Original Article

Pattern of Road Traffic Accident Cases Attending in the Emergency Department of Khwaja Yunus Ali Medical College and Hospital, Bangladesh.

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Abstract

Objective: *To evaluate the pattern of Road Traffic Accident cases attending the Emergency Department of Khwaja Yunus Ali Medical College & Hospital (KYAMCH), Enayetpur, Sirajganj.* ***Materials and Methods:*** *This cross-sectional study was carried out at the emergency department of Khwaja Yunus Ali Medical College and hospital (KYAMCH), Enayetpur, Sirajganj from January'21 to June'21. Total 148 Road Traffic Accident (RTA) cases were collected by using a pre-designed format from the Emergency register/ records book, for the study.* ***Results:*** *During the study majority of the cases (73.65 %) were male and 58 (39.19%) of the patients belong to above 40 years of age, In the above 40 age group (29.73%) were male and (9.45%) were female. The majority (29.05%) had only soft tissue injury (Abrasion/Bruise/Laceration), followed by (27.02%) had only lower limb fracture and dislocation, (17.58%) of patient had only upper limb Fracture and dislocation,(19.59%) had head injury,(4.05%) had both upper and lower limb fracture, only (1.35%) had spinal cord injury and (1.35%) had another injury. During the accident common vehicle for the accident was Compressed Natural Gas (CNG) Auto-rickshaw (28.38%) followed by Motorcycle were (22.97%), 15.54% cases were due to Auto rickshaw/ van, 8.78% were due to Bi-cycle, 9.46% others. Besides that, management was given according to requirements where surgical intervention required in most of the cases, 64.87%, whereas Intensive care unit (ICU) support was required only 6.08 % cases, referred cases 8.11%, Patient refused to take treatment 10.13% cases.* ***Conclusion:*** *From our study we can say that, soft tissue injury (Abrasion/ Bruise/ Laceration) was a common injury found in road traffic accident patients, where CNG Auto-rickshaw and Motorcycle was the prominent source of road accident at this area, may be due to these are the main transportation in this rural area. Moreover, the recommendations from the world report on road traffic injury prevention should be considered and promptly implemented. The awareness among both users of road and administrators about road travel discipline should be very high in order to curb the ever-rising epidemic of road traffic accidents.*

Key words: *Road traffic Accident, Pattern, Emergency Department*

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Introduction

Spectacular improvements in health and health-related disciplines have reduced morbidity and death due to communicable illnesses, resulting in increased lifespan. At the same time, globalization has improved socioeconomic position, resulting in increasing usage of automobiles and travel, which has resulted in an increase in the number of RTAs. As a result, the full spectrum of non-communicable illnesses and accidents has risen to the top of the health-care delivery system's priority list.[1] During the 1990s, road traffic accidents were the tenth greatest cause of mortality in the globe. It is expected to overtake ischemic heart disease as the second largest cause by 2020. Unintentional injuries kill around 3.5 million individuals each year. Road traffic accidents take the lives of 1.2 million people. [2]

According to WHO, deaths from road traffic accidents account for around 25% of all deaths from injury. The total number of road traffic deaths and injuries has forecasted to rise worldwide by some 65% between 2000 and 2020. About 1.3 million people die each year as a result of road traffic accidents and are the

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leading cause of death among young people, aged 15–29 years. [3,4] Lastly, majority of accidents are preventable.

Hence, this study was undertaken to evaluate the age, sex, common vehicle involved and pattern of injuries found due to RTA in Enayetpur , Sirajganj

Materials and Methods

This cross sectional study was carried out at the Emergency Department of Khwaja Yunus Ali Medical College and Hospital (KYAMCH), Enayetpur, Sirajganj from January' 21 to June' 21. Data were collected from the register /records book on cases attended or admitted in the emergency department of the hospital, due to RTA. This study was approved by the ethical committee of the institute. A total 148 RTA cases were studied from this period. Statistical analysis was done using SPSS version 23. The data were summarized by using percentages and frequency.

Results

Table-I shows age distribution according to gender. Most 58 (39.19%), of the patients belong to above 40 years age, and among this group 29.73% were male and 9.45% were female.

