

MEDICO-LEGAL AUTOPSIES IN BENUE STATE UNIVERSITY TEACHING HOSPITAL, MAKURDI NORTH CENTRAL NIGERIA: A 5 YEAR REVIEW

Joseph A. Ngbea¹, RA. Vhritherhire¹, BA. Ojo¹, IO. Akpor¹, T. Nyaga¹, BA. Ugbaje¹, TD.Gyenger¹, OO. Jegede², MS. Naswem³, MM. Mnyim³, CA. Miner⁴, TZ. Swende⁵

¹Department of Anatomical Pathology, College of Health Sciences, Benue State University, Makurdi

²Department of Morbid Anatomy, College of Health Sciences, Bingham University, Jos

³Faculty of Law, Benue State University, Makurdi

⁴Department of Community Medicine, University of Jos

⁵Department of Obstetrics and Gynaecology, College of Health Sciences, Benue State University, Makurdi

Correspondence: *Dr. Joseph A. Ngbea*

E-mail: joenor2013@gmail.com

Abstract: To classify various types of medico-legal deaths seen in BSUTH Makurdi between March, 2013 and February, 2018.

Material and Methods: This is a retrospective study of all medico-legal deaths seen in the Department of Anatomical Pathology over a period of 5 years (March 2013 – February 2018) as recorded in the autopsy register of the hospital.

Results: A total number of 360 autopsies were done during the study period and 155 were medico-legal autopsies representing 43%. 232 were male, 118 female with a male to female ratio 2:1. Homicide death 56(36.1%), RTA 36(23.2%), Sudden death 32(20.6%), Perioperative death 8(5.2%), Anaesthetic death 7(4.5%), Drowning 5(3.2%), Institutional deaths 4(2.1%), Death in police custody 3(1.9%), Burns 3(1.9%) and Electrocutation 1(0.6%). Age distribution of medico-legal autopsy was between 10-100 years.

Conclusion: The study concluded that homicidal death is the common indication of medico-legal autopsies in the study and is beneficial to law enforcement and jurisprudence, medical education and legal implication of patient management.

Keywords: Autopsy, Medico-legal, Homicide North central.

1. INTRODUCTION

Autopsy is defined as a systematic thorough clinicopathologic examination of a deceased body in order not just to examine the cause of death but also to evaluate the pathologies of the events that leads to death. Autopsy is derived from a Greece word *autopsia* meaning see for yourself.¹ However, in 1945, medico-legal autopsy was extended to everybody in the country including the indigenous Nigerian population as reported in the coroner's Law of Northern Nigeria published in 1963.²

Medico-legal deaths is a term used to describe any violent, unclear or suspicious death that's must undergo legal investigation. Such deaths include unexpected sudden deaths, death of prisoners, homicidal deaths, suicides, perioperative death, road traffic accidental deaths, institutional deaths such death investigation involves using the medico-legal death system in the country.³

Traditionally, autopsy practice has been classified to two major groups, hospital or clinical and medico-legal or coroner's autopsies.^{4,5}

In Nigeria medico-legal autopsies dates back to 1917, then the law stipulated that's only sudden death that involved the European colonial matters were to be reported to the corner for autopsy and this was reported in Laws guiding births and deaths in Nigeria published in 1948.⁶

In the 20th century pioneers like Sir William Osler in North America stressed the importance of autopsy in both undergraduate, and postgraduate medical education. He was reported to have performed 800 autopsies in Mc Gill University in Canada. Autopsy is an important tool for ensuring hospital quality and accreditation agencies to define acceptable autopsy rates for teaching, research and training.^{7,8}

Also, characterisation and understanding of diseases, medical audit; research and epidemiological studies and medico-legal investigation of the deceased.⁹

Autopsy rate has declined globally and not just in the Northern Nigeria. The global decline in autopsy rate has been noted as far back as 1950, in developed countries it is attributed to increasing confidence in modern diagnostic techniques, fear of litigation, difficulty in obtaining consent from grieving family, unacceptability of autopsy reports.¹⁰

In developing countries, negative attitude of medical personnel, difficulty in consent from relatives, religious and cultural practices.¹¹

The purpose of the study is to look at the implication of low rate of medico-legal autopsies. Though, a retrospective study, it covers a 5 year period and is a Teaching Hospital based study and there is no previous study in the hospital and it will determine and classify the pattern of medico-legal deaths in a Teaching Hospital in Makurdi and compare with findings in other centres in the country and the world in general.

