

Obstetric Morbidity Pattern in a Tertiary Care Centre in South Karnataka

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ABSTRACT

BACKGROUND

India is on track to achieve SDG target of MMR below 70 by 2030. To reach the target, maternal morbidity has to be identified on time and treated effectively. We wanted to determine the pattern of obstetric morbidity in a tertiary care hospital.

METHODS

A prospective study was conducted in 400 inpatients, in OBG department in a tertiary care hospital. Data regarding demographic details, presenting complaints, gestational age, obstetric history, diagnosis, investigations were collected. Statistical analysis was done and obstetric morbidity pattern determined.

RESULTS

Of the 400 patients included in our study, majority (41.5%) was between 20 to 25 years, with 84.3% being more than 36 weeks. There were 243 booked cases and 157 emergency cases, with majority being primigravidas (47.52%). 50.96% of obstetric morbidity was contributed by preeclampsia, 3.46% by imminent eclampsia, 4.8% by antepartum eclampsia, 9.62% by antepartum haemorrhage, 10.58% by postpartum haemorrhage, 1.92% by puerperal sepsis, another 1.92% by diabetic ketoacidosis, 3.85% by HELLP syndrome, 1.92% by postpartum eclampsia and 0.96% by DIC.

CONCLUSIONS

Our study concluded that major cause of obstetric morbidity was hypertensive disorders of pregnancy followed by obstetric haemorrhage.

KEYWORDS

Obstetric Morbidity, Pattern, Pre-Eclampsia, Obstetric Haemorrhage

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BACKGROUND

The Maternal Morbidity Working Group defines maternal morbidity as “any health condition attributed to and / or aggravated by pregnancy and childbirth that has a negative impact on the woman’s well-being”.¹ Morbidity rate ranges from 0.07 to 8.23%.² The major obstetric morbidity that account for nearly 75% of all maternal deaths include, obstetric haemorrhage, puerperal sepsis, hypertensive disorders of pregnancy (pre-eclampsia and eclampsia), complications from delivery, unsafe abortion.¹ Screening for and detection of maternal morbidity is an important step in promoting safe obstetric care.

METHODS

The study was conducted over a period of 18 months in the Obstetrics and Gynaecology department in a tertiary care hospital. It is a prospective study done in 400 women (Krejice and Morgan table 1970). Patients who got admitted in Department of obstetrics and gynaecology and who fulfilled the inclusion and exclusion criteria were taken up for study by simple random sampling method. Patients of reproductive age group, belonging to Indian ethnicity were considered for the study.

All inpatients between 20 weeks’ gestation and 6 weeks post-partum were included in the study. Patients with chronic systemic illness (cardiac, respiratory, neurological, etc.) were excluded from the study. Subjects were explained about the study and written informed consent was taken. A thorough clinical evaluation was done following admission comprising of the following details: Age, socio economic status, booked/ unbooked, obstetric code, period of gestation. Detailed history including past obstetric events, menstrual history, past history, family and personal history. Detailed physical examination was performed including Systolic Blood Pressure, Diastolic Blood Pressure, Heart Rate, Respiratory Rate, SpO₂ and Temperature, obstetric examination was done and entered in proforma. Monitoring was done 12th hourly or frequently depending on the patient’s condition.

The aim of the study was to find out the obstetric morbidity pattern in a tertiary care hospital. Morbidity labelled using standard obstetric morbidity definitions recommended by Confidential Enquiry into Maternal and Child Health committee as shown in Table 1.

RESULTS

Completed proforma of 400 study subjects were analyzed using SPSS version 16.0. For data description, descriptive statistics, frequency analysis, percentage analysis were used for categorical variables and the mean & S.D. was used for continuous variables. The significance in categorical data is found by Chi-Square test and test for proportion were used. Study population was largely comprised of antenatal (98.25%), Young females between 21 to 25 years of age (41.5%), belonging to lower socioeconomic status (46.2%). About 60.8% of the women had regular antenatal visits at the same centre and most of them were primigravidas (50.8%), above 36 weeks of gestation (82.5%). Majority of the patients had hospital stay less than 10 days (93.3%) (Figure 1).