Table-I: Age distribution according to gender

Age	Male	Female	Total
01 year to 10 years	13(8.7%)	8 (5.40%)	21(14.19%)
11 yrs to 20 yrs	11(7.43%)	4(2.81%)	15(10.13%)
21 yrs to 30 yrs	20(13.51%)	8(5.40%)	28(18.92%)
31 yrs to 40 yrs	19 (12.84%)	07(4.73%)	26(17.57%)
Above 40 years	44(29.73%)	14(9.45%)	58(39.19%)
Total cases			**148 (100%)**

Figure-1 shows gender distribution where majority were male, [109 (73.65%)]. The following figure is given below in detail:

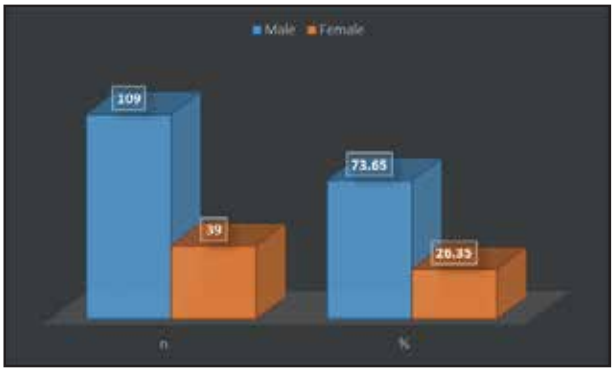

Figure-1: Gender distribution

Figure- 2, shows religion of patients where most (86.49%) of the patients belongs to Muslim religion, The following figure is given below in detail:

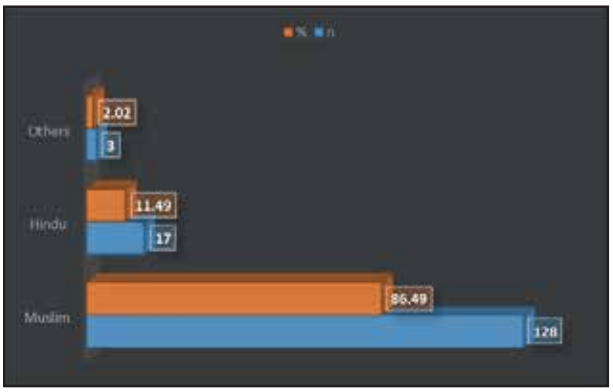

Figure-2: Religion status of patients

Table-II shows types of injury of the patients where, Majority (29.05%) had only soft tissue injury (Abrasion/Bruise/Laceration), followed by only lower limb fracture and dislocation (27.02%), upper limb Fracture and dislocation (17.58%), (19.59%) had head injury, (4.05%) had both upper and lower limb fracture, only (1.35%) had Spinal cord injury, and (1.35%) had others injury.

Table-II: Types of injury of the patients

Name of the injury	No. of cases	Percentage (%)
Only soft tissue injury (Abrasion/ Bruise/ Laceration)	43	29.05
Head injury	29	19.59
Only Lower limb Fracture & dislocation	40	27.02
Only Upper limb Fracture & dislocation	26	17.58
Both upper & lower limb Fracture	06	4.05
Spinal cord injury	02	1.35
Other injuries	02	1.35
Total cases	**148**	**100%**

Table-III shows type of vehicles involved during the accident where common (28.38%) vehicle for accident was CNG Auto-rickshaw, followed by Motorcycle (22.97%), Auto rickshaw/ van (15.54%), Bi-cycle (8.78%) and others (9.46%).

Table-III: Type of vehicles involved during the accident

Name of vehicle	No. of cases	Percentage (%)
CNG Auto-rickshaw	42	28.38
Auto-rickshaw/ van	23	15.54
Rickshaw	08	5.40
Bi-cycle	13	8.78
Motorcycle	34	22.97
Bus	09	6.08
Lorry	01	0.68
Others	14	9.46
Not mentioned	04	2.71
Total cases	**148**	100%

Table-IV shows Patients admission status where majority (70.95%) of the patients admitted to hospital, where as only (10.81%) cases advised not to be admitted and referred cases (8.11%).

Table-IV: Patient's admission status

Description	No. of cases	Percentage (%)
Admitted to hospital	105	70.95
Advice not to admitted	16	10.81
Referred	12	8.11
Patient refuse to admit	15	10.13
Total cases	**148**	**100%**

Table-V shows management given according to requirement of the patients, where surgical intervention was required in most (64.87 %) of the cases, whereas ICU support required for only (6.08%) cases.