2. MATERIAL AND METHODS

This is a descriptive retrospective autopsy-based study of medico-legal autopsies carried out at Anatomical Pathology Department, Benue State University Teaching Hospital, Makurdi. All post-mortem records of cases of medico-legal autopsies performed between the period of March, 2013 and February, 2018 were included in the study. Demographic data as well as indications for autopsy were retrieved from case files, data were analysed with statistical package for the social sciences software version 16.

3. RESULTS

A total of 360 autopsies were performed during the 5 year study period. There were 115 cases of medico-legal autopsies. 113 were male and 42 female with male to female ratio of 3:1. Homicidal death 56(36.1%), RTA 36(23.2%), Sudden death 32(20.6%), Perioperative death 8(5.2%), Anaesthetic death 7(4.5%), Drowning 5(3.2%) Institutional death 4(2.1%), Death in Police custody 3(1.9%) Burns 3(1.9%) Electrocution 1(0.6%), Age distribution of medico-legal deaths ranges from 10- 100years.

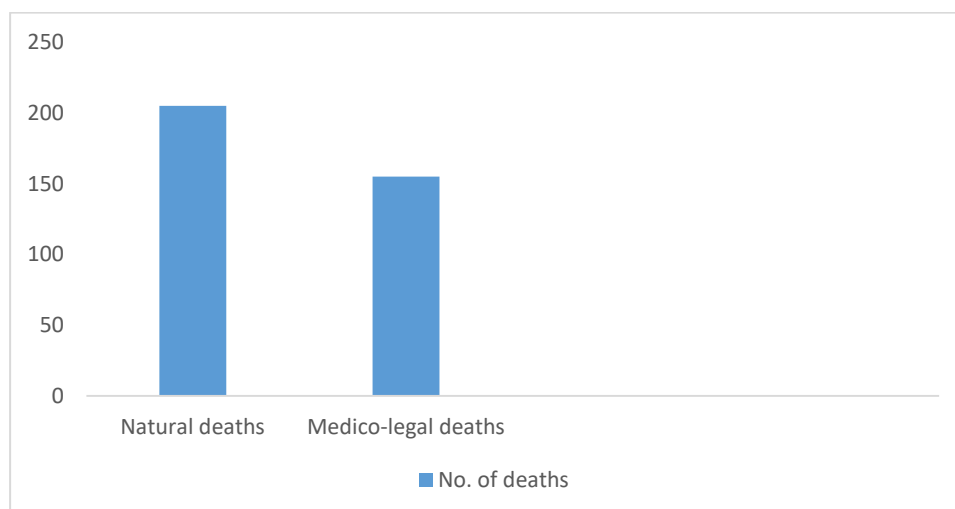


Figure 1: Bar chart showing manner for death for autopsies performed March ,2013 – February, 2018 at Benue State University Teaching Hospital, Makurdi

Table 1: Manner of death associated with sex

MANNER OF DEATH	MALE	FEMALE	TOTAL
NATURAL	119	86	205
MEDICO-LEGAL	113	42	115
TOTAL	232	128	360

$X^2 = 8.4997$; $p = 0.003552$ (result is statistically significant meaning there is a difference in the manner of death between males and females)

Table 2: Manner of death disaggregated by sex for 5 years review of autopsies performed at Benue State University Teaching Hospital, Makurdi (March, 2013 – February, 2018)

