

# A Two Year Review of Autopsies Performed in the Two Major Secondary Health Centres Edo State, Nigeria

## ABSTRACT

Autopsy practice is on decline despite its recorded numerous benefits. Earlier autopsy based studies in Nigeria were focused on tertiary centres.

This study was a two-year descriptive retrospective study, to analyse the pattern of autopsies performed in secondary and primary centres in Edo state

About 4.4 cases were performed monthly, with coroner's inquest and family requests accounting for 93.33% and 4.80% of cases. The mean age of patients was 39.66 years with a peak occurring in the fourth decade. Homicide cases, natural, accidental, suicide and indeterminate cases accounted for 40.00%, 30.48%, 23.80%, 1.90% and 3.81% of the cases.

The relatively high rate unnatural deaths, maternal mortality and ischaemic vascular deaths, especially in the adolescent and young adults in Nigeria, as well as the negative attitude of doctors towards autopsy, calls for concern.

**Keywords;** Suicide, Homicide, Coroner, Deaths, Inquest

Uchendu OJ\*

Department of Pathology  
Delta State University  
Teaching Hospital  
Oghara, Delta State  
Nigeria.

\*corresponding author email:  
ojlinksent@yahoo.com

## INTRODUCTION

Autopsy is derived from the Greece word autopsia, which literally means "seeing for yourself."<sup>[1]</sup> It is a systematic examination of the remains of a patient to determine the extent of the disease, the effect of treatment, and the presence of unrecognized ailment that could have contributed to the demise of the patient.<sup>[2]</sup> Traditionally, autopsy practice has been classified into two major groups, hospital or clinical autopsies and medicolegal or coroner's autopsy.<sup>[3]</sup>

From antiquity, autopsy has been described to contribute significantly towards the discovery, characterization and understanding of diseases; medical audit; continuous medical training; research and epidemiological studies; and medicolegal investigation of the diseased.<sup>[4]</sup>

Paradoxically however, a global decline in autopsy rate has been noted since 1950, and this has been of growing concern.<sup>[5]</sup> Various reasons have been adduced for this trend in developed countries including increasing confidence in modern diagnostic techniques, unwillingness of clinicians to dwell on clinical "failures", fear of litigation, difficulty in obtaining consent from grieving family and dissatisfaction with quality and timeliness of autopsy reports.<sup>[4]</sup> In developing countries, the negative attitude of medical personnel, the unwillingness of patients' relatives to give consent to autopsy and the religious and cultural practices seem to be the most important factors.<sup>[6,7,8]</sup>

A review of Nigerian literature showed that most of the autopsy data were generated mainly from tertiary hospitals, where the few practicing

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pathologists in Nigeria are employed.<sup>9</sup> Little attention has been paid to this subject matter in the setting of secondary and primary health centres. This study is aimed at reviewing all cases of autopsies performed in the two major secondary health centres in Benin City from 2012 to 2014. The findings of this study would no doubt significantly assist in the understanding of the pattern of autopsy practice and make recommendation for developing a hospital policy on autopsy practice by the state hospital management board.

**MATERIALS AND METHODS**

The Edo State Hospital Management Board has two major secondary health centres in Benin City: Central Hospital and Stella Obasanjo Women and Children hospital. A review of all cases of deaths that underwent post-mortem examination by the author between October 2012 and September, 2014 in these two hospitals in Edo state was done. Approval was obtained from the Hospital Management Ethic and Research Committee. The relevant records which include the autopsy reports, hospital autopsy records and clinical case notes were retrieved from the pathology and the records department of both hospitals.

Reports of histological analysis were retrieved to ensure accurate death certification. The information extracted for this study includes: the sex and age of these patients; the indications for autopsy; and the primary and secondary causes of death. The data obtained were collated and analysed with Microsoft excel programme and the results presented in tables and figures.

**RESULTS**

One hundred and five cases of autopsies were performed during the study period, accounting for an average of 4.4 cases per month. Ninety-eight (98) of the cases were requested by police officers as a part of criminal investigative process, five cases were requested by family members while two cases were ordered by the state government. The manner of death are shown in table 1, with homicide, natural, accidental and suicide accounting for 40.0%, 30.5%, 23.8% and 1.9% of

cases while in 3.81% of cases the manner of death could not be ascertained. The mean age distribution is patients studied is 39.66, with a peak occurring in the fourth decade. A male to female ratio of 7: 3 is observed in this study. The detail is shown in table 2.

