ORIGINAL ARTICLE

A CLINICAL STUDY OF MATERNAL DEATHS DUE TO PPH

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ABSTRACT: OBJECTIVES: A study of maternal death conducted to evaluate various factors responsible for maternal deaths. To identify complications in pregnancy, a childbirth which result in maternal death, and to identify opportunities for preventive intervention and understand the events leading to death; so that improving maternal health and reducing maternal mortality rate significantly. To analyze the causes and epidemiological amounts maternal mortality e.g. age parity, socioeconomic status and literacy. In order to reduce maternal mortality and to implement safe motherhood program and complications of pregnancy and to find out safe motherhood program. **METHODS:** The data collected was a retrograde by a proforma containing particulars of the diseased, detailed history and relatives were interviewed for additional information. The data collected was analysed. **RESULTS:** Maternal mortality rate in our own institution is 200/ 100,000 live births. Among 30 maternal deaths, 56% deaths (17) were among low socio-economic status, groups 60% deaths among unbooked 53.5% deaths more along illiterates evidenced by direct and indirect deaths about 25% of deaths were preventable. **CONCLUSION:** Maternal mortality is a global problem, facing every country in the world. Target specific interventions are needed for specific population. Fifth millennium development goal (MDG) is to reduce maternal mortality by 75% by the year 2015, worthwhile investment for every case provider, results that investing on mothers.

INTRODUCTION: 'Maternal death is a great tragedy in the family life'. Hence its crusade to know not just the medical came of the death but the circumstances. What makes there continued tragic deaths even more unacceptable in that these deaths are largely avoidable. Hence this study was conducted to evaluate various factors responsible for maternal deaths due to PPH.

To identify complications in pregnancy, a childbirth which result in maternal death, and to identify opportunities for preventive intervention and understand the events leading to death; so that improving maternal health and reducing maternal mortality rate significantly. To analyze the causes and epidemiological amounts maternal mortality due to PPH.

From time immemorial, there have been records of human reproduction the cure in pregnancy, the pangs of labour, rejoicing at the birth of a new life and not infrequently tears of grief due to a maternal death in childbirth. Even royalty was not spared of an occasional tragedy. About 2500 years ago, Siddharth's mother, Queen Mahamaya, delivered at Lumbini enrout to her mother's place. She was an elderly primipara and died on the seventh postpartum day.

A classic example was the death of Mumtaz, the queen of Moghul emperor Shah Jehan who died in 1651 in Agra after her 14th delivery. In the Atharva Veda there are prayers and charms for a safe labour, one such prayer is addressed to the god of delivery.

'As the wind agitates a lake or ocean, so also let the gestation of 10 months be shaken up and descend. May the boy come forth alive unharmed and with the least harm to the mother'.

In India 100,000 mothers die every year which is 20% of all maternal deaths in the world (one death every 5 minutes).

Haemorrhage occurring with 24 hours following birth of body is called primary post-partum haemorrhage, in greatest number of cases, the bleeding is from the large uterine sinuses opened up as a result of separation of the placenta.

Post-partum haemorrhage can be due to trauma to the birth canal, lacerations of the cervix is normally associated when normal labour is interfered with either by extracting the child through the undilated cervix or by the injudicious use of oxytocis. Extensive lacerations can be rarely encountered with spontaneous labour.

Rupture of the vaginal vault (calporrhexis) is particularly prone to occur if the child is forcibly extracted through an undilated cervix by forceps or by ventouse or during a difficult breech extraction. Lacerations of the vaginal wall extending into the vestibule in the neighbourhood of clitoris can cause worst haemorrhage. Secondary PPH which occurs any time in the puerperium between 8 and 14th day of delivery. It is common due to retention of pieces of placenta. When puerperal haemorrhage occurs after caesarean section the bleeding generally originates from the major branch of the uterine artery eroded by local infection.

METHODS: The baseline study if maternal deaths that have occurred in Chigateri General Hospital, Bapuji Hospital and women and Children's Hospital attached to JJM Medical College, Davangere from January 1998 to December 1999 has been made.

