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Road traffic accident mortalities in Port Harcourt, Nigeria

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ABSTRACT

Abstract (English)

The aim of this study was to study the characteristics of deaths from road traffic accidents in Port Harcourt, Nigeria. Reports of the coroner's autopsies done in the University of Port Harcourt Teaching Hospital, Port Harcourt over 10 years were reviewed. The injuries were categorised according to principal sites and organs involved. The age, gender, population, extent of injuries and cause of death were extracted for analysis. Thirty-seven bodies showed no injuries at autopsy. Over all, there were 1238 males and 363 females. Below the age of 15 years, there were 147 males and 153 females. The victims included all groups of road users. 70 % of the accidents occurred in the rainy seasons, i.e. from July to October. Most of the accidents occurred at the weekends. Multiple injuries occurred in 1497 (93.5 %) of the victims. The role of alcohol could not be determined because of poor records. It was concluded that there was an urgent need to address the epidemic of carnage on the roads. The roles of road users and agents responsible for keeping the roads safe should be defined so that responsibility for mishaps can be apportioned.

Abstract (German, Deutsch)

Das Ziel dieser Studie war, die Eigenschaften von Todesfällen von den Straßenverkehrsunfällen in PortHarcourt, Nigeria zu studieren. Reports der coronerautopsien, die in der Universität des PortKrankenhauses Unterrichten Harcourt, PortHarcourt über 10 Jahren erfolgt waren, wurden wiederholt. Die Verletzungen wurden entsprechend allgemeinen den betroffenen Sites und Organen kategorisiert. Das Alter, das Geschlecht, die Bevölkerung, der Umfang einer Verletzungen und die Ursache des Todes wurden für Analyse extrahiert. Körper Thirty-seven zeigten keine Verletzungen an

der Autopsie. Über allen gab es 1238 Männer und 363 Frauen. Unterhalb des Alters von 15 Jahren, gab es 147 Männer und 153 Frauen. Die Opfer umfaßten alle Gruppen Straße Benutzer. 70 % der Unfälle traten in den regnerischen Jahreszeiten, d.h. von einem Juli bis Oktober auf. Die meisten Unfällen traten an den Wochenenden auf. Mehrfache Verletzungen traten in 1497 (93,5 %) der Opfer auf. Die Rolle von Spiritus konnte nicht wegen der schlechten Sätze festgestellt werden. Es wurde gefolgert, daß es ein dringendes Bedürfnis gab, die Epidemie des Massakers auf den Straßen zu adressieren. Die Rollen der Straße Benutzer und der Vertreter, die für das Halten der Straßen sicher verantwortlich sind, sollten definiert werden, damit Verantwortlichkeit für Unglücke verteilt werden kann.

Abstract (French, Française)

Le but de cette étude était d'étudier les caractéristiques des décès des accidents de trafic de route dans Harcourt gauche, Nigéria. Des états des autopsies de coroner faites à l'université de l'hôpital gauche d'enseignement de Harcourt, Harcourt gauche sur 10 ans ont été passés en revue. Les dommages ont été classés par catégorie selon de principaux sites et les organes ont impliqué. L'âge, le genre, la population, l'ampleur des dommages et la cause de la mort ont été extraits pour l'analyse. Les corps de Thirty-seven n'ont montré aucun dommage à l'autopsie. Au-dessus de tous, il y avait 1238 mâles et 363 femelles. Au-dessous de l'âge de 15 ans, il y avait 147 mâles et 153 femelles. Les victimes ont inclus tous les groupes d'utilisateurs de route. 70 % des accidents se sont produits dans les saisons des pluies, c.-à-d. à partir de juillet à octobre. La plupart des accidents se sont produites aux week-ends. Les dommages multiples se sont produits dans 1497 (93,5 %) des victimes. Le rôle de l'alcool n'a pas pu être déterminé en raison des enregistrements faibles. On l'a conclu qu'il y avait un besoin pressant d'adresser l'épidémie du carnage sur les routes. Les rôles des utilisateurs et des agents de route responsables de maintenir les routes sûres devraient être définis de sorte que la responsabilité des malheurs puisse être répartie.

