

ANALYSIS OF MATERNAL NEAR MISS CASES IN A TERTIARY CARE HOSPITAL

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Abstract

Background: Maternal near miss cases are the ones who survived the life-threatening conditions occurred during pregnancy, delivery, abortion or within 42 days of termination of pregnancy. It is one of the indicators to assess the quality of maternal care given and regarding the interventions which saved the life of a mother. **Aim & Objective:** The aim of the study is to find out the incidence, demographic characters, criteria for near miss in mothers, analysis of reasons for near miss, identification of gaps and corrective measures to be undertaken at all levels of care to reduce the maternal morbidity and mortality. **Materials and Methods:** Retrospective analysis of the maternal near miss cases which occurred during the period from May 2021 to April 2023 was done. This study was carried out in a tertiary care hospital. **Results:** The incidence of maternal near miss cases during the study period was 364.4 per 1,00,000 deliveries. Obstetric haemorrhage (68.9%) was the most common cause. Other causes were Hypertensive disorders of pregnancy (17.7%), Sepsis(4.4%), Anaemia(2.2%), infection (2.2%), Anaphylaxis (2.2%). **Conclusion:** Near miss cases are more common than maternal deaths. Reasons for both the conditions are almost the same. Detailed analysis of those near miss cases to be done to find out the reasons and the timely interventions which saved the life of the mother.

INTRODUCTION

Maternal near miss is the condition in which women survived the life-threatening events occurred during pregnancy, delivery, abortion or within 42 days of termination of pregnancy.^[1] The analysis of those near miss cases are needed to prevent those occurrences in future.^[2] Diagnosis of near miss cases is based on presence of minimum 3 criterias, one in each from clinical, laboratory investigations, interventions or any single criteria which signifies cardiorespiratory collapse.^[3] Maternal near miss cases are more common when compared to maternal mortality and study of those cases will help in identifying the factors which causes the near miss and to find the corrective action which indirectly helps in reducing the maternal mortality.^[4,5] Since the maternal mortality is the key indicator of assessing the quality of maternal care given at all levels, the maternal death audit is conducted to identify the gaps and for its rectification. Maternal near miss audit is another valuable and effective useful tool in assessing the lacunae from the surviving patient point of view also.

MATERIALS AND METHODS

Retrospective analysis of 45 cases of maternal near miss cases in a tertiary care hospital for a period of 2 years from May 2021 to April 2023.

Inclusion criteria

Women who met the criteria of maternal near miss as per the maternal near miss operational guidelines December 2014 issued by the Ministry of Health and Family welfare, Government of India were included in the study.

Maternal deaths were excluded from the study.

Case sheets were collected and analysed in detail regarding the incidence, demographic characters, criteria for near miss in mothers, analysis of reasons for near miss and identification of gaps, corrective measures to be undertaken at all levels of care to reduce the maternal morbidity and mortality.

RESULTS

Total 45 near miss cases among 18520 admissions during the study period which accounts for 0.24%. Incidence of maternal near miss was 364.4 per 1 lakh deliveries during that study period.

Distribution.

Table 1: By age group .Commonest age group is between 20-25years(55.55%)

Age (in years)	Total	%
20 – 25	25	55.55
26 – 30	19	42.22
31 – 35	1	2.2

Table 2: By parity. Common in multiparity (66.66%)

Parity	Total	%
Primi	15	33.33
Multi	30	66.66

Table 3: By criteria and interventions. Obstetric haemorrhage (68.9%)was the most common cause

