

Profile of Fatal Head Injury Cases Due to RTA in and Around Bijapur

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Abstract

Introduction: Deaths due to road traffic accident are one of the common forms of unnatural death and its history is old as the invention of the wheel. The head is the most prominent of the exposed parts of human body by virtue of its situation, choice in great majority of situations involving blunt trauma which may be accidental, suicidal or homicidal. *Materials & methods:* The present study was undertaken on fatal head injury cases of road traffic accidents brought by the police to the mortuary of Al-Ameen Medical College and District Hospital, Bijapur for medico-legal autopsy between Oct 2003 Sep 2005, a total of 180 cases were studied. *Results:* In the present stud of 180 cases, 150 (83.3%) were males and 30 (16.7%) females. Male, female ratio of 5:1 was observed. The maximum number of cases, 53 cases (29.5%) were seen in the age group of 21-30 years. The next in frequency was 25 cases (25.0%) seen in the age group of 31-40 years between 71-80 years 2 cases (1.1%) were seen. Most of the accident (20.0%) occurred between 3pm to 6pm and between 9am to 12noon and 6pm to 9pm 27 (15.0%) cases occurred. In 2 (1.1%) cases the time of accident was not known. In the study most of the victims 137 (76.1%) died on the spot. The maximum time of survival was up to 6 hrs. Lorry and Truck was the commonest offending vehicle. Next in order was bus and unknown case was 7 (3.9%). *Conclusions:* The male preponderance may be due males are more exposed to outdoor activities traveling. The reason for young adults most affected because they are the prime breads earners of the family, remains outdoor. The reason for the peak incidence of the accidents at 3-6hrs is multifold and includes hurry to reach home from place of work timed people after hectic work, rush traffic hours, in-adequate traffic control and fatigue to drive. Most victims died on the spot, this may be due to the severity of injuries sustained, lack of knowledge of first aid, delay in shifting the patient to trauma center etc.

Key words: Road Traffic accident, Head injury, Autopsy, Demographics.

Introduction

Birth & death are two extremes of the life and death is the ultimate truth. But unnatural death is known for its immense striking power and is always a surprise. Deaths due to road traffic accident are one of the common forms of unnatural death and its history is old as the invention of

the wheel. The head is the most prominent of the exposed parts of human body by virtue of its situation, choice in great majority of situations involving blunt trauma which may be accidental, suicidal or homicidal. The mechanism of head injuries, diagnosis and treatment are still challenging to medical profession creating major problem in modern society. Head injuries, diagnosis and treatment are still challenging to medical profession creating major problem in modern society. Head injuries are progressively and alarmingly increasing with modernization in addition to an inclination of man more towards materialistic gains with advanced methods. Extensive and indiscriminate uses of explosives for different purposes have increased the nature of assaults and accidental fatalities.

“Head injuries” as defined by National Advisory Neurological Disease and Stroke

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Council is a morbid state, resulting from gross or subtle structural changes in scalp, skull and/or the contents of the skull, produced by mechanical forces.

Crania-cerebral injuries have assumed paramount importance in recent times due to mechanization and industrialization. These injuries have shown an alarming rise in the recent times owing to fast modernization as a result of adaptation of man to machine and motor. Despite supreme measures in the form of sophisticated protective gadget usage, usage, tremendous advances in public education, the subject continues to be a major cause of mortality and morbidity.

Head injury occur every 15 seconds and patient dies from head injury every 12 minutes in a day and, these injuries account for a significant portion of health care costs today. Head is the most prominent of the exposed parts of the body by virtue of its position and is very vulnerable to trauma. This study is a sincere attempt to dissect and deduce, in a step-wise approach, the possible causes and mechanisms of the trauma to the head.

Materials & Methods

The present study was undertaken on fatal head injury cases of road traffic accidents brought by the police to the mortuary of Al-Ameen Medical College and District Hospital, Bijapur for medico-legal autopsy between Oct 2003 Sep 2005.

Inclusion criteria- All cases of head injuries that have definite history of road traffic accident.

