VEHICULAR ROAD DEATHS IN THE NIGER DELTA REGION OF NIGERIA: A REFERRAL CENTRE'S EXPERIENCE

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Summary
Objective: To highlight the consequences of increasing road traffic accidents in the Nigerian Niger Delta.
Method: Medico legal autopsies were done in 358 cases in a 6-year period covering 1995 to 2000 at the University of Port Harcourt Teaching Hospital, UPTH, a major referral centre in the Niger Delta region of Nigeria.
Results: Most of the road related deaths came from motorcycle accidents – 53.1%. Car and truck passenger and pillion passengers were at more risk of dying than the drivers and cyclists respectively. The ratio was 3:1 in car and truck users and 2:1 in motorcycle users. The 10 – 49 years age group suffered the greatest setback constituting 66.5% of the victims. The male/female ratio was 1.4:1 and the injuries resulting in most deaths affected the head region – 43.3%. Multiple and limb injuries followed at 27.4% and 20.1% respectively. Up to 22 out of 43 pedestrians died from cars and trucks related accidents with more males involved – 28.15%.
Conclusion: Road related deaths have become a major scourge in the Niger Delta region of Nigeria.

Key Words: *Road accidents; Death on the road; Niger Delta, Nigeria*

INTRODUCTION

Automobile related road accidents have become a major health problem in developing countries[1]. They constitute the bulk of trauma cases worlwide[1,2,3]. Claimed by Jaja[4] to constitute 30% of all injuries and 20% of hospital admissions in Africa, they are said to have claimed more lives in Nigeria in 1971 than the cholera epidemic of the same year[2].

Road accidents in the developing world are on the increase due to illiteracy, poverty, bad governments and their agencies among a myriad of causes[1,3,5,6,7]. The introduction of the first automobile in 1739 by N. T. Cugnot can be conveniently claimed as the genesis of this worldwide malady[2].

The World Health Organization (WHO) defined accidents as "unpremeditated events resulting in recognizable injuries" but stressed that they are not chance occurences[8]. That will explain why different groups and geographical location show variations in incidences[9]. Simpson's explanation is that a complex of circumstances at the time of these accidents determines their occurrences and those identifiable events either increase or decrease their probability[10].

These accidents have been referred to by the World Health Organization both as "epidemic" and "endemic" diseases[8]. Asogwa claims that they are "endemic diseases with epidemic dimensions"[2]. They are said to pour their lethal pathogens on our communities in circadian, infradian and ultradian rhythms11, and control can be planned using the user, road and vehicle triad[2,8].

Deaths consequent upon these carnages are very worrisome as the highest risk groups are the young active males – major contributors in any economy[1,2]. In a lot of the circumstances, the victims are innocent and just happen to be at the wrong place at the wrong time[1]. A good proportion of the victims are pedestrians. In the United Kingdom, motorcycle accidents rank the highest in the causation of pedestrian injuries[12]. Pediatric victims involvements can be traceable to child labour, e.g. hawking, ignorance and none enforcement of children's protection rights amongst others[1,13].

A major proportion of these road accidents in Nigeria and consequent deaths are contributed to by motorcycles[14]. In Nigeria they are more in number than cars. They are used as commercial vehcles[1,9] and the bulk of the cyclists are so reckless that they could be best described as "suicide squads".

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Fatality is defined in Australia as outright death within the first 24 hours of the accident. In the United Kingdom, the time limit is extended to thirty days, while in Nigeria there is no time limit as far as the cause of death is traceable to the accident. The United Nations Economic Commission for Europe adopts the United Kingdom standard[2,15]. The cause of death are multifactorial including severity of injury, time elapse before definitive treatment and the quality of the definitive treatment[3,7].

The aim of the study is to highlight this frightening consequence of road accidents in the Niger Delta region of Nigeria as mirrored in the University of Port Harcourt Teaching Hospital and to suggest some preventive measures.

MATERIALS AND METHODS

Medico legal autopsies done on 358 road traffic accident victims seen in the University of Port Harcourt Teaching Hospital between 1995 and 2000 were retrospectively reviewed. The information was extracted from the coroners' reports with special notice of age, role, sex, and site of injury and the mode of accident involving the victim.

Data obtained was analyzed by use of multiple frequency tables.

RESULTS

Out of 358 deaths caused by road related accidents between 1995 and 2000, motorcycles constituted 190 of the cases or 53.1% (table1). Other motor vehicles caused death in 46.1% of the victims.

