

# Maternal Mortality: A 10-year study at Lady Wallington Hospital Lahore.

M ASHRAF N H SHEIKH\* A H SHEIKH\* A W YUSUF

Department of Obstetrics & Gynaecology, K.E. Medical College/ Lady Wallington Hospital/KEMC, Lahore, \*Department Of Community Medicine Allama Iqbal Medical College, Lahore

Correspondence to Dr. Maimoona Ashraf, Senior Registrar

A descriptive epidemiological study was conducted at Lady Willington Hospital Lahore to identify true number of maternal deaths and the major underlying causes so that solution for improvement of maternal health care could be proposed. Maternal deaths were identified from hospital death register & from our own record for the years 1990 to 1999. Average Maternal mortality ratio at Lady Willington Hospital was 681 /100,000 live births during the study period. The main causes of death were eclampsia (21.75%), haemorrhage (21.18%), induced abortions (18.51%) & anaemia (5.34%). Maternal mortality rate is showing no appreciable fall as seen over past 10 years. There is a need to improve maternal health care services from primary to tertiary levels. Multi-sectoral coordination is required to start the programs, which have direct impact on maternal health. Poverty alleviation, improving socioeconomic status of women, their nutrition and general health, availability of good quality health services and adequate contraceptive/reproductive choice are the key factors to reduce maternal mortality. Measuring maternal mortality is the only way to ensure that its reduction remains at top priority. It also indicates urgency of situation. Process indicators should be used to monitor & evaluate the effectiveness of maternal health care services.

**Key Word:** Maternal mortality, eclampsia, haemorrhage, induced abortion.

Maternal mortality is known to be one of the major public health problems in the developing world<sup>1</sup>. There are 600,000 maternal deaths each years and out of these 98% deaths are observed in developing world<sup>2</sup>. Medical audit of maternal death revealed that more than 80% are preventable and that depends strongly on the quality of care<sup>3</sup>. It was decided in the first international conference on Safe Motherhood held in Nairobi in 1987 to reduce maternal mortality by 50% by the year 2000<sup>4</sup>. There seems to be no appreciable reduction in maternal mortality rate despite improvement in prenatal care, training of TBA & risk approach<sup>5</sup>. Therefore urgent evidence based interventions are needed to be planned & executed to step down M.M.R. in the developing countries. Effectiveness of these health care services needs to be monitored & evaluated by using process indicators. (Emergency Obstetrics Care, Cesarean Section rate, or proportion of deliveries assisted by skilled attendants)

## Objectives of the study

1. To find out the levels & trends of maternal mortality during last ten years.
2. To explore the major killers of women during child bearing.
3. To highlight the avoidable causes of maternal deaths.
4. To unveil the alarming situation, so that the planners & policy makers should channelise their resources to the right direction.

## Material and method

The retrospective study was conducted at Lady Willington Hospital, Lahore, which is tertiary care hospital, attached with King Edward Medical College, Lahore. It is 235 bedded with extra capacity of 60 beds. It deals not only with health care of local population but also with complicated referred cases from other Districts of Punjab

including remote rural areas. Hospital death register was reviewed in the light of our own death record for every death for last ten years (1999-99). The case was discussed amongst consultants senior registrar, registrar, medical officers and residents. Each death was assigned a cause and classified according to WHO definition.

## Operational definitions

**Maternal Mortality Ratio:** WHO defines maternal mortality as the death of a women while pregnant or within 42 days of termination of pregnancy irrespective of the duration and site of the pregnancy from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes amongst per thousand live births.

**Maternal Mortality rate:** the death of a women while pregnant or within 42 days of termination of pregnancy irrespective of the duration and site of the pregnancy from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes amongst per thousand women of child bearing age.

**Direct Maternal Deaths:** were those resulting from obstetric complications during pregnancy, labour or puerperium or from interventions, omissions or incorrect treatment, or from chain of events resulting from any of these.

**Indirect Maternal Deaths:** resulting from previously existing diseases or a disease that develop during pregnancy not due to obstetric causes, but which are aggravated by the physiological effects of pregnancy.

## Limitation of the study

Mortality figures seem to be on higher side because mothers usually seek hospital care in pre-terminal stages. Therefore, the results cannot be generalized.

**Study Population:** All pregnant women admitted in the hospital during the year 1990 to 1999.

**Results**

Table 1. Related information regarding Maternal Deaths Over the Period 1990-1999

Year	Total Patients	Live births	Still Births	Maternal deaths	M.M.Ratio/100,000 live births	M.M. Rate/100,000 Pregnant Women
1990	7825	7161	664	45	628.4	575
1991	8285	7355	930	57	775	687
1992	8468	7531	937	75	995.8	885
1993	8109	7275	834	51	701	628
1994	8488	7688	800	69	897.5	812.9
1995	8797	7851	946	52	662	591
1996	8595	7793	802	37	474.7	430
1997	8004	7338	666	48	654	599
1998	8942	8232	710	50	692	559
1999	9417	8696	721	40	459	424
Total	84930	76920	8010	524	681.22	616.97

Figure 1: Maternal Mortality Ratio per 100,000 live births for the year 1990-1999.

