



OBSTETRIC COMPLICATIONS REQUIRING EMERGENCY NECESSITY OF OBSTETRIC CRITICAL CARE UNIT IN A RURAL AREA OF ANDHRAPRADESH.

Dr. Manendra Nadikudhiti

House Surgeon Kims And Rf, Amalapuram, Andhrapradesh.

Dr. Srujana Kovvuri

House Surgeon Kims And Rf, Amalapuram, Andhrapradesh.

Dr. Sushmitha Dindi

Post Graduate, Department Of Obstetrics And Gynaecology, Kims And Rf, Amalapuram, Andhrapradesh.

Dr. Vasudha Bhargavi*

Assistant Professor, Department Of Obstetrics And Gynaecology, kims And Rf, Amalapuram, Andhrapradesh. *Corresponding Author

ABSTRACT

Obstetric complications that may require emergency admission to an obstetric critical care unit (OCCU) are often life-threatening or have the potential to cause significant morbidity or mortality to both the mother and the fetus. These complications include Severe Pre eclampsia and Eclampsia, Post partum heamorrhage (PPH), Amniotic Fluid Embolism (AFE), Severe obstetric infections, Abruption placenta, Cardiovascular and Respiratory Failure, Acute Fatty Liver of Pregnancy (AFLP). These may necessitate the need for Obstetric ICU admission and critical care management to provide rapid and effective medical interventions aimed at stabilizing the mother and fetus, ensuring the safety of both. **Materials and Methods:** The study was carried out in Department of Obstetrics and Gynecology at Konaseema Institute of Medical Sciences & Research Foundation, Amalapuram for 2 months (January & February 2025). 200 samples collected on the basis of a questionnaire and results were analysed. **Results:** The management of critically ill obstetric patients poses significant challenges for intensivists, obstetricians, and pediatricians, demanding a multidisciplinary team approach. However, the obstetrician's role is crucial, as their expertise, vigilance, and knowledge of obstetric emergencies play a vital role in management. Critical care for obstetric patients requires specialized skills and a deep understanding of the pathophysiological changes involved. This care demands not only the expertise of the obstetrician but also continuous monitoring and attention from the intensivist. As such, there is an urgent need for dedicated obstetric critical care services available around the clock. Although government and corporate hospitals may have critical care units, many do not provide dedicated obstetric care. In contrast, obstetricians working in private nursing homes often lack access to critical care resources. To ensure comprehensive obstetric care, it is essential for these nursing homes to have ICU facilities, which is why this group of obstetricians was also included in the study. Significant p value from the result shows there is an association between type of institution, total number of obstetric beds, most common critical conditions encounter in obstetric care, incidence of operative delivery, complications following delivery and requiring blood products for transfusion. **Conclusion:** obstetric complications that necessitate the emergency use of an obstetric critical care unit (OCCU) are critical to the well-being of both the mother and the fetus. Timely intervention and appropriate management in an OCCU are essential to mitigate risks and improve outcomes in situations such as severe preeclampsia, postpartum hemorrhage, eclampsia, and obstructed labor. The presence of skilled healthcare professionals, advanced monitoring, and supportive care in an OCCU setting significantly contributes to the survival and recovery of patients facing life-threatening obstetric conditions. Therefore, early recognition and rapid transfer to a critical care facility are crucial for reducing maternal and fetal morbidity and mortality.

KEYWORDS : Obstetric Emergencies, Pre eclampsia, Eclampsia, Post partum heamorrhage, Amniotic fluid embolism.

INTRODUCTION:

Introduction to Obstetric Complications and the Need for Emergency Critical Care:

Obstetric complications that may require emergency admission to an obstetric critical care unit (OCCU) are often life-threatening or have the potential to cause significant morbidity or mortality to both the mother and the fetus. These complications include, but are not limited to, the following:

- **Severe Preeclampsia and Eclampsia:** Preeclampsia, a hypertensive disorder of pregnancy, can progress to eclampsia, which is characterized by seizures. Both conditions can lead to multi-organ failure and maternal mortality. Emergency intervention in an OCCU is often necessary for monitoring, blood pressure control, and possible delivery (1).
- **Postpartum Hemorrhage (PPH):** PPH is one of the most common and dangerous obstetric emergencies. It can result from uterine atony, retained placental tissue, or lacerations, leading to severe blood loss. Immediate management in an OCCU may include blood transfusions, surgical interventions, and intensive monitoring (2).
- **Amniotic Fluid Embolism (AFE):** AFE is a rare but catastrophic complication that can lead to sudden

cardiovascular collapse and disseminated intravascular coagulation (DIC). Prompt recognition and management in an OCCU are essential to optimize survival chances (3).

