Research Paper Medical Science

Maternal Morbidity Data at A Tertiary Care Hospital in Maharashtra ; India

Dr.Deepti Karmarkar	PG Student, SKNMC & GH
Dr.Sneha Trivedi	Asst.prof, SKNMC & GH
Dr Sameer Darawade	Asso.professor, SKNMC & GH
Dr. Neelesh Risbud	Prof & Head of Unit,SKNMC & GH

ABSTRACT

In safe motherhood programming in the developing world, insufficient attention has been given to maternal morbidity, which can extend well beyond childbirth. For every woman who dies of pregnancy-related causes, an estimated 20 women experience acute or chronic morbidity. Maternal morbidity adversely affects families, communities and societies. It has multiple causes, with duration ranging from acute to chronic, severity ranging from transient to permanent and with a range of diagnosis and treatment options. This article addresses that maternal morbidity is a potent tool in determining standards of maternity care. This study determines the incidence of maternal morbidity in our institution, identifies the underlying organ dysfunction and associated obstetric risk factors. Over a 3 year period Jan 2011-Dec 2014, data were collected retrospectively from patients with severe acute maternal morbidity . Based on this review, recommendations to reduce maternal morbidity include: expand the focus of safe motherhood to explicitly include morbidity; improve data on incidence and prevalence of maternal morbidity; link mortality and morbidity outcomes and programming; increase access to facility- and community-based maternal health care and reproductive health care; and address the antecedents to poor maternal health through a lifecycle approach.

KEYWORDS : maternal morbidity ; near miss ; critically ill ;safe motherhood

INTRODUCTION

Maternal morbidity can be conceptualized as a spectrum ranging, at its most severe, from a "maternal near miss" – defined by the World Health Organization (WHO) as the near death of a woman who has survived a complication occurring during pregnancy or childbirth or within 42 days of the termination of pregnancy[5]– to non-life-threatening morbidity, which is more common by far.

Characterizing near-miss morbidity is valuable for monitoring the quality of hospital-based obstetric care and for assessing the incidence of life-threatening complications. Cases of near-miss morbidity also provide an appropriate comparison group both for clinical case review and for epidemiologic analysis.

A reduction in maternal mortality has traditionally been used as a critical measure of progress in improving maternal health. If a 75% reduction in maternal mortality between 1990 and 2015 – the target set under Millennium Development Goal 5 – is to be attained, we must redouble our efforts.

Maternal deaths have been described as the tip of the iceberg and maternal morbidity as the base. For every woman who dies of pregnancy-related causes, 20 or 30 others experience acute or chronic morbidity, often with permanent sequelae that undermine their normal functioning . These sequelae can affect women's physical, mental or sexual health, their ability to function in certain domains (e.g. cognition, mobility, participation in society), their body image and their social and economic status. Not surprisingly, the burden of maternal morbidity – like that of maternal mortality – is estimated to be highest in low- and middle-income countries, especially among the poorest women.

The causes of maternal morbidity are many and complex. They vary in duration and severity and cover a broad range of diagnoses requiring a wide variety of treatments.

This paper presents an initial framework and a process for the definition and identification of near-miss morbidity in our institution.

2. AIMS & OBJECTIVES

- To analyze the incidence of maternal morbidity.
- To analyse the various causes of maternal morbidity.
- To analyze the critically ill.

3. MATERIAL & METHODS

This is a retrospective study,

Study period of Jan 2011 to Dec 2014

conducted in Department of Obstetrics & Gynaecology

Smt.Kashibai Navale Medical College & General Hospital Pune Maharashtra India.

4. INCLUSION & EXCLUSION CRITERIA

All Delivered patients in SKNMC&GH. Cases of mild anaemia & minor lacerations were excluded.

Out of total 8540 deliveries ;69.3% were vaginal deliveries ;27.36% caesarean sections & 3.27% accounted for instrumental deliveries.

Data collected & analyzed from following sources-

1. Delivery register
2. OT register
3. IPD register
4. ICU register
5. Drug expense book
6. Blood transfusion register
7. IPD files

WHO CLINICAL CRITERIA FOR MATERNAL NEAR MISS

CLINICAL CRITERIA	LAB BASED CRITERIA	MANAGEMENT BASED CRITERIA

ACUTE CYANOSIS(0)	O2 SAT<90% OR >60MIN(22)	USE OF VASOACTIVE DRUGS(18)
GASPING(2)	PH<7.1	INTUBATION & VENTILATION(2)
RR>40 OR <6/ MIN(11)	Pao2/Fio2<200 mmHg	HYSTERECTOMY FOLLOWING INFECTION OR HAEMORRHAGE(6)
SHOCK(9)	CREATNINE>300 mmol/l or>3.5mg/l(12)	DIALYSIS FOR ACUTE RENAL FAILURE(2)
OLIGURIA(8)	ACUTE THROMBOCYTOPAENIA(3)	CPR
CLOTTING FAILURE(2)	BILIRUBIN>100mmol/l or 6mg/dl(2)	
LOSS OF CONSCIOUSNESS>12HRS(1)	LOSS OF CONSIOUSNESS(1)	
LOSS OF CONSIOUSNESS & ABS OF PULSE/HEART BEAT		
UNCONTROLLABLE FITS(1)		
STROKE		
JAUNDICE+PREECLAMPSIA(1)		

