

A forensic study of unnatural death in Warri, Delta State, Nigeria

ABSTRACT

Objectives: The study is aimed at assessing the profile of unnatural death in an oil-rich city in Niger Delta region.

Method: This is a descriptive retrospective study of all homicidal, accidental and suicidal deaths examined forensically at the Central hospital mortuary, Warri from January 2003 to December 2016.

Results: Unnatural death accounted for 802 (82.5%) of all medicolegal cases examined within the study period. Homicidal, accidental and suicidal deaths accounted for 541(67.5%), (247) 29.7% and 14(1.1%) respectively of the unnatural deaths. A total of 713(88.9%) males and 89(11.1%) females were encountered, giving a male-female ratio(MFR)of 8:1. The mean age of the victims was 2.7 years with the peak occurring in the 3rd decade. The most commonly used weapon for homicidal death was firearms, accounting for 374(69.1%) of cases. Accidental death resulted mainly from Road traffic accident (RTA), drowning, burns and electrocution which respectively accounted for 142(57.5%) 34(13.8%) 26(10.5%) and 19(7.7%) of the cases; and with a MFR of 6:1. 14 cases of suicides were encountered during the study involving 11 males and 3 females, giving a MFR of 7:2.

Conclusion: The causes of unnatural death are mainly preventable. The resultant premature death, affecting mainly males of productive age is a great source of concern. There is need for the government, the community and individuals to contribute in reversing this dismal trend.

KEYWORDS: Unnatural death, Autopsy, Accident, Homicide, Suicide.

Nwachokor, F. N¹

Ijomone, E. A²

Uchendu, O. J³

1. Department of Pathology, Igbinedion University, Okada, Edo state.
2. Department of Pathology, Central Hospital, Warri, Delta State, Nigeria
3. Department of Morbid Anatomy/Histopathology, Delta State University, Abraka, Delta State.

³corresponding author email:

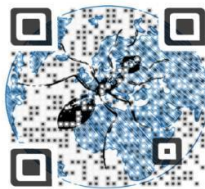
ojlinksent@yahoo.com

Phone: 08038732062

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INTRODUCTION

Death is defined as “Permanent cessation of the critical functions of the organism as a whole”.¹ For all human beings, this is an inevitable end and may take place under different circumstances which may be either naturally through diseases and aging process or in a manner contrary to the ordinary course of nature like suicide, accident or homicide. In some cases however, the facts on the circumstances surrounding the death are insufficient to classify such death into any of the above mentioned groups and are termed undetermined.²

Unnatural death may result from acts of negligence or omission, criminal intent, or in the absence of illegal intents such as accident or misadventure.³ In line with Nigerian Law, all such manners of deaths are indications for medico-legal autopsy.⁴

The forensic pathologist contributes to determining the cause and manner of death through post-mortem examination, forensic photography, odontology, toxicological, laboratory and radiological studies, exploration of historical events surrounding the death and scene of crime observations.⁵ His findings in presumed unnatural deaths may contribute to exonerating the accused where such cases of sudden death were erroneously thought to be unnatural death, ensuring that offenders are duly punished, and that the diseased person are appropriately compensated.⁶

There is paucity of publications on the profile of unnatural death in Nigeria. This research is a study of all cases of unnatural deaths examined by forensic pathologist in Central Hospital Warri, Nigeria.

MATERIALS AND METHODS

The city of Warri is one of the major cosmopolitan cities and oil hub in South-South, a commercial city with a projected population of 663000 as at 2015. Besides having a lot of rivers and Creeks, it's indigenous to many tribes including Urhobo, Ijaw and Itsekiri, and a favorite destination for many foreigners.⁷

This work is a descriptive retrospective study of all unnatural deaths forensically examined at Central hospital mortuary, Warri by medically qualified pathologists from 1st January 2003 to December 31st, 2016.

Information such as the age and sex of the victims, as well as cause and manner of deaths was extracted from their autopsy record book. The results is subsequently analyzed using Microsoft excel version 2010 and presented in tables.

Exclusion criteria: Cases with missing information on biodata or where the cause of death was uncertain were excluded from the study

RESULTS

Results here During the study period, 802 cases of unnatural deaths were examined representing 82.5% of 972 all medico legal autopsies studied.. The yearly distribution of these cases is shown in Table I.