Exclusion criteria- bodies without specific history or were findings of head injury not found.

A total of 180 cases were included in the study.

Results

Table 1: Showing the sex wise distribution in fatal road traffic accidents

Sex	No. of Victims	Percentage
Male	150	83.3
Female	30	16.7
Total	180	100

In the present stud of 180 cases, 150 (83.3%) were males and 30 (16.7%) were females. The male, female ratio of 5:1 was observed.

Table 2: Showing the age sex wise distribution in fatal road traffic accidents

Age group (Years)	No. of Victims		Total No of Victims	Percentage (%)
	Male	Female		
0-10	01	03	04	2.2
11-20	11	02	13	7.2
21-30	45	08	53	29.5
31-40	34	11	45	25.0
41-50	26	04	30	16.7
51-60	23	01	24	13.3
61-70	08	01	09	5.0
71-80	02	00	02	1.1
Total	150	30	180	100

The maximum number of cases, 53 cases (29.5%) were seen in the age group of 21-30 years. The next in frequency was 25 cases (25.0%) seen in the age group of 31-40 years between 71-80 years 2 cases (1.1%) were seen.

Table 3: Showing the time of accidents in fatal road traffic accidents

Time of accident	No. of Victims	Percentage
6am - 9am	22	12.2
9am - 12noon	27	15.0
12noon - 3pm	23	12.8
3pm -6pm	36	20.0
6pm -9pm	27	15.0
9pm -12am	24	13.3
12am -6am	19	10.6
Not Known	02	1.1
Total	180	100

Most of the accident that is 36 (20.0%) cases occurred between 3 pm to 6 pm. and between 9 am to 12 noon and 6 pm to 9 pm 27 (15.0%) cases occurred. In 2 (1.1%) cases the time of accident was not known.

Table 4: Showing survival period in 180 cases of fatal road traffic accidents

Duration of Survival (Hours)	No. of Victims	Percentage (%)
Died on the spot	137	76.1
½- 1 hrs	03	1.7
1 - 6 hrs	12	6.7
6 - 12 hrs	05	2.7
12 - 24 hrs	02	1.1
24 - 48 hrs	03	1.7
48 - 72 hrs	03	1.7
72 - 96 hrs	04	2.2
96 - 120 hrs	03	1.7
More than 120 hrs	08	4.4
Total	180	100

In the study most of the victims 137 (76.1%) died on the spot. The maximum time of survival was up to 6 hrs.

Table 5: Showings the distribution of the vehicles causing fatal road traffic accidents

Vehicle	No. of Victims	Percentage (%)
Lorry / Truck	35	31.3
Bus	21	18.8
Maxi Cab	03	2.7
Car	10	8.9
Jeep	03	2.7
Motor Cycle	09	8.0
Scooter	03	2.7
Moped	01	0.9
Tempo / Auto	04	3.6
Tractor	01	0.9
Matador / Van	13	11.6
Unknown	09	8.0
Total	112	100

Lorry and Truck was the commonest offending vehicle. Next in order was bus and unknown case was 7 (3.9%).

Discussion

This study is undertaken on 180 fatal head injury cases of road traffic accidents brought by the police to the mortuary of Al-Ameen Medical College and District Hospital, Bijapur for medico-legal autopsy between Oct 2003 – Sep 2005.

Sex distribution: In the present study male comprised a majority and constituted 150 (83.3%) cases compared to females 30 (16.7%) cases. The male to female ratio in the study is 5:1.

A male preponderance is almost in consistence with the study reported by Patel NS et al. [7], Tirpude et al. [8], Rowbotham et al. [1], Freytag et al [3], Agarwal & Agarwal et al. [9], Chandulal et al. [10], Tonge et al. [11], Shrivastava et al. [12].

The male preponderance may be due to the effect that males are more exposed to outdoor activities traveling between the home and place of work to earn bread for the family. While woman remains mainly indoor involved in household work. Vehicle driven are usually males, in all the cases facing the danger of traffic accident and hence responsible for high fatalities among them.

