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TO STUDY THE SOCIO DEMOGRAPHIC PROFILE OF ROAD TRAFFIC ACCIDENT VICTIMS IN DISTRICT HOSPITAL, KARIMNAGAR

COMMUNITY MEDICINE

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ABSTRACT

Introduction: Road traffic injuries are a major but neglected global public health problem, requiring concerted efforts for effective and sustainable prevention. Of all the systems that people have to deal with on a daily basis, road transport is the most complex and the most dangerous.

Materials & Methods: A cross sectional study was conducted to evaluate socio demographic characteristics, among the RTA victims admitted in district hospital, Karimnagar.

Results: A total of 370 road traffic accident victims were interviewed by the end of study period. In this study, it was found that most of the RTA 192 (52.5%) cases were belonging to the age group of 21-30 years, followed by 96 (26.2%) in age group of 31-40 years and 42 (11.5%) in age group of 11-20 years.

Conclusion: Guiding and implementing traffic related rules through counselling, health education, road shows etc., will have a great effect in controlling road traffic accidents. A small effort will have a big impact in the present scenario.

***Key words:* Road traffic accidents (RTA), sociodemographic profile, victims**

Introduction

Accident represents a major epidemic of non-communicable disease in the present century. World health organization has defined accidents as “an unpremeditated event resulting in recognizable damage” [1]. Road traffic accidents (RTA) are ‘hidden epidemic” which though a priority has received much less attention [2]. Spectrum of accidents are Road traffic accidents, industrial accidents, domestic and peri-domestic, railway accidents, agricultural accident, intentional or suicidal injuries, etc.. But the epidemics of road traffic accidents are leading cause of mortality and morbidity. The alarming increase in mortality and morbidity owing to road traffic accidents has been a matter of great concern globally [3].

Advances made in health & health related sciences have paid with dividends in bringing down the mortality and morbidity due to communicable diseases. This has resulted in longevity of the people. At the same time Globalization has improved the socio economic status of the people resulting in changes in the lifestyle of the people. The longevity of life and changes in the life styles has brought the entire spectrum of non-communicable disease and accidents to the forefront of health care delivery system [4].

Materials & Methods

Study design: A cross sectional study was conducted to evaluate socio demographic characteristics, among the RTA victims admitted in emergency department of government district hospital, Karimnagar.

Study sample: A total of 402 RTA cases reported to the emergency department of Government district hospital, Karimnagar. People of all ages with RTA who reported to the emergency department were included. RTA was defined as any injury resulting from road traffic crash irrespective of the severity and outcome.

Period of study: The study was conducted for a period of one year from Sep 2011 to August 2012. A pilot study was conducted for a period of one month namely Sep 2011 to assess the feasibility of the study by using pre designed

questionnaire. Based on the observations certain minor modifications were made and the questionnaire was used. Data was collected from Oct 2011 to Aug 2012.

Inclusion criteria: All the patients admitted due to road traffic accidents were included in this study. Able and willing to provide informed consent.

Exclusion criteria: An injury on road without involvement of the vehicle. (Eg. person slipping or/and falling on the road and sustaining injury). An injury involving a stationary vehicle (e.g. Person getting injured while washing, cleaning and loading a vehicle) People who are not willing to give consent for participation. The subjects were requested to answer the questionnaire to the best of their knowledge to avoid missing responses. Cases with greater than 20% of missing data were excluded from analysis. A total of 402 cases were approached to participate in the study, out of 402 cases, 370 agreed to participate in the study and consented. Among 370 cases, responses from 366 cases were used for data analysis and the remained were excluded due to incomplete response. Ethical approval was taken from the Institutional Ethical Board.

Categorical variables were coded for analysis and numerical variables were entered as such. Descriptive statistical methods used included frequencies, percentages, proportions and bar-charts. Inferential statistical methods used included chi-square test and fisher's exact test. Data analysis was done using Epi-Info (version-7) software.

Information of unconscious patients was collected from their relatives or parents or attendants. After regaining the consciousness the patient was approached and re interviewed. The medico legal records and case sheets of the victims were referred for collecting additional information and where necessary for cross checking. A total of 370 road traffic accident victims were interviewed by the end of study period.

Results

In this study, it was found that most of the RTA 192 (52.5%) cases were belonging to the age group of 21-30 years, followed by 96 (26.2%) in age group of 31-40 years and 42 (11.5%) in age group of 11-20 years. The youngest victim was aged 18 years and the eldest was 54 years in this study and minimum number of victims were found in > 50 years age group (Table: 1).

In present study out of 366 RTA cases 362 (98.9) were males and the remaining 4 were females indicating a large majority of male predominance in victims (Table: 2).

In this study, a majority of the subjects 253 (69.1%) were married, where 113 (30.9) were Unmarried (Table: 3).

