

# Disposition Of Fractures And Dislocations Among Road Accident Victims In Rivers And Bayelsa States Of Nigeria From 1992-2005

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## Abstract

**Background:** The recent increase in vehicles and motorbike transport resulting in an increase in number and varieties of accidents on our roads necessitated this study. **Objectives:** 1. To determine the bones and joints fractured and dislocated as a result of road traffic accidents (RTAs). 2. To determine the sex and age range mostly involve in RTAs. **Method:** Relevant records/data obtained from orthopedic units of the University of Port Harcourt (UCTH) in River State and the Federal Medical center (FMC) in Bayelsa State in Nigeria from 1992-2005. Data taken from the victims file includes the sex, age, nature of the accident joint dislocated and bones fractured excluding any description of the clinical management received by the patients. **Results:** A total of 1078 RTA cases were recorded. There were 72.4% male and 26.7% female accident victims. Bones and joints of the lower extremity were the mostly affected with hip joint 32.3% and tibia/ fibula 21.2%. Majority of the victims were between 20-40 years (54.7%). **Conclusion:** The males were the most prone to road traffic accident especially between the ages of 20-40 years.

## INTRODUCTION

Bayelsa and River States are two oil-rich states located in the south-south geographical zones of Nigeria. As a result of oil boom and increase in industries in these states, there is tremendous increase in the number of vehicles and motorbikes leading to increase in RTAs.

Traffic accidents have been a source of concern globally due to high mortality and morbidity recorded. It is reported to kill 1.26 million people each year and constitutes the second leading cause of death among age group 15-29 behind Human Immunodeficiency Virus (HIV)<sup>1,2</sup>.

Ebong<sup>3</sup> from his study of the pattern of fractures and dislocations in western Nigeria reported that most of the injuries resulted from falls and road traffic accidents were responsible for 50% of the fracture cases.

Reports as its concerns the present cause of study is non-existent. There is need for proper documentation of the region of injury in order to plan for safety measure necessitated this study on disposition of fractures and fractures observed in RTAs in Rivers and Bayelsa State of

Nigeria.

## MATERIALS AND METHODS

This is a retrospective study of RTA cases in Rivers and Bayelsa States of Nigeria from 1992-2005 using relevant records/data of fractures and dislocation from the orthopaedic units of the University of Port Harcourt Teaching Hospital (UPTH), Port-Harcourt in Rivers state and the Federal Medical Center (FMC), Yenogoa in Bayelsa State. The data taken from the victim's case file includes the sex, age, diagnosis, nature of accident, joint dislocation and bones involved in the fracture.

Simple percentage was used to show the percentages of each bone, joints, involved in the accident.

## RESULTS

A total of 1078 road traffic accident (RTA) cases were recorded during the period under review. The males had a population of 781 (72.4%), with the females being 297 (27.6%) and these constitute a ratio of 2.7:1. UPTH had higher number of cases (757) representing 70.2%, while FMC had 321 cases representing 29.8%. In both institutions,

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the males were more compared with the females. These are shown in Table 1 below.

**Figure 1**

Table 1: Total males and females involved in road traffic accidents and their prevalence in UPTH and FMC

Institution	Males	Prevalence of males	Females	Prevalence of females
UPTH	553	70.8%	204	68.7%
FMC	228	29.2%	93	31.3%
<b>TOTAL</b>	<b>781</b>		<b>297</b>	

Age distribution of RTAs revealed ages 21-40 having the highest cases of RTAs with 590 cases representing 54.7%, followed by age's  $\leq 20$  with 243 cases representing 22.5%. Ages  $>80$  had the least number of cases (9) representing 0.8%. These are presented in Table 2 below

**Figure 2**

Table 2: Age distribution of males and females involved in road traffic accidents and their prevalence in UPTH and FMC from 1992-2005

