

PATTERN OF UNNATURAL DEATH IN NIGERIA: THE ABA EXPERIENCE

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ABSTRACT

In whatever form, time, and the way it comes, death is a tragedy. Unnatural death is a reflection of social and mental health status of a people in time and place. We studied the magnitude, manner, and modes of unnatural deaths in South-Eastern Nigeria. It was a retrospective study of deaths as revealed in autopsies performed by Pathologists at Abia State University Teaching Hospital (ABSUTH), Aba, Abia State, Nigeria, from January 1st, 2013, to December 31st, 2017. Study materials were retrieved from the Departmental records and archives. All the cases were grouped according to Age, Sex, and Mode of death. A total of 1264 cases were analyzed, but 256 were excluded, leaving 1008 cases for inclusion. Males were 727 and females were 281, giving a gender ratio of 2.6: 1. Results showed 756 (75%), 202 (20%) and 50 (5%) accidental, homicidal and suicidal deaths respectively; all of which were commoner among males and those in age group 21 – 40 years. Overall, accidental deaths were the commonest, while sharp force injuries were the commonest mode of homicidal deaths. We conclude that there is an increasing trend of unnatural death in the South-Eastern sub-region of Nigeria, and that calls for serious concern.

Keywords: Unnatural deaths, Homicidal, Suicidal, Road Traffic Accident, Medico-legal.

INTRODUCTION

Over a million and a half people die globally every year from avoidable violent acts: 800,000 suicides, 50,000 homicides, and 300,000 war deaths (WHO, 2005). More than 90% of such deaths occur in the underdeveloped and developing countries of the world. In the year 2000, Injury accounted for 9% of the world's death. The highest mortality rates arose from injuries attributable to Road Traffic Accidents (RTAs) (WHO, 2002).

Nigeria is said to rank very high in Africa in respect of unnatural death, perhaps second only to South Africa (Nmual *et al.*, 2007). With a staggering population of about 200 million and in the face of biting economic recession, life in Nigeria is unarguably complex, brutish and short, with unnatural deaths predominating. The poor socioeconomic condition prevailing on our ever increasing population ignites a natural tendency for random population movements within and without the country, especially among the youths, migrating from

rural to urban locales seeking for more conducive atmosphere for survival. This movement, in the face a chaotic transportation system, is froth with high accident rates and increased rate of crime with its attendant homicides. The types and magnitude of violence resulting in these injuries, disabilities and deaths, has been reported by various writers in their studies. These are more frequent among certain age groups and sex. Profile of the cause and manner of death constitutes the hallmark of Health Management Information System (HMIS); hence the importance of this study.

This study tends to explore the unnatural deaths in the city of Aba as referred to the Anatomic/Forensic Pathology Department, Abia State University Teaching Hospital (ABSUTH) Aba and autopsied by the Consultant Pathologist. Aba is an outstanding cosmopolitan city in South-Eastern Nigeria, and ABSUTH serves as primary, secondary as well as a tertiary Healthcare center for Aba, Abia State, and the rest of adjoining States of Southeast and South-South





regions of Nigeria. This study will not only reveal the magnitude of unnatural deaths but also provides a resume of the demographic profile, pattern, and mode involved in medico-legal deaths. It tends to draw public attention and create awareness among the people towards causalities of death with emphasis on violence which is an important health concern in our society. This would possibly reduce the incidence of such cases and would also be helpful to law enforcement agencies in devising strategies for the prevention of such incidences.

MATERIALS AND METHODS:

Setting: Abia State University Teaching Hospital (ABSUTH) is a tertiary health care facility situated in the cosmopolitan city of Aba, South-Eastern Nigeria. In addition to surgical pathology and cytology services offered to the Teaching Hospital, our unit in focus, the Department of Anatomic and Forensic Pathology, also offers autopsy services which is used for the training of clinical medical students. These autopsies are performed on clinical and medico-legal request.

Design: This is a 5-year retrospective Autopsy study of 1008 documented unnatural deaths cases between 2013 and 2017.

Inclusion Criteria: Deaths caused by factors other than disease between 2013 and 2017, were considered appropriate for inclusion in our study.

Exclusion criteria: Deaths caused by disease(s) were considered inappropriate for inclusion

Ethical Consent: Approval was sought for and it was granted by the Ethical Committee of ABSUTH.

Data Collection: Collected and recorded data were from autopsy findings, as examined and recorded in the Departmental Records and Archive.

Data Analysis: Data were analyzed for Age, Sex, Pattern and Mode of death, using the Statistical Package for Social Sciences [SPSS], version 21.