In this study, majority of the sample 144 (39.3%) were graduates, followed by 114 (31.1%) with intermediate education and 42 (11.5%) were illiterate. The lowest 6 (1.6) were reported from the subjects having primary and middle school education (Table: 4).

In the present study most of the cases, 101(27.6%) were unemployed, followed by 72(19.7%) of the subjects were from the category of Clerk, Shop-owner and Farmer. The least 12(3.3%) were noted in unskilled group of people (Table: 5).

In the present study highest number of victims 252 (68.9%) were from the income group of Rs 9,788/- to 19,754/-, as per the modified Kuppuswamy (2007) socio economic status scale. The lowest number of victims 48 (13.1%) were from the SES scale group of Rs.7, 323/- to Rs.9, 787/- (Table: 6).

This study revealed that majority of accidents 234 (63.9%) occurred in upper middle class group of SES scale, followed by 84 (23%) in lower middle class of socio economic status. The lowest number of victims 6 (1.6%) were noted in the upper SES (Table: 7).

Table 1: Age-wise distribution of RTA cases

Variables		Frequency	Percent
Age	11 - 20	42	11.5
	21 - 30	192	52.5
	31 - 40	96	26.2
	41 - 50	30	8.2
	> 50	6	1.6
	Total	366	100.0

Table 2: Sex wise distribution of cases in RTA cases

Variables		Frequency	Percent
Sex	Male	362	98.9
	Female	4	1.1
	Total	366	100.0

Table 3: Marital status of cases in RTA cases

Variables		Frequency	Percent
Marital status	Single	113	30.9
	Married	253	69.1
	Total	366	100.0

Table 4: Education- wise' Distribution of RTA cases

Variables		Frequency	Percent
Education	Illiterate	42	11.5
	Primary school	6	1.6
	Middle school	6	1.6
	High school	54	14.8
	Intermediate	114	31.1
	Graduate	144	39.3
	Total	366	100.0

Table 5: Occupational status of RTA cases

Variables		Frequency	Percent
Occupation	Unemployed	101	27.6
	Unskilled	12	3.3
	Semiskilled	48	13.1
	Skilled	67	18.3
	Clerk, Shop owner, Farmer	72	19.7
	Semi-professional	30	8.2
	Professional	36	9.8
	Total	366	100.0

Table 6: Total monthly family income of RTA cases

Variables		Frequency	Percent
Income	4894-7322	66	18.0
	7323-9787	48	13.1
	9788-19754	252	68.9
	Total	366	100.0

Table 7: Socioeconomic status of RTA cases as per modified Kuppuswamy classification

Variables		Frequency	Percent
Socio Economic Status (SES)	Upper class	6	1.6
	Upper middle	234	63.9
	Lower middle	84	23.0
	Upper lower	42	11.5
	Total	366	100.0

Discussion

People in the age group of 21 to 30 years were the highest 192 (52.5%) affected, followed by the age group of 31 to 40 years were 96 (26.2%). Similar results were also observed by Ganveer et al' in their cross sectional study in central China, where the highest age group of accidents was between 18 to 37 years [5], Muskal et al, in their study of 'helmet use and risk of neck or cervical spine injury in the users of motorized two wheelers' had observed that peak age group of sustaining Road Traffic Injuries was 30 years [6]. Fitzharris et al had observed the age groups 15 to 49 years and 31.3 years were the most vulnerable group for the road traffic accidents [7].Youth, burden of responsibilities, stress, type A' behavioral personality, etc contribute to the age specificity.

Sex or gender in the road traffic accident cases was dominated by males in the present study and out of 366 study subjects 362 (98.9%) were males and 4 (1.1%) were females. This was due to the obvious reasons like male dominance in job performance, lower literacy, family norms, cultural aspects etc, where the females are mostly confined to the residential place alone. This observation was supported by the previous studies by Ganveer et al [5], Ngo Anh et,al [8], Dovom et al [9], where in all had observed the remarkable difference in the gender variation in the victims of road traffic accidents.

Literacy or education of the population was variedly considered in the causation of accidents as some studies were suggesting educations is directly proportional to the severity of accidents and by some it is inversely proportional. However in developing countries like India at large clusters of rural populations, RTAs might be high with low or nil education and in urban sectors RTA may be high due to density of population, narrow or single roads, intoxicating personal habits etc, though the education was present. In this study out of a total number 366 of RTA victims 144 (39.3%) were graduates and 114 (31.1%) were from higher secondary school education. However the relationship between education and RTA may not be causal. Badrinarayan Misra in his study found the same result that RTA reported in school educated 49.16% and graduates 39.15% [10].

This study showed that the people from middle income group had higher 252 (68.9%) number of accidents in the study sample and this was supported by other studies by World Bank report on RTI prevention [11], Jennifer Oxley et al [12], Transport research group of companies report [13] and the studies by Racioppi, Francesca et al [14] .

