

Road Traffic Accidents in Lusaka and Blood Alcohol

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SUMMARY

The present analysis highlights the 37% of deaths due to road traffic accidents. 172 (79.2%) males and 45 (20.8%) females. About 50% deaths involved pedestrians and 15% drivers. Half of the total deaths involved the person below 34 years of age. 26.7% cases showed high blood alcohol more than the statutory limit of 80mg%. 50% of the drinking drivers were below the age of 30 years. The blood alcohol was found in 35 (31.1%) pedestrians out of 109 involved, 9 (14.7%) passengers out of 61, 10 (30.3%) drivers out of 33 and 4 (33.3%) cyclists out of 12 involved in accidents. A steep increase in the incidence of accidents during past years has been tabulated in Table (V) and discussed. One of the major causes for the accident appears to be high blood alcohol levels in the road users.

INTRODUCTION

Accidental Injury has become an epidemic in the developed world today, particularly the road traffic accidents and specially important as a leading cause of death and disability in a person. The problem posed by loss of life or disablement due to road traffic accidents now does not only concern to developed countries but also to the developing countries, due to the rapid increase of road vehicles. In Zambia the total number of vehicles added till 1974 were approximately three and half times as against in the year

1960. Human loss is not only the loss to the family but also economic loss to the country. In Zambia the fatality per 10,000 persons was 0.67 in 1960 which has risen to 1.87 in 1974, which is almost three times. The fatality per 10,000 vehicles increased to 56 in 1974 as against 45 in 1960 (Transport Statistics, 1974).

There are many circumstances which cause the occurrence of road traffic accidents including intoxicants and pills. It is well known that the alcohol consumption by road user is a major factor in causation of road traffic accidents, and the drinking driver is prone to accidents. (Road Traffic Accidents — Public health paper, 1962). Therefore an attempt has been made to study the road traffic accidents and the influence of alcohol.

MATERIAL

Present study analyses the data supplied by the Police and the findings at the autopsies carried out by the Department of Forensic Medicine, University Teaching Hospital, Lusaka during a year from 1st May 1974 to 30th April 1975. The University Teaching Hospital is the only Teaching Hospital in the country and this is the only post-mortem centre for Greater Lusaka and Suburbs.

Observations

During the period 588 autopsies were conducted by the Department. 217 (36.9%) were the cases

who died of road traffic accidents either on the spot or in the hospital. 172 (79.2%) were males and 45 (20.8%) females. Of the 217 total road traffic accidental deaths, 61 (28.1%) constituted as passengers. The maximum cases 109 (50.2%) were the pedestrians, 33 (15.2%) were drivers. 12 (5.5%) were cyclists and 2 (0.9%) riders (Table I).

TABLE I

Percentage of various road users in road traffic accidents.

Groups	No	%
Passengers	61	28.1
Pedestrians	109	50.2
Drivers	33	15.2
Cyclists	12	5.5
Riders	2	0.9
TOTAL	217	—

Approximately half of the cases 103 (47.4%) ranged between the ages 25 and 44 years. 59 (27.1%) cases between 5 and 24 years, while 115 (50.3%) ranged between 5 and 34 years of age. Only 48 (22%) cases were above 45 years. The extremes of age were 1 and 76 years. Most of the drivers ranged

between 25 and 44 years of age. All the drivers, cyclists and riders were males. (Table II).

Of the 217 fatal cases, 58 (26.7%) cases showed blood alcohol levels. Almost all the cases had blood alcohol levels more than the statutory limit of 80mg% except one who had level of 68.2mg% and was a driver. About 50% of the drinking drivers and 30% of drinking pedestrians were below the age of 30 years. It was observed that 35 (32.1%) pedestrians, 9 (14.7%) passengers, 10 (30.3%) drivers, 4 (33.3%) cyclists had high blood alcohol levels.

None of the riders showed blood alcohol. In three drivers blood was not examined for alcohol due to decomposition of bodies.

The cause of death in 148 (68.2%) was multiple injuries, in 60 (27.6%) head injury, in 2 (.9%) chest injury, in 3 (1.4%) abdominal injury and in 4 (1.8%) complications due to injuries.

DISCUSSION

The present analysis highlights the higher incidence of deaths 217 (36.9%) due to road traffic accidents during one year in Greater Lusaka whereas in 1970 the total number of deaths or injuries in Lusaka area were only 17.9% and the percentage of deaths alone may be still low. (Monthly Digest of Statistics, 1975).

TABLE II

Relation of age and sex to the number of deaths due to road traffic accidents.