Associated obstetric condition was present in 26.5% of the cases with hypertensive disorders (21.5%) being most common. Associated medical conditions were present in 16.2% of cases with hypothyroidism (10%) being the commonest (Figure 2). 23% of the study subjects had vaginal delivery and 74.75% had caesarean section and the rest had conservative management. 80% were term neonates and 20% were preterm. 59% were healthy neonates and on mother’s side and 35.5% had NICU admission and 5.5% were dead. 24% of the study subjects fitted into the criteria for obstetric morbidity. 50.96% had preeclampsia, 13.46% had imminent eclampsia, 4.81% had antepartum eclampsia, 9.62% had antepartum haemorrhage, 10.58% had postpartum haemorrhage, 1.92% had puerperal sepsis, 1.92% had diabetic ketoacidosis, 3.85% had HELLP syndrome, 1.92% had postpartum eclampsia, 0.96% had DIC (Figure 3).

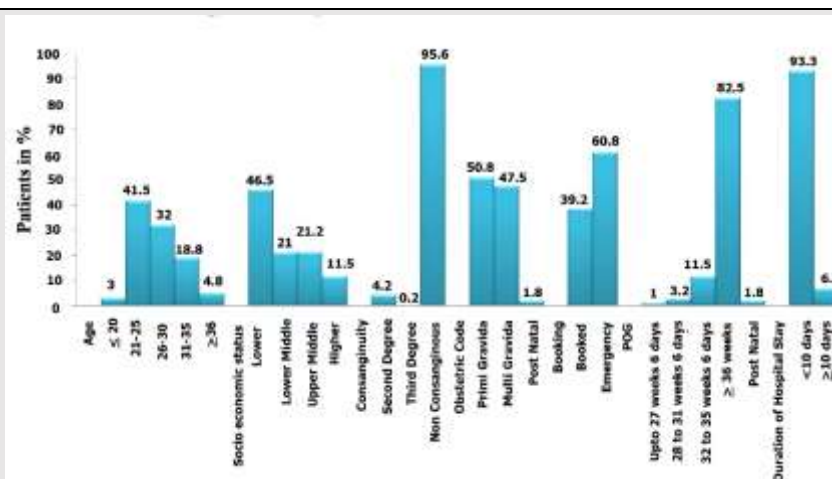


Figure 1 Demographic Profile

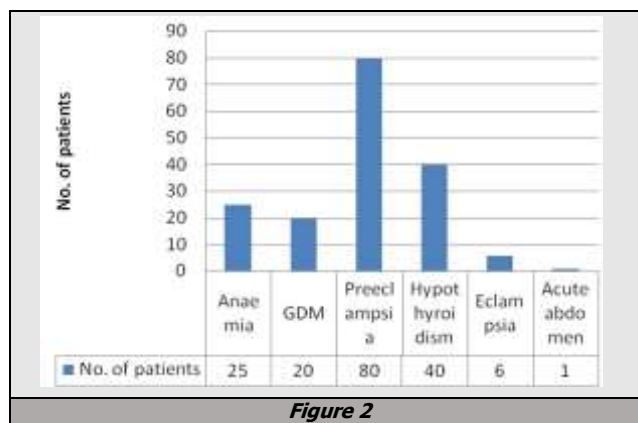


Figure 2

Obstetric Morbidity	Diagnostic Criteria
Obstetric Hemorrhage	"Estimated blood loss of more than 1500 ml or drop in Hb more than or equal to 3 g per dl, or need for blood transfusion"
Pre-eclampsia	"systolic Blood pressure more than or equal to 160 mmHg, or diastolic more than or equal to 110 mmHg along with proteinuria of more than or equal to 0.3 g/day) ¹ (+ 2 dipstick) or hypertension ($\geq 140 / 90$ mmHg) and proteinuria with at least one of the following: headache, visual disturbance, epigastric pain, clonus, platelet count $\geq 100 \cdot 10^9/l$); Aspartate transaminase more than 50 iu.l) ¹ ; Creatinine more than 100 $\mu mol/l$); or Creatinine Clearance more than 80.8 ml/min) ¹ "
Suspected Infection	"Clinically suspected focus of infection with or without positive culture and treated with antibiotics (excluding commensals and antibiotic prophylaxis)"
Pulmonary Embolus	"confirmed by CT Pulmonary Angiography or Ventilation perfusion scan"
Cerebral Venous Sinus Thrombosis	"confirmed by computed topography or magnetic resonance imaging"
Intracranial Bleed	"confirmed by computed topography or magnetic resonance imaging"
Acute Asthma	"History of asthma and expiratory wheeze, with reduced Peak Expiratory Flow Rate"
Status Epilepticus	"History of epilepsy, prolonged multiple seizures"
Diabetic Ketoacidosis	"Presented with Hyperglycaemia, metabolic acidosis and urinary ketones"
Myocardial Infarction	"Presence of symptoms with increased troponin I or T and recent ECG changes"
Pulmonary Edema	"Breathlessness, crepitations, requiring diuretics"
Anaesthetic Complications	"Epidural or High spinal, aspiration following difficult or failed intubation"