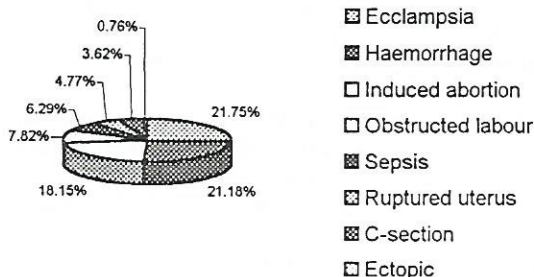


Figure 2: Maternal Death due to Direct Causes.

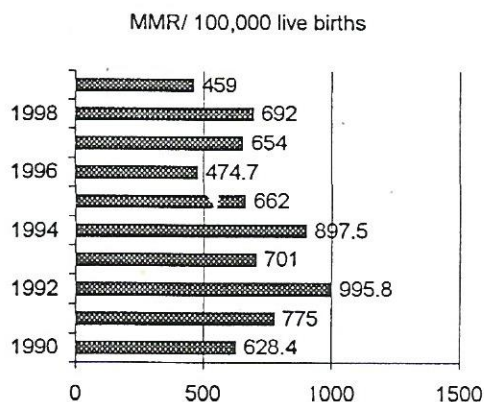


Table-II: Underlying Cause leading to Maternal Death (n=524)

Direct Cause		Indirect Cause	
Eclampsia	114 (21.75)	Anaemia	28 (5.34)
Haemorrhage	111 (21.18)	Anaesthesia	19 (3.62)
Induced Abortion	97 (18.51)	Jaundice/Hepatitis	12 (2.29)
Obstructed Labor	41 (7.82)	Heart Disease	5 (.95)
Sepsis	33 (6.29)	Pulmonary Embolism	8 (1.52)
Ruptured Uterus	25 (4.77)	Pulmonary Odema	4 (.76)
C-Section complication	19 (3.62)	Food Poising	2 (0.38)
Ectopic	4 (0.76)	CVA	2 (.38)
Total:	444		80

(Figures in parentheses are percentages)

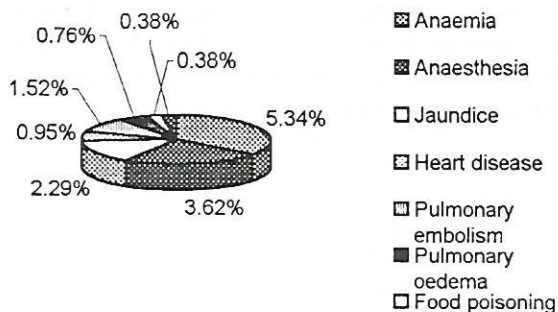


Figure 2: Maternal Death due to Direct Causes.

**Discussion**

Maternal mortality is a sensitive comparative indicator of quality of health care within a country as well as between developed and developing countries. It remains vital to analyze why women are dying from pregnancy related conditions & to identify weak linkages in the chain of care through effective health system research. MMR in Pakistan is very high as compared to the developed



countries of the world. MMR for Pakistan has been quoted as 201 per 100,000 live births; this is in sharp contrast to MMR of 7 per 100,000 live births in Great Britain. While in Sub-Sahara Africa MMR is 1006 per 100,000 live births<sup>6</sup>. In the present study MMR was 681 per 100,000 live births.

This constantly raised mortality ratio of Lady Willington Hospital (hospital based study) observed for the period 1990-99 couldn't be compared with that of Pakistan, which is 201 per 100,000 live births. The majority of the women attending our hospital are already in serious condition. Most of them are coming from remote rural areas or small towns lacking proper transport facilities. It is likely that many women die on the way to the hospitals. This is only because of failure to recognize the severity of problem at community level, delay in decision making process to seek health care, lack of transport, poor referral system, substandard primary health care that all account for an alarmingly high MMR.

It is high time to question our self that women will continue to suffer and die while trying to fulfill their reproductive and social function. Although magnitude of this tragic problem appears enormous yet it is an achievable and worthwhile. Eclampsia (21.75%), haemorrhage (21.18%), induced abortion (18.51%) and anaemia (5.34%) still remain the leading conditions on the road to maternal death in our study. Raising level of community awareness, improving quality of prenatal consultation, referral system and the management of delivery by skilled personnel can reduce maternal mortality<sup>7</sup>.

Five inter-linked causes effecting maternal health i.e., poverty, low social economic status of women, poor nutrition and general health, poor availability of good quality health services and in *adequate contraception/reproductive choice*<sup>8</sup> should be eliminated to reduce maternal mortality further. By eliminating these factors we can reduce maternal mortality to a great extent and make our country progress and prosper.

### Recommendations

- First level health care facility needed to be strengthened.
- Every tertiary hospital should have defined catchment's area so that the chain of linkage between different levels of health care delivery can become strong.
- Referral system should be strengthened by establishing central reception desk in tertiary hospitals.
- Social marketing of the services and the health education should be the prime responsibility of health care outlets.
- Matching technologies with our resources should be promoted. Interventions should not be followed blindly as they are practiced in the developed countries. The interventions should be evidence based and it should be matched with our settings and resources.

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