

## Obstetric Emergency-A Daunting Challenge in Rural Medical College & Analysis of Barriers Preventing Access to Emoc in Rural India

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### **Aims and Objective:**

- To evaluate the incidence of obstetric emergency cases ,its maternal and fetal outcome.
- To analyse the barriers preventing access to Emoc in rural India.

**Methods:** This Prospective study includes 121 cases of obstetric emergency admitted and treated in critical care unit of Adichunchanagiri institute of medical sciences during the study period from August 2013-2014. Personal interview with each patient done regarding barrier prevented her from early access to Emoc.

**Results:** Out of 121 patients admitted in critical care unit (9%) ,Post partum hemorrhage is the leading cause of emergency contributing 47.93%. Only 34% had regular ANC check up with nil maternal and perinatal mortality ratio, whereas 65% had <2 ANC visits with MMR of 0.75 & PNMR of 9 per 1000 live births.

Regarding analysis of barriers, 16% of women are unaware of emergency situation. 21% of women were aware but delay was made in decision making .20%, 4% & 14% of women were referred by health care staff due to nonavailability of obstetricians, anaesthetists & blood bank respectively. 23% got delay due to nonavailability of transport.

**Conclusion:** Prevention and proper intervention of obstetric emergencies is the foremost goal of modern obstetrics, since it is the critical situation most women faces with least prediction and most prevalence.

**Key Words:** emergency obstetric care , health education , maternal mortality rate, obstetric emergency, postpartum hemorrhage.

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### I. Introduction

Maternal mortality remains one of the most daunting health challenges in our country and reduction in the same has been one of the focus areas of work. National Rural Health Missions (NRHM) goal is to reduce MMR to 100 per 1,00,000 live births by 2012. Sample Registration Systems (SRS) estimates that 9% of all maternal mortality is due to unsafe abortions. One of the key contributing factors for this situation is the lack of skills among rural general doctors and medical officers in primary health care system to provide high quality Emergency Obstetric Care (EmOC) and MTP services. Ministry of Health and Family Welfare, Government of India in partnership Federation Of Obstetric Societies of India (FOGSI) has embarked upon implementing the Comprehensive Emergency Obstetric (EmOC) Certificate Program in 20 States of India to help our country achieve the goals set as per NRHM and MDG[1].

One of the key constraints in providing comprehensive emergency obstetric care services to rural people in India is non-availability of obstetricians in the government hospitals. India (with a population of 1.1 billion) has about 22000 obstetricians ,but less than 13007 work in government hospitals in rural areas mainly due to inadequate infrastructure and low fixed salaries[2,3]

The Safe Motherhood Program, launched in 1987, has emphasized the importance of access to emergency obstetric care [EmOC] to manage the common causes of obstetric death: hemorrhage, obstructed labour, eclampsia and infection etc[4,5]. It is true that most places with low maternal mortality have high rates of hospital delivery.. If such high rates were to be essential, it would pose important problems for many countries, such as India, Bangladesh and Pakistan, where most deliveries in rural areas are still at home and public hospital systems have serious deficiencies[6].

### II. Materials And Methods

**Source Of Data :** This Prospective study includes 121 cases of obstetric emergency admitted and treated in critical care unit of Adichunchanagiri institute of medical sciences during the study period from August 2013-2014. Personal interview with each patient done regarding barrier prevented her from early access to Emoc.

**Method Of Collection Of Data:** It is a clinical study of maternal and perinatal outcome in 121 cases of obstetric emergencies admitted and treated in our hospital.

**Inclusion Criteria:**

- Pregnant women irrespective of gestation period and/or within 42 days of delivery with documented need for intensive care, monitoring and interventions.
- Cases with singleton or multiple pregnancies.
- Cases with obstetric emergencies in 1st and 2nd stage of labour such as malpresentations, malpositions, deep transverse arrest, obstructed labour antepartum haemorrhage, eclampsia, rupture uterus.
- Cases with obstetric emergencies in 3rd stage of labour such as retained placenta, post partum haemorrhage, post partum collapse.

