

MORTALITY IN A NIGERIAN TEACHING HOSPITAL: EXPERIENCE AT JOS UNIVERSITY TEACHING HOSPITAL (JUTH) 1995 - 1999

By

¹Dr Barnabas M. Mandong, *FMCPath* and ²Dr Aboi J.K. Madaki, *FWACP, MA-HMPP*

¹Departments of Pathology and ²Family Medicine Jos University Teaching Hospital
P.M.B. 2076, Jos Plateau State - Nigeria

Correspondence To: Dr Barnabas M. Mandong P.o. Box 887, Jos Plateau State

ABSTRACT

Objectives: A five year retrospective analysis of hospital death was undertaken to ascertain the pattern of mortality and trends of hospital admission.

Methods: All records of death in hospital admissions were recorded between 1995-1999. Demographic information were obtained from the patient files. The data were broken into diagnosis, age range, mean age for each group at intervals of 5 years, percentage of death for each ward were determined.

Result: A total of seventy thousand two hundred and twenty eight (70,228) admission was recorded under the period of study. A total of 3,980 deaths were recorded which accounted for 5.7 percent of total admission.

The analysis showed that medical ward recorded highest death rate (71.5%) in the hospital. In the medical ward HIV related diseases account for the highest death (23.3%) followed by chronic liver disease, neoplasia and cardiovascular diseases which accounted for, 20.0%, 19.6% and 18.2% respectively.

Death in paediatric ward accounted for 14.2% of hospital deaths; malnutrition and infection accounted for highest causes of death in paediatric ward. Death in Surgery and Obstetric and Gynaecology accounted for 9.3 and 5 percent respectively.

Conclusion: The study clearly shows that infectious diseases still account for the highest mortality in our teaching hospital.

The authors are of the opinion that the government of Nigeria and indeed developing countries should pay more attention to preventive medical health care and improvement in the living condition of its citizens.

Key word:- Mortality, Teaching Hospitals, Jos.

INTRODUCTION

Mortality levels and trends are strongly influenced by the level of socio-economic development of a Nation¹.

World Bank report covering sub-Saharan African shows that the mortality rate is the highest in the world²This is not surprising given the low indices of socio-economic development in this region. Mortality pattern in West-Africa is reported to be higher than that of East and Southern Africa^{1,3}.

Causes of death in developing countries are fairly similar, with death in children occurring highest in less than 5 years, shortening the life span to less than 50 years at birth^{4,5}.

Women in Africa have two to three times the risk of dying in childbirth as women in Asia^{1,2}. In adults, road traffic accidents contribute significantly to cause of death especially in males in Nigeria.⁷

Overall the causes of mortality in Nigerian and tropical African countries are largely attributed to infection and trauma coupled with high level of poverty and illiteracy^{1,2}. This is in sharp contrast to developed nations, where the common causes of mortality are malignancies and cardiovascular risk related death³.

The aim of this study is to analyze the pattern of mortality in our Teaching Hospital and the implication to tertiary health care delivery in Nigeria.

Methods: Jos University teaching Hospital (JUTH) is a 520 bed tertiary health centre established by the government of Nigeria. The hospital is saddled with the responsibility of training specialist doctors in various fields of medicine, conducting research and serves as a referral centre for the neighbouring states with an estimated population of 20 million people.

The study period covered January 1995 to December 1999
The materials for the study included:

- Records of all admissions each year which was obtained from the Medical records Department
 - Diagnosis and causes of death which were obtained from admission files and death certificates.

Data were then broken down into diagnosis, age range, mean age for each group at intervals of 5 years, and percentage of death for each ward and age range.

Limitation of this study included the fact that this is a hospital based study and the deaths do not reflect the actual deaths rate in a Nigerian community. All deaths outside the teaching hospital, which were brought to the hospital mortuary were excluded from this study.

RESULTS

The total number of hospital admissions stood at 70,228 during the period under review. Total number of deaths were 3,980, which accounted for 5.7 percent of total admission.

Table I shows total number of admissions each year and number of deaths for each year. The slight reduction in admission in 1999 is attributed to the Nation-wide industrial action embarked upon by Resident doctors in Nigeria.

Table II shows total number of deaths from each ward in the hospital for the 5 years period. Deaths from Medical ward accounted for 71.5% of all deaths in the hospital followed by Paediatric ward (14.2%), Surgery/Casualty ward (9.3%) and Obstetric/Gynaecology ward (5.0%).

TABLE I: ANNUAL ADMISSIONS AND DEATHS IN JUTH 1995-1999

Year	No of admissions	No of Deaths	% of Death
1995	14,075	845	6.0%
1996	16,578	923	5.6%
1997	14,319	749	5.2%
1998	14,170	845	6.0%
1999	11,074	618	5.6%
TOTAL	70,216	3980	5.7%

TABLE II: NUMBER OF DEATHS PER WARD IN JUTH 1995-1999

WARDS	No of Deaths	% of Deaths
Medical	2,845	71.5
Paediatric	565	14.2
Surgery/Casualty	370	9.3
Obstetric/Gynae	200	5
Total	3,980	100

