Original Article

Maternal Mortality in Services Hospital Gyane Unit II in the Year 2010

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Abstract

Objective: To determine frequency of maternal mortality in the tertiary care setting and any recurrent risk factors.

Study Design: Retrospective Observational Study.

Place and Duration of Study: Gynae unit II Services Hospital Lahore. Maternities presenting in 1 year from 01 November 2009 to 01 November 2010.

Patients and Methods: Pregnant patient presenting in Gynae unit II. These included 1st trimester pregnancies (for ectopic and septic miscarriage).

Results: Total number of maternities presenting in Gynae unit II, Services Hospital Lahore during this time period were 4080. Total number of maternal deaths was ten that makes it 1 in 408. Out of these haemorrhage was the leading cause 50% seconded by indirect cause of cardiac disease 20% followed by Sepsis (10%), Ectopic (10%) and HELLP (10%). Age group ranged from 24 – 37 – < 30 were 7 and > 30 were 3. Half of the patients were > G_5 and other half fell in lesser parity. All died during hospital stay. Two patients were booked. Out of the five hemorrhaging patient 4 had IUD and 2 patients were at 28 weeks and the rest were at 35 to 36 weeks. Both cardiac patients are below 30 weeks (25 and 29).

Conclusion: IUD haemorrhage and DIC were recurrent causes. Most of the patients had IUD at presentation resulting in FSB at they had bleed substantially at home before presenting. Ectopic took its toll but was compounded by blood reaction. Effective, efficient, quick and well equipped blood bank services are a must, only and definite way to decrease the maternal mortality. There is a need to make protocols and manage such haemorrhaging patients by a multi disciplenary team specially created, trained and updated for this purpose. Public education and awareness about risks of pregnancy, booking benefits and quick referral to hospital. Measure to impose access of patients to well equipped health factors. We need to further study the quality of care and do risk management as effectively followed by NHS.

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Introduction

Almost every minute a mother dies in the world. 99% of maternal mortalities occur in the developing countries[1].

The difference between rich (mortality risk 1 / 4000 to 10000) and poor (1 / 15 to 50) is one of the highest in public health[2]. According to WHO statistics the order of importance is haemorrhage, indirect causes, sepsis, eclampsia. While in UK thromboembolism, hypertension, haemorrhage, amniotic fluid embo-

lism early pregnancy complication is the sequence of risk factors for maternal deaths.

Sepsis was the leading cause of maternal mortality worldwide in 1950s. The introduction of antibiotic has decreased the rate of maternal mortality significantly due to it.

The developed nations have decreased its mortality rate significantly through analysis followed by implementation of appropriate measures. Even there sub standard care is an element in maternal deaths. Wherein developing nations has shown an overall decline in the mortality rate significant among them are Thailand, Malaysia, Sri Lanka, Matlab, Egypt, Honduras and Bangladesh.[3] Major reasons for the decrease were substantial investment in midwifery training, free care, supportive and intensive health and family planning services. Sri Lanka for example achieved an unprecedented decrease from more than 1500 in 1 million live births to 300 million in 25 years. This significant decrease in maternal mortality was mostly attributed to the introduction of universal access to midwifery care and eradication of malaria.[3] In Pakistan the maternal mortality registration is not complete therefore exact statistics are not available.

This study was carried out to see prevalence of maternal mortality in services hospital Lahore, Gynae unit II in the reasons behind it. The aim is to identify recurrent risk factors and to plan better care.

Patients and Methods

It is a retrospective analytical study, it includes all pregnant patients presenting in gyane unit II' Labour Room either for delivery or as an emergency. Details of maternal mortalities were collected from a register maintained for this purpose.

Results

Total number of patients (4080) delivered in Gynae II in a period of one year. Total number of mortalities is 10 that make it 1 / 400 maternities almost similar to that in Sri Lanka. Haemorrhage was present in 5 out of 10 patients that are 50% directly. 20% had cardiac cause, 10% eclampsia, 10% ectopic and 10% had sepsis. 1 patient had HELLP syndrome and eventually PPH and Haemorrhage was a cause of death. Another patient had severe pulmonary hypertension and presented with APH due to which hysterotomy had to be done and she eventually had cardiac failure. So again in these two patients haemorrhage was part of the pathology. Out of five, three patients had placenta previa and two had abruptions and 4 had IUDs (90%), 5 patients had DIC (100%). Another cardiac patient presented with MI and Shock. I was ruptured Ectopic complicated by blood reaction. 1 patient had chorioamnionitis and APH complicated by Septicemia and ARDS. Six patients were < G3 and 4 were multigravidas (5 and above). Mean age of presentation was from 22 to 37. 7 were < 30 years old. 7 were unbooked patients.

Discussion

Maternal death is defined by WHO, as death of a woman while pregnant or within 42 days of termination of pregnancy irrespective of the duration and site of pregnancy, from any cause related or aggravated by the pregnancy or its management.[4]

Maternal mortality which was very high showed an impressive decline from 1900 to 1950 due basically to introduction of antibiotics and control of Sepsis. Various countries carried out studies and identified their culprits and introduced remedies[5].As a result MMR declined.