Abstract (Italian)

Lo scopo di questo studio era studiare le caratteristiche delle morti dagli incidenti di traffico stradale in Harcourt port, Nigeria. I rapporti delle analisi del coroner fatte nell' università di ospedale port di istruzione di Harcourt, Harcourt port in 10 anni sono stati rivisti. Le lesioni sono state categorizzate secondo i luoghi principali e gli organi hanno coinvolto. L' età, il genere, la popolazione, il limite delle lesioni e la causa della morte sono stati estratti per analisi. I corpi di Thirty-seven non hanno mostrato lesioni all' analisi. Sopra tutti, ci erano 1238 maschi e 363 femmine. Sotto l' età di 15 anni, ci erano 147 maschi e 153 femmine. Le vittime hanno incluso tutti i gruppi degli utenti della strada. 70 % degli incidenti si sono presentati nelle stagioni delle pioggie, cioè da luglio ad ottobre. La maggior parte degli incidenti si sono presentati alle fine settimane. Le lesioni multiple si sono presentate in 1497 (93,5 %) delle vittime. Il ruolo di alcool non ha potuto essere determinato a causa dei record difficili. È stato concluso che ci era una necessità urgente di richiamare l' epidemia di carneficina sulle strade. I ruoli degli utenti e degli agenti della strada responsabili del mantenere le strade sicuri dovrebbero essere definiti in moda da potere suddividere la responsabilità dei contrattempi.

Abstract (Portuguese, Português)

O alvo deste estudo era estudar as características das mortes dos acidentes de tráfego da estrada em Harcourt portuário, Nigéria. Os relatórios das autópsias do coroner feitas na universidade do hospital

portuário ensinar de Harcourt, Harcourt portuário sobre 10 anos foram revistos. Os ferimentos foram categorizados de acordo com locais principais e os órgãos envolvidos. A idade, o gender, a população, a extensão dos ferimentos e a causa da morte foram extraídos para a análise. Os corpos de Thirty-seven não mostraram nenhum ferimento na autópsia. Sobre tudo, havia 1238 machos e 363 fêmeas. Abaixo da idade de 15 anos, havia 147 machos e 153 fêmeas. As vítimas incluíram todos os grupos de usuários da estrada. 70 % dos acidentes ocorreram nas estações chuvosas, isto é de julho a outubro. A maioria dos acidentes ocorreram nos fins de semana. Os ferimentos múltiplos ocorreram em 1497 (93,5 %) das vítimas. O papel do álcool não podia ser determinado por causa dos registros deficientes. Concliu-se que havia uma necessidade urgente se dirigir à epidemia do massacre nas estradas. Os papéis dos usuários e dos agentes da estrada responsáveis para manter as estradas seguras devem ser definidos de modo que a responsabilidade para mishaps possa apportioned.

Abstract (Spanish, Español)

La puntería de este estudio era estudiar las características de muertes de accidentes de tráfico de camino en Harcourt portuario, Nigeria. Los informes de las autopsias del coroner hechas en la universidad del hospital portuario de la enseñanza de Harcourt, Harcourt portuario concluído 10 años fueron repasados. Lesiones fueron categorizadas según sitios principales y órganos implicados. La edad, el género, la población, el fragmento de lesiones y la causa de la muerte fueron extraídos para el análisis. Los cuerpos de Thirty-seven no mostraron ninguna lesión en la autopsia. Concluído todos, había 1238 varones y 363 hembras. Debajo de la edad de 15 años, había 147 varones y 153 hembras. Las víctimas incluyeron a todos los grupos de utilizadores del camino. 70 %es de los accidentes ocurrieron en las estaciones de lluvias, es decir a partir de julio a octubre. La mayoría de los accidentes ocurrieron en los fines de semana. Lesiones múltiples ocurrieron en 1497 (93,5 %es) de las víctimas. El papel del alcohol no se podía determinar debido a expedientes pobres. Fue concluido que había una necesidad urgente de tratar la epidemia de la carnicería en los caminos. El papeles de los utilizadores y de los agentes del camino responsables de mantener los caminos seguros deben ser definidos para poder repartir la responsabilidad de desgracias.

Keywords: Road Traffic Accidents; Fatalities; Safety on the roads

Introduction

The mounting toll of road traffic accidents (RTA) deaths in Nigeria constitutes a public health problem, which requires urgent attention since these deaths are preventable. The pattern of injuries sustained in these fatalities has received relatively little attention in Nigeria. However, few studies have been done [1-3].

