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Original Research Paper

Forensic Medicine

POR RESCRATE

STUDY OF MEDICOLEGAL ASPECT OF FATAL INJURIES IN ACCIDENT

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ABSTRACT RTA (road traffic accident) is the 3rd major cause of death among all unnatural deaths. RTA in India is one of the major problem due to lack of professional skill and violating attitude towards road traffic law and missing political will. A retrospective study was conducted in the mortuary of PMCH, Patna between Jan 2015 to Dec 2015, with an objective to study the demographic injury profile and mortality pattern in autopsy cases with an alleged victims of RTA. The aim of this study was to draw public awareness and attention and responsibility of administration, in order to combat RTA. Out of 2543 cases ,RTA were 350.20% were between 21-30 yrs. age and male contributed 84.2% of total victims.

 $Maximum\,RTA\,occurred\,during\,the\,day\,time\,between\,6\,Am\,-12\,noon.\,Head\,injury\,contributed\,73.9\%\,of\,total\,injuries.$

KEYWORDS : RTA , autopsies , injuries , demographic profile and road safety

INTRODUCTION:

The epidemiological transition, demographic changes and social transformation has led to increase in motorization in last two decades. The rapid urbanization, industrialization and migration along with other social changes have resulted in increasing necessity for travel for all age groups

WHO defines the accident as " an unexpected unplanned occurrence that may involve injury. There are many ways by which fatal injuries are produced e.g. RTA, rail accident, aircraft crashes, industrial accidents, ship and boat capsizing, fall from height and stampede etc.

The accidental death mostly are due to RTA. Accidents especially RTA is the most important cause of head injury among all causes.

Patna a densely populated city with fast moving vehicular traffic, vast urbanization and every body in hurry contribute to increase incidence of injury to human body. The united nation Economic commission for Europe 2005 had defined the RTA as those accidents

- Which occurred or originated on a way or street open to public traffic.
- Which results in one or more persons being killed or injured
- In which at least one moving vehicle was involved.

In India over crowding, lack of awareness of traffic rules , poor implementation of essentially safety precautions and consumption of intoxicating substance mainly alcohol results in increasing no of accidents. Alcohol is one of the leading cause of RTA.

Human, vehicle and environmental factors play key role before during and after a RTA.

Speed is the main reason behind accident and increase in average speed is directly related to both the likelihood of a crash occurring or severity of the crash consequences. Accidents , therefore , can be studied in term of agent , host and environmental factor and epidemiologically classified into time ,place, person distribution. Early and proper treatment is essential to save the life of the victims, essentially in the cases of head injury Pedestrian , cyclists and motor cyclists makes up more than half of those killed on road , highlighting the need for theroadthese road usesusers to be given more attention in road safety programme The purpose of this study is to prevent an in-depth analysis and Over view of the fatal accidents in Patna and surroundings. The result of the present study of human life by making proper policy and taking initiative to its implementation.

MATERIAL AND METHODS

The study constitutes of 2543 medicolegal autopsy done in department of Forensic medicine, Patna medical college Patna during the period of one year from 1st Jan 2015 to 31st Dec 2015. Out of total 2543 medicolegal autopses 350 were RTA victims (13.76%)

Necessary information for the study was collected from police ,injury report dead body challan, interviews of relatives, friends and neighbor of victims were taken for preparing the data. Reports from the hospital where the victims were treated also taken into the account.

OBSERVATIONS AND RESULTS

During this period 2543 cases were brought for autopsy out of which 350 cases was due to RTA. The highest no of cases was brought in month of June and Nov. With 84.3% male cases and female 15.7%. The maximum no of cases were from rural background and were reported during the day time 50.3% 6am to 12 noon. In comparison to 6 pm to 12 am (late-night)almost 26%. Maximum no of cases were registered in the winter season almost 36%.

In our study maximum victims belongs to 31-40 yrs. age group i.e. (28%). Among 350 victims (RTI), 50% died in hospital . Out of 350 victim almost 67% were Hindu 13% Muslim and 20% unknown. Out of 350 cases 74% received head injury followed by chest and abdominal injury respectively 36% and 24% and thereafter limb injuries

DISCUSSION

India accounts for 6% of the total cases of un intentional injuries though having only 1% of the vehicle in the world. In our study male contributed 84.3% and female contributed 15.7% of the total victims . Male being the bread winner in the majority of the family are exposed more frequently to the outdoor works

This explains the involvement of maximum no of males in traffic accident deaths. Age between 31 -40yrs age were found to be more vulnerable to RTA. Analysing the time of RTA , it was found that incidence were highest within 6 am – 12 noon ,which explains about the traffic rush at peak hrs. The highest no of RTA cases was recorded in winter season (about 36%) followed by rainy season 33%. A possible reason to explain this could be the longer hrs. of darkness and poor visibility of the driver. Considering the injury to the body parts, head injury had the major share. Subdural and subarachnoid hemorrhage was found in maximum no of cases followed by extradural hemorrhage and then hemorrhage & laceration of brain

CONCLUSIONS

In our study young aged males were most accident prone and it caused a great loss of valuable human resources along with wastage of economic growth Intervention in RTA should include multidirectional approach by combined effort from the community, government and non government organizations These are few recommendations to reduce the RTA cases.

