



**ORIGINAL RESEARCH PAPER**

**Obstetrics & Gynecology**

**CRITICAL CARE IN OBSTETRICS-A RETROSPECTIVE ONE YEAR STUDY IN TERTIARY CARE HOSPITAL FROM AUGUST 2015 TO JULY 2016.**

**KEY WORDS:**

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**ABSTRACT**

**Introduction-**An obstetric unit will have to deal with predictable complications at unpredictable times. The review of Maternal and perinatal mortality and morbidity is a very sensitive index of quality of health care delivery system of a country. This not only widens the knowledge of available MCH services in the community but also helps in analyzing the causes and identifies avoidable factors with an aim to improve maternal health, which in turn will improve perinatal outcome

**Aim and objectives of the study-** The main aims and objectives of the study are to identify, primary factors for critical illness of obstetric patients for admission to ICU, Interventions required and Outcome of the critically ill obstetric patients admitted to ICU.

**Materials and method-**This is an institutional retrospective observational study done at tertiary health care level for a period of one year in the department of OBG. The details of age, antenatal care, gravida and various reasons for of the critically ill obstetric patients admitted in the ICU were noted and tabulated.Further the details of acute organs dysfunction, interventional management and survival rates were noted and tabulated.

**Results-** Age distribution and gravida distribution among critically ill obstetric patients was found to be below 30years, and Primi gravida (46%). Among them the percentage of patients receiving antenatal care was found to be 25.6% and those with good antenatal care was 74.3%. AThe various reasons for admission of the critically ill obstetric patients admitted in the ICU were noticed to be hypertension, eclampsia, anaemia, haemorrhage, sepsis, medical disorders, and other unrelated causes. The maximum percentage of acute organ dysfunction was noticed to be respiratory system (46%). The patients undergone different intervention methods such as assisted ventilation, inotrope support, Haemodynamic support and dialysis depending upon their medical illness.Maximum maternal deaths among them were due to haemorrhage(11%) followed by anaemia(10%).

**Conclusion-** Lack of education and poor Antenatal care has been found to have a considerable effect on obstetrical complications and outcome. We conclude that obstetric haemorrhage in pregnancy and associated complications was the leading cause of admission to the intensive care unit followed by hypertensive disorders , anemia & sepsis. To bring the quality of critical care in obstetric patients at par with developed nations, a coordinated multi disciplinary approach is needed at various levels, so as to render optimal critical care delivery to the obstetric population and thus saving precious lives.

**INTRODUCTION**

Critically ill obstetric patients represent an interesting group with unique characteristics ,whose management poses a challenge by presence of foetus, an altered maternal physiology and disease specific to pregnancy. Pregnant patients account for a small number of ICU admissions in developed countries (<2%) but they can reach upto 10% or more in developing countries<sup>1</sup>. The review of maternal and perinatal mortality and morbidity is a very sensitive index of quality of health care delivery system of a country. This not only widens the knowledge of available MCH services in the community but also helps in analyzing the causes and identifies avoidable factors with an aim to improve maternal health, which in turn will improve perinatal outcome.

By 2010 AD MMR is 210/1,00,000 live births and perinatal mortality is 50/1000 live births. As per Millenium Development Goal, a target of MMR by 2015 is 109. 60% of one billion population of India lives in villages and unfortunately the scenario of health care provision to this rural sector leaves large deficiencies<sup>2</sup>.

**AIM AND OBJECTIVES OF THE STUDY**

The main aim and objectives of the study is to identify

1. Primary factors for critical illness of obstetric pateints for admission to ICU.
2. Interventions required.
3. Outcome of the critically ill obstetric patients admitted to ICU.

**MATERIALS AND METHODS**

Study was conducted in a tertiary care hospital which receives referrals of critically ill obstetric patients from local, peripheral (primary and community health centres), and other private hospitals . The records showed a total of 78 critically ill cases of 6894 deliveriers got admitted in Intensive care unit over a period of one year from august 2015 to july 2016.

**Investigations done includes**

1. Complete blood count,Blood grouping and typing,Blood

sugar, Serology for HIV, HbsAg

2. Urine routine and microscopy, Renal function tests(RFTs),
3. Liver function tests(LFTs), coagulation profile.
4. Smear for malarial parasite, and other fever profile done in cases of maternal complications with fever.
5. Vaginal and cervical swabs
6. Blood and urine culture.
7. Chest X-ray, ECG ,
8. Arterial blood gas(ABG) analysis and other investigations were done when indicated.

The details of age, antenatal care, gravida(parity) and various reasons for admission of the critically ill obstetric patients admitted in the ICU were noted and tabulated (tables 1,2,3,4). Further the details of acute organs dysfunction, interventional management and survival rates were noted and tabulated (tables 4,5,6).