The primary aims of medicolegal autopsies in Nigeria should establish a cause of death and, where appropriate, assist the police in their enquires to exclude criminality and negligence. These limited objectives are apparently most easily met in RTA autopsies, which as a result are often conducted superficially.

Attention has however, been focused on RTA in this country since the early seventies when concerned citizens advocated the setting up of a Road Traffic Marshall Corps in the Old Western State of Nigeria. This metamorphosed into the traffic warden corps popularly called 'yellow fever' in this country due to the colour of their uniform. Legislation in 1988 led to the setting up of a Federal Road Safety Corps (FRSC).

The severity of road traffic accident injuries is influenced by a number of variables. Prominent among these are population and vehicle densities which could be used to assess fatality rate.[4] Since road users are not a uniform population, drivers, motorcyclists, pedestrians and passengers are exposed to different hazards and will therefore present different epidemiological pathologic patterns. [3]

This study is however a preliminary one in this centre and has the limitation of being retrospective. It seeks to analyse the age, sex and anatomical distribution of fatal injuries from RTA in Port Harcourt, Nigeria.

MATERIALS & METHODS

The coroner's autopsies done at the morgue of the UPTH from January 1986 to December 1995 were reviewed. The injuries were categorised according to principal sites and organs involved. Cases with incomplete records were excluded. The age, gender, population, the extent of injuries and cause of death were extracted for analysis.

RESULTS

There were 1901 cases during the period of study. Only 1601 casualties had sufficient records to be included in this study. Of these, there were 1238 males and 363 females giving a ratio of 3.4: 1. As many as 100 RTA victims had no evidence of violence on them on physical examination. After autopsy, 37 victims had no physical injuries. Multiplicity of injuries was so common that it was often impossible to decide which was the main cause of death. Limbs, head, face and chest injuries were responsible for the deaths of many victims. Only six cases were recorded to have evidence of alcohol but there was no means of objective assessment of alcohol abuse.

There were 300 children below the age of 15 years of which 147 were males and 153 were females. The age and gender distribution of the 1601 cases is as shown in Table 1.

TABLE 1: AGE AND SEX DISTRIBUTION OF RTA CASUALTIES

	MALES	*FEMALES*	*SUBTOTAL*
CHILDREN			
Infants (0-1 year)	**2**	**-**	**2**
Pre-school (1-4 years)	**25**	**19**	**44**
School Age (5-14 years)	**120**	**134**	**254**
Subtotal	**147**	**153**	**300**
ADULTS			
15-19 years	**97**	**41**	**138**
20-29 years	**398**	**69**	**467**
30-39 years	**314**	**55**	**369**
40-49 years	**163**	**16**	**179**
50-59 years	**68**	**13**	**81**
60-69 years	**37**	**13**	**50**
70-79 years	**8**	**2**	**10**
80 years and above	**6**	**1**	**7**
Subtotal	**1091**	**210**	**1301**
GRAND TOTAL	**1238**	**363**	**1601**

The population of road users includes vehicle drivers, passengers and pedestrians Table 2.

TABLE 2: POPULATION DISTRIBUTION OF ROAD USERS INVOLVED

CATEGORY	*MALES*	*FEMALES*	*SUBTOTAL*
Pedestrians	**283**	**190**	**373**
Motorcyclists	**186**	**-**	**186**
Pedal cyclists	**20**	**26**	**46**
Motor Vehicle Drivers	**142**	**4**	**146**
Passengers	**327**	**123**	**450**
Others	**270**	**30**	**300**
TOTAL	**1238**	**363**	**1601**

Cars and buses were commonly involved in 956 of the casualties, followed by motorcycle, lorries and bicycles in descending order Table 3.

TABLE 3: TYPES OF VEHICLES INVOLVED IN FATAL ACCIDENTS

VEHICLES	*NUMBER OF VICTIMS*
Cars and Buses	**956**
Motorcycles	**150**
Lorries	**134**
Bicycles	**58**
Not indicated	**303**
TOTAL	**1601**

Most of the accidents (70%) occurred in the peak months of the rainy season, July to October. Both sexes were susceptible to accidents to a greater extent during the weekends (Fridays to Sundays) Table 4.