**Exclusion Criteria:**

- Pregnancies associated with medical complications such as cardiac disorder, diabetes etc
- Pregnancies associated with surgical complications such as appendicitis, hernia, cholecystitis.

Data thus obtained is analysed for incidence ,maternal and fetal outcome of obstetric emergencies & the barriers preventing access to Emoc in rural India.This information is utilized to formulate strategies that can be used to prevent the occurrence of such emergencies in the future.

**III. Results**

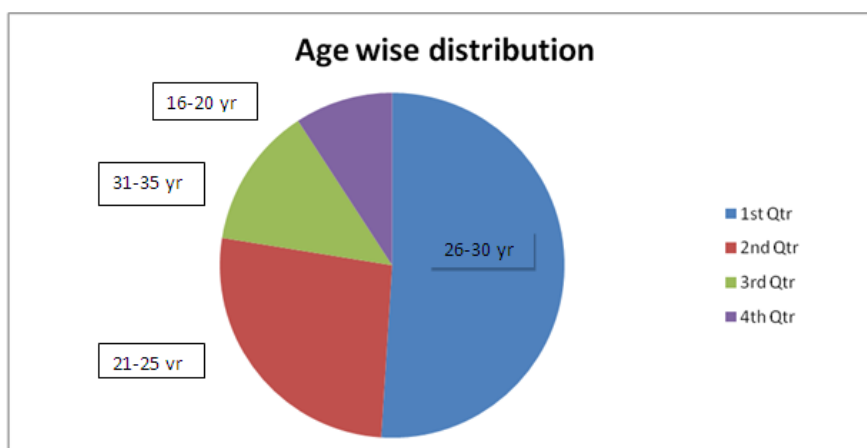
Out of 1320 deliveries during the study period ,121 cases of obstetric emergency was analysed for incidence, maternal and fetal outcome. Out of 121 patients admitted in critical care unit (9%) ,50%of women were in the age group of 26-30yrs,58.6% were multipara,&66% were in term gestation.Post partum hemorrhage is the leading cause of emergency contributing 47.93%. Only 34% had regular ANC check up with nil maternal and perinatal mortality ratio,whereas 65% had <2 ANC visits with MMR of 0.75 & PNMR of 9 per 1000 live births.

Regarding analysis of barriers,16% of women are unaware of emergency situation.21% of women were aware but delay was made in decision making .20%,4% &14% of women were referred by health care staff due to nonavailability of obstetricians,anaesthetists & blood bank respectively.23% got delay due to nonavailability of transport.56% of referred women travelled a distance of morethan 30km.

**Table:1-Obstetric emergencies in various age groups**

Sl.No.	Age(yrs)	No:of cases	Percentage (%)
1.	16-20	12	9.9%
2.	21-25	32	26.4%
3.	26-30	61	50.4%
4.	31-35	16	13.2%
Total-		121	100%

Majority of obstetric emergencies were in the age group of 26-30 yrs contributing 50.4%.Incidence in teenage population was about 9.9%.



**Table No:2: Parity wise distribution of obstetric emergencies**

Gravidity /Parity	No: of cases	Percentage (%)
Primigravida	41	33.8
Multigravida	71	58.6
Grand multigravida	9	7.4

**Obstetric emergencies were occurring in multigravida(58%) & term gestation**

**Table No:3-Obstetric emergency in relation to gestational age group**

Gestational age	Number of cases	Percentage (%)
Preterm	34	28
Term	81	66.9
Postterm	6	4.95

**Table.No:4-Distribution of obstetric emergencies in Women with regular & irregular ANC check up.**

ANC check up	Number of patients	Percentage (%)
Regular	42	34.7
Irregular(<2 visits)	79	65.28%

Majority of obstetric emergencies occurred in women who had irregular ANC visit(<2)