**RESULTS**

**Table 1- Age distribution-critically ill obstetric patients admitted in ICU**

S.No	Age in years	No of patients	Percentage
1	20-30yrs	74	94.8%
2	>30yrs	4	5.12%

**Table 2 –Antenatal care-critically ill obstetric patients admitted in ICU**

S.No	Antenatal care	cases	Percentage
1	absent	58	74.3%
2	present	20	25.6%

**Table 3 –Gravida(Parity)-critically ill obstetric patients admitted in ICU**

S.No	Gravida	Number	percentage
1	1 <sup>st</sup>	36	46%
2	2 <sup>nd</sup>	24	30%

3	3 <sup>rd</sup>	11	15%
4	≥4 <sup>th</sup>	7	9%

**Table 4 - Primary factors for admission to ICU**

s.no	cause of death	NO.	PERCENTAGE
1.	Hypertension	23	30%
2.	Anemia	3	17%
3.	Haemorrhage	9	12%
4.	Sepsis	8	10%
5.	other direct causes	7	9%
6.	other medical disorder	14	19%
7.	unrelated	4	4%

**Table 5 - Acute organ dysfunction-critically ill obstetric patients admitted in ICU**

S.NO	ORGAN DYSFUNCTION	NO	%
1	Respiratory	33	42%
2	Hepatic	28	36%
3	Renal	27	35%
4	Cardiovascular	12	16%
5	Neurological	10	13%

**Table 6 - Intervention method-critically ill obstetric patients admitted in ICU**

sno	Intervention	cases	%
1	Assisted ventilation	46	59%
2	inotrope support	22	28%
3	hemodynamic	56	71%
4	dialysis	8	10%

**Table 7 -Primary causes for death-critically ill obstetric patients admitted in ICU**

Sno	Causes of death	number	percentage
1	Hypertension	3	3.84%
2	Anaemia	8	10.25%
3	Haemorrhage	9	11.5%
4	Sepsis	1	1.28%
5	Other direct causes	2	2.56%
6	Other medical disorders	0	0%
7	Unrelated	0	0%

Age distribution and gravida among critically ill obstetric patients was found to be below 30years, and primi gravida. Among them the percentage of patients receiving antenatal care was found to be 25.6% and those with good antenatal care was 74.3%. A The various reasons for admission of the critically ill obstetric patients admitted in the ICU were noticed to be hypertension, eclampsia, anaemia, haemorrhage, sepsis, medical disorders, and other unrelated causes. The maximum percentage of acute organ dysfunction was noticed to be respiratory system (46%). The patients undergone different intervention methods such as assisted ventilation, inotrope support, Haemodynamic and support Dialysis depending upon their medical illness. Maximum maternal deaths (among them were due to haemorrhage (11%) followed by anaemia( 10%).

**DISCUSSION**

An obstetric unit will have to deal with predictable complications at unpredictable times. Clinical recognition of unique needs of the critically ill obstetric patients have received much attention in an attempt to assess the need for dedicated critical care facilities. Most obstetric patients recover rapidly following correction of the acute insult.<sup>3</sup>

Scarpinato et.,al in 1998 observed that the knowledge of obstetrical critical care is lacking, and there should be systematic reporting of obstetrical critical care data. The present study is conducted to analyse the incidence of admissions to ICU in relation to demographic data, parity, period of gestation, indications of admission, mode of intervention, maternal and fetal outcome.

To bring the quality of critical care in obstetric patients at par with developed nations, a coordinated multi disciplinary approach is needed at various levels, so as to render optimal critical care delivery to the obstetric population and thus saving precious lives.<sup>4,5</sup>

The health infrastructure has to be strengthened at the gross root levels, to ensure an early admission of critically ill obstetric patients to ICU. Whatever the level of critical care an obstetric patient needs, the underlying fact is that simple interventions, close monitoring and symptomatic treatment are adequate to reduce mortality. Despite limitations, some careful conclusions can be drawn.<sup>7,8</sup>

Lack of education and poor Antenatal care has been found to have a considerable effect on obstetrical complications and outcome. We conclude that obstetric haemorrhage in pregnancy and associated complications was the leading cause of death followed by hypertensive disorders, anemia & sepsis.

The treatment should start immediately and should be goal directed, supporting circulation and oxygen supplementation.

The judicious use of ventilator, hemodynamic and dialysis support have been indispensable in saving lives of critically ill obstetric patients

- The full adoption of safe motherhood initiative would prevent some of the complications requiring treatment in the ICU. Transportation of critically ill obstetric patient to ICU is responsible clinical task.
- While the need for intensive care is commonly unforeseeable and unavoidable, hemorrhage and PIH disorders are often associated with severe maternal mortality and morbidity.<sup>9</sup>
- Preparation for such emergencies and organization of resources, may reduce the threat to maternal health .
- The full scope of ICU resources should be immediately available to the obstetric patients when the need arises.

**CONFLICTS OF INTEREST-NONE**

**FUNDING-SELF**

**ETHICAL CLEARANCE-THIS IS A OBSERVATIONAL STUDY**

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