The details of sex and age distribution of the cases is shown in table II, with a male-female sex ratio of 8:1 and a peak age occurring in the 3rd decade

Homicide, accident and suicide cases accounted for 67.46%, 30.80%, and 1.8% of cases respectively. The details are shown in table III.

The homicide cases studied showed a male to female ratio of 10:1 with firearm, stab and slash injuries, beating, strangulation and ritual killing accounting for 69.1%, 22.6%, 6.8%, 1.1% and 0.4% of cases respectively. The details are shown in table IV.

The sex and age profile of accidental cases are shown in Table V with a male to female ratio is

6:1.RTA, drowning, burns, electrocution, and fall from height accounting respectively for 55.9%, 14.3%, 8.8%, 8.0% and 3.4% of the cases.

A male to female ratio of 7:2 is observed for suicide cases with hanging and chemical ingestion accounting respectively for 71.4 and 28.6% of the cases. This is shown in table VI

Table 1: Yearly Distribution of Cases

Year	Accidental	Homicide	Suicide	Total (%)
2003	19 (34.6%)	33 (60%)	3 (5.5%)	55 (6.9%)
2004	17 (38.6%)	26 (59.1%)	1 (2.3%)	44 (5.5%)
2005	29 (50%)	27 (46.6%)	2 (3.5%)	58 (7.2%)
2006	16 (57%)	12 (42.9%)	Nil	28 (3.5%)
2007	32 (50%)	31 (48.4%)	1 (1.6%)	64 (8.0%)
2008	24 (36.4%)	42 (63.6%)	Nil	66 (8.2%)
2009	26 (30.6%)	59 (68.4%)	Nil	85 (10.6%)
2010	6 (24%)	19 (76%)	Nil	25 (3.1%)
2011	19 (23.8%)	59 (73.8%)	2 (2.5%)	80 (10%)
2012	12 (16.7%)	60 (83.3%)	Nil	72 (9.0%)
2013	10 (17.2%)	48 (82.8%)	Nil	58 (7.2%)
2014	12 (18.5%)	53 (81.5%)	Nil	65 (8.1%)
2015	10 (19.6%)	40 (78.4%)	1 (2.0%)	51 (6.4%)
2016	15 (29.4%)	32 (62.8%)	4 (7.8%)	51 (6.4%)
Total Cases	247	541	14	802

Table II: AGE AND SEX DISTRIBUTION OF CASES

Age Group(yrs)	Male [No (%)]	Female [No (%)]	Total Frequency
0 - 10	14 (70)	6 (30)	20 (2.5%)
11 - 20	84 (84.8)	15 (15.2)	99 (12.3%)
21 - 30	278 (91.7)	25 (8.3)	303 (37.8%)
31 - 40	180 (91.4)	17 (8.6)	197 (24.6%)
41 - 50	95 (88)	13 (12)	108 (13.5%)
51 - 60	35 (81.4)	8 (18.6)	43 (5.4%)
61 - 70	16 (76.2)	5 (23.8)	21 (2.6%)
71 - 80	8 (100)	Nil	8 (1%)
81 - 90	3 (100)	Nil	3 (0.4%)
Total	713 (88.9)	89 (11.1)	802 (100%)

Table III: MANNER OF DEATH (According to Age Group)

Age Group	ACCIDENTAL	HOMICIDE	SUICIDE	Total (%)
0 - 10 yrs	11 (45)	8 (40)	1 (5)	20 (2.5%)
11 - 20 yrs	30(29.3)	65 (65.7)	4 (4.0)	99 (12.3%)
21 - 30yrs	85 (26.7)	213 (70.3)	5 (1.7)	303 (37.8%)
31 - 40yrs	62 (30.5)	132 (67)	3 (1.5)	197 (24.6%)
41 - 50yrs	32 (29.6)	76 (70.4)	nil	108 (13.5%)
51 - 60yrs	14 (32.6)	29 (67.4)	nil	43 (5.4%)
61 - 70yrs	8 (38.1)	12 (57.1)	1 (4.8)	21 (2.6%)
71 - 80yrs	2 (25)	6 (75)	nil	8 (1%)
81 - 90yrs	3 (100)	Nil	nil	3 (0.4%)
Total	247	541	14	802 (100%)