Table 1

Intervention	No. of Patients	%
LSCS	80	79.21
ICU	8	7.92
Blood and blood products transfusions	35	34.65
MgSO ₄	27	26.73
Ventilatory support	2	1.98

Table 2. Interventions

Obstetric morbidity was more common in primigravidas (47.9%), aged between 20 to 25 years (40.62%), belonging to lower socio-economic status (42.7%), who were admitted on emergency basis (53.12%), with more than 36 weeks' gestation (7.2%). Anaemia (11.45%), Gestational diabetes mellitus (7.29%), preeclampsia (72.9%), eclampsia (2%), hypothyroidism (10.41%) were present in morbid patients. Obstetric interventions among the morbid patients were emergency LSCS (79.21%), ICU admissions (7.92%), blood and blood products transfusion (34.65%), MgSO₄ administration (26.73%) and ventilator support (1.98%). 70.8% and 29.16% of morbid patients had term and preterm deliveries respectively. (Table 2) 52% of babies born to morbid subjects were healthy and 34.37% were admitted in NICU and 13.5% were dead.

DISCUSSION

Maternal death has been described as the tip of the iceberg and maternal morbidity as the base. For every maternal death, 20 to 30 other women experience morbidity. Diagnosis and timely intervention on a woman with obstetric morbidity prevents maternal mortality.^{3,4} Obstetric morbidity is more common among the women of extremes of age groups that is teenage pregnancies and more than 40 years of age.⁵ The mean age in our study is 26.06 ± 4.63 years of age. The present study included 400 obstetric admissions mainly comprising of women between 20 to 30 years (73.5%) maximum antenatal women (98.25%) with 60.8% were booked with maximum in their third trimester (97.2%). The demographic profile was similar to a study done in identifying maternal morbidity pattern by Anju Singh et al using Modified Early Obstetric Warning System.⁶ Obstetric morbidity is more common among the women belonging to lower socioeconomic status.⁷ In our study the women of lower socio-economic class were 46.2%.

In present study, 24% of the study subjects satisfied the criteria for obstetric morbidity.

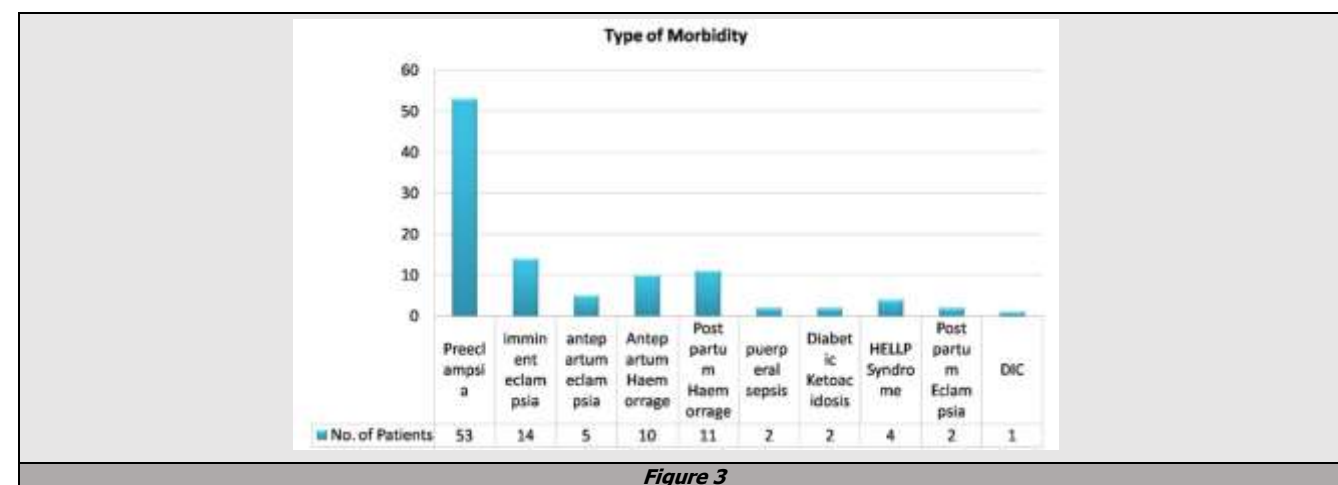


Figure 3

50.96% had preeclampsia, 13.46% had imminent eclampsia, 4.81% had antepartum eclampsia, 9.62% had antepartum haemorrhage, 10.58% had postpartum haemorrhage, 1.92% had puerperal sepsis, 1.92% had diabetic ketoacidosis, 3.85% had HELLP syndrome, 1.92% had postpartum eclampsia, 0.96% had DIC. In a study conducted by Prema Kumari et al, 19% of the study subjects had morbidity with obstetric haemorrhage (75%) being the most common, followed by hypertensive disorder of pregnancy (16.6%), and sepsis (8.3%).⁸ In a similar type of study conducted by Anju Singh et al, with 16.61% of the study subjects having obstetric morbidity, hypertensive disorder of pregnancy (69.4%) was more common in them followed by obstetric haemorrhage (9.6%), Infection (2.26%) and others (18.08%).⁶