Table-V: Management given according to requirement

Management status	No.of cases	Percentage (%)
Surgical intervention required	96	64.87
ICU support required	09	6.08
General management given	16	10.81
Patient refuses to take treatment	15	10.13
Referred	12	8.11
Total cases	**148**	**100%**

Discussion

In this study it was found that 73.65% of the cases were males and 26.35% were female. Similar findings are seen in two other studies done by Kumar P.V.S, Srinivasan K and Mishra B et al. where males were predominantly involved (98.9%) and (85%).[5,6]

According to the study done by Khare Neeraj et al found that maximum cases were in the age group of 16-30 years (50.0%), followed by 31-45 years (25.8%). Similarly it was also observed in Mishra B et al and Patil SS et al studies, who reported that the maximum cases were in the age group of 15–30 years (38.3% & 50% respectively) followed by 31-45 yrs age group.[6-8] Whereas in our study the highest age group was involved above 40 years of age (39.19%) followed by 21-30 years of age, (18.92%).

This sex difference may obviously be due to the fact that males tend to travel more for work related and other purposes as compared to females. Mishra B et al also mentioned in his study that Hindus and Buddhists dominated the population (60% and 38.3% respectively).[6] whereas in our study Muslims (86.49%) and Hindus (11.49%). May be due to Bangladesh is a Muslim dominant country.

Result was also documented by Ahmed KM et al , who found that Motorcycles (60.7%) and Auto-rickshaw (22.5%), were commonly involved in RTA, followed by Cars (10.7%), Buses and Lorries (3.9%), Bi-cycles (1.9%).[9] Another studies done by Ganveer GB and Tiwari RR mentioned that (43.2%) commonest colliding vehicles involved in RTA were Light Motor Vehicle (LMV), followed by (26.95%) Motorized Two wheelers, Heavy Motor Vehicle (19.62%), Bi-cycle and Others (4.25% & 6.14% respectively).[10]

The difference might be due to the fact that the road slack a separate section or footpath for pedal cyclists or pedestrians, respectively.

Likewise, in our study during the accident where common vehicle for accident was CNG Auto-rickshaw, 28.38% followed by 22.97% cases were Motorcycle, 15.54% cases were Auto rickshaw / van, 8.78% were Bi-cycle, 9.46% others cases. Common vehicle for highest accident was CNG Auto-rickshaw (28.38%) in this area, may be due to these are the main transportation in this rural zone and also having bad road condition. In our study, Majority 29.05% had only soft tissue injury (Abrasion/Bruise/Laceration), followed by 27.02% had only lower limb fracture and dislocation, 17.58% had only upper limb Fracture and dislocation, 19.59% had head injury, 4.05% had both upper and lower limb fracture, only 1.35% had Spinal cord injury, and 1.35% had other injury. Whereas other study done by Kiran ER et al reported that, the most common injury was abrasions (54.62%) followed by contusions (20.25%) and lacerations (16.55%). The most common anatomical Part to be injured was found in lower limb (37.39%) followed by upper limb and face. Among fractures, upper limb fractures (n=22) were more common than lower limb fractures.[11]

Another study done by Ahmad I, mentioned that head injury was highest (56%) among the road traffic accident cases followed by Lower limb Fracture (18%).[12] In our study where majority 70.95% of the patients admitted to hospital, where as only 10.81% cases advised not to be admitted and referred cases 8.11%, And management given according to requirement of the patients, where surgical intervention was required in most of the cases 64.87 %, whereas ICU support required only 6.08% cases. Whereas study done by Manna N et al, that referral cases were (58%),of which 34% referred to primary health care center and 54% secondary health care center, 12 % were referred to tertiary health care center.[13]

In our study total referral cases were less (8.11%) than Manna N et al studies may be due to it's a Tertiary level hospital and referral was done probably due to non-availability of patient's bed or certain specialized care.

Conclusion

From this study it could be mentioned that, soft tissue injury followed by fracture and dislocation were common injury found in road traffic accident patients, where CNG Auto-rickshaw and Motorcycle was the prominent source of road accident in this area. Moreover, the recommendations from the world report on road traffic injury prevention should be considered and promptly implemented. The awareness among both users of road and administrators about road travel discipline should be very high in order to curb the ever rising epidemic of road traffic accidents.

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