

Medical Mortality in the Accident and Emergency Unit of the University Of Port Harcourt Teaching Hospital

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ABSTRACT

Background: The quality of care in the emergency room is an indirect indicator of the standard of healthcare delivery in a given health institution. Mortality in the emergency room may result from various factors including incompetence of the attending junior physicians, delays in presentation and inadequate facilities. The aim of the study is to highlight the causes of mortality, age and sex distribution of the deaths and the duration of admission before death among medical cases in the accident and emergency unit of the University of Port Harcourt Teaching Hospital.

Methods: A one year (January to December, 2005) clinical audit of all adult medical admissions in the accident and emergency department of the University of Port Harcourt Teaching Hospital (UPTH).

Results: Of the 5304 admitted over the study period, 349 (6.8%) patients died. Two hundred and thirty three (66.8%) of these deaths were due to medical cases only. These medical deaths were made up of 126 males and 107 females giving a male to female ratio of 1.2:1. The presumed causes of deaths were stroke in 56(24.5%), HIV/AIDS in 53 (22.7%), sepsis in 20 (8.6%), while 14 (6.0%) died from meningitis. Ten patients (4.3%) died from diabetic ketoacidosis, and hepatic encephalopathy and tetanus were responsible for 10(4.3%) and 7 (3.0%) deaths respectively.

Conclusion: In the period studied, medical mortality was high in the accident and emergency room of UPTH. The major causes of deaths were cerebrovascular accidents and HIV/AIDS.

Key words: accident and emergency, autopsy, death certification, medical mortality

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INTRODUCTION

The quality of care in the emergency room is an indirect indicator of the standard of healthcare delivery in any given health institution¹. Statistics extracted from the accident and emergency room are invaluable tools in health planning. In our environment, initial management

of emergency cases is undertaken by junior resident doctors who man the emergency rooms, under the supervision of a consultant accident and emergency specialist. Faulty management may result from inexperience and sometimes incompetence among the junior doctors². Delays in presentation, lack of proper facilities, occasional unavailability of certain essential drugs and administrative bottlenecks may also contribute to poor quality of care, resulting in poor outcome.

Due to the inexperience of the first call doctor who certifies patient's death, error in cause of death abounds.³ This is worsened by lack of training in death certification at both the undergraduate and postgraduate levels. Religious taboos and cultural beliefs in our environment frustrate autopsy examination thus compounding definite knowledge of cause of death.^{4,5}

The aim of this clinical audit is to highlight the causes of mortality, age and sex distribution of the deaths and the length of admission before death amongst medical cases in the accident and emergency unit of the University of Port Harcourt Teaching Hospital from January to December 2005. This data will serve as a baseline for future studies with the movement of the hospital to its permanent site where modern facilities for management of medical emergencies have been installed

PATIENTS AND METHODS

A one year retrospective analysis of casualty records between January 2005 and December 2005 was undertaken. All medical admissions of patients aged 16 years and above in the accident and emergency department of the University of Port Harcourt Teaching Hospital (UPTH) were reviewed. Casualty records which included attendance register, nurses report books, and death certificates were used. Gender, age, primary illness, cause of death and time spent in hospital before death were extracted for all emergency room deaths. The medical subset was extracted and data collected using a preformed questionnaire.

Statistical analysis was done with the statistical package SPSS 11. Simple proportions of medical cause of death were determined.

RESULTS

The accident and emergency unit of the UPTH attended to 5304 patients between January and December 2005. Three hundred and forty nine (6.8%) of these patients died. Two hundred and thirty three (66.8%) of the total mortality were classified as medical deaths. This was made up of 126 males and 107 females, giving a male to female ratio of 1.2:1, with 199 (85.3%) deaths between the ages of 20-69 years. (Figure 1)

Sixty deaths (25.8%) resulted from all forms of stroke. Infections resulted in 106 (45.5%) deaths. The bulk of these deaths from infectious aetiology was from HIV/AIDS infection and there were fifty three patients (22.7%) of such patients. The other causes of mortalities of infectious origin were: 20 deaths from sepsis (8.6%), 14 (6%) from meningitis, 7 (3%) from tetanus, 5 (2.1%) from tuberculosis, 3 (1.3%) from pneumonia, 3 (1.3%) from gastroenteritis and 1 (0.4%) from complications of typhoid fever. Eighteen patients (7.7%) died from diseases of the gastrointestinal tract and liver disorders. These included 13 (5.6%) from chronic liver disease and hepatic encephalopathy (three of which had primary liver cell carcinomas).

