

Analysis of Maternal Mortality in a Tertiary Care Hospital

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ABSTRACT

Objectives: To identify causes of maternal mortality and to make recommendation for prevention of factors responsible for maternal mortality.

Method: this study was conducted in the department of Gynaecology Sheikh Zayed Teaching Hospital Rahim Yar Khan, from January 2009 to December 2009. all the women were admitted through emergency. Pre designed Performa was filled including age, parity, socio economic status, distance from hospital and causative factors leading to maternal deaths.

Results: there were twenty eight maternal deaths recorded during study period maternal mortality ratio was 340/100,000 live birth the age range was between 15-25 years i e 57.14 and 5% of female had parity 2-5 the most common cause for maternal mortality was hemorrhage,¹⁷ (60.71%) hypertensive disorder³ (10.7%) Hapatic failure 02 (7.14%), pulmonary embolism 2(7.14%), septicemia 02(7.14%) pulmonary edema¹ (3.5%) and anesthesia complication 1 (3.5%). The distance from hospital was between 10-100 KM.

Conclusion: Hemorrhage is still the leading cause of maternal death. These factors can be prevented by providing antenatal care, to all pregnant women even in rural areas and Emergency health care should be available to all women. There is need to improve literacy rate and awareness regarding the importance of contraceptive methods.

Keywords: Maternal mortality, labour complication, Hemorrhage.

INTRODUCTION

Maternal mortality is the death of a women while Pregnant or within 42 days of termination of pregnancy irrespective of the site of the pregnancy from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes¹. Maternal mortality rate is number of maternal deaths during given time per 100,000 women of reproductive age, or women years of risk exposure in the same time period².

Pakistan has population of approximately more than 17 billion of whom 67.76% live in rural area. The fertility rate is 4.1 in Pakistan. An estimated infant mortality rate is 78/1000 live birth and 500/ 100,000 maternal death occur annually in Pakistan³. Globally more than half a million women die each year because of complications related to pregnancy and child birth. sub saharan Afaica and south Asia accounted for 84 percent of Global deaths.⁴ The maternal mortality rate in Pakistan is 500 deaths per 100,000 live birth. The MMR is much higher in Pakistani's rural area than urban areas because the child delivery at home without assistance by trained medical attendants .Hemorrhage, hypertension, unsafe abortion, infections and prolonged labour are other factors contributing to the higher mortality rate

among women in rural areas⁵ it is well known that most deaths can be prevented if adequate Obstetric care is provided in time.

The national health policy aims to reduce the maternal mortality rate to 250 per 100,000 live births by 2010 and the aim of 5th Millennium Development Goal (MDG) is to reduce maternal mortality by 75% by the year 2015. The safe mother hood program has emphasized the importance of access to emergency obstetric care and to manage the common causes of obstetrics deaths⁶.

The purpose of this study was to analyze causes of maternal deaths and to identify preventable factors leading to maternal mortality in our setup.

METHOD

This study was conducted in department of Obs/Gynae Sheikh Zayed Medical College/ Hospital Rahim Yar khan over a period of One year January 2009 to December 2009. Most of the women were admitted through emergency and were referred from other hospitals or clinics. Only those women were included in the study who died due to pregnancy complications; patients with medical and Gynecological causes and those beyond 42 days postpartum were excluded from Study.

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RESULT

A total of 8245 deliveries took place during the study period. Out of which 8028 were live births and remaining were IUDS. There were 28 maternal deaths during that period giving maternal mortality ratio of 340/100,000 live births comparison.

Ages in those mothers ranged between 15-45 Years. Maximum of them fell in the age group of 15-25 years 57-14% (Table 1). Mean age is 26.9 ± 6.34 years. Overall the highest mortality was found in the females having parity "2" to "5" which was accounted 50% (Table 2).

Amongst the various causes of maternal mortality in the study found, the leading one was hemorrhage (60.71%) (Table 3). Second one was hypertensive disorder with a percentage of 10.71%(Table 3).

Other Causes include hepatic failure, palmary embolism, Septicemia (7.14%). Pulmonary edema and anesthetic complication comprises 3.5% of maternal death. (Table 3).

In our study distance from hospital was also noticed to assess the health care facilities to maternal mortality. It was found to be between 10 to 130 kilometer. Maximum no of patients reached at hospital from a distance range of 50-100 KM (39.28%) (Table 4).