MANNER OF DEATH	MALE Freq (%)	FEMALE Freq (%)	TOTAL Freq (%)
Natural Death			
Cardiovascular	25 (12.2)	15 (7.3)	40 (19.5)
Gastrointestinal	10 (4.9)	4 (2.0)	14 (6.8)
Obstetrics	-	12 (5.9)	12 (5.9)
HIV/AIDS	28 (13.7)	10 (4.9)	38 (18.5)
Cancers	15 (7.3)	10 (4.9)	25 (12.2)
Respiratory	5 (2.4)	12 (5.9)	17 (8.3)
Liver disease	17 (8.3)	4 (2.0)	21 (10.2)
SCD	6 (2.9)	8 (3.9)	14 (6.8)
Tetanus	2 (1.0)	-	2 (1.0)
Lassa fever	3 (1.5)	1 (0.5)	4 (2.0)
Tuberculosis	8 (3.9)	10 (4.9)	18 (8.9)
Total	119 (58)	86 (42)	205 (100)
$x^2 = 36.7$; $p = 0.00006$			
Medico-legal Deaths			
Perioperative	6 (3.9)	2 (1.3)	8 (5.2)
Drowning	2 (1.3)	3 (1.9)	5 (3.2)
RTA	30 (19.4)	6 (3.9)	36 (23.2)
Sudden death	20 (12.9)	12 (7.7)	32 (20.6)
Homicide	42 (27.1)	14 (9.0)	56 (36.1)
Anaesthetic death	5 (3.2)	2 (1.3)	7 (4.5)
Institutional death	2 (1.3)	2 (1.3)	4 (2.1)
Death in police custody	2 (1.3)	1 (0.6)	3 (1.9)
Burns	3 (1.9)	-	3 (1.9)
Electrocution	1 (0.6)	-	1 (0.6)
Total	113 (85.8)	42 (27.1)	155 (100)
$x^2 = 9.2$; $p = 0.416$			

Interpretation: there is a statistically significant difference in the manner of deaths occurring naturally among males and females but there is no statistical difference in the medico-legal deaths between males and females

Table 3: Manner of medico legal deaths disaggregated by age group for 5 years review of autopsies performed at Benue State University Teaching Hospital, Makurdi (March, 2013 – February, 2018)

Age group	Homicide	RTA	Drowning	Sudden Death	Anaesthetic Death	Institution Death	Death in police custody	Burns	Electrocution	Perioperative death	Total
0 - 10	5 (3.2)	4 (2.6)	-	-	1 (0.6)	-	-	-	-	-	10 (6.5)
11 - 20	3 (1.9)	-	1 (0.6)	1 (0.6)	-	-	-	-	-	-	5 (3.2)
21 - 30	1 (0.6)	-	-	-	-	-	-	1 (0.6)	-	-	2 (1.3)
31 - 40	5 (3.2)	6 (3.9)	2 (1.3)	10 (6.5)	-	4 (2.6)	-	1 (0.6)	-	-	28 (18.1)
41 - 50	12 (7.7)	8 (5.2)	-	11 (7.1)	-	-	-	1 (0.6)	1 (0.6)	1 (0.6)	34 (21.9)
51 - 60	10 (6.5)	2 (1.3)	1 (0.6)	8 (5.2)	1 (0.6)	-	-	-	-	4 (2.6)	26 (16.8)
61 - 70	8 (5.2)	10 (6.5)	1 (0.6)	-	-	-	3 (1.9)	-	-	3 (1.9)	26 (16.8)
71 - 80	6 (3.9)	2 (1.3)	-	2 (1.3)	3 (1.9)	-	-	-	-	-	13 (8.4)
81 - 90	4 (2.6)	3 (1.9)	-	-	2 (1.3)	-	-	-	-	-	9 (5.8)
91 - 100	1 (0.6)	1 (0.6)	-	-	-	-	-	-	-	-	2 (1.3)
TOTAL	56 (36.1)	36 (23.2)	5 (3.2)	32 (20.6)	7 (4.5)	4 (2.6)	3 (1.9)	3 (1.9)	1 (1.0)	8 (5.2)	155

4. DISCUSSION

Findings from this study showed that the commonest indications for medicolegal autopsies in our centre include homicide 56(36.1%), RTA 36(23.2%) and sudden death 32(20.6%)(Table2). Most cases of medicolegal autopsies were reported in the age range of 31 – 70 years at 22%.(Table3).

