Original Article

Patients Characteristics in a General Intensive Care Unit (GICU): Facts and Outcomes

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Abstract

Background: *Patient's management during emergency differs significantly between countries. However, technological advancement and requirement of quality support service as well as survivality is a great concern towards reduced hospital mortality.*

Aim and Objectives: *The aim of this study is to find out patient's characteristics admitted at GICU of Khwaja Yunus Ali Medical College Hospital (KYAMCH) in order to investigate selected variables like; the duration of stay at GICU, their health problems on admission, diagnosis and prognosis including certain demographic characteristics in particular.*

Methods and Materials: *This was an exploratory study on patient's characteristics during the period from January to June 2015 at GICU of KYAMCH. The data were collected through record review according to variables available on GICU admission register.*

Results: *Total 163 cases were studied in 6 months. Among them 98 (60.12%. were male & 65 (39.88%) were female. The mean age of admitted male patients were 47 & in female it was 40 years with mean ± 16 and 17 years respectively. In addition GICU stays were found up to 5 days among 76.58% patients. The study revealed septic shock, cancer, injury and CVD as the common emergencies that needed skillful attention. Moreover, death and Discharge on Risk Bond (DORB) were found unwanted outcomes (52.23%) that also need to be addressed through developing skilled management protocol at GICU of concern tertiary care hospital.*

Conclusions: *The findings will help hospital managers to identify necessary support needed as well. It will also help to identify emergency management skills needed for the GICU personnel team members in particular. Thus it can be a basis for the hospital administrators to take appropriate measures in towards reducing hospital mortality rate as well.*

Key words: *General Intensive Care Unit (GICU), Variables, Emergency management skills.*

Introduction

The modern intensive care unit (ICU) is the place for highest mortality unit in any hospital. There are approximately 4 million ICU admissions per year in the United States with average mortality rate reported ranging from 8-19%, or about 500,000 deaths annually[1-3]. The ICU is also a site where medical errors are most likely to occur because of the complexity of care[4,5].

Intensive care medicine or critical care medicine is a branch of medicine concerned with the diagnosis and management of life-threatening conditions requiring sophisticated organ support and invasive monitoring. Patients requiring intensive care may require support for instability (hypertension/hypotension), airway or respiratory compromise (such as ventilator support), acute renal acute renal failure,potentially lethal cardiac-

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arrhythmias, or the cumulative effects of multiple organ failure, more commonly referred to now as multiple organ dysfunction syndrome. They may also be admitted for intensive/invasive monitoring, such as the crucial hours after major surgery or too unstable to transfer to a less intensively monitored unit. Medical studies suggest a relation between ICU volume and quality of care for mechanically ventilated patients[6]. Higher ICU volume was significantly associated with lower ICU and hospital mortality rates. It is the most expensive, technologically advanced and resource-intensive area of medical care.

In the United States, estimates of the 2000 expenditure for critical care medicine ranged from US$15-55 billion. During that year, critical care medicine accounted for 0.56% of GDP, 4.2% of national health expenditure and about 13% of hospital costs[7]. In 2011 hospital stays with ICU services accounted for just over one-quarter of all discharges (29.9%) but nearly one-half of aggregate total hospital charges (47.5%) in the United States. The mean hospital charge was 2.5 times higher for discharges with ICU services than for those without[8]. This study is an attempt to explore admitted patients characteristics in GICU at KYAMCH. It also aims to find out their duration of stay as well as diagnosis & prognosis through record review towards better patient management outcome.

Material and methods

This was an exploratory study on patient's characteristics admitted during the period from January to June 2015 at GICU of KYAMCH. The data were collected through record review according to identified variables available on GICU admission register during the study period. The data generated were processed manually and by using computer. It was analyzed and presented in the form of frequency tables and diagrams as appropriate.

