing accidents. Adolescents and young adults are the asset to our country and contribute a significant part in the population. If they are educated and monitored strictly, maximum road accidents can be prevented. Awareness can be given through mass media, educational programs, role plays etc.

Recommendation

1. Experimental study can be conducted to get better outcome**.**
2. Study can be conducted on large samples**.**
3. Probability sampling technique can be used**.**

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