Table 1: Age Distribution

Age Group	No.	%age
15-25	16	57.14
26-35	10	35-71
36-45	02	7-14
>-45	0	0

Mean Age = 26.9 year., SD = 6.341year.

Table 2: Parity.

Group	No.	%age
Primipera	08	28-57
P2-P4	14	50
P5 + above	06	21.42

Mean Parity=3.00, SD=2.21

Table 3: Cause of death

Cause	No.	%age
Hemorrhage	17	60.71
Hypertensive disorders	03	10.71
Hepatic failure	02	7.14
Pulmonary Embolism	02	7.14
Septicemia	02	7.14
Pulmonary Edema	01	3.5
Anesthesia Complication	01	3.5

Table 4: Distance from hospital as cause of delay

Kilometers	No.	%age
10-50	7	25
51-100	11	39-28
≥ 100	10	35.71

DISCUSSION

Maternal mortality ratio (MMRS) is the number of maternal deaths per 100,000 live births⁷. The death of a woman in childbirth is a tragedy and un necessary and wasteful event that carries with it a huge burden of grief and pain⁸.

For every death among women, there are 10 more who are left with morbidities of various kinds that may have life – long crippling effects. It is very rightly stated that maternal mortality is only the tip of iceberg of maternal morbidity and women's suffering⁹. The status of maternal Health is poor in Pakistan. An estimated 30,000 women die each year due to pregnancy related causes¹⁰.

There is no systemic mechanism of data collection in Pakistan and it is extremely difficult to assess levels of maternal mortality. Pakistan demographic health survey conducted in 2007 shows figures of MMRS 273/100,000 over 69% deliveries are conducted at home by traditional birth attendants who are not qualified to manage the complications occurring during the process of labour⁶.

According to that survey Percentage of causes of maternal mortality are Hemorrhage 25% sepsis 15% unsafe abortion 13% Hapertensive disorders 12% obstructed labour 8% other 8% indirect causes⁵ 19%

In our study the maternal mortality ratio is 340/ 100,000 live births, which is higher tan Karachis urban settelement (280/100,000) but lower than roral Balochistan (756/ 100,000)³

According to WHO analysis of causes of maternal mortality, MMRS ranged from 127 to 1289 in the less developed countries and from 2- 695 in the less developed countries. Development status cleary shows an inverse relationship with MMR¹¹. Why has maternal mortality in develping countries has been so neglected, one major reason is that the magnitude of the problem is often not appreciated. In areas where the problem is most severe, the majority of maternal deaths simply go unrecorded, or the cause of death is not specified. Hence there is tendency to underestimate the gravity of situation⁹.

Amongst the causes of maternal deaths, our study shows the hemorrhage being a leading cause. (60.71%), although japan is a developed country with very low MMR (9.5/ 100,000) but the leading cause of death is same there i.e. Hemorrhage¹².

Systemic review of WHO analysis of causes of maternal deaths also shows that hemorrhage is the leading caude of maternal mortality in Africa and asia¹³. Eclampsia and hypertensive disorders are still major cause of maternal mortality world wide. About 10-15% of maternal deaths are due to these disorders which is comparable to our study i e (10-

71%)¹⁴. Septicemia along with the hepatic failure and pulmonary embolism turns out to be 3rd most common cause of maternal mortality in our study 7.14%

Probably it is due to the conduction of deliveries at home under unhygienic conditions by TBAS. But the other fact is that in Punjab 83% of hospitals had the Equipment needed to sterilize the instruments, rest of the hospitals had not, and it is well known that improperly sterilized surgical instruments can cause infections such as hepatitis, staphylococcus, streptococcus; mainly responsible for puerperal sepsis⁶.

Our study also shows that maternal mortality is higher in younger age group and mothers with increases parity (+2). There is great need of community education targeting towards increased use of contraceptive and discouraging the early marriages (marriages at younger ages).maternal mortality is perhaps unique among public health problems in that its reduction depends mainly on prevention rather than on treatment. Acknowledging the magnitude of maternal mortality and creating a strong will to tackle the issues are important factors. However there is no single general solution to reduce maternal mortality, and identification of problems needs to be promoted through audit, both national and local.

CONCLUSION

Adapting the strategies and evidence based programs we propose that there is a need to.

- Strengthen health system
- Provide continuous care to Pregnant women even at community places (Health posts, health centers and district hospitals).
- Improve the literacy rate so that awareness about health and use of health resources could be optimized.
- Improve the awareness and use of contraceptive methods.

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