In a study done in western Rajasthan regarding obstetric near miss morbidity and mortality it was found that the most common complication was haemorrhage accounting for 56% cases (28.5% was due to postpartum and remaining nearly 28% was due to antepartum haemorrhage). Second leading cause was hypertension in form of eclampsia and preeclampsia accounting for 17.8% of total near-miss cases. Other complications were infections (5.35%), ruptured uterus (8.92%), and medical complications (11.6%).⁹ Obstetric morbidity was more common in primigravidas (47.9%), aged between 20 to 25 years (40.62%), belonging to lower socio economic status (42.7%), who were admitted on emergency basis (53.12%), with more than 36 weeks' gestation (57.2%). The results of present study were comparable to a study conducted in Delhi, where morbidity was more common in primigravidas belonging to lower socio economic status, absence of antenatal care, referral from other health facility.⁶ Anaemia (11.45%), Gestational diabetes mellitus (7.29%), preeclampsia (72.9%), and eclampsia (2%), hypothyroidism (10.41%) were present in morbid patients in the present study.

Obstetric interventions among the morbid patients were emergency LSCS (79.21%), ICU admissions (7.92%), blood and blood products transfusion (34.65%), MgSO₄ administration (26.73%) and ventilator support (1.98%) in morbid patients, whereas in a study by Anju Singh et al interventions like emergency LSCS was done in 28.9% and blood and blood products transfusion in 20.4% of the morbid subjects.⁶ In present study 52% of babies born to morbid subjects were healthy and 34.37% were admitted in NICU and 13.5% were dead.

CONCLUSIONS

The major cause for obstetric morbidity was hypertensive disorders of pregnancy. Hypertensive disorder of pregnancy

is a broad spectrum including gestational hypertension, preeclampsia, eclampsia and HELLP syndrome leading to further complications like DIC, multi organ dysfunction ultimately leading to maternal mortality. By identifying the morbidity pattern, various screening programmes and early diagnosing techniques related to that morbidity can be implemented, so that disease progression and life-threatening complications leading to maternal mortality can be halted.

REFERENCES

- [1] Maternal Morbidity Working Group. Measuring maternal health: focus on maternal morbidity. *Bulletin of the World Health Organization* 2013;91(10):794-796.
- [2] Minkauskienė M, Nadišauskienė R, Padaiga Ž, et al. Systematic review on the incidence and prevalence of severe maternal morbidity. *Medicina (Kaunas)* 2004;40(4):299-309.
- [3] WHO. Maternal mortality. World Health Organization 2019. Available at: <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality> (Accessed 8 Oct. 2019).
- [4] Cook CA. Implementing the Modified Early Obstetric Warning Score (MEOWS) to detect early signs of clinical deterioration and decrease maternal mortality. *Journal of Obstetric, Gynecologic & Neonatal Nursing* 2014;43 Suppl 1:S22.
- [5] Lisonkova S, Potts J, Muraca GM, et al. Maternal age and severe maternal morbidity: a population-based retrospective cohort study. *PLoS Med* 2017;14(5):e1002307.
- [6] Singh A, Guleria K, Vaid NB, et al. Evaluation of maternal early obstetric warning system (MEOWS chart) as a predictor of obstetric morbidity: a prospective observational study. *Eur J Obstet Gynecol Reprod Biol* 2016;207:11- 17.
- [7] Rulisa S, Umuziranenge I, Small M, et al. Maternal near miss and mortality in a tertiary care hospital in Rwanda. *BMC pregnancy and childbirth*. 2015;15:203.
- [8] Premakumari, Sowmya S. Validation study of the confidential enquiry into maternal and child health recommended modified early obstetric warning system as a predictor of obstetric morbidity. *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)* 2019;17(2):54-58.
- [9] Kalra P, Kachhwaha CP. Obstetric near miss morbidity and maternal mortality in a Tertiary Care Centre in Western Rajasthan. *Indian J Public Health* 2014;58(3):199-201.