

Pattern of Injuries Associated with Deaths Following Road Traffic Accidents as Seen in a Tertiary Health Centre Jos University Teaching Hospital (JUTH), Jos, North Central, Nigeria

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Abstract Deaths from road traffic accidents are usually due to certain fatal injuries to the body. These deaths are to a large extent preventable. In our setting most fatalities leading to death are mostly associated with head injuries. Lack of use of car seat belts, lack of use of helmets by motor bike riders, use of cars without airbags, alcohol and drug abuse by road users are all negative behaviours accounting for these fatal injuries. This study aims to discuss the pattern of injuries leading to deaths from road traffic accidents in our centre with recommendations on ways to reducing these deaths. Road traffic accident deaths constitute 69.9% of all deaths recorded in our Mortuary record from January 2006 to December 2010. The male gender is more hit and age range 40-49 years accounted for the highest frequency. Government and the citizenry should be responsible in stemming this tide.

Keywords Road accidents, Injuries, Deaths

1. Introduction

World health organization defines accident as an event, independent of human will caused by an outside force acting rapidly which results in bodily or mental injury. Man invented wheels accidentally and ever since then has become a victim of accidents. Road traffic accident is one of the leading cause of deaths world wide with the developing world most hit. It is estimated that deaths resulting from road traffic accidents is almost 1.2 million worldwide while injuries from such accidents is estimated at 50 million ^[1]. The Americas bear 11% of the burden of Road Traffic accident mortality ^[2]. Currently motor vehicle accidents rank 9th in order of disease burden and is projected to be ranked third in the year 2020 ^[3]. Nearly three quarters of deaths resulting from motor vehicle crashes occur in developing countries ^[4]. In India over 80,000 persons die in the traffic crashes annually, over 1.2 million injured seriously and about 3,000,000 disabled permanently ^[4]. In Nigeria the commander Federal Road Safety Corps (corps marshal) declared in April 2009 that 5,157 deaths occur through road traffic accidents in the

last 3 years out of 18,308 accidents reported while 13,251 had different forms of injuries^[5,6]. Also in Nigeria reports shows an average of 23 daily accidents and 3 deaths per day between January to March, 2009 ^[7]. Statistics shows that while developing countries own only 32% of the world's vehicles, they account for 75% of annual accident fatalities ^{[8][9]}. Studies show highest accident rates in the world to be from Ethiopia, Ghana, Nigeria and Nepal ^[10]. Factors responsible for the increase in road traffic accident includes human, vehicle and road factors. These deaths are mainly coroner cases in Nigerian Law and our courts are recording more litigation cases resulting from road traffic accidents ^[11].

Nigeria is ranked 191 out of 192 countries in the world with unsafe roads with 162 death rate per 100,000 population from road traffic accidents ^[16].

Head injuries are said to be the commonest injuries related to road traffic accidents deaths in most studies and could be attributed to lack of use of seat belts and helmets, reckless driving, abuse of traffic rules and bad road conditions ^{[17][18]}

2. Methodology

This is a descriptive study of all road traffic deaths seen at the Jos University Teaching Hospital which is the only federal tertiary hospital in the state. It is a 520 bed hospital and

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is a referral centre for most of the numerous private, state Government and missionary hospitals in the state. Jos has witnessed an influx of people being a home of peace and tourism, thus population has increased over the years. The sighting of regional head quarters of many companies and banks has also contributed to increased population with consequent vehicular load in the state.

The health records of cases of road traffic accident deaths from January 2006 to December 2010 were retrieved and analysed.

3. Results

Of the 2,450 deaths recorded at the mortuary records during the period of study, a total of 1712 deaths were due to road traffic accidents constituting 69.9%.

4. Discussion

Table 1 shows head injury is very common in deaths related to road traffic accidents. This is due to non usage of helmets by cyclists, non usage of seat belts while driving, use of cars without airbags and absence or dearth of specialists (Neurosurgeons) in this field in our environment. This is consistent with other studies^[12-14]. Our facility cannot boast of sophisticated gadgets and equipments to aid proper management of head injured patients. Our roads lack emergency units and ambulances to serve as effective first aid in cases of head injury before getting to hospitals. This lead to immediate loss of lives. The use of seat belts by motorist and helmets by bike riders should be enforced as our study shows non usage of these life saving gadgets as common behav-

iours associated with head injuries in road traffic accident deaths. Our citizens have a general apathy to obeying law and order, most motorist never attended driving schools, thus are ignorant of road traffic laws. This trend should change as government should put policies in place to address such issues.