RESULTS:

Out of the 1008 unnatural deaths sourced from a total of 1264 recorded deaths, 72,2% were males and 27.8% were females; giving a Male : Female ratio of 2.6 : 1. Accidental deaths, Homicidal deaths and Suicidal deaths constituted 75%, 20% and 5% of the cases reviewed respectively in descending order. As shown in Table 1 above, all manner of death were commoner in males.

TABLE 1: NATURE OF DEATH BY SEX [n=1008]

SEX	NATURE OF DEATH			TOTAL (%)
	ACCIDENTAL (%)	HOMICIDAL (%)	SUICIDAL (%)	
MALE	558 (77%)	124 (17%)	45 (6%)	727 (72%)
FEMALE	198 (70%)	78 (28%)	5 (2%)	281 (28%)
TOTAL	756	202	50	1008 (100%)



TABLE 2: NATURE OF DEATH BY AGE [n = 1008]

AGE in years	NATURE OF DEATH			TOTAL 2 (%)
	ACCIDENTAL (%)	HOMICIDAL (%)	SUICIDAL (%)	
0 – 10	40 (5.3)	8 (4.0)	0 (0)	48 (4.8)
11 – 20	160 (21.1)	34 (16.8)	8 (16)	202 (20)
21 – 30	189 (25)	48 (23.8)	20 (40)	257 (25.5)
31 – 40	176 (23.3)	55 (27.2)	16 (32)	247 (24.5)
41 – 50	131 (17.3)	40 (19.8)	4 (8)	175 (17.4)
51+	60 (8.0)	17 (8.4)	2 (4)	79 (7.8)
TOTAL 1	756	202	50	1008 (100)

Key: Total 1 = Total by Nature of death; Total 2 = Total by Age

Table 2 shows that accidental death in age group of 0 – 10 years were 5.3%, in age group of 11 – 20 years were 21.1%, in age group of 21 – 30 years were 25%, in age group of 31 – 40 years was 23.3%, in age group of 41 – 50 years were 17.3%, and in age of 51 years and above were 8%. Homicidal deaths in age groups of 0 – 10years, 11 -20years, 21- 30 years, 31 – 40 years, 41 – 50 years and 51 years and above were 4%, 16.8%,

23.8%, 27.2%, 19.8%,and 8.4% respectively, peaking at 21 – 40 years age group (23.8 %+ 27.2% = 51%). No suicidal death was recorded for the 0 – 10 years age group. Suicidal deaths for age groups of 11 – 20years, 21 – 30 years, 31- 40 years, 41 – 50 years and 51 and above years were 16%, 40%, 32%, 8%, and 4% respectively.



Fig. 1A and B: Sample photographs showing homicidal deaths by sharp force injury of the anterior chest wall (1A) and homicidal death by sharp force injury (knife stab) at the posterior chest wall (1B).



DISCUSSION

The incidence of unnatural deaths is said to be a reflection of prevailing social setup and mental health status of a given population in time (Shashikant and Dingre, 2015). Profile of unnatural deaths in a region serves as a determinant of the societal condition as well as the law and order situation of that region. Medico-legal autopsy remains a veritable tool for the analysis of unnatural deaths. The result of a medico-legal autopsy, in conjunction with other information, can be used to elucidate fatal injury mechanisms and design appropriate means of safe guarding similar events in future (Eriksson, 2016).

Most states in Nigeria have a legal setting for investigating deaths which are not natural. The Coroner Law of Abia State requires that bodies of individuals who die suddenly, including deaths which are sudden and unexpected, criminal, suspicious, accidental, suicidal, unexplained or not due to natural causes, must be reported to the Police for proper investigation (Offiah and Obiorah, 2014). This law is generally obeyed, and autopsies as ordered by the Coroner, are routinely carried out. Usually, the autopsy reports are in two copies with the main copy issued to the Police and the duplicate archived by the Pathologist.

The three main groups of manner of unnatural death are Accidental death, Homicide and Suicide. When the manner of death could not be ascertained, it is classified as Undetermined. Manner of death gives us information about the type of death but not about the cause of death.

Our study shows that all nature of unnatural deaths was more common in males than females, with a male to female ratio of 2.6: 1. This gender disparity is in consonance with the accepted view of male dominance (Brendel *et al.*, 2008). This has also been reported in other studies (Akhiwu, 2000; O'Connor, 2000; Solarino *et al.*, 2007). This dominance is believed to stem from the fact that males are more likely to end their lives unnaturally, confirming the general view of the male sex being more aggressive and violent than their female counterpart. This aggressive and violent nature of males

has been attributed to Testosterone- the male sex hormone (Offiah, 2014; Akhiwu, 2000; Large, 2007).

