

Maternal Mortality: 10 years Review A Decade of Safe Motherhood.

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Summary

Maternal Mortality cases occurring at District Head Quarters Hospital, Bellary (VIMS) over a decade (1988-1997) were analysed. MMR ranged from 1450-2063 per lakh live births. Primigravidae are common victims (46%), teenage mothers constitute 36%, PIH and sepsis (24%) are leading causes of maternal mortality. Fifty four percent of women die within 24 hours of admission. Too late referral and lack of awareness about antenatal/Intranatal services reflect common trends in a developing country like ours.

Introduction

Maternal mortality is a vital Index of the effectiveness of Obstetric Services prevailing in a country. A vast majority of maternal deaths are preventable (WHO-1990) High maternal mortality rate indicates poor quality of M.C.H. services, non-availability of M.C.H. Trained health-workers, low socio-economic status of community, lack of awareness among rural-population (Jyothi and Prema, 1998). Analysis of maternal mortality at District Head Quarters Hospital (OBG) Bellary was done to study causes and preventable factors.

Material and methods

Retrospective analysis of all maternal deaths occurring at District Headquarters Hospital (Ob & Gy Dept) attached to government medical college (VIMS) Bellary between 1988-1997 (10 years) was done. Each medical record was scrutinized for age, parity, cause of death and admission to death interval etc. Statistical analysis was carried out using standard error of difference of proportion method.

Observations

Table-I shows that maternal mortality rate ranges from 1450 to 2063 per Lakh live births. There is no significant improvement over a decade. Value of P is more than 0.05 hence statistically not significant.

Table – I
Yearwise Maternal Mortality Rates

Year	Live Births	Maternal Deaths	MMR per 100000 L.B.
1988	3053	63	2063.5
1989	2793	42	1503.7
1990	2685	39	1452.5
1991	2685	40	1489.7
1992	2523	40	1743.9
1993	2499	48	1920.7
1994	2415	44	1821.9
1995	2661	47	1766.2
1996	2292	37	1614.3
1997	2511	46	1831.9

Table-II shows that half of all maternal deaths occur in

prime age 20-30 years (50.8%), more than one third deaths occur in teenage mothers (35.7%) mostly due to PIH and criminal abortion.

Table - II
Age in relation to MMR

Age	No. of Cases	Percentage
Teenage	161	35.7%
20-30 yrs	229	50.8%
Above 30 yrs	60	13.3%

Table-III shows that nearly half of all deaths occur in primigravidas (46%) thus reflecting vulnerability of first time motherhood. We need to concentrate on primigravidas more, antenatally and intranatally.

Table-III
Parity in Relation to Mortality

Parity	No. of Cases	Percentage
Primi	207	46%
Multi	162	36%
Grand Multi	81	18%

Table-IV: shows that more than half the patients succumbed (54.2%) within 24 hrs after admission. This clearly speaks of too late referral to tertiary center and admission in terminal stage. Timely and prompt referral would save many lives.

Table - IV
Admission to Death Interval

Interval	No. of Cases	Percentage
Less than 24 Hours	244	54.2%
24 Hours to 7 days	160	35.2%
More than 7 days	46	10.2%

Table - V
Leading Cause of Death: Yearwise

Year	Cause	Percentage
1988	Sepsis	36.5%
1989	P.I.H.	40.4%
1990	Haemorrhage	30.7%
1991	P.I.H.	30.0%
1992	P.I.H.	31.8%
1993	Anaemia	35.4%
1994	Haemorrhage	27.2%
1995	Jaundice	29.7%
1996	Sepsis	21.6%
1997	P.I.H.	28.2%

Table-V shows that PIH (upto 40.4%) is leading cause of maternal mortality. Sepsis (upto 36.5%) is another significant preventable factor. Hence good antenatal care reduces PIH related mortality, good intranatal care and prompt referral reduces sepsis related morbidity and mortality.

Table-VI shows latest trends of MMR over last 2 years. PIH (20.2%) and sepsis (20-22%) still continue to dominate as leading causes.

Table-VI
Current Status of MMR: VIMS, Bellary

Cause	1996	1997
PIH	13.8%	28.2%
Haemorrhage	19.4%	26.1%
Sepsis	21.6%	19.6%
Anaemia	18.9%	13.0%
Jaundice	21.6%	8.7%
Others	5.4%	4.3%

Table-VII shows that PIH (23.7%), haemorrhage (23.5%) and sepsis (21.3%) are contributing to MMR almost equally as direct causes. Anemia is leading factor among indirect causes.

Table-VII
Direct & Indirect Causes

Cause	No. of Cases	Percentage
Direct Causes		
P.I.H.	107	23.7%
Haemorrhage	106	23.5%
Sepsis	93	21.3%
Indirect Causes		
Anaemia	79	17.5%
Jaundice	56	12.4%
Others	09	2.0%

Table VIII shows random comparison of MMR among published reports it also shows that our study has recorded maximum MMR nearly 4 folds of national average currently. Contribution of direct causes and haemorrhages is comparable to recently published data. (Juneja & Rai, 1993, Shrotri and Choudhari 1994, Goswami and Kalita, 1996, Sudha 1994)

Table-IX shows summary of our study put in a nut shell. It is a pathetic picture in a developing country, like ours. As per this impression, "Health for all by 2000" seems to be a remote goal.

Table – VIII
Zone Wise Comparison : MMR

Author	Study Period	MMR	Direct	Haemorrhage
Juneja and Rai New Delhi (1993)	1988-92	371	54.7	18.2
Shrotri and Choudhary Pune (1994)	1984-92	460	56.4	19.2
Goswami and Kalita Guwahati (1996)	1987-94	1234	75.9	28.2
Sudha Gujarat (1994)	1989-93	1650	72.2	27.5
Present Study (10 yrs) 1988	1988-97	1723	68.0	23.5

Table – IX
Safe Motherhood at VIMS, Bellary

- MMR is 4X National Average
- PIH is Leading Direct Cause
- Anaemia is Leading Indirect Cause
- Primi are Common Victims
- Mostly Die Within 24 Hrs
- 20-30 yrs Age is Crucial
- Mostly Unbooked Cases, Ref. At Terminal Stages

Discussion

This study is conducted in tertiary referral hospital. We get cases referred even from 100kms away, mostly poor rural women. Recently there has been rapid industrialisation in our region and very poor awareness about antenatal care. Blood bank services exist adequately but may not rise to the occasion due to unwillingness to donate blood. Too late referral is single largest cause (WHO-1990). Among SAARC countries, as far as MMR is concerned, India (MMR-450) is slightly better than Pakistan (MMR-500) and Bangladesh (MMR-600), but definitely too far from Sri Lanka (MMR-60). It simply means that reproductive health care and MCH care needs to be further strengthened at all levels. (Bhatia, 1991).

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References

1. Bhatia J. C.: Light on Maternal Mortality in India World Health Forum, 11: 188, 1991.
2. Goswami A., Kalita H., J. Obst. & Gyn. India 46: 78, 1996.
3. Junejay Y. and Rai U. J Obst & Gyn. India. 43: 944, 1993.
4. Jyothi S. Prema D. C., J Obst. & Gyn. India. 48: 39, 1998.
5. Shrotri. A.N., Choudhari N.B. J of Obst. & Gyn. India No. 44: 225, 1994.
6. Sudha S. J Obst. & Gyn. India, 44: 548, 1994.
7. WHO: Safe Mother Hood, Geneva, 1:7, 1990.