**Table :No:5-Maternal mortality rate and perinatal mortality rate in booked and unbooked cases.**

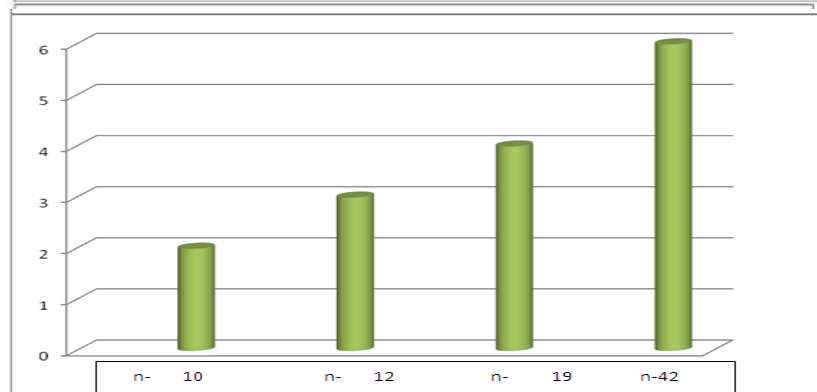
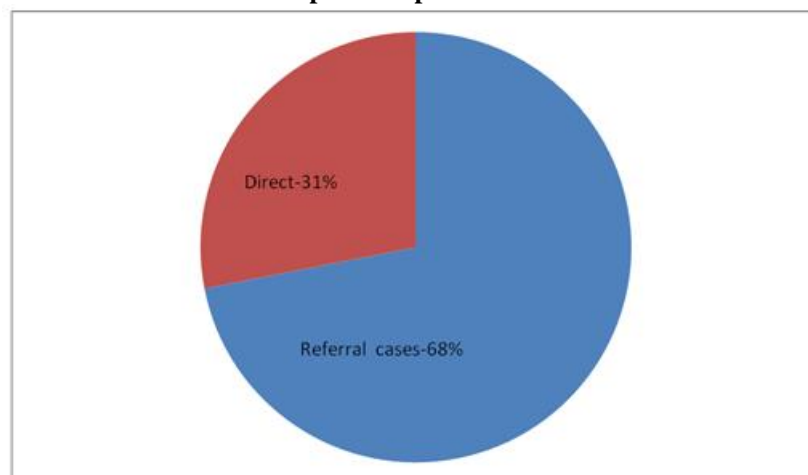
	MMR/1000live births	PNMR/1000 live births
Booked cases	Nil	Nil
Unbooked cases	0.75	9

**Table :No:6-Various obstetric emergencies and their relative incidence.**

CAUSES	NUMBER OF CASES	PERCENTAGE
Post partum hemorrhage	58	47.93
Antepartum hemorrhage	21	17.35
Eclampsia	10	8.26
Manual removal of placenta	8	6.61
Ruptured ectopic pregnancy	12	9.91
Obstructed labour	7	5.7
Rupture uterus	2	1.65
Shoulder dystocia	3	2.47

Analysis of barriers preventing access to emergency obstetric care in rural India.

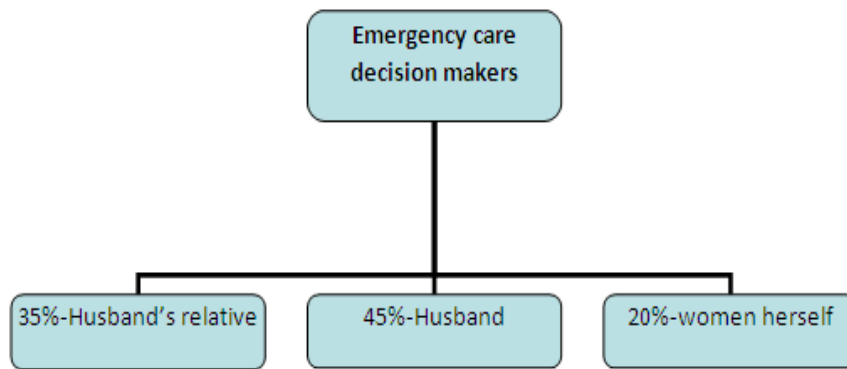
**Table :No:7-Direct admission and referral cases in 121 cases of obstetric emergency are depicted in pie chart below.**



The above & below picture depicts the number of cases & various reasons for which they were referred.