- **Severe Obstetric Infections:** Infections such as septic shock due to endometritis or urinary tract infections can lead to multi-organ failure. Intensive care is required for septic management, antibiotic therapy, and hemodynamic stabilization (4).
- **Placental Abruption:** Placental abruption, where the placenta separates from the uterine wall prematurely, can cause significant bleeding and fetal compromise. In severe cases, maternal shock and death may occur, requiring urgent care in an OCCU (5).
- **Cardiovascular And Respiratory Failure:** Pregnant women with preexisting cardiovascular or respiratory diseases may experience acute exacerbations, such as acute pulmonary edema or cardiac arrest. These patients need intensive monitoring and management in an OCCU to ensure maternal and fetal well-being (6).
- **Acute Fatty Liver of Pregnancy (AFLP):** AFLP is a rare, but life-threatening liver disorder that occurs in late pregnancy. It can cause liver failure, coagulopathy, and renal failure, requiring intensive monitoring and potentially urgent delivery (7).

Aim:

To identify obstetric complications that necessitate urgent admission to an obstetric critical care unit.

Objectives:

- 1. Identification and Assessment:** To recognize and accurately assess obstetric complications that necessitate immediate admission to the obstetric critical care unit (OCCU). These complications may include severe preeclampsia, eclampsia, hemorrhage, obstructed labor, or cardiac and respiratory distress during pregnancy.
- 2. Timely Intervention:** To provide rapid and effective medical interventions aimed at stabilizing the mother and fetus, ensuring the safety of both. This may include intensive monitoring, pharmacologic therapy, and surgical interventions.
- 3. Multidisciplinary Approach:** To employ a collaborative team approach involving obstetricians, anesthesiologists, neonatologists, and nursing staff to manage complex and critical conditions.
- 4. Optimizing Maternal And Fetal Outcomes:** To minimize the risk of maternal morbidity and mortality, while ensuring optimal fetal health by providing the necessary interventions, such as preterm delivery or fetal resuscitation, when indicated.
- 5. Critical Care Monitoring:** To utilize advanced monitoring techniques in the obstetric critical care unit to closely track vital signs, blood gas levels, and other physiological parameters that are crucial for decision-making.

MATERIALS AND METHODS:

Place Of Study : The study was carried out in Department of Obstetrics and Gynecology at Konaseema Institute of Medical Sciences & Research Foundation, Amalapuram, Dr.B.R.A Konaseema District, Andhra Pradesh, India.

Study Design : This was a cross-sectional study done in private and government hospitals.

Study Period: The study was carried out in Department of Obstetrics and Gynecology at Konaseema Institute of Medical Sciences & Research Foundation, Amalapuram for 2months (January&February 2025)

Study Participants : Obstetricians working in various institutions.

Sample Size : 200 samples collected on the basis of a questionnaire.

Data Collection Procedure: After getting informed consent from the participants data was collected in a semi structured questionnaire.

Confidentiality: Particulars and details of all the participants were kept confidential throughout the study only summary of the details was used for declaring the result.

Ethical Consideration: Institutional ethics committee approval and informed consent was taken.

Data Analysis And Interpretation: Data was entered using Microsoft Excel sheet Summarisation and analysis of data was carried out by using IBM SPSS Software version 20(licensed).

Inclusion Criteria : Obstetricians working in various institutions which includes both Government and Private.

Exclusion Criteria : Those who are not willing to participate in semi structured questionnaire.

RESULT:

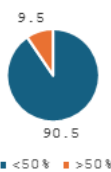
200 Responses were used for the analysis of current study.