TABLE III: CAUSES OF DEATHS IN WARDS IN JUTH 1995-1999

Wards	No of deaths	Age range (years)	Mean Age (years)	% in the Ward	% of total deaths in hospital
Medical Ward					
HIV related diseases	663	20-40	38	23.3	16.7
Chronic liver disease	569	30-40	45	20	14.3
Neoplasia	558	20-60	55	19.6	14.0
Cardiovascular diseases	518	40-60	52	18.2	13.0
Diabetes Mellitus	226	30-65	55	8.3	5.9
Renal diseases	100	30-40	45	3.5	2.5
Miscellaneous	202	40-65	50	7.1	5.1
Total	2846			100	

Paediatric Ward					
Malnutrition	236	1-5	3	41.7	5.9
Infections	202	7-10	5	35.7	5.1
Malignancy	101	3-10	6	17.9	2.5
Cardiovascular diseases	27	1-5	4	4.7	0.7
Total	566			100	
Surgical Ward					
Neoplasia	202	50-65	55	54.5	5.1
Burns	101	14-25	18	27.3	2.5
RTA ^b	67	15-30	28	18.1	1.7
Total	370			100	
Obstetrics & Gynaecological Wards					
Cancer	166	35-60	45	83.3	4.2
Pregnancy related diseases	20	20-25	23	10	0.5
Sepsis	14	20-25	22	6.7	0.3
Total	200			100	

Miscellaneous- Patients died before diagnosis was made and no autopsy done. a- surgical ward includes casualty. b- RTA refers to Road Traffic Accidents

TABLE IV: AGE DISTRIBUTION OF ALL DEATHS IN JUTH 1995-1999

Age range (years)	No	% of total deaths
0-1	462	11.6
5-9	135	3.4
10-14	92	2.3
15-19	52	1.3
20-24	32	0.8
25-29	52	1.3
30-34	135	3.4
35-39	529	13.3
40-44	203	5.1
45-49	836	21.0
50-54	716	18.0
55 and above	736	18.5
Total	3980	100

Table III shows complete analysis of age range mean and percentage of deaths in each ward and diagnosis. In the medical ward, HIV related infection and chronic liver diseases accounted for 23.3% and 20.0% respectively, while malignant diseases and Cardiovascular diseases accounted for 19.6% and 17.2% respectively. In Paediatrics, primary nutritional deficiency and infection accounted for 41.7% and 35.7% respectively; while Paediatric cancer as a cause of death accounted for 17.9%. Surgery/Casualty recorded cancer as the highest cause of death accounting for 54.5%, followed by deaths from burns 27.3% and Road Traffic Accidents 18.2%. Obstetrics/Gynaecology recorded the least number of deaths, cancer accounted for 83.3% followed by complication associated with pregnancy. Table IV; shows age range distribution of deaths in the hospital. Deaths below 5 years accounted for 11.6% and most deaths occurred above 35 years in the adults.

DISCUSSION

We present the analysis of hospital deaths in a typical Nigerian teaching hospital. Like other teaching hospitals in the country, the highest proportion of hospital deaths occurs in the medical ward. From the details in table III, HIV related deaths has overtaken other infectious diseases as the commonest cause, of death, a situation similar to other

reports in the continent of Africa^{2,8,9}. The age range involved is between 20 - 45 years. In Nigeria, previous studies put the figure of those affected with HIV at 5%, most of whom are young productive adults⁸. This economically productive age group that constitutes the majority of the 5% of Nigerians affected by HIV virus, is gradually being eliminated, thus increasing the proportions of the dependants and orphans..

A comprehensive approach to HIV control targeting these young adults is desirable if HIV related deaths is to be reduced to an acceptable level.

Chronic liver disease (CLD) is attributed to high incidence of liver cirrhosis secondary to HBV infection which is endemic in Africa and South East Asia⁸. Recent introduction of HBV vaccination into National Immunization Programme by Nigerian Government might in the long run reduce the incidence of CLD caused by HBV. In contrast to what obtains in developed nations the leading cause of death still remain Ischemic Heart disease, which is associated with affluence and improved socio-economic status³. In this hospital malnutrition and infection accounted for more than 20% of deaths in paediatric. This high rate is in contrast to that reported that 20% of children die before their fifth birthday. This high rate is attributed to poor antenatal care, general undernutrition, poverty and lack of concerted efforts by respective governments to health care delivery¹¹. Another problem include political instability. In Europe and America infant death rate stands at 2.9 per 100,000. No reliable data from Nigeria.

Surgery and Obstetric/Gynaecology recorded low hospital deaths because these patients are carefully selected and most antenatal attendances are usually healthy individuals.

Also, most antenatal and postnatal complications can be corrected by basic intervention. However, improved antenatal care in Nigeria might be responsible for the low death rate^{8,9}.

This study shows that the causes of deaths in children and adults in our hospital are preventable. This high proportion of hospital deaths might be attributed to the fact that patients present late to hospital. Secondly Nigerian teaching hospitals are overstretched with the responsibility of providing health care delivery at all levels, thirdly, the government like other developing countries, has consistently allocated resources far below the United Nation recommendation of 10% of total annual budgetary allocation to health.

For proper and appropriate health care system in the developing country, there is the need to focus on implementation of Primary health care system which involves provision of adequate water supply, immunization of preventable diseases, adequate maternal/child health care and sound policy on agriculture and education, which are the bedrock of development¹⁰.

From the study we therefore advocate that the government of Nigeria and indeed developing countries needs to pay greater attention to preventive medical health care, education and sound agricultural practice to enhance the living condition of their citizens. This can be achieved by a stable political climate.

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