Original Article

A 5 YEARS REVIEW OF MATERNAL MORTALITY AT FMH

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Objective: To identify the main causes and associated factors contributing to maternal deaths. .
Material and Methods: The medical record of all the women dying in the department of obstetrics and gynecology were reviewed .Demographic records including age, parity, socioeconomic status and antenatal care were analyzed from the patient's records.
Results: There were 16 maternal deaths during the study period with the maternal mortality ratio MMR of 52.04/100,000 live births(16/30,741).The probable causes of deaths were ascertained on clinical assessment done jointly by gynaecologist,anesthetist and physician as postmortem examination was not done. The major causative factors were hemorrhage in 8(50%) patients, thromboembolism in 2(12.50%) septic shock in 2(12.50%) and acute pancreatitis in 1(6.25%).12/16 patients were unbooked and brought in emergency department. The ages of the women, who died ranged between 21-39 years. There were 5 primigravidas, 5 patients were Para 1-4, and 6 women had a parity more than 4. Most of them had poor socioeconomic status.
Conclusion: Most of the maternal deaths can be prevented by providing skilled obstetrical care at the time of delivery, by emergency department and proper management of complications. Safe motherhood requires no costly technology but only appropriate setting of resources; we also need public awareness, raising the self determination and awareness of women rights and improvement of her role in decision making.
Key words: Maternal mortality, haemorrhage, pregnancy complications.

Introduction

According to the WHO, "A maternal death is defined as the death of a woman while pregnant or within 42days of termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from the accidental or incidental cause."[1]Globally every year an estimated 5, 29,000 maternal deaths are due to pregnancy related preventable causes e.g. hemorrhage, hypertensive disorders, sepsis, obstructed labour and unsafe abortions. The world figure of MMR was highest in Africa (830) followed by Asia (330) Oceania (240), Latin America and Caribbean (190) and developed countries.[2] According to the Planning commission estimate, MMR was 350/100,000 in 2000-01 and 400/100,000 in 2005.[3] Pakistan is one of the 191 countries that endorsed the united nations millennium development goals comprising of eight ambitious goals.The one of the health related goal is 75% reduction in MMR by 2015. [4]According to WHO and UNICEF the MMR of Pakistan is 340/100,000 live births .According to Pakistan demographic health survey report of 2006-07 the MMR was 371/100,000 live births in rural areas. [5] Pakistan is being ranked third among the developing countries as having highest maternal deaths. [6]

Material and Methods

The study was done in the Department of Obstetrics and Gynecology at Fatima Memorial Hospital, Lahore. It is and analysis of retrospective data. Records of deliveries conducted during the last five years (2007-2011) were studied. Demographic record including age, parity, socio-economic status and ante-natal care were analyzed. The socioeconomic status was divided into four categories according to monthly income (poor class i.e., less than Rupees (Rs) 3000 per month, lower middle class i-e., Rs10, 000-20,000 and high class i-e., more than Rs 20,000). Probable cause of death was made on clinical assessment done by Gynaecologist, Anaesthetist and Physician as postmortem examinations was not done.

Results

The numbers of deliveries carried out from January 2007 to December 2011 were 30,741. During this time period there were 16 maternal deaths and thus maternal mortality ratio calculated was 52.04/100,000. All 16 deaths were classified as Direct (death directly related to pregnancy) and compared with a previous study in FMH carried out between years 2001-2005.

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Table-1: Maternal mortality ratio.

Result	2007-2011	2001-2005
Total number of deliveries	30,741	29,042
Total number of maternal deaths	16	17
MMR	52.04	58.53

Haemorrhage turned out to be the major cause of maternal mortality. Thromboembolism and septic shock were the second commonest Causes compared with causes of maternal mortality in study at FMH carried out between years 2001-2005.

The age of the women dying ranged between 21-39 years. Out of 16 dead women, 10 had a age range between 20-30 years (48.25/100,000%), 4 were between 31-35 years (61.43/100,000) and 2 were more than 35 years of age (159.10/100,000) .

Table-2: Causes of maternal mortality ratio.

