

Maternal Mortality: A challenge for obstetrician to achieve millennium goal

IRAM MOBUSHAR

ABSTRACT

A study was conducted at Lady Willingdon Hospital, Lahore from 1st Jan to 31st Dec 2008. The aim of the study was to identify the causes of maternal mortality. According to the results of study, the maternal mortality rate was 238/100,000 (30 deaths/13029 births). The leading cause of death was hemorrhage in 12 patients, eclampsia in 8 patients, complications related to induced abortion in 5 patients. Majority of patients were unbooked and presented in the hospital very late. Most of the factors responsible for maternal mortality were avoidable and the need to improve the primary health care was an important factor.

Key words: Maternal mortality, Hemorrhage, Eclampsia, Sepsis.

INTRODUCTION

The quality of obstetric care in a country or region can be measured by studying the maternal mortality rate. All pregnant women are at risk of obstetrical complications and most of these occur during labor and delivery that lead to maternal death. In our setup maternal mortality is seriously underestimated. Safe motherhood as a priority for action can not be identified with out properly assessing maternal mortality causes. Maternal mortality represents the health statistics, which shows the greatest difference between developing and developed world. The reasons for the huge difference are many and include poverty, poor transport, limited access to clinical facilities, lack of equipment, drugs and blood for transfusion, multiple sites being covered by same medical personnel, level of education of women and their status in their society, availability of contraception and freedom to use child spacing measures.

More than and half a million maternal deaths occur worldwide each year and 99% of them are in the developing world.(1)WHO estimates that 35-40 million women will suffer from acute complication, 15-20 million will suffer from serious long term complication as a result of pregnancy.(2)Because of the situation in Pakistan the exact MMR is not reported, but in hospital based studies it varies from 350-950/100,000.(3,4)The aim of the study was to identify the causative factors for maternal mortality.

PATIENTS AND METHODS

The study was carried out at Lady Willingdon Hospital from 1st Jan to 31st Dec 2008. Maternal death was defined as according to WHO and FIGO

Lady Willingdon Hospital, Lahore

Correspondence to Dr. Iram Mobusher, Senior Registrar

definition. Patients record Performa was designed including patient's age, parity, education, duration of gestation, socioeconomic status, antenatal booking, position of health care i.e., G.P., TBA, LHV, Dai, nature of delivery, distance from health facility and the place of delivery. Patients were defined as booked if they had three antenatal visits. Patient's clinical features were recorded along with relevant investigation and management done in the hospital. The admission to death interval was recorded.

RESULTS

During the mentioned period of 12 months, there were 13029 births and 30maternal deaths occurred. Maternal mortality was 238/100,000. Direct obstetrical causes were responsible for 25 deaths (83%) while indirect causes were responsible for 5 deaths (17%). In the study 27 patients (90%) were unbooked and 3 patients (10%) were booked.

All the patients were from low socioeconomic group. As majority of patients were unbooked, most of them presented in clinical situation at the time of admission to the Lady Willingdon Hospital. 25(83%) maternal deaths occurred within 24 hours of hospital admission. 5(10%) patients survived for more than 24 hours of hospital admission. Out of 30 deaths, 5(17%) deaths were prenatal, 20(66%) deaths were postnatal and 5(17%) deaths occurred due to complications of abortion. in

The age of the patient ranged between 15-40 years but 80% patient's age was in the range of 20-35 years. Only two (7%) patients were less than 20 years age and both were primigravida with eclampsia. Patients with age more than 35 years were grand multipara. Among 30 patients, 9(30%) patients were primigravida, 15(50%) patients were multipara and 6(20%) patients were grand multipara.

Out of 30 patients, 25 patients were at term or near term, while patients with abortion related complications were at 8-14 weeks of gestation. 12 deaths occurred due to hemorrhage, 8 death due to complication of eclampsia, 5 deaths due to abortion related complication, 2 deaths due to anesthesia complication, 1 death due to amniotic fluid embolism, 1 death due to pulmonary embolism and 1 death due to CCF. According to study, leading cause of death was hemorrhage. It was ante partum in 2 patients and postpartum in 10 patients and all these patients were referred cases. The second leading cause of death was eclampsia. All the patients with eclampsia were referred to the hospital after the eclamptic fits either at home, private clinic or at a peripheral hospital. All deaths due to eclampsia were postpartum. The patients with induced abortion related complications were multipara and the reason for abortion was to limit family size. Two patients died of anesthesia related complication, one due to amniotic fluid embolism, one due to pulmonary embolism and one due to congestive cardiac failure. Regarding the management all the patients were given initial resuscitation and were managed according to their respective merit. Out of 12 patients with hemorrhage, 8 patients had caesarean hysterectomy. Out of 8 patients with eclampsia, 2 had normal vaginal delivery while 6 patients had LSCS. All the patients with induced abortion had laparotomy.

Age of the patient

| Age | No. | %age |
|-------------|-----|------|
| <20 years | 2 | 7 |
| 20-35 years | 24 | 80 |
| >35 years | 4 | 13 |

Parity

| Gravidity | No. | %age |
|--------------|-----|------|
| Primigravida | 9 | 30 |
| G2-5 | 15 | 50 |
| G6 or above | 6 | 20 |

Antenatal Checkup

| Booking | No. | %age |
|-------------------|-----|------|
| Unbooked patients | 27 | 90 |
| Booked patients | 3 | 10 |

Causes of death

| Cause | No. | %age |
|----------------------------|-----|------|
| Hemorrhage | 12 | 27 |
| Eclampsia | 8 | 40 |
| Abortion related | 5 | 17 |
| Anesthesia related | 2 | 7 |
| Amniotic fluid embolism | 1 | 3 |
| Pulmonary embolism | 1 | 3 |
| Congestive cardiac failure | 1 | 3 |

DISCUSSION

It is estimated that 585,000 women die every year as a result of pregnancy and child birth⁵. Over 98% maternal mortality occurs in the developing world. International ranking of countries on the basis of selected health indicators places Pakistan near the tail end of the list, close to the least developed regions of the world. The current morbidity and mortality levels among Pakistani women are with hundreds of precious lives being lost every day although it is widely and openly acknowledge that much of this is preventable. Disease prevention, adequate health care, early diagnosis and timely appropriate treatment should be the goal of the members of the medical community. Maternal deaths associated with complication of pregnancy are high because of repeated and closely spaced and high parity pregnancies.