Adverse Events	Criteria/Interventions	Total	%
1.Obstetric Haemorrhage		31	68.9
Ruptured ectopic pregnancy	Emergency laparotomy, Iontropes (3cases), Multiple transfusions, Ventilator support (2cases)	7	22.5
Incomplete abortion	MVA, Iontropic supports, Transfusions	2	6.4
Post partum haemorrhage		12	38.7
a.Atonic	Hysterectomy (5 cases),Internal iliac artery ligation(1 case), Iontropes(1 case), Ventilator support(1 case), Multiple transfusions.	10	83.3
b.Traumatic	Hysterectomy(1 case), Iontropes(1 case), Multiple transfusions	2	16.6
Antepartum haemorrhage		7	22.5
a.Abruptio	Termination of pregnancy, Multiple transfusions	3	42.8
b.Placenta previa	LSCS,Hysterectomy(2 cases), Ventilator support(2 cases), Iontropes, Multiple transfusions	4	57.1
Rupture uterus	Hysterectomy, Iontropes(1 case), Transfusions	2	6.4
Inversion of uterus	Hysterectomy, Ventilator support, Transfusion	1	3.2
Sepsis		2	4.4
Septic abortion	Hysterectomy, Higher antibiotics, Iontropes	1	50
Post surgical procedures	Hysterectomy, Higher antibiotics	1	50
2.Hypertensive Disorder		8	17.7
Apeclampsia	Termination of pregnancy, Ventilator support	5	62.5
HELLP syndrome	Pulmonary management, Termination, Ventilator support	2	25
Preeclampsia	Pulmonary edema management, Termination of pregnancy	1	12.5
3.Cardiogenic Shock	Iontropic supports	1	2.2
4.Pancytopenia	Multiple transfusions	1	2.2
5.Infections	Iontropic supports,Antibiotics	1	2.2
6.Anaphylactic shock	Iontropic supports	1	2.2

Table 5: By Referral. Referral in cases accounts for the 84.44% of the near miss cases

Type	Total	%
Referral in	38	84.44
Inpatients	7	15.6

Table 6: By duration of stay. 48.9% of patients stayed for about 2 weeks

Duration	Total	%
2 weeks	22	48.9
3 weeks	16	35.6
4 weeks	7	15.6

DISCUSSION

Maternal near miss case reflects the quality of maternal care at all levels. It is the life-threatening situation from which the mother survived due to timely effective intervention. This study was conducted in the tertiary care hospital which is referral centre for all high-risk cases from the primary and secondary care hospitals. In this study,55.55% of the mothers were between 20 – 25 years of age. Near miss cases were more among the multiparity which was accounting for 66.66%.All were booked cases. Obstetric haemorrhage(68.7%) was the most common cause for the maternal near

miss which correlates with other studies.^[6]Among the obstetric haemorrhage, postpartum haemorrhage was accounting for 38.7% in which 83.3% was due to atonic PPH followed by ruptured ectopic gestation (22.5%),antepartum haemorrhage(22.5%),incomplete abortion with hypovolemic shock (6.4%),uterine rupture(6.4%),uterine inversion(3.2%).The second most common cause was hypertensive disorders of pregnancy which was 17.7% in which the antepartum eclampsia(62.5%),HELLP syndrome (25%),severe pre-eclampsia with pulmonary edema(12.5%).These causes mimic the findings from the other studies.^[7,8,9]Other causes were

sepsis(4.4%), cardiogenic shock(2.2%), pancytopenia(2.2%), infection(2.2%), anaphylactic shock(2.2%). Referral in cases were accounted for about 84.44% of near miss cases. Delay in seeking care was contributing to majority of maternal near miss cases and the mother was saved due to timely intervention. These findings correlated with other studies.^[10,11] The duration of stay in hospital was 2 weeks in 48.9% of cases,3 weeks(35.6%),4 weeks (15.6%).

CONCLUSION

Early recognition of high risk factors and complications ,timely decision and intervention, adequate transfusion, effective teamwork will save the life of a mother. Early booking and early referral of high risk mothers to be emphasised. Proper counselling of antenatal mothers regarding nutritious diet, early seeking of health care, regular intake of iron and folic acid, calcium tablets, explaining danger signs to both the mothers and family members to be done. Regular near miss audit to be done to find out the root cause, identification of gaps, corrective action to be planned at all levels of care in order to reduce the maternal near miss cases and maternal death.

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