- Road separate pedestrian walk way supplemented with good street light, removal of encroachment, zebra crossing or subways for pedestrians
- Vehicle compulsory helmets for two Wheelers, seat belt for four Wheelers, proper maintenance of vehicles
- Road users should be physically and mentally FIT, proper knowledge of traffic rules
- Administration measures issuing license after strict testing of driving skills, and enforcing traffic rules to check drunken driving
- Medical care early emergency medical care given reduces the number of casuality
- Traffic safety education should be given in school for production of skilled and responsible citizen.

Table no 1: Monthly distribution of RTA cases

Month	Total no	Total %	Male	Male %	Female	Female
			No		No	%
Jan	36	10.3	31	10.5	5	9
Feb	28	7.4	22	7.5	4	7.3
Mar	18	5.1	14	4.7	4	7.3
April	24	6.8	21	7.2	3	5.5
May	23	6.6	17	5.8	6	10.9
June	41	11.7	28	9.4	13	23.6
July	29	8.3	27	9.2	2	3.6
Aug	39	11	33	11.2	6	10.9
Sep	28	5.7	17	5.8	3	5.5
Oct	30	8.6	26	8.7	4	7.3
Nov	42	12	38	12.0	4	7.3
Dec	22	6.3	21	7.2	1	1.8
	350	100%	295	100%	55	100%

Table no 2: Seasonal incidence of RTA cases

Season	Total	Total	Male	Male	Female	Female
	No	%	No	%	No	%
Summer (Mar- Jun)	106	30.3	80	27	26	47.3
Rainy July- oct)	118	33.7	103	34.9	15	27.3
Winter (Nov- feb)	126	36	112	38.0	14	25.4
	350	100%	295	100%	55	100%

Table no 3

Characteristic (Time)	Frequency	%
12 am - 6 am	18	5.3
6 am - 12noon	175	50.3
12 noon – 10 pm	67	18.7
6 pm – 12 am	90	25.7
	350	100%

Table no 4: Residential status of RTA cases

Residential	Total	Total	Male	Male	Female	Female
status	no	%	no	%	no	%
Rural	159	45.5	134	45.5	25	45.5
Urban	120	34.5	101	34.2	19	34.5
Unknown	71	20.2	60	20.3	11	20.0
Total	350	100%	295	100%	55	100%

Table no 5: Religion status of RTA cases

Religion	Total no	Total %	Male no	Male %	Female no	Female %
Hindu	235	67.2	205	69.5	30	54.5

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Muslim	44	12.6	30	10.2	14	25.4
Unknown	71	20.2	60	20.3	11	20.10
Total	350	100%	295	100%	55	100%

Table no 6: Sex distribution in different age group of RTA cases

Age in yrs.	Total	Total	Male no	Male %	Female no	Female
	no	%				%
0 -10	2	.5	1	.2	1	2
11 - 20	36	10.2	29	10	7	12.8
21 - 30	70	20	61	20.7	9	16.4
31 - 40	98	28	80	27.1	18	32.8
41 - 50	52	14.8	48	16.2	4	7.2
51 - 60	46	13.2	38	13	8	14.5
61 - 70	36	10.2	30	10.2	6	11
More than 70	10	2.1	8	2.6	2	3.4
	352	100%	295	100%	55	100%

Table no 7:Place of death of victim in RTA cases

Places of death	No of accident	%
SP office	124	35.4
On way to hospital	52	14.9
Hospital	177	49.7
Total	350	100%

Table no 8: The frequency of body parts involved in RTA

Frequency of body parts involved	No of cases	%
Head	259	73.9
Neck	63	15.12
Chest	126	36.10
Abdomen	84	23.90
Upper limb	56	16.34
Lower limb	84	23.90

Table no 9: Showing the distribution of intracranial injuries

Intracranial injuries	No of cases	%
Extradural hemorrhage	39	11.22
Subdural hemorrhage	266	76.34
Sub arachnoid hemorrhage	102	29.30
Intracranial hemorrhage	14	4.15
Contusion of brain	154	44.15
Laceration of brain	32	9.51

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