	$\leq 20$		21-40		41-60		61-80		$>80$	
	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.
<b>MALE</b> (781)	159	20.40%	457	58.5	119	15.2	39	5.0 %	7	0.9%
<b>FEMALE</b> (297)	84	28.3%	133	44.8	52	17.5	26	8.8 %	2	0.7%
<b>TOTAL</b> (1078)	243		590		171	15.9 %	65	6.0 %	9	0.8%

Injury was mostly limited to upper and lower extremities. The most common dislocations and fracture were in the lower extremity representing 60% and 74% of injuries. The hip joint was the most affected with 30 cases representing 32.3% of all dislocations, with the thumb being the least affected (5) representing 5.4% of all dislocations. These are shown in Table 3.

**Figure 3**

Table 3: Dislocations involved in road traffic accidents and their prevalence in UPTH and FMC from 1992-2005

	Elbow joint		Hip joint		Shoulder joint		Ankle joint		Knee joint		Thumb	
	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.
UPTH (64 cases)	9	9.7%	25	26.9 %	10	10.8 %	7	7.5%	8	8.6%	5	5.4%
FMC (29 cases)	6	6.5%	5	5.4%	7	7.5%	4	4.3%	7	7.5%	0	0
<b>TOTAL</b> <b>L</b> (93)	15	16.2 %	30	32.3 %	17	18.3 %	11	11.8 %	15	16.1 %	5	5.4%

The most common fracture involved the tibia/fibula and the femur with 151 cases (21.2%) and 140 cases (19.7%) respectively of the total number of fractures. The radius had the least number of fracture case (11) representing 1.5% of the total number of fracture. These are as shown in Table 4 below

**Figure 4**

Table 4: Bones fracture involved in road traffic accidents and their prevalence in UPTH and FMC from 1992-2005

	Tibia/Fibula		Femur		Tibia		Humerus		Ulna/Radius		Ulna		Foot		Radius	
	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.	No.	Prev.
UPTH (578 cases)	151	21.2%	140	19.7%	56	7.8%	42	5.9%	38	5.3%	59	8.3%	21	2.9%	11	1.5%
FMC (184 cases)	59	8.3%	60	8.4%	29	4.1%	23	3.2%	12	1.7%	0	0.0%	11	1.5%	0	0.0%
<b>TOTAL</b> (762)	210	29.5%	200	28.1%	85	12.0%	65	8.1%	50	7.0%	59	8.3%	32	4.4%	11	1.5%

## DISCUSSION

Road traffic accident is the most common cause of fracture and dislocation<sup>4,5</sup>. In this study on RTAs in two Nigerian states, the prevalence was higher among the males than the females. The males are usually the largest working force in the society and they specialize in all spheres of work including driving of different vehicles. As drives they are impatient, aggressive and often loss concentration while driving thus exposing them to a greater risk of RTA. This is in line with previously reported studies in Nigeria and other parts of the world<sup>4,5,6,7</sup>.

The highest number of accident cases involved ages 21-40. This age group is the most active in the society and more often explore the environment than the other groups. These may have been the reason for the high rate of RTAs. Below 20 years recorded a high accident rate. This may be due to a rise in teenage drivers especially in this part of the world<sup>8</sup>, where poverty may have played a role. The ages above 40 gradually decreased in accident rate probably due to their increase sedentary lifestyle. This study corroborates previous works<sup>4,5,7</sup>.

Injuries reported affected only the upper and lower extremities which may reflect the nature of injury due to accident in the areas. The lower limb had the most cases as reflected in hip joint dislocation with tibia/fibular and femur fractures. These parts of the body are the most commonly injured during falls from motorcycles, with equally higher levels in four-wheel vehicles<sup>9,10</sup>. Our study is in line with previous works<sup>5,11,12,13,14</sup>. The upper extremity had lower injury cases as seen in the thumb and radius. This may reflect the nature of injury recorded in this study.

## CONCLUSION

Our study has showed that males are more prone to RTAs, while the youths constitutes most of the victims, with the lower extremity being the most injured part of the body.

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