1. Tertiary care centre?

	Frequency	Percent
No	12	6.0
Yes	188	94.0
Total	200	100.0

**2. Incidence Of Operative Delivery?**

	Frequency	Percent
<50%	181	90.5
>50%	19	9.5
Total	200	100.0

**3. Requiring ventilator/ NIV support**

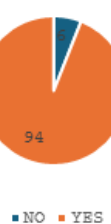
	Frequency	Percent
No	178	89.0
Yes	22	11.0
Total	200	100.0

**4. Requiring blood products transfusion**

	Frequency	Percent
No	4	2.0
Yes	196	98.0
Total	200	100.0

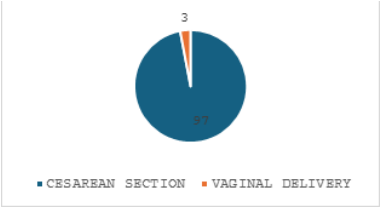
**5. Requiring Vasopressors**

	Frequency	Percent
No	12	6.0
yes	188	94.0
Total	200	100.0



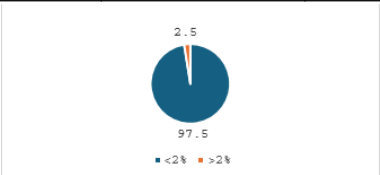
6. More Complications Following

	Frequency	Percent
cesarean section	194	97.0
Vaginal delivery	6	3.0
Total	200	100.0



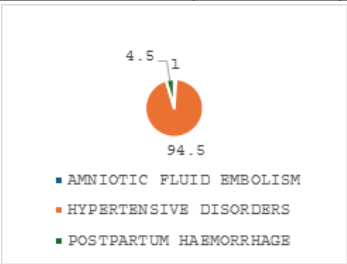
7. Incidence of PPCM in your institution

	Frequency	Percent
<2%	195	97.5
>2%	5	2.5
Total	200	100.0



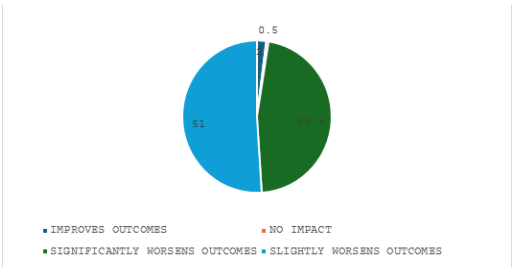
8. What are the most common critical conditions you encounter in obstetric care

	Frequency	Percent
Amniotic fluid embolism	2	1.0
Hypertensive disorders	189	94.5
Postpartum haemorrhage	9	4.5
Total	200	100.0



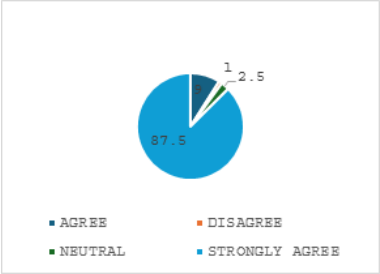
9. In your opinion how does the lack of a dedicated OCCU impact maternal outcomes?

	Frequency	Percent
Improves outcomes	4	2.0
No impact	1	.5
Significantly worsens outcomes	93	46.5
Slightly worsens outcomes	102	51.0
Total	200	100.0



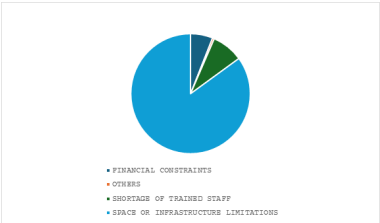
10. Do you believe there is a need for a dedicated obstetric critical care unit in your facility?

	Frequency	Percent
Agree	18	9.0
Disagree	2	1.0
Neutral	5	2.5
Strongly agree	175	87.5
Total	200	100.0



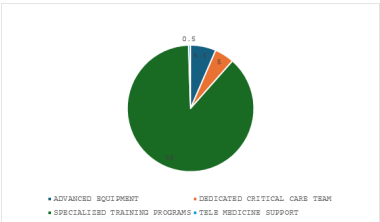
11. What challenges do you anticipate in establishing an OCCU in your facility?

