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What lies beneath - then and now: Comparative audit in an obstetric HDU

E O'Riordan, C Haugh, P Popivanov, T Tan
Coombe Women and Infant's University Hospital Dublin

Coombe Women & Infants University Hospital

Introduction

Coombe Women and Infants University Hospital (CWIUH) is a stand-alone maternity hospital with over 8000 births in 2019. The High Dependency Unit (HDU) located within the delivery suite provides level 2 critical care for obstetric patients managing complex obstetric and medical conditions.

An audit of the patient demographics, reason for admission, details of organ support, length of stay, rate of readmissions and transfer to level 3 critical care was carried out during the first 6 months of service provision in 2014(1). The aim of the current study is to re-audit the same service parameters 6 years later.

Reauditing the admission rate in obstetric HDU served as a surrogate indicator to identify trends in maternal morbidity over 6 years(1).

Methods

- Retrospective chart data was collected from patients admitted to the HDU from March to November 2019.

Personal demographics of the obstetric patients admitted to the HDU

Reason for admission

Clinical supports required during their stay

Immediate neonatal outcomes

Number of patient transferred to a tertiary referral centre for intensive care support.

- We performed a two sample t test on age, BMI and average length of stay, and chi square test for the rest of the data.

Results

The measurable outcomes from our audit are presented in table 1.

- There was no significant difference in the rate of admission (28 per 1000 live births) and the average length of stay (26.7 hours vs 28 hours).
- The reasons for admission presented in relatively stable order bleeding, hypertensive disorders and infection/sepsis. However, there was a significant reduction in admission for chorioamnionitis (13% vs 3.5%, *P*=0.0062).
- Despite the rate of admission for haemorrhage remaining relatively stable (33.6% vs 34.4%), the rate of blood transfusion has increased (21% vs 38%, *P*=0.005223).
- In addition there was an increase in the rate of arterial line usage (3.9% vs 20.8%, *P*=0.000047). There was also an increase in the use of vasopressors 0.7% vs 4.3% of admissions.

Discussion

While the rates of admission have remained unchanged, there have been an increase in the age of patients requiring HDU admission. The increasing maternal age has been described internationally and is associated with increased risk of maternal morbidity and mortality(2-3).

We have also seen a significant increase in the rates of transfusion and use of arterial lines since 2014, and this could be due to an increase in the severity of massive obstetric haemorrhage or more proactive treatment of such patients.

We have also noted a reassuring drop in the rates of admission for sepsis and chorioamnionitis, most likely as a result of increasing awareness of maternal sepsis and use of early warning scores in obstetric anaesthesia and strict antibioticstewardship. stewardship policy in the hospital.

	2014		2019		
	(n)	%	(n)	%	P values
Average Age (Years)	33.2		31.1		0.008
Admission Rate (per 1000 live births)	28	-	28	-	n/a
Ethnicity (Caucasian)	112	87.5%	94	81.7%	0.212035
ALOS (Hours)	26.7	-	28	-	0.58 (t test)
Antenatal	85	66.4%	62	53.9%	0.0467
Postnatal	43	33.6%	53	46.1%	0.0467
Direct					
Haemorrhage	43	33.6%	50	34.4%	0.113468
Hypertension - PET	41	32%	29	25.2%	0.242
Sepsis - Chorioamnionitis	17	13%	4	3.5%	0.0062
Indirect					
Sepsis other	12	12%	7	7%	0.3405
Desaturation/cardiomyopathy	4	4%	2	2%	0.48701
Other	11	11%	6	6%	0.30291
IV antihypertensive	34	26.5%	10	8.7%	0.000305
Arterial line	5	3.9%	24	20.8%	0.000047
Pressors	1	0.7%	5	4.3%	0.074
Blood transfusion	28	21.9%	44	38	0.005223
Magnesium sulphate prophylaxis (PET or Neuroprotection)	36	28%	37	32.1	0.492
Consultations	20	15.6%	21	18.2	0.583837
Level 2 care	40	31.3%	46	0.4	0.154393
Transfer to level 3 care	2	1.6%	5	4.3	0.194952

Table 1. Demographic Comparison of patients admitted to the HDU 2014 vs 2019

References

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