The mean age distribution of homicide cases in this study is 39.5 years with a male to female ratio of 3:1. Firearm, stab and slash injuries, blunt trauma, throttling and strangulation accounted for 46.3%, 24.4%, 21.6%, 4.9% and 2.4% of the cases respectively as shown in table 3. Death by natural causes is shown in table 4, with cardiovascular death, infectious diseases, cerebrovascular death, obstetric death and ruptured ectopic pregnancy accounting for 11(32.0%), 5(14.7%), 3(8.8%), 3(8.8%), and 2(5.9%) of the cases.

The mean age of cases of accidental death is 32.6, with a sex ration of 1.8:1(Male: Female). Road traffic accident (RTA) accounted for 11 (44.0%) of the cases, while electrocution and drowning both accounted for 3(12.0%) cases each as shown in table 5.

**TABLE 1: MANNER OF DEATHS**

| MANNER OF DEATH  | NO OF CASES | FREQUENCY% |
|------------------|-------------|------------|
| ACCIDENTAL DEATH | 25          | 23.81      |
| HOMICIDE         | 42          | 40         |
| NATURAL          | 32          | 30.48      |
| SUICIDE          | 2           | 1.9        |
| UNCERTAIN        | 4           | 3.81       |
| TOTAL            | 105         | 100        |

**TABLE II: AGE AND SEX DISTRIBUTION OF AUTOPSY CASES**

| AGE RANGE | MALE | FEMALE | FREQUENCY |
|-----------|------|--------|-----------|
| 1.0-10.0  | 2    | 0      | 1.9       |
| 11.0-20.0 | 8    | 2      | 9.52      |
| 21.0-30.0 | 18   | 8      | 24.76     |
| 31.0-40.0 | 13   | 10     | 21.9      |
| 41.0-50.0 | 15   | 1      | 15.24     |
| 51.0-60.0 | 8    | 2      | 9.52      |
| 61.0-70.0 | 8    | 2      | 9.52      |
| 71.0-80.0 | 0    | 4      | 3.81      |
| TOTAL     | 72   | 33     | 105       |

**TABLE III: HOMICIDE CASES**

| Types                   | Male | Female | No. of cases | % age  |
|-------------------------|------|--------|--------------|--------|
| Firarm                  | 16   | 3      | 19           | 46.34% |
| Stab/slash              | 7    | 3      | 10           | 24.39% |
| Blunt Force             | 5    | 2      | 7            | 21.95% |
| Strangulation           | 1    | nil    | 1            | 2.44%  |
| Smothering / Throttling | nil  | 2      | 2            | 4.88%  |
|                         | 29   | 10     |              |        |
| Total                   | 76%  | 24%    | 39           | 100%   |

**TABLE IV: NATURAL DEATHS**

| MANNER OF DEATH   | MALE      | FEMALE    | TOTAL     | %          |
|-------------------|-----------|-----------|-----------|------------|
| Cardiovascular dx | 5         | 3         | 8         | 25         |
| Obstetric death   | nil       | 4         | 4         | 13         |
| Cerebrovascular   | 3         | nil       | 3         | 9          |
| Perforated pud    | 3         | nil       | 3         | 9          |
| Aids              | 2         | nil       | 2         | 6          |
| Cancer            | nil       | 2         | 2         | 6          |
| Ruptured ectopic  | nil       | 2         | 2         | 6          |
| Asthma            | 1         | nil       | 1         | 3          |
| Asd               | nil       | 1         | 1         | 3          |
| Gastroenteritis   | 1         | nil       | 1         | 3          |
| Menorrhagia       | nil       | 1         | 1         | 3          |
| Liver failure     | 1         | nil       | 1         | 3          |
| Sca               | nil       | 1         | 1         | 3          |
| TETANUS           | nil       | 1         | 1         | 3          |
| TUBERCULOSIS      | 1         | 0         | 1         | 3          |
| <b>TOTAL</b>      | <b>17</b> | <b>15</b> | <b>32</b> | <b>100</b> |

**Table V: ACCIDENTAL DEATHS**

| MANNER OF DEATH            | MALE      | FEMALE   | TOTAL     | %          |
|----------------------------|-----------|----------|-----------|------------|
| Rta                        | 6         | 5        | 11        | 44         |
| Drowning                   | 3         | nil      | 3         | 12         |
| Electrocution              | 3         | nil      | 3         | 12         |
| Alcohol intoxication       | 2         | nil      | 2         | 8          |
| Fall                       | 2         | nil      | 2         | 8          |
| Burn                       | nil       | 1        | 1         | 4          |
| Abortion                   | nil       | 1        | 1         | 4          |
| Displaced tracheotomy tube | nil       | 1        | 1         | 4          |
| Post op comp               | nil       | 1        | 1         | 4          |
| <b>TOTAL</b>               | <b>16</b> | <b>9</b> | <b>25</b> | <b>100</b> |