Diabetes mellitus and its complications resulted in 15 (6.4%) deaths. Ten of these fifteen diabetics had diabetic ketoacidosis while the other five had hyperosmolar non-ketotic coma. Haematological conditions constituted 12 (5.2%) deaths: of these, 7 (3%) patients died from sickle cell disease, while 5 (2.1%) died from anaemic heart failure. Ten patients (4.3%) died from severe hypertension and hypertensive encephalopathy. Renal failure resulted in 7 (3%) deaths (4 from acute renal failure and the other 3 from chronic renal failure). Other causes of medical mortalities were 3 (1.3%) cases of acute severe asthma and 2 (0.9%) from coma of undiagnosed causes.

Sixty six cases (28.3%) died within 24 hours of admission while 101 (43.3%) died between 24 to 48 hours of admission. Fifty three patients (18.5%) of the medical mortalities were recorded between 48 to 72 hours of admission and 23 patients (9.8%) of the patients died after 72 hours of admission. (Figure 3)

The patients who died from HIV/AIDS numbered 53 and were in the age group 20-39 years with a mean age of 31.6±7.8 years. Those who died of stroke numbered 60

and were in the age group 50-79 years with a mean age of 62.8 ± 12.3 years.

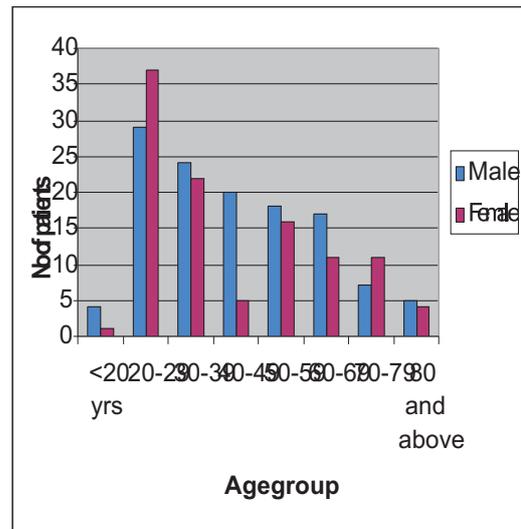


Figure 1: Age-sex distribution of mortality resulting from medical cases.

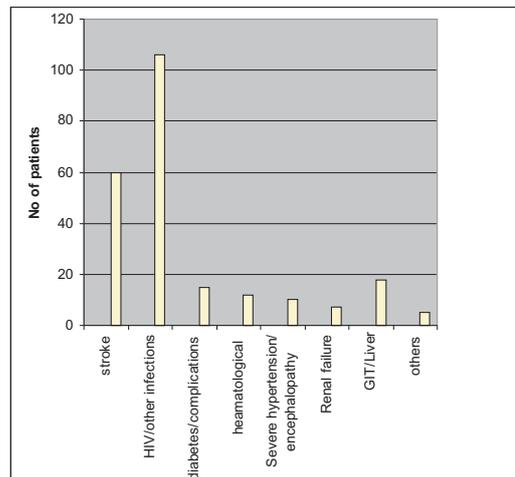


Figure 2: Distribution of medical causes of mortality.

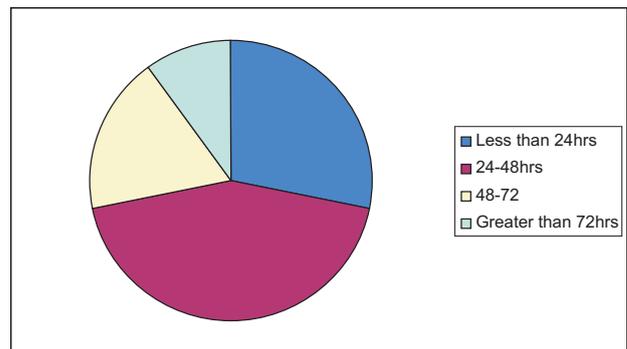


Figure 3. Duration of admission in accident and emergency of medical cases before death

