DEATHS FROM MARINE TRAFFIC ACCIDENTS IN RIVERS STATE: A Referral Centre's Experience

By

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ABSTRACT

AIM: To examine exclusively deaths from Marine Traffic accidents based on autopsies performed at University of Port-Harcourt Teaching Hospital.

METHODS: A six-year retrospective analysis of medico-legal autopsies on deaths from Marine traffic accidents were analysed. Types of injuries and type of vessels involved in accident were also studied.

RESULTS: Thirty-five victims of marine traffic accidents. There were 23 males and 12 females with a male female ratio 2:1. The highest age range for the marine accident were from 20-59 years of age. Most marine accident occured in the morning.

INTRODUCTION

Majority of River State is surrounded by river and creeks. The land masses and their surrounding rivers are rich in natural gas and crude oil, which attract many petroleum related industries. The land masses are also covered by rain and swamp forests that influence the occupation of the inhabitants such as fishing, farming, trading and hunting.

Like other riverine communities, watercrafts of various types are used to convey workers and other commuters plying these routes with their luggages to different destination. The like style of the people, couple with psychosocial problems, influence the marine traffic accident fatalities. This study examines exclusively deaths from marine traffic accidents based on autopsies performed at University of Port Harcourt Teaching Hospital and suggest avenues for the prevention of such deaths.

MATERIALS AND METHODS

A six year record of medico- legal autopsies performed exclusively on deaths from marine traffic accidents were analysed with respect to age, sex, period of occurrence, site of injuries, types of vessels and cause of death.

The medico-legal autopsy request forms which were authorized and signed by the Judiciary. Coroner and Justices of peace were retrieved and reviewed from the records of the Department of Anatomical Pathology, University of Port Harcourt Teaching Hospital and analysed. Forms

with incomplete records were excluded. The forms generally serve as consent for the performance of autopsies. In all cases, a thorough autopsy following standard procedure was adopted.

RESULTS

An autopsy study of 35 victims of marine traffic accidents was carried out covering the period of 1995 to 2000.

Table one shows age and sex distribution of victims of marine traffic accidents. There were 23 males and 12 females with male female ratio of 2:1.

The youngest victim was a 2 year old boy while the oldest was an 48 year old male.

Table 1 Age and Sex distribution of victims of marine traffic accident in River State.

Age in years	Male	Female	Total	Percentage
<9	2	-	2	5.7
10-19	1	2	3	8.6
20-29	3	3	6	17.1
30-39	5	2	7	20.0
40-49	4	1	5	14.3
50-59	1	-	1	2.9
60-69	4	3	7	20.0
70-79	2	1	3	8.6
80 and above	1	-	1	2.9
Total	23	12	35	100.0

Table 2 shows the distribution of victims of marine traffic accidents with respect to the days of week and period of the day. The highest number of MTA occurred on Fridays (25.7%) of which 14.3% occurred in the evening; while the lowest; 5.7% occurred on Tuesdays. Mondays and Wednesdays had 8.6% each. There is a rise on Thursdays to 14.3% and peaks on Friday then start to fall on Saturdays 20.0% and Sundays 17.1%. more accidents (54.3%) occur in the evenings and 31.4% occur in the afternoon leaving the remaining 14.3% for mornings.

Table2 Distribution of days and the period of occurrence of MTA in River State

Days	Morning	Afternoon	Evening	Total	Percentage
Monday	-	-	3	3	8.6
Tuesday	-	1	1	2	5.7
Wednesday	-	2	1	3	8.6
Thursday	1	1	3	5	14.3
Friday	1	3	5	9	25.7
Saturdays	2	2	3	7	20.0
Sundays	1	2	3	6	17.1
Total	5(41.3%)	11(31.4%)	19(54.3%)	35	100.0

Table 3 shows the injuries sustained in MTN. Multiple injuries involving mainly the head, neck, chest and the limbs constituting 54.3%, were the commonest. Injuries to the head and neck exclusively accounted for 20%, and 2.9% had no injury.

Table 3 Analysis of Anatomical sites of injuries sustained in Marine traffic accident in River State.