RESULTS

(1)Table 1 - Age-wise distribution of patients

		CRITICALLY ILL		
AGE	MATERNAL MORBIDITY (%)	IN WARDS(%)	ICU (%)	TOTA L (%)
<19YRS	132(8.7)	14(18)	7(20)	153(9.4)
19-24YRS	533(35.2)	32(41.5)	13(38.2)	578(35.6)
25-29YRS	585(38.7)	22(28.5)	10(29.4)	617(38)
30-35YRS	198(13.1)	7(9)	3(8.8)	208(12.8)
36-40YRS	63(4.1)	2(2.6)	1(2.9)	66(4)
TOTAL -n	1511	77	34	1622

Out of 1622 patients presenting with morbidities, maximum patients belonged to the age-group 25-29 years.

Table 2- Showing percentage of morbid & critically ill patients ; & icu admissions.

	VAGINAL DELIVERY(%)	LSCS(%)	TOTAL(%)
MORBID	1098(17.6)	413(17.7)	1511(17.6)
CRITICALLY ILL	24(0.38)	53(2.26)	77(0.9)
ICU	12(0.19)	22(0.94)	34(0.4)
TOTAL	1134(18.28)	488(20.8)	1622(18.9)
Total deliveries-n	6203	2337	8540

Among the 8540 total deliveries, 1622(18.9%) women were admitted to the HDU and 34(0.4%)

of them were referred to the intensive care unit (ICU) of the hospital.

Of the 34 ICU admissions, 12 patients had vaginal deliveries and 22 were CS patients.

Table 3: Distribution of various morbidities studied

MORBIDITY	TOTAL %	**N**
BREAST ENGORGEMENT	227(2.6)	8540
EPISIOTOMY GAPE	67 (1.8)	3719
FEBRILE ILLNESS	373(4.3)	8540
LSCS WOUND GAPE	38(1.62)	2337
SPINAL HEADACHE	47(2)	2337
LSCS –ADHESIONS TIME >1.30HR & SA→GA	47(2)	2337
PARALYTIC ILEUS	23(0.98)	2337
DVT	1	

LSCS wound gape accounted for 2 % patients while episiotomy gape was noted in 1.8 % women

Table4- Distribution of patients with respect to medical disorders

MEDICAL DISORDERS-	
HEPATITIS	6
HEART DISEASE	9
ASTHMA	14
THROMBOCYTOPENIA (NEEDING PLATELET TRANSFUSION)	8
DIABETES(UNCONTROLLED)	6
DIABETES(CONTROLLED)	412(4.8)
RENAL DISEASE	5(2 needed dialysis)
PSYCHIATRIC DISORDER	3
POSTPARTUM PSYCHOSIS	3
THYROID DISORDERS	39(0.4)

412 patients had diabetes (controlled), while thyroid disorders were encountered in 39 patients and 14 women were asthmatic.

Table 5- Showing of patients having anaemia, PIH & Eclampsia in vaginal deliveries and LSCS groups.

N= 1622	VAGINAL DELIVERIES (INSTRUMENTAL INCLUDED)	LSCS	TOTAL
ANAEMIA	423(26)	148 (9.1)	571(35.2)
SEVERE ANAEMIA MODERATE ANAEMIA	65(4%) 357(22%)	32(2%) 114(7%)	97(6%) 471(29%)
PIH	203(12.5)	206(12.7)	409(25.2)
ECLAMPSIA	38 (2.34)	74(4.56)	112(6.9)

Anaemia being highest grossing maternal morbidity, followed by PIH & Eclampsia.

DISCUSSION

"Near miss" cases considered those cases where the women were admitted to the ICU. The reason behind the admission of these women to the ICU was due to one of the following: hemorrhage, hypertensive states and / or sepsis. However, women with other conditions not related to the pregnancy or delivery were also treated in this unit.

The most common serious morbidity detected in our study was anaemia.

Anaemia in the antenatal period leads to low birthweight and preterm births, which, in turn, contribute to perinatal death (20,21). In a community based study conducted in Udaipur (11), severe anaemia accounted for 5.8% of morbidities & moderate anaemia was present in 45.9 % women. Our study reported 6% cases of severe anaemia & 29% cases of moderate anaemia.

The high prevalence of anaemia in our study is not surprising as it has long been reported that South-East Asia has the highest prevalence of anaemia among pregnant women in the six regions of the WHO(13).

A cohort prospective population study carried out in 6 West African countries and included 20326 deliveries. It became evident that the most important factors were: bleeding during labor, high blood pres-

sure, a history of caesarean section(14). Waterstone and coauthors in Great Britain analyzed 331 cases and pointed out certain risk factors for severe obstetric complications: age >34 years, present or previous hypertension, caesarean section, multifetal pregnancy, social status, hospitalization prior to delivery.