The study depicts the maternal mortality rate 238/100,000 live births. It is nearly equal to a study carried in Sind⁶ but lower than a study carried out in France⁷ and Balochistan¹³.

In the study the maternal deaths were in comparative younger age group. The reason for this was early marriages and lack of family planning practices. The age at which a woman has her first child has important consequences. The maternal deaths which were observed in the study at late age group were in the grand multipara. Two main factors leading to increased risk are short birth interval and child birth at older ages (35 years or more).

In the study low socioeconomic status, illiteracy and lack of antenatal care being the key issues. It is also observed in the survey conducted by the National Institute of Pakistan Studies, Islamabad⁸.

In the study 90% patients were unbooked and presented in hospital very late. Most of our population lives in the rural areas. It is estimated that only 55% population has access to health services, the situation being much worse in rural areas. At these areas only primary health care centers are available. These centers lack trained staff, basic instruments, laboratories, blood bank and even medicines. These centers have no direct road approach and are also difficult to access. The patients living in these areas don't have conveyance and financial arrangements for delivery. This was also observed in study as most of patients belonged to the low socioeconomic group. Most of them were afraid of coming to the hospital and afraid of sharing their problems with health care providers.

The leading cause of death in the study was hemorrhage. These patients presented very late. The second and third causes were eclampsia and induced abortion. These results were consistent with

those from within country⁹ but different from a study from Ghana where illegal abortion is the leading cause¹⁰. Two deaths occurred due to anesthesia complications. These patients had cardiac arrest. Tragically the complication was not recognized earlier so therefore not treated promptly.

In the study the parity was strong determinant of maternal mortality. High parity was observed in more than 70% of patients. Similar results have been observed in already published studies¹¹ It was observed in the study that most of the women were not aware of the normal and abnormal findings in the pregnancy. It is also observed that at primary level either trained health care providers were not available or there was lack of facilities. Same results reported by another study¹². There was also a problem in shifting of the patients from the concerned place to the tertiary care hospital.

CONCLUSION

A reduction in maternal mortality ratio can be achieved by reorganizing the available maternity community education. Emergency obstetric services and provision of drugs has contributed in lowering, the hospital based maternal mortality. Confidential enquiries of all maternal deaths should be conducted; in orders to further reduce the maternal mortality ratio.

Most of the factors (hemorrhage, eclampsia, sepsis) responsible for maternal mortality is avoidable. We'll have to go for patient's education, family involvement, improvement of primary health facilities, integrated community based health system; early referral in indicated cases can reduce the maternal mortality. if we have to reduce maternal mortality ratio (MMR) to half by the end of this century, which is the goal of safe motherhood initiative (SMI).

REFERENCES

1. Drife J Maternal mortality: National and International perspective: In Year book of

- obstetrics and gynaecology. Vol 8 Shaughn PM, O'Brien,(edi)2000:91.
2. Turner T. Abon Zahr C. Safe motherhood. Int J Gynecol Obst., 1994;46:145-153.
 3. Jaffery S.N. Maternal mortality in Pakistan: an overview Proceedings of a workshop on maternal and perinatal health. Ed:S. Zaidi. Twel Publisher, Karachi, 1991:21-31.
 4. J.P.Neilson: Statistics and effective care in obstetrics, Dewhurst textbook of gynaecology and obstetrics, 6th Ed. 354-360.
 5. Count C. WHO claims maternal mortality has underestimated. B.M.J.,1996;312:398.
 6. Nisar N, Sohoo NA. Maternal mortality in rural community:a challenge for achieving millennium development goal.
 7. Ba MG, Kodio B, Etard JF. Verbal autopsy to measure maternal mortality in rural Senegal. J Gynecol Obstet Biol Reprod (Paris). 2003 Dec;32 (8 Pt 1):728-35.
 8. Pakistan's population issues in 21st century. Conference proceedings. Population Association of Pakistan.
 9. Fikree FF, Midhet F, Sadruddin S, Berendes HW. Fikree FF, Midhet F, Sadruddin S, Berendes HW. Maternal mortality in different Pakistani sites: ratios, clinical causes and determinants. Acta Obstet Gynecol Scand. 1997 Aug;76(7):637-45.
 10. Mills S, Williams JE, Wak G, Hodgson A. Maternal mortality decline in the Kassena-Nankana district of northern Ghana. Matern Child Health J. 2008 Sep;12(5):577-85. Epub 2007 Oct 23.
 11. Shamshad Begum, Aziz Un Nisa, Iqbal Begum. Analysis of Maternal Mortality in a Tertiary Care Hospital to determine causes and preventable factors. J Ayub Med Coll Abbottabad Apr - Jun 2003;15(2):49-52.
 12. Jafarey S N. Maternal mortality in Pakistan-- compilation of available data. J Pak Med Assoc Dec 2002;52(12):539-44.
 13. Shehla Sami, Shahnaz Naseer Baloch. Maternal Mortality in Balochistan: A challenge for the Obstetricians. J Coll Physicians Surg Pak Aug 2002;12(8):468-71.