Anatomical Sites	Number	Percentage
Multiple injuries involving more Than one anatomical region	19	54.3
Head and neck	7	20.0
Limbs	4	11.4
Chest	2	5.7
Abdomen	2	5.7
No injuries	1	2.9
Total	35	100.0

Table 4 shows the predisposing factors in marine traffic accidents. 64% of accidents showed use of alcohol and other substances of abuse by drivers and some passengers. 23% of accident occurred in circumstances related with excessive and reckless speeding, while 10 % of accident occurred as a result of rough waves. Inexperience of drivers accounted for 3% of accidents.

Table 4 Analysis of predisposing factors in Marine Traffic Accident in Rivers State

Predisposition Factor	Number	Percentage
Alcohol and other substance abuse	22	64
Excessive speeding	8	23
Rough waters	4	10
Inexperience of drivers	1	3
Total	35	100

Table 5 illustrates the types of vessels that were involved in marine traffic accidents. Accidents involving speedboats were the highest and accounted for 60%, while accidents by paddle canoes were the least accounting for 8.6%. Other motorized watercrafts such as self propelled barges, sea trucks, hovercrafts and dugout boats accounting for the remaining 31.4%

Table 5: Analysis of vessels involved in marine traffic accident in River State.

Type of vessels	Total	Percentage
Speed boats	21	60.0
Paddle Canoes	3	8.6
Other Motorized water crafts	11	31.4
Total	35	100.0

DISCUSSION

This study present for the first time in Port Harcourt; an insight into marine traffic accident fatalities. Water transport system is the easiest and the quickest means of transportation for majority of people in the riverine areas of Rivers State. Different types of water crafts are used. They include: Traditional paddle canoes, peedboats, self propelled barges, launches, local cargo boats, ferries and hover crafts. Waves generated by the motorized watercrafts usually caused the collision and capsize of smaller crafts.

Male are more likely to die in MTN as seen in the sex ratio of 2:1. This could be explained by the fact that, as bread winners, they are more out going and mostly constitute the labour force in the oil and gas industry. The male preponderance may also be as the result of paternalistic nature of our society and the fact that, elderly ones are usually members of traditional chieftaincy institution and are more involved in travelling to settle domestic and communal disputes. This has a lot of implications on the subsequent quality of life of the widows and bereaved children that are left behind. The male dominance is even a feature in children below 19 years.

There is a bimodal peak age distribution at 30-39 and 60-69 age group. Marine traffic accident has no respect for anatomical boundaries or surgical specialties. Multiple injuries of stretch and tear variety is commonly sustained and usually caused by propeller. The contribution of alcohol and substances of abuse to MTA is high as most drivers and passengers usually recreate with consumption of local brewed gin before embarking on journeys. However, blood and urine alcohol levels in accident victims are usually not screened routinely in Nigeria. Worst still, there is no legal blood alcohol levels considered for drunk driving of watercrafts. This situation probably obtains in other developing countries. [4,5,6,7]

The fatal accidents were mostly on fridays when traffic in the water

ways is high as many people travelled to the country side for one social engagement or the other.

The fatality is also fairly high on saturdays and sundays when commuters return. The accidents and subsequent fatalities were even higher at dusk and in rainy dull weather when visibility is poor. The problem is compounded when the operator of the watercraft has visual problems and also by the fact that the craft are poorly maintained, lighting system inclusive.

Excessive speeding, dangerous maneuvers, inexperience in craft operation coupled with unfamiliarity with creeks as well as over taking of bigger crafts are responsible for some of the accidents. This is the situation in coastal Caucasian towns.[3,7] The mode of death varies from direct trauma from the accident leading to severe haemorrhage and drowning, and this is associated with other complications in between. The commonest is drowning, resulting from exhaustion, hypoxia, hypothermia, syncope and epilepsy occurring in water.[1,2,3,8,9] Severe head and spinal cord injuries leading to loss of consciousness and motor function may also cause drowning.[10]

Stemming the rise in MTA toll in Nigerian water ways requires extensive public health measures assisted by agencies like the Marine police, Transport Ministry and probably incorporation of a Federal Marine Safety Corps Unit into the existing Federal road Safety Corps. Measures like putting in place marine traffic signs along water ways, dredging and clearing the water ways of wreckages, floating logs and introduction of bouys should be introduced. The use of safety gadgets/jackets to reduce injury and drowning is advocated. Passenger travel after dusk and during the harmattan season should be regulated because these are the periods when visibility is poorest.

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