The proforma prepared contained - name, age of patient, IP No, Date of Admission, Date of death, booked or unbooked, presenting complaints and details of antenatal care (if any).

Obstetric history including marital status, age at marriage, age at 1st pregnancy primi or multi, history of previous pregnancy and labour, complication during present pregnancy, past and present medical problems.

If additional information was needed the relatives of the deceased were interviewed. Gestational age at delivery or death, whether died without delivery, place and date of delivery, any intervention during delivery, made of delivery, made of delivery and complication of delivery and puerperium.

A thorough analysis of data collected. Information were obtained from case sheets, laboratory investigations and postmortem liver biopsy and postmortem spinal tap.

During the present study, total births include live births, still births, and deaths due to abortions were also included, since it is 'one if the important causes of maternal deaths.

DISCUSSION: The study conducted in the period from July 2008 to July 2010. The total number of deaths were 30. Maternal mortality was 4 in the age of less or equal to 20, 12 in the age of 21 to 25, 10 in the age group of 26 to 30 and 4 in the group of 31 to 36 years respectively.

Maternal mortality in Hindus was 24 and in Muslims it was 6. Number of deaths in the women of poor socio-economic status was 17, 13 in women of middle economic status and 0 among women of upper socionomic status. Maternal mortality was 12 in the women who were booked and 18 in unbooked cases during antenatal period.

Maternal death was 9 in illiterate women, 16 women studied up to 7th standard, 4 women studied upto 10th standard and 1 women died who finished her PUC. So, educational status of mother plays a major role in prevention of maternal death in the above study.

MATERNAL MORTALITY IN RELATION TO PARITY: Maternal mortality in primis were 11, para-1 were 6, para-2 were 8, para-3 were 3 and para-4 were 2 respectively. So the above values shows nearly half of all deaths occur in primigravida (46%) thus reflecting vulnerability of first time motherhood. We need to concentrate on primigravida more antenatally and intranatally.

Maternal mortality in I trimester of pregnant women was 1, II trimester was 1 and in III trimester (intrapartum and postpartum) women was 28.

Maternal mortality in undelivered was 7, in vaginal delivery number of deaths was 9, EM LSCS its 8, induced abortion 1, septic abortion was 1 case and 4 cases were referred from other hospitals.

Among 30 deaths, 8 had emergency caesarean section. In this study most of the cases were unbooked, the patients reached our institution when they were already in labour and often managed injudiciously at peripheral levels. The influence of patient's ignorance and poor transport facilities also contributes to emergency surgery apart from prolonged rupture of membrane more than 12 hours and interference outside the hospital.

The mode of death due to pulmonary embolism was 1, due to PPH haemorrhage 4 cases, due to septicemia 1 case died, 1 case of DIC and antepartum eclampsia due to anaesthetic complications 1 case died.

Maternal mortality in relation to different causes were – PPH 13 cases, anemia with complications 7 cases, embolism 3 cases, PE 5 cases, due to heart disease 1 and due to endotoxic shock 1 case died.

Haemorrhage is the most important cause of maternal mortality 39% women died due to PPH similar observations made by Bedi[1] et al reported 34% deaths due to PPH. Most deaths in our study occurred inspite of availability of blood bank facility and availability of specialist doctors within the hospital. Although obstetric haemorrhage was tackled, in few of the cases, the prevalence of nutritional anemia and poor general condition failed to prevent the maternal tragedy. In our study anemia was complications were 24%. In study Bedi[1] et al 11.5% maternal deaths are due to anemia ICMR study showed pre-existing anemia was found to worsen pregnancy as it advances leading to CCF and death.

In this study 13 (39%) deaths were due to atonic postpartum haemorrhage.

RESULTS: Among 30 maternal deaths during the study period from July 2008 to July 2010 maximum death occurred between 21-25 years (40%) that is during reproductive age group in ICMR[1] task force study 2001 analysed 581 cases, correlates 41.1% during the same period.

Among 30 number of maternal deaths, number of deaths are more in Hindus i.e. 80% compared to Muslim community i.e. 20% which correlates a maternal mortality in Apex[2] Hospital, Bihar 2002 observed the same.

