



Morbidities and Mortalities at the ICU of Rivers State University Teaching Hospital

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ABSTRACT

Background: The intensive care unit (ICU) is a dedicated unit for the management of critically ill patient for better outcome. The patients managed in the ICU cuts across all departments and inclusive of gender. Management of these patients improves quality preventing morbidity and mortality.

Aim: To determine the morbidities and mortalities at ICU of the Rivers State University Teaching Hospital (RSUTH)

Methodology: This was a one-year retrospective study conducted at ICU of RSU. All consecutive patients admitted in the ICU were involved in the study. Data was obtained from patients' case notes. Information retrieved was analyses using SPSS version 25.

Results: Ninety-seven subjects were evaluated for the year under review. There were 38 (29.2%) males and 59 (60.8%) females. The age range was 19 to 87 years with the modal age of 30 years. There were 44 (45.4%) patients that had medically related conditions while 53 (54.6%) were surgically related. The three most common cases managed at the ICU were cerebrovascular disease 17 (17.5%), intestinal obstruction 10 (10.3%) and eclampsia 9 (9.3%). There were 31 (31.9%) deaths, the commonest cause of death was cerebrovascular disease 6 (6.2%)

Conclusion: This study revealed the three commonest morbidities managed at the ICU of RSUTH were cerebrovascular disease, intestinal obstruction and eclampsia. The mortalities at the ICU was 31.9%, with majority from cerebrovascular disease. Early presentation and brainstorming on critical care will reduce mortality.

INTRODUCTION:

The unit dedicated to specialized care in the hospital is the intensive care unit (ICU) or critical care unit (CCU) which offers provision of care for patients that ill from critical conditions from which they have potential for recovery.^{1,2} This entails closer monitoring and better management than the care provided to patients in normal admission wards and non-critically care units.² The goal of the ICU is to prevent morbidity and mortality among patients who are at high risk through the provision of critical care.¹⁻⁵ The patients admitted in the ICU are given more detailed observation, monitoring and treatment as compared to other patients admitted to the standard lying-in wards.^{2,3}

Researchers have observed that common conditions managed at the ICU include severe neurological, cardiac and respiratory diseases.²⁻⁴ In study conducted at the Enugu State University Teaching Hospital out of the 179 patients admitted at the ICU over a three-year period 49.9% were post-operative patients with 21.2% admitted from the accident and emergency.¹ There were 41.3% of medical cases, 43.3% were surgical cases and the rest were unspecified.¹ out of the surgical cases 19% were from general surgery, 18.4% from obstetrics and gynaecology and neurosurgery 16.8%.¹ Cerebrovascular accidents and traumatic brain injury were the most common specific diagnosis recorded in the ICU admitted patients.¹ The study revealed the mortality rate to be 34.1% which was related to patients age and type of illness.¹ Similarly in a study conducted at the Benue University Teaching Hospital, Nigeria reported post-laparotomy care 24.8% was the most frequent reason why patients were admitted in the ICU followed by head injury 18.4% and burns 11.2%.^{1,3-4} Furthermore, in a study conducted in ICU at the University of Nigeria Teaching Hospital, southeast was in agreement with previous study findings that postoperative cases were the most common reason for ICU admission 49.3% and traumatic brain injury was the leading cause of traumatic brain injury as leading diagnosis 70.9%.⁵ In a research work by Eze et al in Abakaliki, southeastern Nigeria in a review of ICU mortality revealed that acute abdomen 27.0%, traumatic/injury 24.7% and cerebrovascular accident 17.8% were the most common reasons for admission.⁶

Scholars have shown that mortality rates depend on myriad of factors which include patient demographic, population characteristics, infrastructural availability, type of illness and quality of ICU care plays a role in the clinical outcomes of patients.^{1,6} Researches conducted in Africa reported mortality rates between 34-43%.⁵⁻⁸ When compared to the developed countries are relatively higher than ICU mortalities rates in USA (11.3%), France (18%), Australia and New Zealand (7%).^{9,10}

There have been no studies on the disease and mortality distribution in the ICU of the Rivers State University (RSUTH), Nigeria. This study conducted to review disease distribution cases admitted at the ICU of RSUTH. The goal of the study was to engage

prospects of patients' management and reduce mortality.

Study design:

This was a one-year retrospective, descriptive review of all patients admitted into the ICU of RSUTH, Port Harcourt Nigeria from January 1, 2023 to December 31, 2023.

Study area:

This study was conducted in the general ICU of RSUTH, Port Harcourt Nigeria Port Harcourt is capital of Rivers State south-south Nigeria. The ICU is relatively built unit of the hospital.

The patients who are higher risk for life-threatening conditions or organ failure are managed in the ICU for more intensive care.

The ICU of RSUTH has a nine-beds equipped with ventilators, suction machines, defibrillators, multi-parameter monitors, infusion and syringe pumps The ICU of RSUTH is under the anaesthesia department. Consultant anaesthetist as the Director, senior registrar from anaesthesia department, 8 nurses and 12 interns monthly.