This study also revealed that unnatural deaths were very common in the 21 – 40 years age group; highlighting the fact that this age group is the most active period of life in both sexes, and it invariably constitutes the labour force (Ambade *et al.* 2007). People at this stage of life are more adventurous, daring and are always on the move, with a mindset of testing as many life opportunities as possible that are at their disposal. They are thus, far more prone to ending their lives unnaturally in one way or the other.

By accidental death we refer to a sudden, unintentional death with an external cause. Accidents may be natural or unnatural. Unnatural accidental deaths include, but not limited to, traffic accidents, accidental explosions, electrocution, air crash, collapse of structure, falls, stampede, ship accident, drowning, accidental fire, mines/quarry disaster, firearms [accidental discharge] etc. Our study shows that there is preponderance of accidental deaths among all the categories of unnatural deaths in Aba city [75%, 756/1008]. This preponderance is in tandem with the findings of other workers in Nigeria (Offiah 2014; Akhiwu 2000), Africa (WHO 2002; Nmuah *et al* 2007; Eriksson 2016), and the world at large (WHO 2005; WHO 2002; Park, 2009; Khan 2011; Kumar, 2015).The reason for this is not farfetched.

With poor socioeconomic condition prevailing in our ever increasing population, there is a natural tendency for random population movements within and without the country, especially among the youths; migrating from rural to urban locale, seeking for more conducive atmosphere for survival. This movement, in the face of a chaotic transport system, is froth with dangers of high rate of traffic accidents (RTA), and other accidents like railway accidents, falls from heights, electrocution etc; and with a concomitant increased rate of crime and its attendant homicidal deaths. The main objectives in the investigations of fatal accidental events include establishing the cause and manner of death for insurance as well as criminal purposes, reconstruction of the injury patterns and the chronological events leading to death so



as to profer preventive measures, provide information to the relatives of the deceased, and to provide data to Health Management Information System (HMIS) (Essam *et al.*, 2007; Boland *et al.*, 2005)

The killing of one person by another, whether premeditated or unintentional constitutes Homicide. Homicide ranked next to Accidental deaths in our study. The leading causes of homicidal death as per this study were sharp force injuries, firearms, blunt force injuries, ligature and manual strangulation; constituting 68%,20%, 7%,5% of cases respectively. The common causes of death in homicide in Nigeria are unarguably distinct from those in Western countries, where firearms are the leading cause of homicide. A total of 14 victims in Aba were killed by firearms during the entire five-year period of this study. This is quite insignificant compared with USA from which data shows that death of 31,000 victims were caused by firearms in one year, precisely 2007 (Xu *et al.*, 2010)

By suicide is meant the intentional killing of oneself, as a kind of action or social phenomenon. The pattern of suicide deaths in a given locale is a reflection of the socio-economic status and mental health status of the population in the region under investigation. When suicide is committed by an individual who is either a bread winner, care taker or a loving child of the family, there is deep agonizing pain to the rest of the family members who are living. As per this study, hanging, followed by poisoning were the most common method adopted to end life. This is most probably because of the easy availability of the ligature material and the poison. The most common age group involved in suicide still remains the 21-40 year age group. This is in contrast to what is obtainable in the Western world where elderlies are predominantly involved. Males [90%] were most commonly involved. This is in tandem with what is recorded by other workers (Offiah, 2014; Brendel *et al.*, 2008; O'Connor, 2000; Large 2007; Khan, 2011; He *et al.* 2015). Suicide ideation and suicide deaths are preventable by the combined efforts of stringent laws and public enlightenment from government and non-governmental agencies which tend to condition the mindset of the people to adapt to all life challenges.

CONCLUSION:

In conclusion, the causes of unnatural deaths in Aba, Nigeria, were markedly dissimilar from what is obtainable in the Western countries. Accidental deaths, with a preponderant traffic accident mode have been revealed by our study as the commonest manner of death among unnatural deaths in our setting. This is closely followed by homicidal death with fatalities caused by sharp force injuries as the commonest mode. Unarguably, there is an increasing trend of unnatural death in the Southeastern sub region of Nigeria. This calls for serious concern considering the peak age of 21-40years involvement, an age group representing the labour force of the population. Additional research is hereby posited as being necessary for elucidating unnatural death risk factors, so as to improve public health management and stem the tide of this ugly trend.

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DECLARATION OF CONFLICT OF INTEREST

We have no conflict of interest to declare

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AUTHORS CONTRIBUTION:

Both authors contributed adequately in this study. Their carrier background played important roles. The autopsies were conducted, the study was conceptualized, and the template drawn by Offiah. The literature review and critical analysis were largely of Eleweke's making.

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