	Frequency	Percent
Financial constraints	12	6.0
Others (please specify)	1	.5
Shortage of trained staff	17	8.5
Space or infrastructure limitations	170	85.0
Total	200	100.0



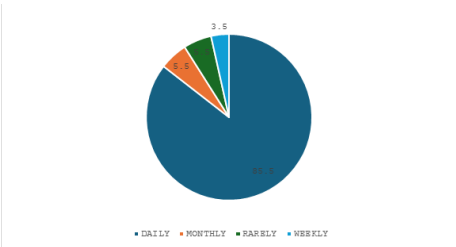
12. What Additional Sources Or Training Do You Believe Would Improve The Management Of Critically Ill Obstetric Patients?

	Frequency	Percent
Advanced equipment	13	6.5
Dedicated critical care team	10	5.0
Specialized training programs	176	88.0
Telemedicine support	1	.5
Total	200	100.0



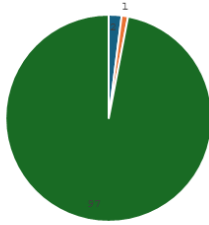
13.How often do you encounter critically ill obstetric patients?

	Frequency	Percent
Daily	171	85.5
Monthly	11	5.5
Rarely	11	5.5
Weekly	7	3.5
Total	200	100.0



13. Were There Any Identifiable Antenatal Risk Factors?

	Frequency	Percent
If yes(specify)	4	2.0
No	2	1.0
Yes	194	97.0
Total	200	100.0



• IF YES (SPECIFY) • NO • YES •

Cross Tabulations:

		REQUIRING BLOOD PRODUCTS TRANSFUSION	
		YES	NO
		Count	Count
TYPE OF INSTITUTION	PRIVATE	22	2
	GOVERNMENT	171	1
	OTHERS	3	1

Pearson Chi-Square Tests

		REQUIRING BLOOD PRODUCTS TRANSFUSION	
		Chi-square	17.474
		df	2
		Sig.	.000 ^{*b,c}

		TOTAL NUMBER OF OBSTETRIC BEDS	
		<100	>100
		Count	Count
TYPE OF INSTITUTION	PRIVATE	20	4
	GOVERNMENT	166	6
	OTHERS	4	0

Pearson Chi-Square Tests

		TOTAL NUMBER OF OBSTETRIC BEDS	
		Chi-square	7.915
		df	2
		Sig.	.019 ^{*b,c}

		INCIDENCE OF OPERATIVE DELIVERY	
		<50%	>50%
		Count	Count
TYPE OF INSTITUTION	PRIVATE	10	14
	GOVERNMENT	169	3
	OTHERS	2	2

Pearson Chi-Square Tests

		INCIDENCE OF OPERATIVE DELIVERY	
		Chi-square	86.234
		df	2
		Sig.	.000 ^{*b,c}

		REQUIRING BLOOD PRODUCTS TRANSFUSION	
		YES	NO
		Count	Count
TYPE OF INSTITUTION	PRIVATE	22	2
	GOVERNMENT	171	1
	OTHERS	3	1

Pearson Chi-Square Tests

		REQUIRING BLOOD PRODUCTS TRANSFUSION	
		Chi-square	17.474
		df	2
		Sig.	.000 ^{*b,c}

		COMPLICATIONS FOLLOWING DELIVERY	
		C-SECTION	VAGINAL DELIVERY

		Count	Count
INCIDENCE OF OPERATIVE DELIVERY	<50%	177	4
	>50%	17	2

Pearson Chi-Square Tests

		COMPLICATIONS FOLLOWING DELIVERY	
		Chi-square	4.087
		df	1
		Sig.	.043 ^{*b,c}

		TYPE OF INSTITUTION		
		PRIVATE	GOVERNMENT	OTHERS
		Count	Count	Count
MOST COMMON CRITICAL CONDITIONS	POST PARTUM HAEMORRHAGE	5	2	1
	HYPERTENSIVE DISORDERS	18	169	3
	AMNIOTIC FLUID EMBOLISM	1	1	0

Pearson Chi-Square Tests

		TYPE OF INSTITUTION	
		Chi-square	28.992
		df	4
		Sig.	.000 ^{*b,c}

The result shows that the most common critical conditions encounter in obstetric critical care unit in this rural area were hypertensive disorders (eclampsia, pre-eclampsia) i.e;94.5%.