Results (Tables & Graphs)

This exploratory study on patient's characteristics admitted during the period from January to June 2015 at GICU of KYAMC&H. Data were generated from 163 patients in the admission register of GICU according to the variables of interest and presented in the form of tables and graphs below:

Table: I Distribution of admitted GICU patient's by months n = 163

Months	Number o f patients admitted	Male	Female
January 2015	44 (26.99)	29 (17.79)	15 (9.20)
February 2015	21 (12.88)	13 (7.98)	08 (4.90)
March 2015	17 (10.42)	10 (6.13)	07 (4.29)
April 2015	27 (16.57)	16 (9.82)	11 (6.75)
May 2015	30 (18.40)	16 (9.82)	14 (8.58)
June 2015	24 (14.72)	14 (8.59)	10 (6.13)
Total	163 (100.00)	98 (60.12)	65 (39.88)

Table: II Distribution of admitted GICU patients by age and sex n = 163

Age in years	Male	Female	Total
< 10	00	03 (1.84)	03 (1.84)
11 - 20	09 (5.53)	07 (4.29)	16 (9.82)
21 - 30	10 (6.13)	10 (6.13)	20 (12.26)
31 - 40	10 (6.13)	12 (7.36)	22 (13.49)
41 - 50	19 (11.66)	14 (8.59)	33 (20.25)
51 - 60	26 (15.95)	06 (3.68)	32 (19.63)
61+	24 (14.72)	13 (7.98)	37 (22.70)
Total	98 (60.12)	65 (39 .88)	163 (100)

N:B: Figures in theparenthesis indicate percentage

Almost 62.58 % admitted patients of both sex were in age of 41+ years and above

Mean age (male): 47.23   Mean age (female): 40.04
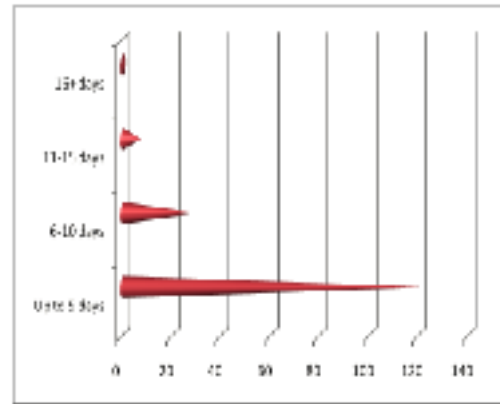SD: ± 16.05   SD: ± 17.08

Fig-1: Bar graph showing distribution of admitted patients by duration of GICU stay n = 158 (due to 5 missing)

The duration of GICU stay were found up to 5 days among 76.58% patients

Table: III Distribution of admitted GICU patients by diagnosis n = 163

GIUC diagnosis	Number of patients	Percentage
Septic shock	31	19.01
Cancer	16	09.81
Injury	15	09.20
CVD	15	09.20
Hemorrhagic shock	13	07.97
CKD	10	06.13
DM & HTN	06	03.6 8
RF	04	02.45
UTI	04	02.45
CLD	03	01.84
Suicide	02	01.23
COPD	01	0.63
CAP	01	0.63
Others	42	25.77
Total	163	100.00

Septic shock, cancer, injury and CVD were the common emergencies needed more attention at the GICU
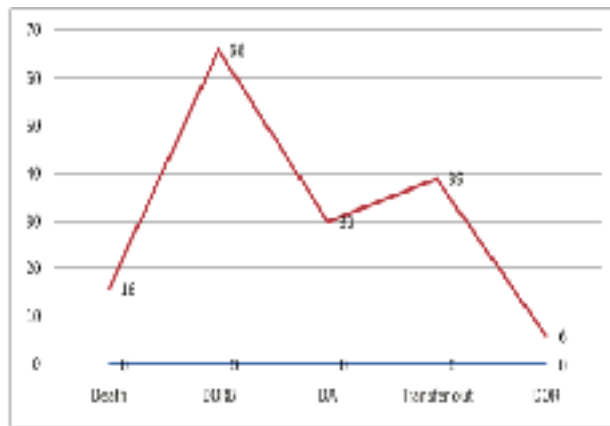

Fig-2: Line diagram showing distribution of GICU patients by prognosis on staying n = 157 (due to 6 missing)

Conclusion

The General Intensive Care Unit (GICU) caring people who are seriously ill. The unit prides itself for its highly trained multi-disciplinary team. It normally address patients who have just come out from the operating theatre, or people who have been admitted as emergency cases. On the basis of the study finding the institution has the scope to develop emergency management protocol and necessary skill personnel towards better outcomes.

Recommendations

- It is essential to implement management protocol on septic & haemorrhagic shock, cancer, injuries and CVD etc.

- Specific investigation on death and DORB will be helpful in order to plan support services & personnel training

- The study findings passively demands the need for improved emergency management skill for the GICU personnel

- A large scale study at different tertiary care hospital's (GICU) is needed to generalize the findings

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