Nonavailability	Number	Percentage
Of Obstetricians(MBBS doctor was available)	42	50
Nonavailability of both (specialists & MBBS drs)	10	12
Of Anaesthetist	12	14
Of Blood	19	22

Delay in decision making is one of the main and constant constraint among rural population, as the major decision makers were husband & their relatives.



#### IV. Discussion

Out of 121 obstetric emergency cases only 34% had regular ANC check up & 65% of women had <2 antenatal visits. Bhaskar Rao has recorded that even in this 2000AD almost <50% of women approaches health centre for regular antenatal checkup.

#### Indian Innovations For Maternal Health Services

Anecdotal evidence from states suggests that there has been a major increase in institutional deliveries because of the financial incentives (Janani Suraksha Yojana) [7] and ASHA programmes. Some individual states have also implemented innovative schemes for maternal health in the past few years that have shown good results.[7]

#### Improving access, use, and quality of EmOC

- a. The Government of India, in collaboration with the Averting Maternal Deaths and Disability (AMDD) project, White Ribbon Alliance India (WRAI), Centre for Development and Population Activities (CEDPA), Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHPEIGO) and other partners, has developed several guidelines to help improve EmOC. These include (a) a four-month competency-based curriculum and training system for training MBBS doctors to provide anaesthesia and comprehensive emergency obstetric services in rural areas, (b) SBA guidelines for medical officers, staff nurses, and ANMs, (c) guidelines for blood-storage unit, and (d) guidelines to operationalize the FRUs[7].
- b. **The Janani Suraksha Yojana (Women's Protection Scheme)**, implemented in 2006 under the NRHM, promotes institutional deliveries by upgrading the National Maternity Benefit Scheme. It is exclusively funded by the Central Government and aims at improving delivery and post-delivery care post-delivery care for poor women, especially in rural areas. It offers a cash incentive for nutrition and transport for institutional deliveries to women undergoing delivery in government institutions and selected private institutions. This has resulted in a steep increase in institutional deliveries in several states according to anecdotal evidence and service statistics. States are given flexibility of managing the scheme at the local level. The financial and management guidelines are clear and available online. The Central Government is closely monitoring this scheme, especially in low-performing states, such as Uttar Pradesh and Bihar [7].
- c. **The ASHA scheme**, launched in some states, has improved community-mobilization efforts significantly by linking the community through a local volunteer with the government field workers and with facilities for institutional delivery. It is the role of ASHA to identify the pregnant women to make sure that they receive adequate antenatal care, natal care, and postnatal care [8].

- d. The Indian public health standards (IPHS)** have proposed for the first time some basic standards for each level of health facility—where maternal health services are being delivered. This includes minimum equipment for labour rooms, sterile conditions, etc.[8] **Lessons from high-performing states and innovative programmes**

Kerala and Tamil Nadu have consistently reported low maternal and child mortality.

**The key factors for success in Kerala** have been high political commitment for social sectors, high level of awareness in the community (e.g. the majority of women have a higher education), primarily an urban population, and good infrastructure (roads) leading to high access to public-health services. The government and private health infrastructure (health centres and hospitals) are much better in terms of numbers, density, and, perhaps, accountability. This combined with high awareness in the community has led to high use and better health outcomes in Kerala [9]

In **Tamil Nadu**, the recent decline in maternal mortality has been largely due to a series of initiatives taken by the State Government described earlier. The key lesson from success in Tamil Nadu is a long-term focus on maternal mortality through pilot-testing of evidence-based interventions on a smaller scale and then upscaling successful ones, with focus on the systematic implementation of interventions suited to local conditions to provide consistent higher-quality services in rural areas. Making higher investments, such as posting three nurses to a PHC and giving Rs 6,000 as a cash incentive for institutional delivery to poor women (a scheme similar to **Janani Suraksha Yojana**), are measures that are far ahead of what other states are willing to do. In addition, monitoring maternal deaths, analyzing medical and social causes, and taking actions to improve the system are all largely possible because of consistent and highly-committed leadership provided by technical officers in the health department over the years[10].