Causes	2001-2005 = n	2001-2005 % age	2007-2011 = n	2007-2011 % age
Haemorrhage	01	5.88	08	50.00
Thromboembolism	01	5.88	08	12.50
Septic shock	-	-	02	12.50
Fulminant hepatic failure and CLD	-	-	01	6.25
Hypertensive disorders of pregnancy	06	35.29	01	6.25
Eisermenger syndrome	-	-	01	6.25
Acute pancreatitis	-	-	-	6.25
Coagulation disorders due to IUD	02	11.76	-	6.25
Amniotic fluid embolism	02	11.76	-	-
Fatty liver of pregnancy	02	11.76	-	-
Anaesthesia complication	01	5.88	-	-
Puerperal myocarditis/CMP	01	5.88	-	-
Unknown	01	5.88	-	-

Table-3: Demographic and Obstetric profile of deceased mother (n=16).

Variables	No of Deliceries	No of Maternal Death	MMR-100,000
Age in years			**Age Specific**
< 20	2249	0	0
20-29	20724	10	48.25
31-35	6511	04	61.43
>35	1257	02	159.10
Parity			**Parity Specific**
Primigravida	7047	05	17.95
P 1-4	22180	05	22.54
> P4	1514	06	396.30-
Socioeconomic status			**Socioeconomic status specific**
High	6704	1	14.91

Upper middle	10596	3	28.31
Lower middle	7876	5	63.48
Low	5565	7	125.78

Discussion

Death of mother is a tragic event. In practical life it has a severe impact on the family, community and eventually the nation. The young surviving children left motherless are unable to cope with daily living and are at an increased rise of death.[7] Reduction of maternal mortality is an important MDG especially in low income countries, where one in 16 women dies of pregnancy related complications.[8] MMR Varies throughout different countries of the world. In sub Saharan Africa, MMR reported in 2000 was 1000/100,000 live births almost twice that of south Asia, four time higher than in Latin America and Caribbean and nearly fifty times higher than the industrialized countries.[9] The preliminary results of demographic and house hold survey 2007 reported the nationwide MMR of 276/100,000 live births. It is 320 in rural areas as compared to 177 in urban areas . The figures are 277 in the provinces of Punjab. While in Sindh, NWFP and Baluchistan it is 311, 272, and 765 respectively.[3] Women die because they have no access to skilled personnel during pregnancy and parturition and when an emergency arises they cannot reach a facility where emergency obstetrical services are available.[12]

The country with highest estimated number of maternal deaths is India (136,000) followed by Nigeria (37,000) and Pakistan (26,000).[10] Further, it is well recognized that maternal mortality number are often significantly underreported[11] While comparing MMR at different regions of Pakistan, it was observed that MMR at Abbotabad.[12] NWFP, was the highest (1270/100,000) followed by Quetta [13] Baluchistan 650/100,000 and Karachi[14] sindh (304/100,000). Haemorrhage followed by pre-eclampsia/eclampsia were the main causes of deaths observed in most of the studies carried out in Pakistan[12, 13, 15, 16] According to Confidential Enquiries into maternal deaths in UK 2000, the MMR is 11.4/100,000 with thromboembolism being the major direct cause followed by hypertensive disorders and sepis.[20] In a survey done in United States, the MMR calculated was 12.6/100,000.[21] MMR in India is close to that of Pakistan being 259/100,000 with hypertension and hemorrhage as the main causes.[19, 22] severe preeclampsia/eclampsia was the commonest cause of death among patients in Nigeria.[17] Causes of maternal deaths worldwide is haemorrhage 25% Hypertension 25% infection 15%, unsafe abortions 15% and indirect causes 20%.[18,19]

Maternal mortality ratio increases drastically with increasing age, parity and lack of antenatal care as found out in our study. The MMR among unbooked patients as compared to booked patients (339.7 /100,000) in a hospital at Nigeria was extremely high (23,121.4 per 100,000). It is seen that the percentage of women who seek antenatal care is extremely low. Each year 60 million women give birth with the help of untrained traditional birth attendant. The distance from health services, cost of transportation and drugs, multiple demands on women's time and lack of decision making power within the family are the major hindrances in seeking essential health services by our women and thus as few as 5% of women receive such care in poor countries and regions.[10]

Conclusion

The government and the Medical community place a very high emphasis on safe motherhood. However, MMR is alarmingly high as compared to the developed countries. It is still possible that MMR may be higher in rural settings than the estimates in this study. This situation can be rectified only by the efforts of the Health Authorities, the Medical Professionals and the Government acting in concert with one another.

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