Table 2 shows lack of airbags in vehicle, non usage of helmets and over speeding as important factors associated with road traffic deaths. This was also observed in other studies^{[14][15]}.

Bad roads are also a factor that have to be addressed as pot holes, sharp bends, unstable bridges etc are all conditions seen in most African and Asian countries^[16-18], this trend should be reversed.

Road traffic officials should be empowered to enforce laws that must be adhered to and should be equipped with alcohol/drug intoxication detectors. This is because this social habit is common in our environment and is a major cause of fatal road traffic accidents.

The highest frequency of deaths within the 3rd to 5th decade of life is consistent with other studies in Nigeria and Western World^[15-18]. This could be due to the fact that this consists of the agile, active and very mobile age range associated with increase transit from place to place, increase in risk taking and it's the age range associated with increased use of alcohol and drug intoxication.

The very low incidence of deaths amongst the elderly, greater than 70 years of age could be due to the fact that they are the geriatric group associated with decreased mobility, most are retired or too sickly therefore are Sedentary and seldom found travelling on the roads. This pattern is also observed in other studies^[16-18].

Table 1. Anatomic distribution of injuries associated with Road Traffic Accident deaths

INJURIES	FREQUENCY	PERCENTAGE %
Head injury	808	47.2
Vertebral/spinal cord injuries	420	24.5
Blunt/penetrating thoracic injuries	312	18.2
Blunt/penetrating abdominal injuries	100	5.8
Fracture of limbs	72	4.2
Total	1712	

Table 2. Frequency of bad behaviours associated with fatal injuries in 1712 cases of road traffic accidents deaths.

BEHAVIOURS	FREQUENCY	PERCENTAGE
Non usage of seat belt	1000	58.4
Non usage of head helmets	320	18.7
Sitting at front seats of vehicles	700	40.9
Usage of cars not having airbags	1698	99.2
Over speeding	870	50.8
Alcohol/drug intoxication	955	55.8

Table 3. Age and sex distribution of RTA deaths

AGE (YRS)	YEAR										TOTAL (%)
	2005		2006		2007		2008		2009		
	M	F	M	F	M	F	M	F	M	F	
<15	4	2	8	4	9	13	16	9	25	34	124 (7.2)
15 – 19	5	2	18	12	20	18	32	24	44	18	193 (11.3)
20 – 29	16	6	29	16	34	25	40	32	52	48	298 (17.4)

30 – 39	20	12	40	25	28	21	33	22	49	54	304 (17.8)
40 – 49	13	8	38	39	54	48	46	42	68	74	430 (25.1)
50 – 59	5	2	14	10	16	18	34	28	44	39	210 (12.3)
60 – 69	-	1	8	4	15	7	16	5	30	44	130 (7.6)
70 – 79	1	-	-	1	3	-	2	-	3	1	11 (0.6)
> 80	1	-	2	-	1	-	3	2	2	1	12 (0.7)
Total	65	33	157	111	189	150	222	164	317	313	1712

5. Recommendations

Government should equip law enforcement agents involved in regulating and monitoring road users to ensure and enforce safe driving. Road networks in the state and country entirely should be repaired, properly maintained, widened and fully equipped with road signs to assist motorists. Drivers license should be issued only to qualified people. Citizens should change their attitudes positively, stop reckless driving, obey traffic codes, stop alcohol or drug intoxication.

Our health facilities should be modernized and fully equipped with emergency gadgets and drugs with adequate manpower to man them. Vehicles that are not road worthy should be stopped from plying the roads which should be cleared of broken down vehicles. All road traffic accident deaths according to Nigerian Law are Coroner cases and should be reported to police for investigation^{[11][15]}.

6. Conclusions

Deaths resulting from road traffic accidents in our region are on the increase and is in tandem with reports from other regions of the country and Worldwide. Measures to reduce this trend involve Governments effort and that of the citizens as causes of this deaths in most cases are modifiable. All road traffic accident deaths occurring immediately or within twenty four hours of admission in any health centre is a coroner's case in Nigeria and should be reported to the police immediately

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