Table 1
Cause of Road Deaths in UPTH (1995-2000)

Cause	Number of Cases	%
Motorcycle Deaths	190	53.1
Pedal Bicycle Deaths	3	0.8
Motor Car/Trucks death*	165	46.1
Total	358	100.0

*Include heavy duty vehicles

The pillion rider and passenger were more at risk of dying making up 30.2% and 31.3% respectively (table 2). The cyclist to pillion rider risk ratio was about 1:2. Slightly more males were involved with a male/female ratio of 1.4:1 and the 10 -49 year age groups were the most affected (table 3), making up 66.5% of the victims. Children below 10 years and elders above 70 years were rarely affected, making up 7.8% and 6.7% of the victims respectively.

Table 2
Distribution of Role of Road Users by Sex of Victims in UPTH

Role of Road User	Males	Females	Total	%
Drivers	31	5	36	10.1
Passengers	50	62	112	31.3
Cyclists	56		56	15.6
Pillion Rider	41	67	108	30.2
Pedestrians	28	15	43	12.0
Pedal Cyclists	3		3	0.8
Total	**209**	**149**	**358**	**100.0**

Table 3
Age and Sex Distribution of Victims of Road Accidents Related Deaths in UPTH 1995-2000

Age (Years)	Males	Females	Total	%
<10	17	11	28	7.8
10-19	34	20	54	15.1
20-29	33	36	69	19.3
30-39	41	18	59	16.5
40-49	30	26	56	15.6
50-59	22	14	36	10.1
60-69	19	13	32	8.9
70-79	6	8	14	3.9
80 and above	7	3	10	2.8
Total	**209**	**149**	**358**	**100.0**

Injuries to the head and neck region constituted the bulk (43.3%) of the fatalities (table 4) while motor cars killed most pedestrians than the other mode of transport (table 4).

Table 4
Anatomical Site of Injury Leading to Death in 358 Road-Accident Casualties

Site of Injury	Total	%
Head and Neck	155	43.3
Multiple Injuries	98	27.4
Limbs	72	20.1
Abdomen	19	5.3
Chest	12	3.4
Pelvis	2	0.6
Total	**358**	**100.0**

DISCUSSION

Motorcycle deaths in the Niger Delta region constituted the greatest load in road related deaths. Archibong[14] found that in Calabar 55% of motor vehicular accidents are from motorcycles.

Young males at the peak of economic life were found to be at the highest risk and this agrees with the worldwide experience[5]. The cyclist were at a lesser risk than the pillion rider, probably due to the fact that the cyclist has better support using the motorcycle handles, and he usually sights the danger and reacts protectively, albeit involuntarily. Similarly, the drivers of motor vehicles were less involved than their passengers probably due to the fact that more of the occupants in a car or truck are passengers[13]. In this study pedestrian involvement was low compared to the analysis by Adeloye at Ibadan, where more pedestrians were involved in accidents[13]. More pedestrian fatalities were also recorded by Simon Sevitt in Birmingham[15].

In our series, we find that children under 10 years of age and the elderly population over 70 years of age were at least risk of dying in road traffic accidents. As regards the involvement of the elderly, Adeloye found a similar situation. However, it seems as though from the 1970s when he did his study to the present time, the pattern in Nigeria has changed regarding children. There is thus less children involvement and more cyclists' involvement than pillion riders in our series than in his[13]. This pattern change is probably due to the new phenomenon of commercial motorcycles existing now but not in the 1970s.

Worldwide, the greatest cause of death remains the head and neck injuries[13,15], which confirms our observation. Multiple injuries created a major burden in road related deaths. Limb injuries in our series caused death in 20.1% of the fatalities probably through the pathway of hypovolemic shock in fractures and severe soft tissue damage. This observation is quite similar to the experience of Sevitt in the United Kingdom[15].

These road related deaths have become a major scourge of our time in the Niger Delta region[1,14] and the sooner concrete safety precautions are put in place and enforced the better for the society.

We recommend the following precautionary measures:-

a. The United Nations Organization may institute a global plan of action to stem the tide of these accidents as earlier suggested by Eke1.
b. There should be commitment on the part of government to save the lives of its citizens using high-powered legislation if need be1.
c. Traffic laws including the use of crash helmets by motorcycle and similar vehicle users must be enforced and stringent punishment meted out to offenders.
d. A minimum educational qualification such as the Junior Secondary School 3 attempted should be a prerequisite for issuance of a driver's license.
e. Traffic signs should be bold and placed conspicuously and damaged ones replaced regularly.
f. There should be a definite change of attitude by government agents patrolling our highways towards the safety of road users than towards their pockets.

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