Among 30 deaths, number of deaths are 56.7% among the poor socioeconomic status. According to the study conducted by maternal mortality in Silchar Medical College Hospital by Sarnishtha Bhattarjee in low socioeconomic status number of maternal deaths were 49.18%.[3]

Among 30 deaths unbooked were 60%, major cause detected are anemia, cardiac diseases, PE and eclampsia, no awareness regarding the ANC care, were leading causes for maternal death. In Silichar Medical College and Hospital 2001 study of maternal deaths 91% were unbooked emergency admissions. Most of these cases are preventable deaths in unbooked cases whereas in booked cases more of a unpreventable deaths.[3]

Educational status of mother plays a major role in prevention of maternal death in the above study, it was noticed that 30% of them were illiterate, 53% of them studied up to 1 to 7th standard. Maternal death drastically low above 10th standard. Study by Dr. Bhattacharjee in 2001[3] concludes that illiteracy cause 75.4% death in mother.

A study on maternal mortality by Dr. Varma Ashok[4] and Dr. Santhosh at Govt. Medical College, HP concludes that illiteracy leading onto inadequate ANC checkup is a major factor for maternal mortality.

It was noted that out of 30 deaths during the study period major deaths are among the promigravida 36.7%. In study Slichar Medical College and Hospital primgravida deaths were 31.2% in comparison with deaths after para 4 i.e. 25.8% may be due to teenage pregnancy[3].

In this study maximum deaths occurred in III semester followed by labour complication i.e. 93/4% this emphasis that need of compulsory screening for high risk pregnancy.

In a review literature maternal mortality by Dr.V.Kamala Jayaram[5] at General Hospital, Guntur AP who analysed over a period of 6 years from 1992 to 1997 concluded that intrapartum, postpartum deaths were 54.6%. Post-partum and post abortal sepsis was the number one killer.

Hemorrhage is the most important cause of maternal mortality 39% women died due to PPH similar observations made by Bedi [1] et al reported 34% deaths due to PPH. In our study anemia with complication were 24%. In study Bedi [1] et al 11.5% maternal deaths are due to anemia ICMR study showed pre-existing anemia was found to worsen pregnancy as it advances leading to CCF and death.

MATERNAL MORTALITY IN RELATION TO HAEMORRHAGE IN PERCENTAGE BY VARIOUS AUTHORS AT DIFFERENT PLACES ARE AS FOLLOWS: Roy Chowdhary et al in 1979-87 at Safdarjung Hospital, New Delhi is 18.1, Panat and Mahendale Sasoon in 1980-87 at General Hospital, Pune is 14.1, G. Rai Chowdhari, Veena Ganju, Rupali Dewan in 1989-87 at Safdarjung Hospital, New Delhi is 34, S.K. Bera and Sengupta[5] in 1978-90 at Calcutta is 23.8 and in our present study at various hospitals attached to JJMC, Davanagere is 18.0.

It was noted that the death due to various types of haemorrhage was the leading cause of maternal death in all the places. Present study closely correlating the study of G. Rai Chowdhari, Veena Ganju, Rupali Dewan.

CONCLUSION:

RECOMMENDATIONS TO PRESENT PPH: Active management of third stage of labour in all patients irrespective of the fact whether they are having risk factors for PPH or not. Desirable to have an i/v line with 18-19 G cannula in all patients in the second stage.

Patient who develops PPH should be transferred to tertiary care centers early after giving repeat dose of methergin and pitocin i/v with a drip containing 20 units of pitocin, inj.

prostaglandin i/m and misoprostol 600 μgm per rectum without delay. Patient can develop shock and may die within 2 hours of onset of postpartum haemorrhage.

Conservative surgical interventions like uterine artery ligation, B-lynch or Hayman's brace sutures and ligation of internal iliac artery should be tried first in young nulliparous patients.

Hysterectomy should be considered as soon as it is apparent that bleeding may pose a threat to life, and not as the last resort. PPH is a leading cause of maternal mortality and many such deaths are preventable.

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