Data collection:

Data were retrieved from patients' admission and discharge registers including the age, sex, diagnosis, source of admission, duration of admission and clinical outcome of all admissions between January 1, 2023 to December 31, 2023.

Data analysis:

Data were analysed using SPSS version 25.

Aim:

To determine the morbidities and mortalities at ICU of the Rivers State University Teaching Hospital (RSUTH), Port Harcourt, Nigeria.

RESULTS:

Ninety-seven subjects were evaluated for the year under review. There were 38 (29.2%) males and 59 (60.8%) females. The age range was 19 to 87 years with the modal age of 30 years. There were 44 (45.4%) patients that had medically related conditions while 53 (54.6%) were surgically related. The three most common cases managed at the ICU were cerebrovascular disease 17 (17.5%), intestinal obstruction 10 (10.3%) and eclampsia 9 (9.3%). There were 31 (31.9%) deaths, the commonest cause of death was cerebrovascular disease 6 (6.2%).

Table 1: Summary of results

Number Subjects	97
Males	38
Females	59
Age Range (years)	19 to 87
Modal age	30
Medically related conditions	44
Surgically related conditions	53
Mortality Rate	31.9

Table 2: Sex Distributions

Sex	Number (n)	Percentage (%)
Male	38	29.2
Female	59	60.8
Total	97	100

Table 3: Distribution of Patients into Medical or Surgical conditions

Distribution of Patients	Number (n)	Percentage (%)
Medical	44	45.4
Surgical	53	54.6
Total	97	100

Table 4: Sex Distribution of Anaemia

Anaemia	Number (n)	Percentage (%)
Male Sex	7	7.2
Female	21	21.6
	28	28.8

Table 5: Three most common morbidities managed at ICU

Morbidity	Number (n)	Percentage (%)
cerebrovascular disease	17	17.5
intestinal obstruction	10	10.3
Eclampsia	9	9.9

Conflict of interest:

Authors have declared that there was no conflict of interest.

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Ethics:

Guidelines in line with Helsinki's declaration (revised 13th edition).

DISCUSSION

This study revealed the three commonest cases managed at the ICU of RSUTH as cerebrovascular disease (17.5%) and a mortality rate of 31.3% (tables 1 and 5). This was in agreement with a study conducted at the Enugu State University Teaching Hospital which showed that out of the 179 patients admitted at the ICU over a three-year period cerebrovascular accidents and traumatic brain injury were the most common specific diagnosis recorded in the ICU.¹ The study revealed the mortality rate to be 34.1% which was higher than the one in our study which was 31.3%.¹

Contrarily to our study, in a research work conducted at the Benue University Teaching Hospital, Nigeria reported post-laparotomy care 24.8% as the most frequent reason why patients were admitted in the ICU followed by head injury 18.4% and burns 11.2%.^{1,5}

In a study conducted in ICU at the University of Nigeria Teaching Hospital, southeast was not in agreement with our study findings that postoperative cases were the most common reason for ICU admission 49.3% and traumatic brain injury was the leading cause of traumatic head injury.⁴ Traumatic brain injury accounted for approximately 70% of ICU specific injuries.⁴

In a research work by Eze et al in Abakaliki, southeastern Nigeria in a review of ICU mortality showed that cerebrovascular accident 17.8% was the third most common reasons for admission.³ This was also not in agreement with findings in our study.⁶

Researchers have revealed that mortality rate at the ICU depends on myriad of factors such as demographic, population characteristics, infrastructural availability, type of illness and quality of ICU care plays a role in the clinical outcomes of patients.¹⁻⁴ In the developing countries inclusive of African countries the mortality rates in ICU ranges between 34-43%.⁵⁻⁸ This higher than that from our study of 31.3%. However, for the developed countries the mortality rates are lower.⁵⁻⁷ ICU mortalities rates in USA (11.3%), France (18%), Australia and New Zealand (7%).⁸⁻¹⁰

Our study revealed that out of the 97 cases managed at the ICU of RSUTH 54.6% were surgical while 45.4% were medically related (table 3). This was in agreement with the study conducted at the Enugu State University Teaching Hospital out of the 179 patients admitted at the ICU over a three-year period there were 41.3% of medical cases, 43.3% were surgical cases.^{1,7-10} The findings show that the proportion of surgical cases were higher than the medical admissions at the ICU which reflected same findings with ours.¹⁻⁵

CONCLUSION:

This study revealed the three commonest morbidities managed at the ICU of RSUTH were cerebrovascular disease, intestinal obstruction and eclampsia. The

mortalities at the ICU was 31.9%, with majority from cerebrovascular disease. Early presentation and brainstorming on critical care will reduce mortality.

This study will help review patients prospects at the ICU of RSUTH and improve on future management.

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