Still in many developing countries the rate is horribly high. There is a need for concentrated effort to reduce this risk. A study in the Lancet by Dr. Christopher Murray () shows that currently developing countries also showing a decline in MMR but only 23 countries are on the road to achieve millennium development goal # 5 that is to reduce their MMR by 75% by 2010.

According to the WHO estimates developing countries continue to account for 99% of maternal deaths worldwide. Sub Saharan Africa and South Asia counted for 87% of global maternal deaths. 11 countries including Afghanistan, Bangladesh, Democratic republic of the Congo, Ethiopia, India, Indonesia, Kenya, Nigeria, Pakistan, Soudan and united republic of Tanzania comprise 65% of all maternal deaths in 2008.[4]

WHO uses the term maternal mortality ratio, while UK (NHS) prefers maternal mortality rate. Maternal mortality ratio is the maternal mortality deaths during a given time period / 100,000 live births during the same time period while mortality rate means number of deaths in a given period / 100,000 women of reproductive age during the same time period. It is very difficult to detect maternal mortality rate in any century

due to various reasons which includes variations in reporting and maintaining a proper register of maternal mortalities. Therefore in Pakistan the MMR is reported between 350[7] and 500 / 100, 000 live births. It is worthwhile to maintain maternal mortality registers and every hospital and have annual meetings to gather the statistics. Similarly measures taken at community level should be tallied at the end of 6 – 12 month periods.

This study basically highlights maternal mortality at tertiary care center. Hemorrhage was seen as the most frequently recurring cause in the form of APH and PPH.

Haemorrhage is a single most important cause of maternal death worldwide.[3,4]

Haemorrhage is a comprehensive term that includes multiple etiologies like episiotomy, a genital tract tear, and instrumental delivery. It can occur during obstructed labour, ruptured uterus, caesarean, hysterectomies, placental abnormalities and abruption, molar pregnancy and Ectopic.[6] It can also occur secondary to coagulopathys found in sepsis, amniotic fluid embolism, massive haemorrhage, severe PIH. Uterine atony remains the main culprit.

Our observation in gyane unit II Services Hospital Lahore is a small portion of the vast sea of maternities in Lahore. The study leaves no doubt about haemorrhage being a major cause of maternal morality. Three patients had placenta previa, 2 had APH and PPH and one presented in shock due to PPH and despite early hysterectomy she went into DIC. I patient was with accrete, 5 patients went into DIC despite efforts and restoration of blood volume and blood products. One patient had a risk factor of multiple transfusions prior to surgery. 4 patients had presented late enough to be with an IUD.

Cardiac disease was seen as next most prominent pathology attributing to maternal morality. One of the patients has presented in shock after suspected MI or massive embolism. The other patient's pregnancy was complicated by APH, hystrotomy and post op cardiac destabilization. She had severe pulmonary HTN to begin with.

One multigravida was a non compliant patient presenting off and on in LR. She had presented with ruptured membranes got LAMA from LR again presented after a few hours with dyspnea, APH. Her hystrotomy had to be done and she developed ARDS and died post operative. Endotoxemia and ARDS was the suspected cause. Strange enough no patients presented during this time period with septic miscarriage which is a prominent cause of maternal mortalities in developing countries.

The patient presenting with Ectopic recovered after surgery and was well enough to be discharged. She developed transfusion reaction which was controlled at that time but later on after 24 hours she started showing multiple organ failures and rapidly deteriorated. So Ectopic and its management is the most significant cause of maternal mortality in the first trimester in our study.

In this study late presentations (APH), unbooked patients not receiving antenatal care (HELLP), lack of contraception in high risk patients (Cardiac) and unavailability of quick screening of coagulopathy and blood products and some of the factors which were apparent in these patients.

The confidential inquiry into maternal and child health 2007 has given "top 10" key recommendations which include preconception care, accessible and welcoming antenatal services, early referrals complete clinical assessment of a woman at 1st presentation, treatment of cystolic HTN, incident reporting, regular written documentation and audit and use of national obstetrical early morning chart.[10]

Conclusion

Non booking and late presentations has been very prominent feature. We should have audits to see why patients prefer home delivery and how can we become patient friendly.

Researchers have found substandard care as part of the problem. This occurred in hospitals where 24 hrs anesthesias were not available and where the volume of delivery was low.[8,9] There is a need to set up investigating groups with no blame cultures to further investigate maternal moralities, their contributing factors and effective measures required to reduce this problem. This is being effectively done by NHS (UK) but that has also been achieved with much effort.

There is a need for setting up an emergency haemorrhage handling team which should be multidisciplinary. It is important to make protocols about blood and blood products transfusions as to what and how much is indicated and when, so that we do not aggravate already present coagulopathy, to carry out emergency haemorrhage management drills to make early decisions in definite treatment of hemorrhaging patients.

It is also important to make the public aware of the risk of the pregnancy and importance of antenatal care and early presentation in case of a problem. It is well worth it to make risk factor proformas for DIC in all pts presenting in LR or admitted in wards due to previa for elective surgery.

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