Age distribution: In the present work the age of the victims varies from 1-80 years, maximum victims 53 (29.5%) are seen in the age group of 21-30 years followed by 25.5% in the age group of 31-40

years. In other words 98 cases (34.5%) comprised in the age group of 21-40 years. Individuals in the age group of 71 to 8 years is the least affected 4 cases (2.2%): maximum no of males 45 is seen in the age group of 21-30 years between 71-80 years 2 cases of male 4 cases of female is seen.

This is in accordance with studies done by Patel et al. [7], Tirpude et al. [8], Rowbothan et al [1], Freytag et al. [3], Chandulal et al. [10], who reported that age group between 21-30 years were commonest.

It does not agree with the study done by Agarwal & Agarwal et al. [9] who observed that age group of 0-9 years was more commonly involved.

Individuals in the first (2.2%) and seventh decade (1.1%) are the least affected, the lowest age being 3 years and highest is 80 years. The reason for the above is the young adults are the prime bread earners of the family, remains outdoor during most of the day and have a tendency to take undue risk. While persons in the extremes of age usually remain indoor whereas children are confined to the residential premises.

Time of accidents: In the present study most of the accidents occurred between 3pm to 6pm compromising 20% of total cases, followed by 9am to 12 noon and 6 pm – 9 pm each having 15% and 15% cases respectively. The least number of accidents occurred between 12am to 6am having 10.6% cases. While in two cases the time of accident is not known.

The present study is agreeable with N.S. Patel et al. [7] who stated that accidents between 6pm to 6am hours to be commonest i.e., 31.9% and Shrivastava et al. reported that the peak accidents 25% was between 8 am t 10 am followed by 6 pm to 8 pm 15%.

The reason for the peak incidence of the accidents at these hours is multifold and includes hurry to reach home from place of work timed people after hectic work. Rush traffic hours, rash driving, inadequate traffic control and fatigue to drive.

The period of survival: 137 (76.1%) victims died on the spot, 12 (6.7%) died after 6 hours of the accident. N.S. Patel, Tonge et al reported that almost 66% and 48.9% died on the spot and these finding co-relate with the present study. Shrivastava and Gupta et al [13], Agarwal et al. [9], findings are also familiar with the present study.

The period of survival has not shown an increase despite the advances of medical facilities, this may be due to the severity of injuries sustained, lack of knowledge of first aid among the people at the scene of accident delay in shifting the patient to trauma center and no change in attitude of people due to fear of getting into legal hassles.

Offending vehicles: Amongst the offending vehicles lorry and buses are most common offending vehicles seen in 68 (37.91%) cases followed by buses 47 (26.1%), of the 7 (3.9%) unknown cases.

Similar observation was reported by Srivastava and Gupta who reported that heavy vehicles like bus and trucks 59.96% were frequent source of traffic accidents.

This study is also comparable with the study of Chandra et al. [14] and Agarwal et al. [9] who reported that becomes, trucks & buses were the commonest vehicle causing accident.

It can thus be deduced that heavy traffic vehicle remain the main offending vehicle causing accident. The reason for this may be due to number of ring roads and bypasses being constructed on the outskirts of the city to make movement of Lorries more convenient and reduce the city traffic. Buses are in the second number and this may be due to increase in the number of buses on the route due to increased population but road, being the same old ones. The drivers of these buses drive recklessly without caring for the lives of other road users.

Conclusion

The present study is undertaken on fatal head injury cases of road traffic accidents brought by the police to the mortuary of Al-Ameen Medical College and District Hospital, Bijapur for medico-legal autopsy between Oct 2003 Sep 2005.

The following are the few conclusion and suggestion evolved from the present study. Male comprised a majority and constituted 150 (83.3%) compared to females who were only 30 (16.7%). The male to female ratio in the study was 5:1 (male=15, Female=30). The age of the victims varied from 1-80 years. The peak incidence was observed in the age group of 21-30 years comprising 29.5 of the cases. Most of the incidents irrespective of the cases occurred between 3 pm to 6 pm comprising

20% of total case, while in two case time of incident was not known. Maximum number of victims died on the spot 135 (76%).

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