Furthermore, this type of autopsies constituted approximately 72% of total autopsies performed in our centre within the study period. This contrast with the findings by Mandong¹who reported 89% for total number of medicolegal autopsies reported over a 20 year period in Jos University Teaching Hospital. Uchendu from Benin also reported 97% for medicolegal autopsies over a one year period.² In addition, Akhiwu also reported medicolegal autopsies at 89% of all autopsies conducted in a tertiary center in Benin.⁴ This low record of coroner's autopsies in our centre can be attributed to several factors which include poor implementation of coroner's law in Benue State, lack of hospital policy on enforcing coroner's autopsies, lack of curiosity by medical professionals into causes of unnatural deaths and social, cultural and religious practices that are prevalent in the State.(Figure1&Table1). However, the high proportion of homicide reported in our centre is due to the metropolitan location of the mortuary within the state capital as well as the close proximity to the state police headquarters and high courts which makes it easier to obtain an inquest into cause of death.

In addition, our findings indicated that the peak age range for coroner's autopsies was in the 41 – 44 age range(Table3). This is similar to the peak age range of 41 – 50 at 36% by Ngbea et al on medicolegal autopsies in Jos (6). However, Akhiwu reported a peak age of 20 – 29 at 28%; and Uchendu recorded a similar peak age range of 21 – 30 years at 35%. There is no clear reason for our findings and this may indicate a reason for further research.

The results of our findings also showed that homicide accounted for most cases of coroner's autopsies at 36% with most cases occurring within the 41 – 50 age range(Table3). This result is also in contrast with findings in other parts of Nigeria including Warri,¹²Jos and Benin. Homicide is generally conceived as the killing of an individual by another. However, to (Brayan, 2004), it is the killing of one person by another, and criminal homicide as the act of purposely, knowingly, recklessly or negligently causing the death of another human being. According to (Coke in the Nigeria Law Repository, 2014), it is when a man of sound memory and age of discretion, unlawfully killing within any country of the realm any reasonable creature in rerun natural under the king's peace, with malice, aforethought, either expressed by the party or implied by law, so as the party wounded or hurt, etc within a year and a day after the same.¹³ It may be an excusable or justifiable homicide, murder or manslaughter. Justifiable homicide occur in self defence from danger, Excusable homicide happens during sports, Manslaughter is unlawful killing following provocation while Murder is unlawful killing without provocation and with full intention.¹⁴ Reports from these areas showed that RTA was the most common indication for coroner's autopsies at 85% Warri,⁵ 51% Jos and 23% in Benin. Furthermore, we did not include the common causes of homicidal death in our studies and why individuals in age range of 41 – 50 years were most commonly affected. However, Amakiri from Ibadan reported sudden unnatural death as the highest cases for medicolegal autopsies at 56% as well as Akhiwu from Benin at 65%.¹⁵

Our results also showed that more males were involved in medicolegal autopsies compared to females with a male to female ratio of 3:1(Table1). This is similar to results by Mandong and Ngbea in Jos; Uchendu in Warri and Akhiwu in Benin. In addition, the reason for these findings may also be comparable to that from other regions in Nigeria which point to the patrilinear nature of our society as well as other factors which include poverty, unemployment, armed robbery and communal/ethno-religious crises.¹⁶

An unusual cause of death for coroner's autopsies not reported from other regions of Nigeria is anaesthetic death which accounted for 4.5% of autopsies for medicolegal reasons(Tables2&3). There are no reports of such deaths from other regions of the country. This as well as perioperative deaths has not received much attention in Nigeria and may warrant further investigation.