DISCUSSION

Stroke and HIV/AIDS constituted the bulk of medical mortality in this audit- 47.2% of all medical mortalities

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over the study period. The mean ages of patients who died from stroke and HIV/AIDS was 62.8 ± 12.3 years and 31.6 ± 7.8 years respectively. This is explained by the fact that HIV/AIDS pandemic which has hit the sub-Saharan African region hardest affects the young and most productive age group (20-39 years) in the society⁶, whereas stroke which is the commonest cause of death in this series affects patients in the second half of life.

One hundred and sixty seven deaths (71.6%) occurred within 48 hours of admission. This could have been minimized if better facilities were available at the accident and emergency unit. Other extraneous factors which may have contributed to the high mortality rate were delays in getting the patient to hospital due to inadequate ambulance services and the unique topography of the Niger Delta region. Some areas can only be reached after hours of speed boat ride.⁷ Another important cause is the prevalent practice of seeking alternative health care like traditional health practitioners and visits to "prayer" houses. These constitute the first port of call before coming to the Teaching Hospital.

The caliber of doctors that work in the accident and emergency unit will affect both the response to emergency cases, the quality of care provided and consequently, the mortality recorded.² Most of the doctors who first attend to accident and emergency cases are junior doctors with no special training in emergency medicine. This is done before the specialty unit or Consultant on call is called in. Cases may be misdiagnosed or initial management may be faulty by such cadre of doctors before patients are reviewed by the Consultant on call. Thus the establishment of a medical emergency unit with doctors not below the rank of senior residents on ground all the time may reduce the medical mortality being recorded at the accident and emergency unit.

Death certification is a problem area in medical practice.⁸ Most doctors lack the requisite training to make proper death certification. Often time the certification process does not meet the international coding standards for disease classification hence jeopardizing the accuracy of retrospective studies like this. Autopsy examination which is the 'final court of appeal' in doubtful or sudden cause of death is resisted by most segment of the Nigerian population including medical personnel.⁹ This is because mutilated bodies are often regarded as an abomination in this region and hence not accorded the traditional burial rites.⁴ For this reason, autopsies are not commonly done and therefore some causes of death will remain speculative.

The high mortality in the accident and emergency unit of UPTH calls for efforts directed mostly at prevention. Stroke is an important cause of death in our environment.¹⁰ Uncontrolled and commonly undiagnosed hypertension remains the most important cause of stroke in developing countries.¹¹ Other identified risk factors include diabetes mellitus, hypercholesterolemia, obesity and sedentary lifestyle.¹² This calls for lifestyle modification of the adult population in the community. Public campaigns on hypertension and emphasis on life long treatment of the ailment should be embarked upon. Similarly, HIV/AIDS is also preventable and calls for more campaign by the government, community leaders, religious leaders and management of institutions of learning. These are presently being done in cities and urban centres but should be carried to the village level. The present policy of distribution of free antiretroviral drugs in public hospitals and free screening of patients, public enlightenment about HIV/AIDS in churches, mosque, schools, market places and local communities should be sustained.

A deliberate attempt should be made by the hospital, not only at providing basic life support systems in the accident and emergency department as has been done recently, but also at continuous training of junior physicians in their use. Mechanisms should be put in place to facilitate proper maintenance equipments like suction machines, oxygen cylinders, defibrillators and cardiac monitors. Malfunctioning or obsolete equipment should be replaced as soon as possible. Essential drugs should be made available at all times in the accident and emergency unit. There is a need to set up a medical emergency team specifically charged for emergency care management at the accident and emergency unit. Government on its part should provide good roads, open up the creeks and provide marine ambulances so that patients in need of emergency medical services can get to the hospital with minimal delay. It is hoped that the newly installed intensive care unit will serve as a good backup to the accident and emergency unit.

CONCLUSION

In the period studied, medical mortality was high in the accident and emergency room of UPTH. The major causes of deaths were stroke and HIV/AIDS. The apparent high rate of medical mortality in the accident and emergency unit of UPTH calls for efforts directed mostly at prevention.

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