Significant p value from the result shows there is an association between type of institution, total number of obstetric beds,most common critical conditions encounter in obstetric care, incidence of operative delivery , complications following delivery and requiring blood products for transfusion.

DISCUSSION:

Obstetric patients represent a unique group requiring care for both the mother and the fetus, with the added complexity of altered physiological states during pregnancy. Pregnant women experience physiological changes such as anemia, increased blood clotting, generalized swelling, and weakened blood vessels. The growing uterus can compress the inferior vena cava, which, combined with other factors, makes these patients more susceptible to complications like hypoxemia, hypotension, and anemia. Additionally, the airway may be more difficult to manage due to edema caused by estrogen and weight gain. The management of critically ill obstetric patients poses significant challenges for intensivists, obstetricians, and pediatricians, demanding a multidisciplinary team approach. However, the obstetrician's role is crucial, as their expertise, vigilance, and knowledge of obstetric emergencies play a key role in reducing maternal morbidity and mortality.

While maternal safety remains a top priority, fetal well-being should also be considered when making decisions, ensuring that interventions benefit both mother and child. Critical care for obstetric patients requires specialized skills and a deep understanding of the pathophysiological changes involved. This care demands not only the expertise of the obstetrician but also continuous monitoring and attention from the intensivist. As such, there is an urgent need for dedicated obstetric critical care services available around the clock.

Although government and corporate hospitals may have critical care units, many do not provide dedicated obstetric care. In contrast, obstetricians working in private nursing homes often lack access to critical care resources. To ensure comprehensive obstetric care, it is essential for these nursing

homes to have ICU facilities, which is why this group of obstetricians was also included in the study.

CONCLUSION:

In CONCLUSION, obstetric complications that necessitate the emergency use of an obstetric critical care unit (OCCU) are critical to the well-being of both the mother and the fetus. Timely intervention and appropriate management in an OCCU are essential to mitigate risks and improve outcomes in situations such as severe preeclampsia, postpartum hemorrhage, eclampsia, and obstructed labor. The presence of skilled healthcare professionals, advanced monitoring, and supportive care in an OCCU setting significantly contributes to the survival and recovery of patients facing life-threatening obstetric conditions. Therefore, early recognition and rapid transfer to a critical care facility are crucial for reducing maternal and fetal morbidity and mortality.

REFERENCES:

- 1- Chaudhry, A. M., Hussain, Z., & Qureshi, S. M. (2016). Preeclampsia and eclampsia: A review of the clinical features, management, and outcomes. *Journal of Obstetrics and Gynaecology*, 36(4), 506-510.
- 2- Sikorski, J., Roberts, A., & Jenkins, D. (2017). Management of postpartum hemorrhage in obstetric critical care units: A review of protocols and outcomes. *International Journal of Obstetrics and Gynecology*, 130(3), 200-206.
- 3- Greer, I. A., & Nel, C. (2015). Amniotic fluid embolism: Pathophysiology, diagnosis, and management. *British Journal of Obstetrics and Gynaecology*, 122(4), 444-449.
- 4- Sakuma, S., & Yamamoto, S. (2016). Septic shock in pregnancy: Pathophysiology and management in an obstetric critical care unit. *Obstetrics and Gynecology International*, 2016, 4185761.
- 5- Smith, G. C. S., & Fowles, J. E. (2017). Placental abruption and maternal mortality: Analysis of risk factors and management strategies. *Journal of Maternal-Fetal and Neonatal Medicine*, 30(4), 459-465.
- 6- Lemoine, M. E., James, S. J., & Leonard, M. F. (2020). Cardiovascular and respiratory complications in pregnancy: A critical care approach. *Critical Care Medicine*, 48(8), 1200-1212.
- 7- McCarthy, F. P., & Hannon, T. (2018). Acute fatty liver of pregnancy: A review of clinical management and outcomes. *The Lancet*, 2(3), 102-107.