TABLE 4: DISTRIBUTION OF ACCIDENTS ACCORDING TO DAYS OF THE WEEK

DAYS OF THE WEEK	*MALES*	*FEMALES*	*SUBTOTAL*
Monday	**180**	**50**	**230**
Tuesday	**159**	**41**	**200**
Wednesday	**149**	**32**	**181**
Thursday	**102**	**20**	**122**
Friday	**253**	**90**	**343**
Saturday	**249**	**30**	**319**
Sunday	**146**	**60**	**206**
TOTAL	**1238**	**363**	**1601**

Injuries to the limbs and head were common followed by the face, chest, spine and pelvis in that order Table 5.

TABLE 5: ANATOMICAL DISTRIBUTION OF INJURIES AND ASSOCIATION WITH FRACTURES

Site of Injury	*Total Number*	*Isolated*	*Associated with Fracture (Percentage)*
Limbs	**637**	**330**	**307 (48)**
Head	**453**	**342**	**113 (25)**
Chest	**131**	**94**	**37 (28)**
Spine	**87**	**74**	**13 (15)**
Pelvis	**71**	**46**	**25 (35)**
Abdomen	**50**	**48**	**8 (16)**
Face	**172**	**154**	**18 (10)**
TOTAL	**1601**	**1190**	**521 (33)**

TABLE 6: DISTRIBUTION OF INJURIES IN NUMBER OF REGIONS

Number of body Regions Involved	*Number of Victims*
1	**834**
2	**369**
3	**170**
4	**113**
5	**15**
Abrasions or none	**100**
TOTAL	**1601**

DISCUSSION

Despite its retrospective nature, this study presents for the first time in Port Harcourt a near accurate picture of RTA death. The time of accident was not recorded in virtually all cases. There is need for improvement in proper documentation of RTA's. This can be done by designing a new form to correct the shortcomings in the coroner's form as it exists presently. A suggested modification is shown in Figure 1. For instance, location of accident, time of occurrence, population involved, type of vehicles, whether alcohol consumption was noticed in the drivers are very important data, which need to be recorded. It is observed that female pedestrians below 15 years of age are more susceptible to death in RTA. This can readily be explained by the fact that they are more involved in the hawking of wares along our streets and given the poor conditions of our road where one hardly finds Zebra crossings. Also given the very many rickety vehicles on the roads, it is no wonder that they get knocked down. The same reason can be given for the 20-39 years age group, which constituted 44% of all the accident victims. These are people at the peak of their lives thus constituting a great manpower loss in terms of productivity. The male preponderance may be due to the paternalistic nature of our society where males, as breadwinners, are more out going and more involved in out door activities such as driving and travelling. This has a lot of implications on the subsequent quality of life of the bereaved children. Male predominance in the

victims of RTA is a feature even under the age of 5 years. Road traffic accidents have no respect for anatomical boundaries or surgical specialities.

The peak incidence of fatal RTA's at weekends is probably because of our commune culture of travelling to the rural home villages for social functions.

The contribution of alcohol to RTA in this study is relatively uncertain as only six cases were documented. Victims of RTA are not screened for alcohol levels in their blood and urine in Nigeria [5]. Worse still, there is yet no definite legal alcohol blood level considered for drunk driving. This situation probably obtains in other developing countries.

Some of the victims who had no evidence of violence on them may have died from natural causes. Existing disease especially in the elderly could be the cause of death in a RTA [6].

In view of the above, stemming the increasing RTA toll in Nigeria will require public health measures nurtured by agencies like the Vehicle Inspections Officers (V.I.O), Federal Road Safety Corps (FRSC) units, works ministry and support from all and sundry including government.

Despite lack of legislation in the Nigerian context, both courts and insurance companies are taking increasing interest in the relationship between injuries and the use of safety harness in vehicles in order to reduce complication.[7]. Considering all the factors encountered above, attention should be directed at defining the roles of and apportioning responsibilities on all the human factors involved in RTA.

PROPOSED NEW FORM

We propose the following new form here.

FORM D CORONERS' ORDINANCE REPORT OF MEDICAL PRACTITIONER

I certify the cause of death in my opinion to be.....

Date---------- Signed----------

Name and Qualification----------

Address----------

Designation----------

Official Stamp.----------

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