



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

CLINICAL SPECTRUM OF MATERNAL NEAR MISS CASES IN GGH, KADAPA.

KEY WORDS:

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ABSTRACT

Objective: 1. To analyze the incidence of maternal near miss cases in pregnant women during pregnancy, childbirth and during 72 hours of termination of pregnancy. **Methodology:** It is a prospective observational study conducted at Government General Hospital attached to Government Medical College, Kadapa. All maternal near miss cases which occurred between January 2020 and June 2021 at or after arrival at GGH, Kadapa who were admitted in Intensive Care Unit(ICU), high dependency unit (HDU), labour ward and various other wards during pregnancy or in the puerperium within 42 days of delivery were included in the study. **Results:** During the study period, 34599 patients received antenatal care in the OPD, of which 12188 were admitted and treated. There were 10886 deliveries during the study period of which 6125 were normal labour, 253 were assisted vaginal deliveries and 4508 were C-sections. There were 10708 live births Total number of near miss cases -50 Total number of maternal deaths - 20 Women with life threatening conditions- MNM+MD= 70 Incidence of maternal Near miss per 1000 LB- MNM/LB- 4.6 Severe maternal outcome ratio per 1000 LB- MNM+MD/LB= 6.4 Maternal Near miss : Mortality ratio= MNM:MD= 2.5:1 Mortality index = MD/(MNM+MD)=0.8 Number of maternal deaths during study - 20 **Conclusion:** Obstetric emergencies demand prompt life-saving measures. Understanding the concept of near miss and identifying the clinical characteristics of these patients is a substantial step towards preventing mortality. Solving these issues at the level of primary care facilities has become essential. Evaluating patients for high risk factors and providing high risk patients with utmost care can further decrease the maternal mortality ratio

INTRODUCTION

Maternal death is a huge problem for developing countries like India and those in sub-saharan Africa. About 830 pregnant women die from pregnancy or childbirth related complications around the world every day^[1] and maternal mortality at the final point of the MDG - 5 stood at 216 per 1,00,000 live births^[2]. In a state like Assam, the MMR is 237, top performers include states like Kerala, Tamil Nadu and Maharashtra, which under 70, Andhra Pradesh, its MMR is about 195 per 1,00,000. Presently, severe maternal morbidity or maternal near-miss (MNM) is suggested as a better indicator of obstetric care quality than maternal mortality. Critically ill obstetric patients represent an exciting group with unique characteristics, whose management poses a challenge by the presence of a fetus, altered maternal physiology and diseases specific to pregnancy. This study is based upon the use of the near-miss strategy given by WHO in a tertiary teaching hospital setup. GGH, Kadapa is a tertiary health care centre attached to the Government Medical College, Kadapa, and it caters to women and child health needs not only of Kadapa city but also various districts and villages around Kadapa, 3 making it the only institute to provide for affordable and wholesome need of people living around Kadapa.

AIMS & OBJECTIVES OF THE STUDY:

To analyse the incidence of maternal near-miss cases in pregnant women during pregnancy, childbirth, and within 42 days of termination of pregnancy.

To analyse the Socio-demographic profile of near-miss cases. To analyse the causes of maternal near-miss cases. To analyse facilities and skills needed to improve the nearmiss condition.

PATIENTS & METHODOLOGY:

It is a prospective observational study conducted at Government Medical College, Kadapa. All maternal near-miss cases which occurred between January 2021 to June 2022 at or after arrival at GGH, Kadapa, who were admitted to an Intensive Care Unit (ICU), high dependency unit (HDU), labour rooms and various other wards during pregnancy or in the puerperium within 42 days of delivery were included in

the study. A total of 50 cases are included in the study

Inclusion criteria:

All pregnant women who fulfil the WHO comprehensive near-miss criteria were included in the study.

Exclusion criteria:

1. Women that develop those conditions unrelated to pregnancy (i.e., not during pregnancy or 42 days after the termination of pregnancy)
2. Pregnant women who delivered or aborted 42 days ago and those who died during the follow up in the hospital during the study period.
3. Women who died during the course of treatment

RESULTS;

During the study period, 34599 patients received antenatal care in the OPD, of which 12188 were admitted and treated.

There were 10,886 deliveries during the study period, of which 6,125 were labour normal, 253 were assisted vaginal deliveries, and 4508 were c-sections.

There were 10,708 live births.