Table IV: HOMICIDE CASES SHOWING SEX DISTRIBUTION

Types	Male	Female	No of Cases	% of Cases
Beating/blunt forces	30	7	37	6.8
Cut & Stab	114	8	122	22.6
Firearm	344	30	374	69.1
Ritual Killing	0	2	2	0.4
Strangulation	4	2	6	1.1
Total	492	49	541	100

Table V: ACCIDENTAL CASES SHOWING SEX DISTRIBUTION

Types	Male	Female	No of Cases	% of Cases
Alcoholic intoxication	1	nil	1	0.4%
Fire and thermal burns	12	9	21	8.8%
Carbon monoxide poisoning	5		5	2.1%
Chemical burns	3	2	5	2.1%
Criminal abortion	nil	5	5	2.1%
Drowning	33	1	34	14.3%
Drug reaction	nil	1	1	0.4%
Electrocution	18	1	19	8.0%
Fall	6	2	8	3.4%
Foreign body impaction	1	nil	1	0.4%
Industrial accident	3	nil	3	1.3%
Lightning strikes	1	nil	1	0.4%
RTA	126	16	133	55.9%
Suffocation	1	nil	1	0.4%
Total	210	37	238	100%

Table VI: SUICIDE CASES SHOWING SEX DISTRIBUTION

Types	Male	Female	No of Cases	% of Cases
Hanging	10	Nil	10	71.4
Suicidal ingestion	1	3	4	28.6
Total	11	3	14	100.0

DISCUSSION

Discussions here In developing countries like Nigeria, where vital registrations are lacking, autopsy study becomes indispensable stopgap obtaining reliable mortality data.⁸ The epidemiological significance of this study is further strengthened by the large sample size and number of years of the study. More importantly, is its significance in driving policy changes, as almost all cases encountered here are preventable causes of death.

The study showed that unnatural death was on increase steadily with a peak in 2009 and declined gradually till the end of the study. Two troughs were however observed in 2006 and 2010. The decline noted in the last 5 years of the study may actually imply a decline in unnatural death or decrease in rate of utility of autopsy services by the law enforcement agencies. The root cause of this demographic trend calls for further research.

In line with our report, it is a general observation that males are more commonly affected by unnatural death than females.^{9,10,11,12,13} Various reasons have been adduced to it including testosterone effect, the predominant involvement in outdoor activities unlike their female counterparts, lifestyle, choice of occupation, reckless behavior, alcohol and drug abuse as well as other socioeconomic factors.^{10,11,12,13} Testosterone, the male hormone has been linked to aggressiveness and competitiveness of the male gender, leading to reckless behavior and violence among male youths that culminate into violent and accidental deaths. 10 Risky outdoor occupations are mainly reserved for the male gender. These and other outdoor activities constantly expose the male gender to different forms of injuries and unnatural deaths, while the health of the female deteriorate less quickly.¹⁴ Alcoholism and substance abuse has been implicated in both accidental and homicide related deaths, and study has shown that men exceed female in rate and quantity of alcohol consumption.¹¹ A multi-country meta-analysis has supported a significant difference in risk taking between the male and female gender.^{12,13} The price is selective male-gender liked unnatural death across all ages.^{11,12,13}

The study showed that the mean age of unnatural death is 32.7 years and the peak age occurred in the 3rd decade accounting for 37.8% of deaths. The

study also showed that about 88% of the unnatural deaths encountered occurred cumulatively in the 2nd, 3rd, 4th and 5th which represents the age of peak entrepreneurial activity.¹⁵ The young age group are more active, restless, energetic and risk-driven. They are also more likely to be involved with cultism, drugs and alcohol abuse.¹⁶ With the new wind of information technology, impact of peer pressure and westernization is gaining more ground on the youths. It is our opinion that public health intervention to reduce male death rate will give better outcome on youths, being the most affected age-groups.

Homicide accounted for 67.5% of case in our study, representing the leading cause of unnatural death. This concurs with reports from Duduyemi in Nigerian capital city, Abuja,¹⁷ but contrast with reports in Benin city,¹⁸ Jos¹⁹ and Ibadan,²⁰ here homicide incidence lagged behind accidental deaths.