**DISCUSSION**

Our study showed a relatively low autopsy rate with a rate of 4.4 cases every month, despite its numerous benefits. Coroner’s autopsy was relatively high in this series, accounting for about 97.0 % of the cases, with rest arising from either family or state government requests. This is higher than those reported in University of Uyo Teaching Hospital (76.9%), [10] University of Benin Teaching Hospital (56.0%) [8] and Lagos University Teaching Hospital (12.0%) [11]

The absence of hospital autopsy in secondary centre may be attributed to the general attitude of doctors towards autopsy especially their lack of curiosity to the actual cause of death and their abusive death certification methods, donkey’s years of practice in the absence of a trained pathologist, and the non-implementation of hospital autopsy policy by these centres.

On the other hand, the apparently high request for coroner’s autopsy in this centre may be attributed to the strategic location of the mortuaries in the town (making it the choice centre for deposition of bodies whose death took place outside hospitals) its close proximity to the State Criminal investigation department , as well as the legislative power of the police to enforce that autopsy are carried out on suspicious deaths brought to the mortuaries as part of criminal investigation process.[12]

The request by family members which accounted for five of the cases probably indicates that the public was aware of the benefit of autopsy, and the extent of mutual distrust among family members in the society.

The age distribution in this series showed that majority of cases involved adolescence and young adults. This population group represented the most active age group in society and therefore constituted an important part of the work force of the population, and of course the leaders of tomorrow. There is therefore an urgent need to reverse this trend to avoid serious economic impact.

Homicide as the leading cause of mortality in this series may be attributed to an interplay of rivalry, unemployment, poverty, interpersonal conflicts, inter-community dispute, armed robbery, kidnapping, economic inequality, insecurity, poor policing, weak legal system and moribund health sector. [13,14] The high rate of gun-related homicide deaths has been attributed to illicit circulation of firearms and our porosity of Nigerian's borders. [13]

Sudden unexpected natural death was the second leading cause of death in this study. Significantly, the relatively high rate of cardiovascular and cerebrovascular deaths is an indication of the westernized lifestyle and therefore increased risk of atherosclerosis in our society. [15] Pregnancy related deaths which accounts for 14.7% of these deaths, a sad revelation that Nigeria is far from meeting the Millennium Development Goal on reducing maternal mortality. [16]

The high rate of perforated Peptic ulcer disease, which in this study were wrongly diagnosed, draws attention to the state of our health care. A high discrepancy between clinical and autopsy diagnosis has earlier been underscored in earlier studies. [11]

Accidental deaths accounted for the third leading cause of death in this study which concurred with reports from University College Hospital, Ibadan and University of Benin Teaching Hospital, Benin City. [17,18] The high male to female ratio observed may be attributed to the nature of our society where men were the predominant bread winners and therefore involved in travelling, farming, hunting, and other related out-door activities.

Amongst the leading causes of accidental deaths in this study, RTA accounted for the majority of deaths which was similar to observations in other studies in Nigeria. [19,20,21] This may be attributed to the sorry state of our roads, the state of the motor vehicles, the increasing use of motor cycles as a major means of transport, the recklessness of the drivers, alcohol and substance abuse among road users, and the weakness of the relevant law enforcement agencies, and poor state of government hospitals, among other factors. [22]

Fortunately, these factors are preventable causes of death and with adequate public enlightenment, policy implementation and infrastructural development, deaths resulting from these causes can be effectively reduced.

The cases of drowning in this study were reported in a child and two adolescents, and was comparable to global statistics where it accounted for the second leading cause of injury related death after RTAs. [23]

The three cases of fatal electrocution observed in this study were preventable. Two of the victims were apprentice to welders, while the third case followed a thunderstorm. These cases could be attributed to non-adoption of safety standards in building and at workplace. Mortalities arising from fall from heights may also have resulted from the poor attitude to use of safety equipment especially at work places.

Our study showed that the suicide rate was relatively low, despite the present harsh economic realities, frustration, mental illness, substance abuse and suicide bombing which has accounted high rate of suicide cases in some other countries. [24]

This may be related to the general perception and attitude of the people to suicide. The sex-linked nature of suicide in this study may not be unrelated to the androcentric nature of our society. [19,25]

The indeterminate causes may be attributed to the effect of embalment, putrefaction, the long death-autopsy interval and lack of capacity for toxicologic analysis. The delay in time of performing the autopsy is as a result of our judicial process which is inadvertently slow. The poor funding of the health sector makes toxicology analysis practically unattainable in Nigeria for now and even in the near future.