The socio economic status in the present study reflected its impact in reporting the maximum number 234 (63.9%) in upper middle class and 84 (23.0%) in the lower middle class whereas from upper class the number was 6 (1.1%) alone in the study subjects of road traffic accidents. This study correlated with the studies done by Gururaj [15], Dovom et al [9] and Badrinarayana et al [10] on the extent and determinants of cost on RTIs in Indian cities.

Conclusion

In the present situation the RTAs are to be controlled with extensive care by:-

1. Enforcing legislation requiring the use of seat-belts and child restraints, and the wearing of motorcycle helmets and bicycle helmets.
2. Strict enforcement of traffic rules and regulations.
3. Improvement of quality of roads by widening, incorporation of signal lights, sign boards, road dividers, lane segregation for slow vehicles during both day and night.
4. Improve the road traffic sense among road users by health education through camps, road shows, and cultural ways and through print and news media right from schooling period. First aid education should be made compulsorily a part of curriculum for high school children.

References

1. Aggarwal KK, Oberoi SS, Kumar Rakesh, Sharma Manisha.Pattern and distribution of injuries in fatal road traffic accident cases.Journal of Punjab Academy of Forensic Medicine & Toxicology.2009; 9(1):71-5.

2. "ROAD TRAFFIC ACCIDENTS: THE HIDDEN EPIDEMIC". 2012 International DevelopmentMatters. [cited 2012 Feb 23]. Available from http://idml.co.uk/2012/01/road-traffic-accidents-the-hidden-epidemic/.

3. Hajen A,Ehiri JE.Road traffic injuries: hidden epidemic in less developed countries.J Natl Med Assoc. 2006 Jan;98(1):73-82.

4. "Global Economic Burden ofNon-communicable Diseases".A report by the World Economic Forumand the Harvard School of Public HealthSeptember 2011. [cited 2012 Feb 23].Availablefromhttp://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf

5. Ganveer GB, Tiwari RR.Injury pattern among non-fatal road traffic accident cases: a cross-sectional study in Central India. Indian J Med Sci. 2005 Jan;59(1):9-12.

6. Moskal A, Martin JL, Laumon B.Helmet use and the risk of neck or cervical spine injury among users of motorized two-wheel vehicles.Inj Prev. 2008 Aug;14(4):238-44. doi: 10.1136/ip.2007.018093.

7. Ngo AD, Rao C, Hoa NP, Hoy DG, Trang KT, Hill PS.Road traffic related mortality in Vietnam: evidence for policy from a national sample mortality surveillance system.BMC Public Health. 2012 Jul 27;12:561. doi: 10.1186/1471-2458-12-561.

8. Fitzharris M, Dandona R, Kumar GA, Dandona L.Crash characteristics and patterns of injury among hospitalized motorised two-wheeled vehicle users in urban India.BMC Public Health. 2009 Jan 12;9:11. doi: 10.1186/1471-2458-9-11.

9. Zangooei Dovom H, Shafahi Y, Zangooei Dovom M.Fatal accident distribution by age, gender and head injury, and death probability at accident scene in Mashhad, Iran, 2006-2009.Int J Inj Contr Saf Promot. 2013;20(2):121-33. doi: 10.1080/17457300.2012.692694. Epub 2012 Jun 11.

10. Mishra B, Sinha Mishra ND, Sukhla S, Sinha A.Epidemiological study of road traffic accident cases from Western Nepal. Indian J Community Med. 2010 Jan;35(1):115-21. doi: 10.4103/0970-0218.62568.

11. World report on road traffic injury prevention.[cited 2012 Feb 23]. Available fromhttp://siteresources.worldbank.org/EXTTOPGLOROASAF/Resources/WHO_full_report_en.pdf

12. Oxley J, Corben B, Fildes B,O'Hare M. "OLDER VULNERABLE ROAD USERS –MEASURES TO REDUCE CRASHAND INJURY RISK". MONASH UNIVERSITY ACCIDENT RESEARCH CENTRE.April 2004, Report No.218.11.[cited 2012 Feb 23]. Available fromhttp://www.monash.edu.au/miri/research/reports/muarc218.html

13. "Socio-economic aspects of road accidents in developing countries". [cited 2012 Feb 23]. Available fromhttp://www.transport-links.org/transport_links/filearea/publications/1_332_TRL247_-_Socio-economic_aspects_of_road_accidents_in_developing_countries.pdf

14. "Preventing road traffic injury: a public health perspective for Europe". World Health Organization Regional Office for Europe. [cited 2012 Feb 23]. Available fromhttp://www.euro.who.int/__data/assets/pdf_file/0003/87564/E82659.pdf.

15. Gururaj G.Road traffic deaths, injuries and disabilities in India: current scenario.Natl Med J India. 2008 Jan-Feb; 21(1):14-20.

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