Although the total proportion of medicolegal autopsies in our centre was lower compared to other regions in Nigeria. This also indicated that hospital and family autopsies constituted a higher figure at 28%. This may due to the fact that charges for hospital autopsies are very low as well as better perception about the role of autopsies among fellow physicians and their willingness to convince patient relatives to give consent for autopsy.

In conclusion, Homicidal death is the common indication of medicolegal autopsy in the study and is beneficial for law enforcement and jurisprudence, although the number of autopsies in our centre is low compared to older tertiary institutions, there is a growing awareness about the benefit of autopsies which may hopefully yield fruitful results in terms of research and auditing of causes of death in our environment.

REFERENCES

- [1] Mandong BM, Manasseh AN & Ugwu BT. Medicolegal autopsies in North Central Nigeria. *East Afr Med J* 2006;83(11):626-30.
- [2] Uchendu OJ. A One Year Review of Autopsies Performed in the Two Major Secondary Health Centers in Benin City. *Int. J of Forensic Med Invest* 2015; 1:10-14
- [3] Nayak GH, Biradar S, Karlawad M. A Medicolegal study of Unnatural female deaths- A Retrospective study. *Medicolegal update* 2017;17(2):142 doi:10.5958/0974-1283.2017.00087.1
- [4] Akhiwu WO, Nwafor CC, Igbe AP. A 20 year retrospective analysis of medicolegal deaths in a tertiary hospital setting in Nigeria. *Niger J Clin Pract* 2013;16:535-39.
- [5] Kotabagi RB, Charati SC, Jayachandar D. Clinical Autopsy Vs Medicolegal Autopsy. *Med J Armed Forces Ind* 2005; 61(3):258-63
- [6] JA. Ngbea , OD. Dzuachii , T. Nyaga , BS. Otene, RA. Vhrithire , MD. Ayuba, BM. Mandong. A 18 Year Retrospective Review Of Medico-Legal Autopsies In Jos, North Central Nigeria. *IOSR J Dental Med Sci* 2015;14(7):91-5.
- [7] Guileyardo JM. To see for oneself: Sir William Osler on autopsies, Medical education and economics. *Proc Bayl Univ Med Cent* 2015; 28(1):120-21
- [8] Lucey BP, et al. Did Sir Williams Osler perform an Autopsy at the John Hopkins Hospital? *Arch Pathol Lab Med* 2008;132(11):1710-12
- [9] Riboli E, Delendi M. Autopsy in epidemiology and Medical research. *The J of Pathol* 1992;166(2):209-10
- [10] Malami SA, Mohammed A. Autopsy Practice in Northern Nigeria. *Niger J of Surg Research* 2012;4:3-4s
- [11] Kwaghe BV, Mandong BM, Mannaseh AN, Elachi UG, Emmanuel I, Titus NF, et al. Autopsy and Religious beliefs of Christians, Muslims and Jews; a short review of historical perspectives. *Jos J of Med* 2017;11(2):62-4
- [12] Uchendu OJ, Nwachokor FN, Ijomone EA. Audit Of Medico Legal Death In Metropolitan City Of Warri. *Int. J of Forensic Med Invest*. 2017;3(1):29-37.
- [13] Lawrence EO. Nigeria and the incidences of Homicide. *Amer inter J Social Scs* 2015;4(5):104-114
- [14] Ranfindadi AH. Wound types, In *Handbook of Forensic Medicine*. Zaria: Amana publisher. 2003. Pp 1-3
- [15] Amakiri CTN, Akang EEU, Aghadiuno PU, Odesanmi WO. A Prospective Study of Coroner's Autopsies in University College Hospital, Ibadan, Nigeria. *Medicine, Science and the Law* 1997;37(1):69 – 75
- [16] Okafor EE. Social implications of communal and Ethno-Religious clashes in New Democratic Nigeria. *Stud Tribes Tribals* 2007;5(1):35-45