## REFERENCES

1. Tedeschi, Ekert Tedeschi. Property of the dead body in Forensic medicine; vol II; 1997; p 971.

2. Olasode BJ, Odesanmi W. The hospital autopsy-halting the decline. *Nig Postgrad Med J* 1998; 5:37-39.
3. Eriksson L, Sundstrom C. Decreasing autopsy rate in Sweden reflects changing attitudes among clinicians. *Qual Assur Health Care* 1993;5: 319-23.
4. Finkbeiner WE, Ursell PC, Davis RL. The Autopsy, Past and Present. In *Autopsy Pathology, A manual and Atlas*. 2009. Saunders, Philadelphia, P5-11.
5. King LS, Meechan MC. A history of autopsy: a review. *Am J Pathol*.1973; 73: 514-44.
6. Cox JA, Lukande RL, Kateregga A, Mayanji-Kizza H, Manaba YC, Colebunders R. Autopsy acceptance rate and reasons for decline in Mulado Hospital, Kampala, Uganda. *Trop Med Int Health* 2011; 16:1015-8.
7. Rafindadi AH. A study of medico-legal deaths in Zaria. *Nig Postgr Med J* 1998;5:28-30.
8. Diegbe IT, Igbokwe UO. Increasing the hospital autopsy rates in our country. *Nigerian J Med* 1998; 8: 171-172.
9. Uchendu OJ. Challenges of practicing histopathology in a developing country: The Nigerian perspective. *Ann Biomed Sci* 2013; 12(2)59-65
10. Ekpo MD, Abudu EK, Umana IN, Onwuezobe IA. An audit of medical autopsy: An experience at University of Uyo teaching hospital, Niger delta region, Nigeria. *Indian J Med Sci*. 2013;65(11):502-7.
11. Diegbe IT, Idaewor PE, Igbokwe UO. Autopsy audit in a teaching hospital in Nigeria: The Benin experience. *West Afr J Med* 1998; 17:213-6.
12. CAP 31 LAGOS STATE GOVERNMENT.
13. Obiorah CC, Amakiri CN. Coroner autopsy study of homicides in Rivers State of Nigeria: 11-year review. *Medicine, Science and the Law* 2014;54(1) :8-14.
14. Chawla S, Me A, Bisogno E, et al. Global study on homicides, trends, contexts, data. Vienna: United Nations office on drugs and crimes (UNDC), 2011.
15. P. S. Yusuf, S. Hawken, S. Ounpuu et al., "Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study," *The Lancet*.2004; 364(9438):937-52..
16. Haines, Andy; Andrew Cassels . "Can the Millennium Development Goals Be Attained?". *Bri Med J*.2004; 329:7462.
17. Amakiri CN, Akang EE, Aghadiuno PU, Odesanni WO. A prospective study of coroner's autopsies in University College Hospital, Ibadan Nigeria. *Med Sci Law* 1997;37:69-75.
18. Nwafor CC, Akhiwu WO, Igbe AP. Accidental deaths in a University Teaching Hospital 1990-2009. *Afr J Med Health Sci* 2013; 12:35-7.
19. Etebu EN, Nwosu SO. Medicolegal autopsies in Port Harcourt, Nigeria. *Nig J Othop Trauma* 2003;2:33-5.
20. Odesanmi WO. Forensic Pathology in Nigeria: The Ife experience. *Med Sci Law* 1982;22:269-74.
21. Mandong BM, Madaki JK, Mohammed AZ, Kidmas AT, Echejoh GO. Epidemiology of accident deaths in Jos, Nigeria (1996-2000). *Ann Afri Med* 2006;5:149-52.
22. Odero W. Paper titled; Road traffic injuries little discussed killer in sub-Saharan Africa. At Harvard center for population and development studies. 2004:1-2.
23. WHO, World Health Organization (2008) Global Burden of Disease 2004 update (Disease and regional injury estimates for 2004) Geneva, Switzerland: World Health Organization.
24. Akhiwu WO, Nwosu SO and Aligbe JU. Homicide and suicide in Benin City, Nigeria. *Ani Aggra Internet J Foren Med Tox*. 2000;1(2):1 - 5
25. Asuni T. Suicide in Western Nigeria. *Bri Med J*. 1962; 2:1091 - 10

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