The success of the **Chiranjeevi Scheme in Gujarat** is largely due to the widespread availability of the private obstetrician- gynaecologist in rural areas and their willingness to collaborate with the Government.

The Government made a credible and practical scheme of contracting out delivery services to the private[11]

#### **Recent innovations from other countries[12]**

As per the phase 1 guidelines of “**saving mothers and living life**” (SMGL) 2014 formulated by centre for disease control and prevention the essential components for averting maternal death are as follows

#### **A Comprehensive Approach.**

Women’s lives cannot be saved by any one intervention alone. Reducing maternal mortality requires a solution that addresses multiple health system issues at multiple levels. SMGL uses evidence-based interventions that are designed to address three dangerous delays that pregnant women face in childbirth: delays in deciding to seek care for an obstetric emergency, delays in reaching a health facility in time, and delays in receiving quality care at health facilities.

- **An adequate number of high-quality delivery facilities, including EmONC, that are accessible within 2 hours** of the onset of labor or obstetric emergencies.
- **An integrated communication-transportation system** that functions 24 hours a day/7-days a week to encourage and enable pregnant women to use delivery care facilities. This system should include community outreach and interventions that increase awareness of these facilities.
- **An adequate number of skilled birth attendants** who can provide quality care for normal delivery and who are able to identify and refer obstetric emergencies.
- **A functional supply chain system** to ensure that facilities have the equipment, supplies, commodities, and drugs they need to deliver high-quality obstetric care.

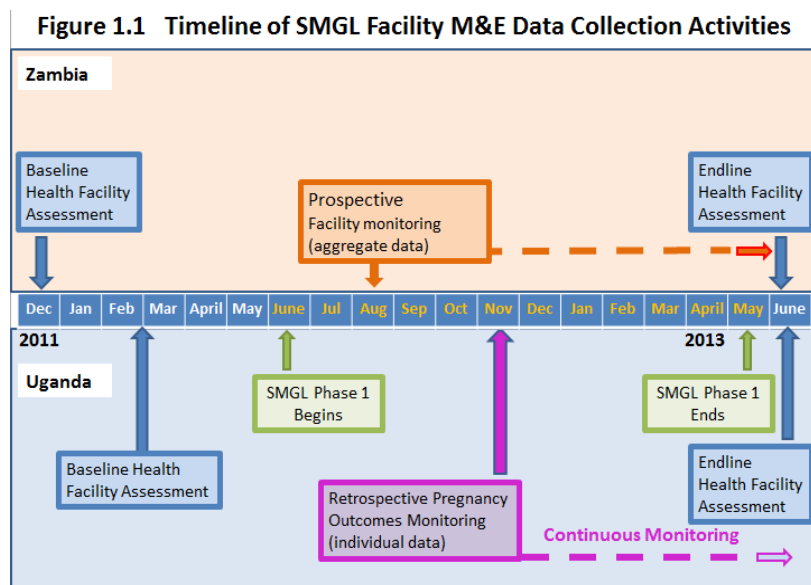
#### **V. Recommendations**

**The need:** 6000 doctors competent in providing comprehensive emergency obstetric care are required to make 2000 first referral units functional for 24 hrs. EMOC service.

**The status now:** 700 public sector Obstetricians work in rural areas.

**The opportunity:** There are more than 20,000 public sector non specialized medical officers in rural areas.

**The Solution:** To bridge the gap, FOGSI is preparing non specialist medical officers to provide comprehensive emergency obstetric care in rural India.



## VI. Conclusion

Prevention and proper intervention of obstetric emergencies is the foremost goal of modern obstetrics, since it is the critical situation most women faces with least prediction and most prevalence. Expanding the roles of available health care staff by emergency obstetric care training (Emoc) plays a pivotal role to bridge the gap due to nonavailability of experts at rural level.

### Theme

Let us promise Emoc for rural India, rather than being a star in the sky but a candle in her home.

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