Our study reported anaemia in 35.2%, PIH in 25.2%, eclampsia in 6.9% while CS morbidity accounted for 20.8 %.

In the Udaipur study, febrile morbidity was detected in 4.2%.

In our study, fever caused 4.3% of morbidities..

The higher incidence of fever after institutional deliveries could be related to sub-optimal aseptic conditions, such as multiple pelvic examinations.

The prevalence of thromboembolism was evaluated only in Canada and in South and West Africa.. In Canada 3% of treated cases are lethal, and up to 30% of untreated cases are lethal(14).

In our study, 1 patient suffered from DVT.

Episiotomy or perineal tears during childbirth are associated with significant pain, infection, and loss of mobility during the immediate postpartum period .

Our study found that 4.5% of the women had conditions relating to perineum (pain, tear, or

infection) & gape accounted for 1.8% during the first week postpartum.

In the study conducted in Udaipur, perineal conditions (swelling, pain, infection, tear) accounted for 6.1% of the patients.

Currently,perineal pain is inadequately managed and needs greater attention

The avoidance of unnecessary episiotomies can also reduce perineal pain and infections.

Conditions relating to breasts (breast engorgement, mastitis, or flat nipple) were found in 2.6% women in our study with 1.3% having mastitis, whereas it was seen in 4.9% of women in Udaipur study—none of the women in each of the groups, however, had a breast abscess on the day of the postnatal visit.

The lower incidence of mastitis in our study could be due to the fact that breastfeeding is nearly universal in our study area.

SUMMARY

The maternal morbidity matrix is a practical framework for assessing maternal morbidity beyond near-miss. In light of the emerging attention to Universal Health Coverage (UHC) as part of the post-2015 Sustainable Development Goals (SDGs) planning, a definition and standard identification criteria are essential to measuring its extent and impact.

By identifying a case of maternal morbidity, either via an identified morbidity category and/or by documentation of an associated disability, we believe that the data collected by the assessment tools will have sufficient granularity and allow for disaggregation to understand what is the incidence/prevalence of a particular morbidity category, and what is the incidence/prevalence of the associated disability according to the women.

CONCLUSIONS

- OBSERVED MATERNAL MORBIDITY IS **18.9%**
- MORBIDITY IN CS IS **20.8%**
- CRITICALLY ILL PATIENTS ARE **6TIMES** MORE IN LSCS THAN VAGINAL DELIVERIES.
- ANEMIA & PIH ARE MAJOR CONTRIBUTING FACTORS IN MORBIDITY.
- BLOOD TRANSFUSIONS PROTECTED PATIENTS FROM MORBIDITY PROGRESSING TO NEAR MISS / MORTALITY

AKNOWLEDGEMENT

Dr.Pushpalata Naphade – Head of Department – For permitting us to undertake the study.

Dr.Gauri Desai & Dr.Chandni Badlani for their help in collecting data.

Dr.Snehal Mane for her intense support in analysis.

All the teachers in Dept of Obstetrics & Gynaecology ; SKNMC &GH

REFERENCES

1. 20th edition Report of the Health survey and Planning Committee, Vol 1. Govt. of India, Ministry of health and Family Welfare (1984) Annual report .
2. Record Section of SKNMC & GH PUNE.
3. Park K. Preventive medicine in obstetric, Pediatrics and geriatrics: Park's Text Book of Preventive and Social Medicine.
4. Maternal near miss reviews ; gynaecol obstet India
5. Impact of PPH in near miss morbidity & mortality in a tertiary care hospital in North India.
6. India Office of Registrar General. Sample Registration System, New Delhi: Office of Registrar General,
7. Ministry of Home Affairs, Government of India,1998:20-9.
8. Khan KS, Wojdyla D, Say L, Gülmezoglu AM, VanLook PF. WHO analysis of causes of maternal death: a systematic review. *Lancet* 2006;367:1066-74.
9. 8 .Pendse V. Maternal deaths in an Indian hospital: a decade of (no) change? *In*: Berer M, Ravindran TKS, editors. Safe motherhood initiatives: critical issues. Oxford: Blackwell Science, 1999:119-26.
10. 10. Dolae A, Stein C. Global burden of maternal sepsis in the year 2000. Geneva: World Health Organization, 2003. 18 p. (Evidence and information for policy).
11. 11. Iyengar SD, Iyengar K, Martines JC, Dashora K,Deora KK. Childbirth practices in rural Rajasthan, India implications for neonatal health and survival. *J Perinatol* 2008;28:S23-S30.
12. 12. Meilė Minkauskienė, Rūta Nadišauskienė, Žilvinas Padaiga1 , Said Makari. Systematic review on the incidence and prevalence of severe maternal morbidity. MEDICINA (2004) Vol. 40, No. 4
13. 13. Friere WB. Strategies of the Pan American Health Organization/ World Health Organization for the control of iron deficiency anaemia in Latin America, nutr Rev 1997; 55:183-8.
14. 14. PrualA, Bouvier-Colle MH, Bernis L, Beart G. Severe maternal morbidity from direct obstetric causes in West Africa: incidence and case fatality rates. Bull WHO 2000;78:593- 602