Age (Yrs)	Pedestrians			Passengers			Drivers			Cyclists			Riders			Total	%
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T		
1 — 4	2	2	4	3	—	3	—	—	—	—	—	—	—	—	—	7	3.2
5 — 14	10	14	24	5	3	8	—	—	—	—	—	—	—	—	—	32	14.7
15 — 24	8	3	11	9	4	13	1	—	1	2	—	2	—	—	—	27	11.3
25 — 34	20	—	20	16	3	19	12	—	12	3	—	3	2	—	2	56	25.8
35 — 44	17	4	21	9	2	11	13	—	13	2	—	2	—	—	—	47	21.6
45 — 54	16	7	23	2	3	5	6	—	6	1	—	1	—	—	—	35	16.1
55 — 64	3	—	3	1	—	1	1	—	1	3	—	3	—	—	—	8	3.8
65 — 74	3	—	3	1	—	1	—	—	—	—	—	—	—	—	—	4	1.8
75 & Above	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	1	0.4
TOTAL	79	30	109	46	15	61	33	—	33	12	—	12	2	—	2	217	

TABLE III
Blood Alcohol Levels in Various Road Users.

Blood Alcohol Levels mgm/100ml	Pedestrians		Passengers		Drivers		Cyclists		Riders		Total
	M	F	M	F	M	F	M	F	M	F	
0 — 80	—	—	—	—	1	—	—	—	—	—	1
80 — 150	4	—	1	1	2	—	—	—	—	—	8
151 — 200	3	2	—	1	1	—	—	—	—	—	7
201 — 250	6	2	—	1	3	—	1	—	—	—	13
251 — 300	3	—	1	—	1	—	—	—	—	—	5
301 — 350	5	—	1	—	1	—	—	—	—	—	7
351 — 400	2	—	2	—	—	—	2	—	—	—	6
401 — 450	5	—	1	—	—	—	1	—	—	—	7
450 — 500	3	—	—	—	1	—	—	—	—	—	4
	31	4	6	3	10	—	4	—	—	—	58

TABLE IV
Number and Percentage of Various road users with blood alcohol.

R.T.A.	Total	Blood Alcohol	%
Pedestrians	109	35	32.1
Passengers	61	9	14.7
Drivers	33	10	30.3
Cyclists	12	4	33.3
Riders	2	Nil	Nil
TOTAL	217	58	—

TABLE V
Comparative Percentage of Deaths amongst Various road users in urban areas.

Deaths	1965	1969	1974-75 (Present Analysis)
Pedestrians	16.6	15.6	50.2
Passengers	4.9	5.5	28.1
Cyclists	9.1	10.3	5.2
Drivers	3.8	5.8	15.2

In 1960 approximately 10% of accidental deaths were reported in Zambia, whereas in 1969 the total number of deaths due to road traffic accidents increased only to 11%. But in 1970 they dropped to 7.1% (Monthly Digest of Statistics, 1974).

In present study more than three fourth deaths affected male population. Study from various countries (World Health Statistics Report, 1972) also indicates the higher incidence of deaths amongst males. Since this population is more exposed to the roads and vehicles. Table IV clearly indicates a definite increase in the percentage of deaths amongst various road users in the urban population. Involvement of pedestrians 50.2% is almost now three times than in 1965 and this is matched with the study done at Birmingham (Simon Sevitt, 1968) where of the total 245 road traffic accidents 125 (51%) constituted pedestrians. There is also a steep increase in the death of passengers (28.1%) as well drivers 15.2%. (Statistical Year Book, 1970).

A relatively high mortality was observed in 15-24 and the 65 and — over age group in countries with high death rates from road traffic accidents. (Road Traffic Accidents 1962). In the present analysis, 27% of cases were between 5 and 24 years of age, 50% of deaths were below 34 years. 26 (78%) drivers killed were below 44 years of age (Table II). This indicates that younger population is more prone to acci-

dents, since majority of this population goes out for work.

In a study of 98 alcohol — drivers compared with general population of Ontario (Canada) Schmidt and Smart (1959), observed that the alcohol — drivers were involved in significant number of accidents per year per mile driven. In the present analysis 58 (26%) cases had high blood alcohol levels. These figures could also be little higher than 26% since, blood alcohol was not estimated immediately in those cases admitted in wards. Of the 10 (30.3%) drivers having high blood levels 9 had alcohol levels more than the statutory limit of 80mg%. Haddon and Bradess (1959) in a study of drivers killed in single vehicle accidents involving neither other vehicles nor pedestrians revealed that 41 (49%) had blood alcohol levels of 150mg% or more at death and further 17 (20%) had levels between 50—150mg%. In the present analysis 35 (32.1%) pedestrians had high blood alcohol levels more than 80mg%. Since, there is a definite relationship between driver and pedestrian as a road user, high blood alcohol in both appears to be a factor in causation of road accidents. Multiple injuries as a cause of death in 148 (68.2%) cases were common in our analysis, followed by 60 (27.6%) cases of head injuries.

As such there is no single factor which acts in causation of road traffic accidents. It is the inter-

action between the road, vehicle and user. From the present analysis there appears a definite relationship of high percentage of deaths and high percentage of blood alcohol levels in road users.

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