Total number of NEAR MISS cases- 50 Total number of maternal deaths-20

Women with life-threatening conditions=MNM+MD=70

Incidence of maternal near miss per 1000 LB =MNM/LB= 4.6

Severe maternal outcome ratio per 1000 LB =MNM+MD/LB= 6.4

Maternal near-miss:mortality ratio=MNM:MD- 2.5:1

Mortality index=MD/(MNM+MD) - 0.28

Number of maternal deaths during study period= 20

1. Age Distribution

AGE	NOOF CASES	PERCENTAGE	MEDIAN AGE
<20 YRS	5	10%	26.86
20-30 YRS	32	64%	26.86
>30 YRS	13	26%	26.86

2. Literacy Status

LITERACY STATUS	NO.OF CASES	PERCENTAGE
ILLITERATE	15	30%
PRIMARY SCHOOL	9	16%
10TH	16	32%
12TH	8	16%
GRADUATION	3	6%

3. Antenatal Care

ANTENATAL CARE	NO.OF CASES	PERCENTAGE
UNBOOKED	40	80%
BOOKED	10	20%

4. Parity

GRAVIDA	NO. OF CASES	PERCENTAGE
PRIMI	14	28%
SECOND	9	18%
MULTI	27	54%

6. Condition Of Patient At Admission

CONDITION OF PATIENT	NO OF CASES
STABLE	21
STABLE WITH MINIMAL DISCOMFORT	9
NEAR MISS AT ADMISSION	20

7. Causes Of Near-miss:

ADVERSE EVENT	CAUSES	NO OF CASES
OBSTETRIC HGE	ATONIC PPH	3
	ECTOPIC PREGNENCY	4
	RUPTURE UTERUS	3
	ABRUPTION	4
	ADHERENT&RETAINED PLACENTA	2
	INCOMPLETE ABRUPTION	2
	TRAUMATIC PPH	3
	PLACENTA PREVIA	1
HYPERTENSION	PULMONARY EDEMA	13
	HELP	2
CVS	PERIPARTUM CARDIOMYOPATHY	2
SURGICAL SEPSIS	BLADDER INJURY	1
	SEPTIC ABORTION,PUERPERAL SEPSIS	3
ENDOCRINE	KETOACIDOSIS	2
CNS	ENCEPHALOPATHY	3

Mode Of Intervention

MODE OF	INTERVENTION	NO.OF CASES
HEMODYNAMIC	BLOOD&BLOOD PRODUCTS TRANSFUSION	19
	IONOTROPIC SUPPORT	8
	BOTH	6
SURGICAL	HYSTRECTOMY	8
	EMERGENCY LAPAROTOMY	10
	BLADDER REPAIR	1
VENTILLATION	CPAP	11
	INTUBATION	10
ICU CARE	KETOACIDOSIS	5
	SEPSIS	5

DISCUSSION

Maternal near-miss has been suggested to complement maternal death. The prevalence of maternal near-miss is higher in developing countries, and causes are similar to

those of maternal deaths.P Chhabra et al. ^[13] observed that maternal near-miss cases were more in number than maternal deaths and cases were alive to directly inform about the problems and obstacles that had to be overcome through the process of health care.The MNMM incidence is ranged from 3.8 to 12 per 1000 live births in developing countries.The incidence of near-miss cases in the present study is 4.6, coinciding with Rathod et al ^[10] . 7.56, whereas it is very high with Samant PY et al. ^[12]. The mortality index in our study was 28.0, which was comparable to Rathod et al.'s ^[10] study.

However, the mortality index was lower in the Panda et al. study. Lower the index indicates better quality of care provided. 76% of patients belong to lower socioeconomic status, comparable to Das kk et al. study. It is due to many patients coming to our centre from rural areas and being of the low socioeconomic group.The poor socioeconomic status and education may make it difficult for women to seek care The most common adverse event (complication) in our study is haemorrhage, i.e.,44%, which correlates to Sulthana et al. ^[35] study, followed by hypertension 30%. PPH was the most common cause of haemorrhage in our study. In contrast, hypertensive disorder of pregnancy is most common in Panda b et al ^[16] study.In the present study, pulmonary oedema caused by the hypertensive disorder of pregnancy is the second most common cause of near-miss.This observation may be attributed to socioeconomic and geographical conditions where anaemia was low and PIH was more in this study, 42.2% of cases needed a massive blood transfusion, similar to Panda b et al. and Sulthana et al.study.Transfusion of greater than five units of blood & blood products was the most common intervention done in our study. Apart from PPH, haemorrhage due to ruptured uterus, APH, ectopic pregnancies also needed a massive blood transfusion.

The second most common intervention done in our study is ventilator support. Haemorrhage and hypertensive disorder of pregnancy together contribute the most common indication for assisted ventilation Obstetric emergencies demand prompt life-saving measures. Understanding the concept of near-miss and identifying the clinical characteristics of these patients is a substantial step towards preventing mortality.Evaluating patients for high-risk factors and providing high-risk patients with utmost care can further decrease the maternal mortality ratio.In order to reduce the incidence of maternal near-miss cases, it is essential to address women at basic levels, including awareness about antenatal compliance, hygienic deliveries in proper healthcare facilities, and birth spacing.

Based on our observations, we recommend the following actions should be taken to reduce maternal near-miss and mortality.

1. Early identification of risk factors for PIH/preeclampsia and early or prompt initiation of treatment
2. We are improving antenatal care to prevent severe anaemia and preeclampsia.
3. Availability of blood bank facility.
4. Ventilator support should be mandatory in first referral units.

Obstetric haemorrhage and hypertensive disorders of pregnancy are the leading causes of near-miss events.

A multipronged approach should be implemented by increasing literacy rate, social awareness and health system impediments at the base level with improved tertiary care.

The Government of India is trying to improve the quality of care by implementing the LaQshya initiative in all health centres

Limitations:

- duration of the study was 16 months which seemed to be

significantly insufficient to arrive at any reliable conclusion/ outcome/recommendations.

- The observations of this study should not be regarded as representative of district or state but indicative of a large hospital based tertiary centre study.
- Community based birthing and district level hospitals were not assessed

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