Firearms are the most commonly used weapon in the homicide cases encountered in this study which also is in agreement with report from Duduyemi.¹⁷ The struggle for political freedom of the Niger Delta people is entwined in illegal possession of firearms.²¹ The sources may not be unrelated to illicit arm deals, porous borders in both its land and sea edges and involvement of powerful government figures. It may also be recovered from attacks on police and military outposts. Arms are also imported by Politicians and given to their political tugs to enable them rig election, which unfortunately are hardly retrieved from tugs after the election. There is need to reduce the flow of weapons from neighboring countries into illegal hands. These activities are often fuelled by poorly motivated law-enforcement agents. The Government must be ready to show sincerity in addressing the Niger Delta crisis. More importantly cultism and militancy must be discouraged in all its ramifications.²²

About one-fifth of homicide deaths were executed using sharp-cutting objects like machetes, battle axe and knives. While the reason for the choice of weapon is not clear, the availability as well as the effectiveness of such weapon in causing injury is an important underlying factor.

There is urgent need to address the availability of arms, substance abuse, as well as the weak rule of law in the country. Firearm and knife legislation restricting their available, effectively backed up

with legal actions is an issue of urgent importance.

Our report showed that accidental death is the 2nd leading cause of unnatural death. The high male-female ratio of victim of accidental death has been attributed to his impulsive nature and curiosity.²³

RTA is the leading cause of accidental death, accounting for 57.5% of cases in this study. This concurs with earlier report by Akhiwu in Benin and Amakiri in Ibadan. Globally, RTA is one of the leading causes of death especially among youths, representing 1.2 million deaths annually with even more people suffering serious morbidities.²⁴ About three-quarter of deaths have been shown to result from auto accidents in developing countries.²⁵ Overcrowded roads with increasing availability of auto-vehicles, overspending, bad roads, poor enforcement of traffic safety regulation and inadequacy of public health infrastructure account for the high mortality from RTA.²⁶

Drowning in our report accounts for 2nd commonest cause of accidental deaths. This is similar to report from Obiorah in River state,²⁷ a region that share similar landscape, but much higher than the incidence recorded in Benin city and Abuja, the capital territory of Nigeria, but absent in Ibadan study.²⁰ This may be attributed to the presence of numerous waterways in Warri, used (a major means of transport) as well as fishing activity, despite its being unprotected. We think this figure is grossly under-reported since it is an autopsy based study that concentrated in an Urban mortuary, as there would have been other mortalities in rural and sub-urban communities in that region. Suggested interventions include advocacy for use of life-jackets, training members of the community on swimming as well as use of trained lifeguards in the water-ways.

Burns is the 3rd leading cause of accidental deaths. The predominance of males victims may not be unconnected with pipeline vandalism, and sales of kerosene adulterated with gasoline fuel in times of fuel shortage.^{29,30,31} Domestic explosion involving petroleum products accounted for most cases affected the female gender in our study. It is a general observation in our environment that the woman is in charge of the kitchen. It is therefore not surprising that most explosions arising from use of kitchen fuel will invariably affect them.

The robust economic and industrial activity in that region has also come with a price of attendant

electrocution related mortality, often resulting from failure in following electrical principles in the design, operation, maintenance and control of the power system.³² Male are often mostly involved as occupational hazards, because our society is such that women hardly take up such dangerous outdoor occupations.

Two cases of ritual murder were reported during the study period with missing organs were observed in this study. Scientific publications on ritual murders are scanty in our local publications, despite the rich media reports on this topic. Different reasons have been ascribed to involve involvement in ritual murder which include protection from spiritual attack, desire for quick riches and power as well as part of cult activities.^{33,34} We think that the prevalence is a far cry from the actual rate because it is often clouded in secrecy.

With a mean of one case of suicide, annually, it can be said to be relatively uncommon as seen in other local publications, which is attributed to respect for tradition and strong family ties.²⁰ These cases seen might be connected with mental illness. The choice of method adopted by the victims may depend on many factors, for instance the male gender that are more daring can opt to hanging as seen in our study while the female victims who are less daring and indoor will opt for less painful form of death such as drug overdose.

In conclusion, the cause of unnatural deaths in Warri is considerably different from that seen in other major cities of southern Nigeria and if predominately influenced by the high level of circulating arms, the economic activities in the region as well as the rich water and fishing activities. The study has brought to light the magnitude of the problem which will form the basis for action at levels of government, community and individual since most of causes identified are preventable.

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CONFLICT OF INTEREST

There is no conflict of interest to declare.

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